Missouri Assessment Program-Alternate (MAP-A)

2010 Technical Report

Prepared by the
Assessment Resource Center

in Collaboration with
the Missouri Department of Elementary and Secondary Education
and Measured Progress

Contents

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Overview

The purpose of this report is to document the technical aspects of the 2009-2010 Missouri Assessment Program-Alternate (MAP-A) assessment. This was the third year of the revised MAP-A program. In the spring of 2010 students in grades 3 through 8, 10, and 11 participated in the MAP-A as follows:

- Grades 3 & 4: Mathematics and communication arts;
- Grade 5: Mathematics, communication arts, and science;
- Grades 6 & 7: Mathematics and communication arts;
- Grade 8: Mathematics, communication arts, and science;
- Grade 10: Mathematics only;
- Grade 11: Communication arts and science.

Mathematics and communication arts MAP-A assessments have been operational since 2006. The science assessment for MAP-A was developed and piloted in 2007 and became operational in 2008. This report provides information about the technical quality of the mathematics, communication arts and science assessments, including a description of the processes used to develop, administer, and score the MAP-A, and how the scores are reported and analyzed.

Organization of the Report

The organization of this report is based on the conceptual flow of an assessment's life span. It begins with an overview of the initial test specifications and addresses all the intermediate steps that lead to final score reporting. The report addresses the general design of the MAP-A, the ongoing development process, the specific designs of the communication arts, mathematics, and science assessments, the MAP-A format, and the administration of the assessment. The third section addresses scoring and reporting of MAP-A results. The fourth section addresses the reliability and validity of the MAP-A. The fifth section addresses security of MAP-A information. The report also includes a description of the state's future plans for the assessment, along with references and appendices as appropriate.

This report describes several technical aspects of the 2010 MAP-A in an effort to contribute to the accumulation of validity evidence to support MAP-A score interpretations. Because it is the interpretations of scores that are evaluated for validity, not the assessment itself, this report presents documentation to substantiate intended interpretations (AERA, 1999). In the case of the MAP-A, however, construct validity is a major factor in score interpretation. The information in this report contributes important information to the validity assertion by addressing the following aspects of the MAP-A:

- Design and alignment with Missouri's standards;
- Administration;
- Scoring;
- Reporting;
- Achievement levels.

Purpose of the MAP-A

The Individuals with Disabilities Education Act (IDEA) requires that students with disabilities be included in each state's system of accountability and that students with disabilities have access to the general curriculum. The No Child Left Behind Act (NCLB) also speaks to the inclusion of all children in a state's accountability system by requiring states to report student achievement for all students as well as for groups of students on a disaggregated basis. These federal laws reflect an ongoing concern about equity. All students should be academically challenged and taught to high standards; all students should be involved in the educational accountability system.

To ensure the participation of all students in the state's accountability system, the Missouri Department of Elementary and Secondary Education (DESE) has developed the MAP-A. Only IDEA-eligible students with the most significant cognitive disabilities are expected to participate in the MAP-A. Students with moderate disabilities participate in the standard MAP Assessment.

The MAP-A is a portfolio-based assessment that measures student performance based on alternate achievement standards. The MAP-A is aligned with Missouri's Show-Me Standards, Grade Level Expectations (GLEs) and Alternate Grade Level Expectations (AGLEs) in communication arts, mathematics, and science. Missouri educators worked with DESE and its contractor, Measured Progress, to develop and review the AGLEs and to design the assessment blueprint for alternate assessment of eligible Missouri students.

MAP-A results are intended to inform stakeholders about student achievement on Missouri's communication arts, mathematics, and science standards and AGLEs. The results should be used for program and instructional improvement and as a component of school accountability.

The MAP-A assesses student performance on two Alternate Performance Indicators (APIs) in each of two content-area strands in communication arts and two content-area strands in mathematics. It also assesses performance on four APIs in science, two of which are selected from two process strands and two of which are selected from six content strands (two at each grade-level). Teachers observe and assess a student's performance and collect evidence in each strand during two distinct collection periods. The assessment effectively links standards, curriculum, instruction, and assessment and is scored using three criteria: 1) level of accuracy, 2) level of independence, and 3) connection to the standards. The collected evidence provides documentation of a connection between the Show-Me Standards and instruction.

Development of the MAP-A

Considering the needs of Missouri's assessment programs at the time, among them efforts to ensure participation of all students in the state's accountability system, alignment of assessments with Missouri's Show-Me Standards and GLEs, and continued improvement to the state's assessment program, DESE called for a redesign of the MAP-A in 2004. The redesigned assessment was intended to meet the needs of students and teachers while complying with the requirements of the federal government.

A general description of the assessment development and standard-setting processes for MAP-A mathematics, communication arts, and science assessments follows. For more detailed information about the assessment development, please refer to Appendix A, Mathematics and

Communication Arts Assessment Development Process, and Appendix B, Science Pilot Assessment Development Process.

Mathematics and Communication Arts

The MAP-A was developed as a collaborative project by Measured Progress, ARC and DESE divisions of Curriculum and Assessment and Special Education. Mathematics and communication arts development began in the 2004-2005 academic school year with the discussions of the MAP-A Advisory Committee, made up of stakeholders that included parents, teachers, and school administrators. In addition to this committee, the contractor and DESE called together groups of Missouri educators several times to participate in the development and review process. Special education and general education teachers made up the review groups that developed the AGLEs, in cooperation with DESE and Measured Progress assessment and content specialists. They used the Missouri Show-Me Standards and the Grade Level Expectations (GLEs) to draft and revise AGLEs, which were in turn the basis for the APIs used for assessment with the MAP-A. Prior to their adoption, the AGLEs and APIs were presented to district personnel for review and comment.

After considering concerns expressed by the MAP-A Advisory Committee, chief among which was the paperwork burden on teachers, DESE and Measured Progress drafted an assessment blueprint and piloted mathematics and communication arts assessments. Missouri's Technical Advisory Committee (TAC) reviewed the blueprint prior to administration of the pilot.

In February 2005, the teachers recruited to pilot mathematics and communication arts were required to attend one of four training sessions delivered at various locations around the state. A total of 164 pilot assessments were administered March-April 2005. Pilot teachers provided feedback to the developers through direct contact and responses to a survey administered to each. The pilot assessments were scored in May 2005 at ARC. Measured Progress led table leader training. Sessions were attended by ARC staff and DESE staff. Scorers were asked to provide feedback through a survey administered following the training and scoring.

DESE considered the feedback and suggestions provided by pilot teachers and scorers, along with the input of its advisory groups to make refinements to the MAP-A prior to its initial operational assessment year, 2005-2006. Clarifications were made to training materials and the development of additional samples for teachers was planned. The most significant change, however, was made to the blueprint. In response to serious concerns from teachers about the workload and ability to assess the nine strands in each content area, the number of strands required for assessment at each grade span was decreased from nine to four.

Following the initial operational administration, Measured Progress conducted a standard-setting meeting in Columbia in June 2006 to set cut scores that would be used to determine achievement levels for mathematics and communication arts. Eighty-three panelists, divided into six grade-span and content-area groups, participated in the three-day meeting. Measured Progress employed the modified Body of Work Method, in which panelists are presented with a set of actual student work and are asked to determine which performance level best matches the skills and abilities evidenced in the student work sample.

Individual participants were recruited by Measured Progress and ARC with the goal of empanelling a demographically diverse group that represented a mix of parents, special education teachers, communication arts and mathematics content teachers, and school

administrators. DESE exercised final approval over panelist selection. At the beginning of the meeting, all panelists attended a large-group training containing an overview of the MAP-A, participation criteria, administration information, scoring procedures, overview of the standard-setting process and related issues, and finally specific training about the tasks required of panelists. Following this training, the large group broke into grade-level panels which were led through their tasks over the three-day meeting by a trained facilitator from Measured Progress.

The standard-setting process included three rounds of panelist review. The first consisted of achievement level descriptors review and discussion, review of assessment submissions, and individual cut-point recommendation. The second and third rounds consisted of individual cut-point recommendation after extensive group discussion. Within each round, the panelists first made the middle (Basic-Proficient) cut, then sorted the below Proficient group into Below Basic and Basic, and finally sorted the second group by determining an upper (Proficient-Advanced) cut. Following the second round, the percentage distribution of achievement level impact data was presented to the groups by Measured Progress' psychometrician, to assist them in their round 3 discussions. After the final round, panelists again turned their attention to the achievement level descriptors, and made recommendations for clarifications to the language.

At the conclusion of the meeting, the changes and cut scores recommended by the panelists were reviewed by Measured Progress and DESE. Measured Progress applied smoothing methods and recommended achievement level descriptors and cut-score tables to DESE for consideration by the Missouri State Board of Education. The achievement level descriptors and cut scores were approved by the board and used to generate reports and accountability information for the 2005-2006 school year.

Detailed information about the standard-setting process may be found in the MAP-A Revised Standard Setting Report at the DESE website, http://www.dese.mo.gov/divimprove/assess/tech/index.html.

Science

The development of the science assessment began in the 2006-2007 school year. In addition to the MAP-A Advisory Committee, a Science Assessment Development and Review Committee, also made up of stakeholders that included parents, teachers, and school administrators, provided input to the development process. The AGLE/API development process followed much the same format as that used for the mathematics and communication arts AGLEs and APIs, as did the rest of the development process, including review and comment from groups of Missouri educators, the MAP-A Advisory Committee, and the TAC.

The MAP-A science blueprint differs from that of mathematics and communication arts. It requires only two entries, but each must contain an activity that addresses two APIs from two different strands. In this way, the science assessment entries pair standards from grade-level-specific science content strands and all-grade-level science process strands. In all, MAP-A science requires the assessment of four strands.

Pilot teacher training for 135 volunteer teachers was conducted in December 2006 at four locations in Missouri. The science pilot was administered to 92 students during the January-March 2007 window, and scored in Columbia in June 2007. As with the other two subjects, surveys were administered to pilot participants, both teachers and scorers, and their responses

were considered, along with any face-to-face feedback they provided. The two ideas that emerged involved the provision of information to teachers about administering MAP-A science for two primary reasons: 1) differences in assessment requirements, and 2) teachers' concerns about their own expertise with science content. DESE and Measured Progress made plans to address these concerns, adding additional information to training materials, providing pathways to science content specialists and planning the expansion of science samples.

Measured Progress, as it did for mathematics and communication arts, used the modified Body of Work method in the standard-setting process for science. The standard-setting meeting took place over two days in the late spring of 2008, following the first operational administration of MAP-A science assessments and followed much the same format as the June 2006 standard-setting meeting. One difference of note in the outcome of the science standard-setting is the establishment of a uniform set of cut scores across all three grade levels in science.

The MAP-A science achievement level descriptors and cut scores were approved by the Missouri State Board of Education and used to generate score reports and accountability data for the 2007-2008 school year. More information about the standard-setting process, and the science standard-setting meeting itself, may be found in Appendix C.

MAP-A Chronology

Major milestones in the MAP-A development process and subsequent administration of the MAP-A are listed in the chronology below.

Through 2004 – 2005

- MAP-A mathematics assessments are administered to eligible students in grades 4, 8, and 10; communication arts assessments are administered in grades 3, 7, and 11.

2004 – 2005

- DESE contracts with Measured Progress for development of a redesigned MAP-A to assess mathematics and communication arts.
- Development involves multiple groups of stakeholders and advisors.
- Mathematics and communication arts assessments are piloted.

2005 – 2006

- Revisions based on stakeholder feedback are made to MAP-A design.
- Operational assessment in mathematics and communication arts commences.
- MAP-A mathematics assessments are administered to eligible students in grades 3 through 8 and 10; communications arts assessments are administered in grades 3 through 8 and 11.
- Standard setting for mathematics and communication arts is conducted and the resulting cut scores are approved by the Missouri State Board of Education.
- DESE contracts with Measured Progress for development of MAP-A science assessment. Development involves multiple groups of stakeholders and advisors.

2006 – 2007

- Revisions in response to stakeholder feedback are made to MAP-A.
- Mathematics and communication arts are assessed with MAP-A for the second year.
- The MAP-A science component was developed and piloted; Measured Progress documented the science development process. This documentation may be found in Appendix B.

2007 – 2008

- Revisions in response to stakeholder feedback are made to MAP-A.
- Mathematics and communication arts are assessed with MAP-A for the third year.
- The MAP-A science component becomes operational and is assessed at grades 5, 8, and 11.
- Measured Progress conducts standard-setting meeting for the science assessment and the resulting cut scores are approved by the Missouri State Board of Education.

2008 – 2009

- Updates and revisions in response to stakeholder feedback are made to MAP-A training materials and resources.
- Mathematics and communication arts are assessed with MAP-A for the fourth year; science is assessed with the MAP-A for the second year.
- DESE offers MAP-A scoring training to teachers administering the MAP-A as professional development.

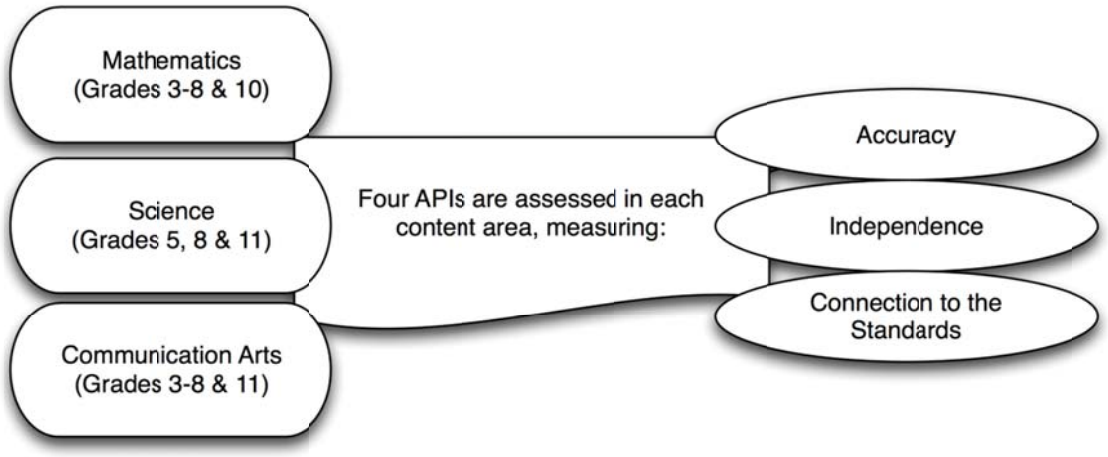
2009 – 2010

- Updates and revisions in response to stakeholder feedback are made to MAP-A training materials and resources.
- Mathematics and communication arts are assessed with MAP-A for the fifth year; science is assessed with the MAP-A for the third year.
- Supplemental professional development is offered through Regional Professional Development Centers to teachers in the form of MAP-A scoring training.

Introduction to the MAP-A Process

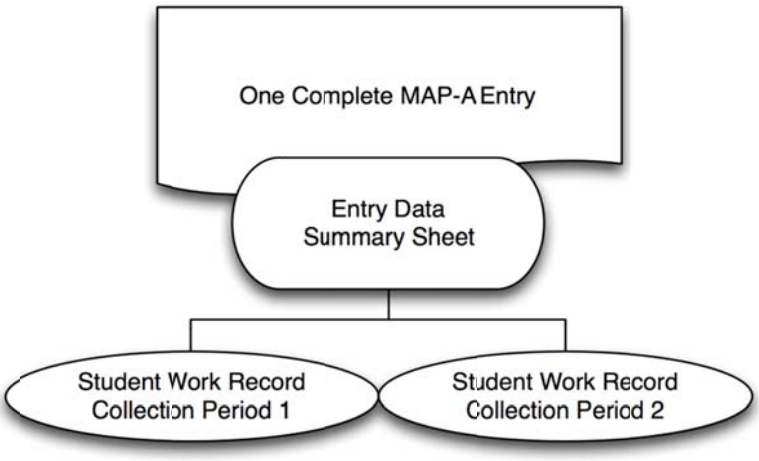
The MAP-A calls for information about the performance of students with significant cognitive disabilities on assessment activities designed and implemented by their teachers. The assessment activities are designed to provide evidence of student knowledge and ability in mathematics, communication arts, and science. The MAP-A assesses accuracy, independence, and connection to the standards on four Alternate Performance Indicators (APIs) in each subject.

Figure 1. MAP-A Assessment Design



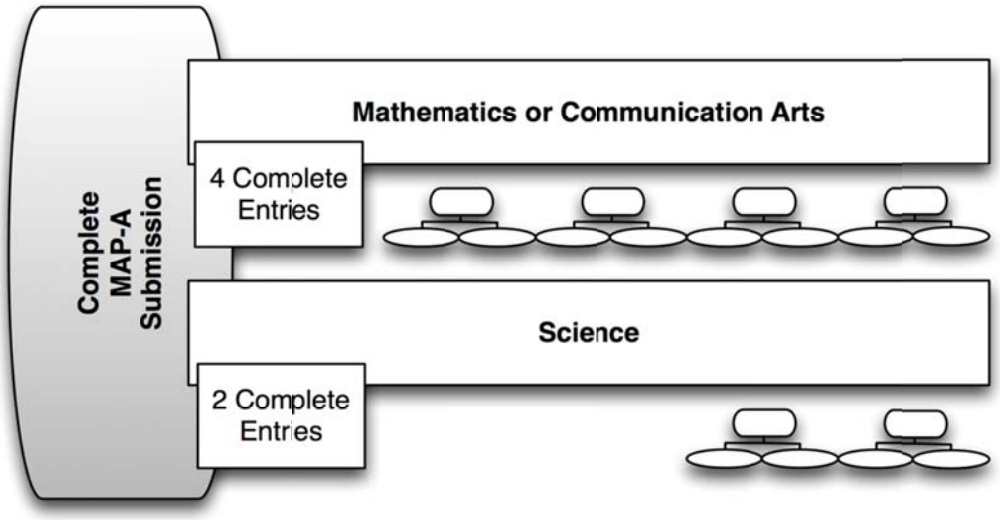
Teachers design activities to assess these APIs; they are trained to build their activities to align with the standards to assess and the student's highest academic functioning level. Activity descriptions for each API are submitted in Student Work Record forms in the student's binder. Teachers record data for an API three times during each of two collection periods, altogether producing six data points and two Student Work Records for that entry. These data points are averaged together on an Entry Data Summary Sheet to create that entry's Accuracy and Independence percentages.

Figure 2. MAP-A Entry



Each complete MAP-A mathematics and communication arts submission contains four entries (one for each API), and complete science submissions contain two entries with two APIs assessed in each one.

Figure 3. MAP-A Submission



All submissions for a student's MAP-A are combined in that student's binder along with a Table of Contents Checklist and Validation Form. Completed binders are returned to the Assessment Resource Center for processing and scoring.

Scorers review submitted binders and assign rubric scores to each entry. These scores correspond to student Level of Accuracy and Level of Independence averages provided by teachers. A Connection to the Standards rubric score is determined by considering whether the assessment activity connects to the API and if the activity demonstrates application of the skill in the API. When scoring irregularities occur (e.g., no connection to the API, missing documentation), scorers record the appropriate comment codes as well as the rubric score. Final entry rubric scores are added together to create the raw score for each content area. DESE-approved cut scores are

used to assign achievement levels for each assessment.

Table 1. Condensed MAP-A Rubric

Rubric	Score-Point				
	4	3	2	1	No Score
Level of Accuracy	76-100%	51-75%	26-50%	0-25%	Entry contains insufficient evidence to score.
Level of Independence	76-100%	51-75%	26-50%	0-25%	Entry contains insufficient evidence to score.
Connection to the Standards		Entry contains evidence of applying the API in two standards-based activities, one per collection period.	Entry contains evidence of applying the API in one standards-based activity, one out of two collection periods.	Entry contains some evidence of a connection to the API.	Entry contains insufficient evidence of connection to the API.

Teachers and individuals familiar with MAP-A administration and evaluation routinely use many acronyms and terms that may be unfamiliar to all readers. Find several common terms outlined below.

Table 2. Common MAP-A Terms

Term	Definition
Acquisition	Activities that demonstrate acquisition focus on practicing skills rather than applying them for a purpose.
AGLE	Alternate Grade Level Expectations
API	Alternate Performance Indicators
Application	Activities that demonstrate application require the student to apply skills for purposes other than practicing.
CTS	Connection to the Standards
Entry	A student binder component that includes an Entry/Data Summary Sheet, two Student Work Records, and optional Student Work samples.
IEP	Individualized Education Program
Validation Form	A student binder component that includes the student's mode of communication, the names of individuals who reviewed and/or contributed to the development or administration of the student's MAP-A, and the signature of the administrator who approved the binder for final submission.
Work Record	An entry component that contains the Task/Activity, Level of Accuracy, and Level of Independence descriptions.

Operational Assessment Administration

The MAP-A was administered in the spring of 2010 to students meeting the Missouri's alternate assessment eligibility criteria. Mathematics assessments were administered to students in grades 3 through 8 and 10. Communication arts assessments were administered to students in grades 3 through 8 and 11. Science assessments were administered to students in grades 5, 8, and 11. Students from 415 districts participated in the MAP-A; 5,907 students participated in mathematics, 5,862 students participated in communication arts, and 2,346 students participated in science.

Eligible Students

All students are required to participate in the Missouri Assessment Program in one of four ways: 1) Grade-Level MAP Assessments, 2) End-of-Course Assessments, 3) MAP or End-of-Course Assessments with accommodations, or 4) the MAP-A.

The decision as to how a student with disabilities will participate in the state's accountability system is made by the student's Individualized Education Program (IEP) team using DESE-established criteria. If the IEP team for a student with a disability answers "yes" to all five of the following eligibility questions, then the student is eligible for MAP-A participation.

MAP-A Participation Eligibility Criteria

Yes	No	
__	__	1. The student has a demonstrated significant cognitive disability and adaptive behavioral skills. Therefore, the student has difficulty acquiring new skills, and skills must be taught in very small steps.
__	__	2. The student does not keep pace with peers, even with the majority of students in special education, with respect to the total number of skills acquired.
__	__	3. The student's educational program centers on the application of essential skills to the Missouri Show-Me Standards.
__	__	4. The IEP team, as documented in the IEP, does not recommend participation in the MAP subject-area assessments or taking the MAP with accommodations.
__	__	5. The student's inability to participate in the MAP subject-area assessments is not primarily the result of excessive absences; visual or auditory disabilities; or social, cultural, language, or economic differences.

In an attempt to provide more information for educators charged with making the MAP-A eligibility decision, DESE provided statements as a supplement to criterion #3. These statements may be used by IEP teams in identifying students whose educational programs center on the **application of essential skills** to the Missouri Show-Me Standards:

1. The student's reading ability is limited and, as such, the student acquires information primarily through other methods.
2. The student's ability to demonstrate knowledge by writing or speaking is limited; thus, the student must often use other methods to express ideas and share information.

3. The student requires significant supports to access the general education curriculum while demonstrating modest progress in that curriculum.
4. The student typically has difficulty solving novel problems or using newly acquired skills in differing situations.
5. The student's educational priorities primarily address essential skills that will be used in adult daily living.
6. The student's post-secondary outcomes will likely require supported or assisted living.
7. The student requires instruction in small groups or on a one-to-one basis, with frequent prompts and guidance from adults.

The Grade-Level MAP and End-of-Course Assessments provide access to the vast majority of students. Therefore, approximately 1% of Missouri students assessed are expected to participate in the MAP-A. In accordance with NCLB regulation 34 CFR 200.13 Adequate Yearly Progress in General, if necessary Missouri would apply a 1% cap to the number of proficient and advanced scores based on the MAP-A that may be included in AYP calculations at both the state and district levels.

District test coordinators were required to enroll MAP-A eligible students in the MAP-A through the Assessment Resource Center (ARC) in fall 2009. This triggered delivery of a set of student-specific materials to the districts for each student enrolled in the MAP-A and an expectation that a MAP-A would be submitted for scoring for that student in spring 2010.

Assessment Blueprint/Design

The MAP-A is a performance-based assessment that promotes enhanced capacities and integrated life opportunities for students with severe disabilities. One key purpose is to capture evidence of student learning. Another key purpose, in accord with high-quality assessment practices, is to provide information upon which to base ongoing development of curricula and instruction that are responsive to individual student needs. Students with significant cognitive disabilities are valued and contributing members of their school and community. Missouri implements and continues to improve the MAP-A to meet the needs of students and teachers as well as to comply with the requirements of the federal government.

The MAP-A consists of a portfolio of data and supporting evidence collected by an instructional team. It provides information on a student's knowledge and skills in communication arts, mathematics, and science. The MAP-A assesses accuracy, independence, and connection to the standards on two APIs in each of two strands in communication arts and mathematics; the MAP-A also assesses four APIs in two process and six content strands in science. Tables 3, 4, and 5 contain the assessment blueprints for the three subjects.

Table 3. Assessment Blueprint for Mathematics

Content Area	Grade Focus	Title of Strand
Mathematics	Required for Grades 3-8 and 10	Numbers and Operations **(NO)**
	Required for Elementary Grades 3, 4, and 5	Algebraic Relationships **(AR)** *and/or* Geometric and Spatial Relationships **(GS)**
	Required for Middle School Grades 6, 7, and 8	Data and Probability **(DP)**
	Required for High School Grade 10	Measurement **(ME)**

Table 4. Assessment Blueprint for Communication Arts

Content Area	Grade Focus	Title of Strand
Communication Arts	Required for Grades 3-8 and 11	Reading: Develop and apply skills and strategies to the reading process (**RD** *and/or* **RP)**
	Required for Elementary Grades 3, 4, and 5	Writing: Compose well-developed text using standard English conventions **(WC)**
	Required for Middle School and High School Grades 6, 7, 8, and 11	Writing: Apply a writing process in composing text or write effectively in various forms and types of writing **(WP)**

Table 5. Assessment Blueprint for Science

Content Area	Grade Focus	Title of Strand
Science	**PROCESS STRANDS**	
	Required for Grades 5, 8, and 11	Scientific Inquiry **(IN)**
	Required for Grades 5, 8, and 11	Impact of Science, Technology and Human Activity **(ST)**
	CONTENT STRANDS	
	Required for Elementary Grade 5	Characteristics and Interactions of Living Organisms **(LO)**
	Required for Elementary Grade 5	Changes in the Ecosystems and Interaction of Organisms with their Environments **(EC)**
	Required for Middle School Grade 8	Properties and Principles of Matter and Energy **(ME)**
	Required for Middle School Grade 8	Properties and Principles of Force and Motion **(FM)**
	Required for High School Grade 11	Process and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere) **(ES)**
	Required for High School Grade 11	Composition and Structure of the Universe and the Motion of the Objects Within It **(UN)**

In science, which is assessed at grades 5, 8, and 11, four APIs are assessed. Two strands, Scientific Inquiry (IN), and The Impact of Science, Technology and Human Activity (ST), are required at all three grades. An API from each is paired with an API from one of two grade-specific required strands.

Mathematics and communication arts are assessed at grades 3 through 8. Mathematics is also assessed at grade 10. Communication arts is also assessed at grade 11. Both mathematics and communication arts require assessment of four different APIs. APIs for MAP-A entries must be selected from particular strands within each content area, depending upon the student's grade level.

For example, the mathematics Measurement strand (ME) includes 55 APIs, from which two must be selected for a 10th-grade student's MAP-A mathematics assessment, along with two APIs from the Numbers and Operations strand (NO). The following is a sample of nine APIs from the Measurement strand.

Alternate Performance Indicators (APIs)

Justify and use the appropriate unit of measure (linear, time, weight).

ME1.1. Recognize, compare, and order attributes such as length and weight.

a. Compare and communicate the length of 2 objects directly, using words such as "bigger," "smaller," "longer," "shorter," and "taller."

b. Compare and communicate the weight of 2 objects directly, using words such as "heavier," and "lighter."

c. Engage in experiences to connect number with length, using both conventional rulers and manipulative units that are standard units, such as centimeter cubes.

d. Engage in experiences to connect number with weight, using balance and spring scales.

e. Select and identify the appropriate tool for the attribute being measured.

f. Show understanding of unit iteration for length measurement (e.g., placing units end to end in some manner, with no gaps).

g. Use repetition of a single unit to measure something larger than the unit (e.g., measuring the length of the room with a single meter stick).

h. Use appropriate unit for the attribute being measured.

API lists may be found in the *Instructor's Guide and Implementation Manual* and/or at DESE's MAP-A web page.[1]

Once the APIs are selected, the MAP-A requires that data for each API be collected over two collection periods to form a MAP-A entry. For each entry, three data points per collection period must be recorded on the Entry/Data Summary Sheet. One of these three data points per collection period must be further described and documented on a Student Work Record. Actual student work, appropriate for inclusion in the portfolio, is submitted with the student work record.

A **complete MAP-A entry** is defined, at a minimum, as one Entry/Data Summary Sheet and two Student Work records documenting six data points for each API. Because there are four APIs, and four entries required, a student's mathematics submission will contain documentation for 24 data points, at a minimum. The same is true for communication arts, for a total of 48

[1]http://www.dese.mo.gov/divimprove/assess/mapa.html

MAP-A data points per student participating in both mathematics and communication arts assessments. Table 6 below outlines the requirements.

Table 6. Mathematics and Communication Arts Data Collection and Submission Requirements

Strand	API	Collection Period	Data Collection Required	Forms Required	
Strand 1	API 1	1	3 data points	1 Entry/Data Summary Sheet	2 Student Work Records
		2	3 data points		
	API 2	1	3 data points	1 Entry/Data Summary Sheet	2 Student Work Records
		2	3 data points		
Strand 2	API 1	1	3 data points	1 Entry/Data Summary Sheet	2 Student Work Records
		2	3 data points		
	API 2	1	3 data points	1 Entry/Data Summary Sheet	2 Student Work Records
		2	3 data points		

Science is assessed at grades 5, 8, and 11; it requires assessment of four different APIs, but unlike mathematics or communication arts requires two APIs in each entry, for a total of two science entries. Each entry must incorporate one API from one of the two process strands in combination with one API from a grade-appropriate content strand (Characteristics and Interactions of Living Organisms **(LO)** at grade 5, for example). Collection periods and data collection for science are identical to those of mathematics and communication arts. Table 7 outlines the requirements.

Table 7. Science Data Collection and Submission Requirements

Strand	API	Collection Period	Data Collection Required	Forms Required	
Process Strand 7 and Content Strand	Process API 1 and Content API 1	1	3 data points	1 Entry/Data Summary Sheet	2 Student Work Records
		2	3 data points		
Process Strand 8 and Content Strand	Process API 2 and Content API 2	1	3 data points	1 Entry/Data Summary Sheet	2 Student Work Records
		2	3 data points		

Steps for MAP-A Administration

The administration process follows twelve steps that take the teacher from determining student eligibility to the point of submitting the assessment. These steps are outlined in the *Instructor's Guide and Implementation Manual* provided to teachers. That manual provides detailed information on what evidence to collect and how to do so for each student and also provides many samples for teachers to refer to during the process. The twelve steps are as follows:

A Twelve-Step Procedure for Completing the MAP-A

1. **Verify student eligibility for participation in the MAP-A. Refer to the student's IEP.**
   For information about eligibility see the Participation Eligibility Criteria established by DESE.

2. **Determine the composition of the instructional team that will assess the student and fully inform all participants about the MAP-A.**
   The instructional team may include teachers, administrators, physical therapists, speech therapists, occupational therapists, paraprofessionals, job coaches, parents or guardians, and the student, when appropriate. **The student's case manager/teacher is responsible for the coordination of the assessment**. The case manager/teacher should fully inform all participants on the instructional team about the alternate assessment. Other professionals responsible for assisting the case manager/teacher in collecting information about the student should be aware of the MAP-A requirements and their roles in administering the MAP-A. Members of the instructional team are listed on the MAP-A validation form. The instructional team may have members in common with the IEP team, but they are NOT the same group.

3. **Identify the mandatory strands in each content area.**
   The instructional team should refer to the Assessment Blueprint prior to beginning collection of evidence for the MAP-A.

4. **Select Alternate Performance Indicators (APIs) for each required content-area strand.**
   The instructional team should refer to the Alternate Performance Indicators for a list of appropriate grade-level APIs for each strand.

   - For mathematics and communication arts, **two APIs per strand** are required.
   - For science, **one API per grade-appropriate strand** is required.

5. **Review the requirements for documentation for the MAP-A.**
   The following forms are required to complete documentation for each API:

   - **Form 1:** Entry/Data Summary Sheet
     This form is used to determine student scores for the rubric dimensions *Level of Accuracy* and *Level of Independence*. The following are included on the Entry/Data Summary Sheet:
     - Student identification
     - Content area and strand identification
     - API identification and description
     - Summary data chart
   - **Form 2:** Student Work Record
     This form is used to determine the student's score for the rubric dimension *Connection to the Standards*. In order to obtain full credit for this rubric

dimension, the Student Work Record must show *application* of the API in standards-based activities. The following are included on the Student Work Record:

- Student identification
- Content area and strand identification
- API identification and description
- Activity description
- Description and evaluation of student performance

6. **Determine the data collection system for documentation of student performance.**
   The instructional team selects the APIs and determines how student performance will be documented. The team should ask the following questions when planning for data collection:
   - How was the activity designed?
   - What type of data will be collected?
     - Discrete trials
     - Task analyses
     - Time intervals
     - Accuracy rates
   - How will the data be collected and organized?
   - Who will collect the data?
   - When will the data be collected?
   - How will data be converted into percentage scores?

7. **Collect and record data throughout the assessment period.**
   There are two required collection periods for the recording of data on the Entry/Data Summary Sheet. Only data collected during the identified collection periods should be included on the data sheets. There must be three data points per collection period, one of which is linked to a Student Work Record.

8. **Select a Student Work Record to include in the MAP-A for each collection period.**
   The data from the Student Work Records submitted must be documented on the Entry/Data Summary Sheet. Make sure the activity shows evidence of application of the API.

9. **Complete the Student Work Record.**

10. **Complete the Entry/Data Summary Sheet for each assessed API.**
    There are two steps to completing the Entry/Data Summary Sheet prior to submission of the MAP-A:
    - Determine API percentage averages.
      a. Average the two scores for *Level of Accuracy*.
      b. Average the two scores for *Level of Independence*.
    - Indicate the Student Work Record included for each collection period of the API.

11. **Assemble the MAP-A documentation.**
    Once all of the required documentation has been completed, the teacher should assemble the MAP-A as directed in the Table of Contents Checklist.

12. **Submit completed MAP-A.**
    Submit completed MAP-A to your district test coordinator on or before the MAP-A return deadline.

Administrator Training

Through DESE Regional Professional Development Centers (RPDCs) contracts, Improvement Consultants (ICs) hold primary responsibility for training Missouri teachers about MAP-A. On September 10, 2009, ARC staff delivered an administration training to ICs employed by the state's RPDCs, staff from the Missouri Schools for the Severely Disabled, and staff from the DESE Assessment Section and Division of Special Education. The intent of the training was to provide ICs and others with the information necessary to train teachers in the MAP-A administration process. The 29 participants represented all nine regions of the state. Participants were provided with a copy of the 2009-2010 *MAP-A Instructor's Guide and Implementation Manual* and supporting materials that included sample agendas, blank activity sheets with attached step-by-step instructions, electronic copies of the presentation slides and other training materials.

The training included updates in the assessment program for 2010, participation criteria, a step-by-step process for the administration of the MAP-A, an overview of the components and forms used in the MAP-A, the scoring rubric and rules, data collection processes, the assessment AGLEs and APIs, and several student samples. Participants were led through the step-by-step process from start to finish using student vignettes supplied to them. They were led through a process that involved making decisions about which APIs may be appropriate for an individual student's assessment, up to the point of deciding what kind of data and student work would be submitted for the student. Participants were also given a script for this activity to use in the future as they trained teachers.

Other hands-on activities showed prospective trainers how to use the actual student samples provided in the manual for training purposes. A variety of student samples were included in the manual to show a range of students, grades, and content areas. Other samples were specifically created to train teachers on the differences between acquisition and application of skills and also how to write up student observations so that all the information on evaluating the student and his/her performance on a chosen API was present.

Participants were also provided with information regarding common difficulties and errors encountered in the 2009 MAP-A submissions. These included

- difficulty with science APIs,
- confusion over application and acquisition,
- attempts to show progress,
- inappropriate or incomplete descriptions of student accuracy or independence, and
- selection of APIs out of the grade-span allowable strands.

To respond to requests from trainers and teachers across the state for additional sources of consistent MAP-A administration training information, DESE and ARC divided the MAP-A administration information into three segments, 1) general administration training, 2) new information for the current school year, and 3) sample activities and MAP-A entries. To pilot the new training materials, DESE and ARC staff held webinars to deliver each of the three segments to ICs and other key MAP-A liaisons across the state and asked for questions and feedback. The resulting segments were converted to PowerPoint presentations and distributed to ICs for their use in training teachers. The training material and edited webinar discussions were posted to the DESE website as a resource for all teachers administering the MAP-A.

The ICs provided trainings in their respective regions to school personnel, using the tools and resources developed by DESE and ARC. Based on feedback from teachers across the state, most

RPDCs offered a training session for teachers new to MAP-A and a training session specifically designed for returning MAP-A teachers.

ICs delivered the content provided to them by ARC and DESE, using the MAP-A administration training presentation and other materials developed and approved by DESE. Teachers received not only the detailed information regarding MAP-A administration, hands-on exercises, and group discussion opportunities described above, but also received additional individual attention and feedback from the IC in their region. In addition, ICs in many regions offered drop-in days. On these days, hosted and moderated by the RPDCs, teachers worked with RPDC staff and with their peers to refine MAP-A assessments-in-development. See Appendix F for MAP-A administration training presentations.

Table 8 indicates the total number of MAP-A training workshops offered by each region and the number of participants at those trainings.

Table 8. 2010 MAP-A Administration Training by Region

Region	Number of Workshops Offered	Number of Participants Attending
Southeast	4	170
Heart of Missouri	11	158
Kansas City	18	453
Northeast	8	126
Northwest	4	81
South Central	17	387
Southwest	7	251
St. Louis	11	370
Central	9	226
Total	89	2222

DESE planned to provide every teacher administering the MAP-A with a copy of the 2010 *Instructor's Guide and Implementation Manual*. Teachers attending training conducted by the ICs were provided with a copy; teachers could also obtain copies of the manual through the RPDC in their region or from the Assessment Resource Center. The manual was also available for download at the DESE website.

Implementation Schedule

The schedule for the MAP-A began with the September 10, 2009, administration training and continued with trainings conducted by RPDC staff beginning in September 2009. Assessment materials were shipped to districts December 2009 through early January 2010, and two distinct data collection periods spanned January through mid-March 2009. MAP-A submissions were returned to ARC in March 2009 for scoring. Table 9 outlines this timeline.

Table 9. 2010 MAP-A Timeline

Event	Dates
Enrollment Window	September 21 – November 9, 2009
Transfer Administration Date	January 8, 2010
Collection Period 1	January 11 – February 5, 2010
Collection Period 2	February 8 – March 5, 2010
Submit Completed MAP-A within District	March 6 – March 9, 2010
Return Deadline	March 10, 2010

Participation

MAP-A participation totaled 5,907 students in mathematics, 5,862 in communication arts, and 2,346 in science. A summary of Missouri student participation in the 2009 MAP-A assessment is provided in Table 10. See the Scoring and Reporting section for additional information regarding student participation and performance.

Table 10. 2010 MAP-A Participation

Content Area	Grade Span/Level	Students Participating
Mathematics	3-5	2718
	6-8	2460
	10	729
Communication Arts	3-5	2718
	6-8	2460
	11	684
Science	5	895
	8	767
	11	684

Scoring and Reporting

MAP-A scoring was conducted at the Assessment Resource Center (ARC). Scoring took place over several weeks beginning in March and continuing through May 2010.

Scoring Rubric

The scoring rubric is the basis for determining the student scores on the MAP-A. Three dimensions are scored:

1. Level of accuracy. This dimension reflects how well the student understands the concept(s) being assessed.
2. Level of independence. This dimension reflects the extent to which the student is able to perform without assistance from the examiner.
3. Connection to the standards. This dimension reflects whether the assessment is clearly linked to the Show-Me Standards.

Scorers review the entries submitted and assign rubric scores for each of the three dimensions. Level of accuracy and level of independence are scored using a four-point rubric. Connection to the standards is scored using a three-point rubric. The total entry score is a simple sum of these three, and ranges from 0 to 11 points. A sum of the entry scores for the four entries required for mathematics and for communication arts and the two entries that are required for science makes up the total raw score for that subject area. The total raw score ranges from 0 to 44 points for mathematics and communication arts and 0 to 22 points for science.

Table 11 shows the rubric dimensions.

Table 11. MAP-A Rubric

Rubric	Score Points				
	4	**3**	**2**	**1**	**No Score**
Level of Accuracy	Student performance of skills "based on Alternate Performance Indicators" demonstrates a **high level of understanding** of concepts. **76–100% Accuracy**	Student performance of skills "based on Alternate Performance Indicators" demonstrates **some understanding** of concepts. **51–75% Accuracy**	Student performance of skills "based on Alternate Performance Indicators" demonstrates a **limited understanding** of concepts. **26–50% Accuracy**	Student performance of skills "based on Alternate Performance Indicators" demonstrates a **minimal understanding** of concepts. **0–25% Accuracy**	Entry contains insufficient information to determine a score.
Level of Independence	Student requires **minimal** verbal, visual, and/or physical assistance to demonstrate skills and concepts. **76–100% Independence**	Student requires **some** verbal, visual, and/or physical assistance to demonstrate skills and concepts. **51–75% Independence**	Student requires **frequent** verbal, visual, and/or physical assistance to demonstrate skills and concepts. **26–50% Independence**	Student requires **extensive** verbal, visual, and/or physical assistance to demonstrate skills and concepts. **0–25% Independence**	Entry contains insufficient information to determine a score.
Connection to the Standards	--	There is evidence of applying the Alternate Performance Indicator in **two** standards-based activities, one per collection period.	There is evidence of applying the Alternate Performance Indicator in at least **one** standards-based activity, **one out of two collection periods**.	There is some evidence of a connection to the Alternate Performance Indicator.	There is insufficient evidence of a connection to the Alternate Performance Indicator.

MAP-A data submissions are not always complete and may not follow submission guidelines. Table 12 shows potential data irregularities, the rules used to address them, and the frequencies at which these irregularities appeared in the 2,012 MAP-A entries..

Table 12. Scoring Rules

Code	Data Irregularity	Scoring Rule	# of Appearances in Scored 2010 Entries	% of Total Scored 2010 Entries
01	No dates given on Entry/Data Summary Sheet and on Student Work Records.	Entry is assigned a "No Score" for each dimension of the rubric.	0	0
02	Missing Entry/Data Summary Sheet.	Entry is assigned a "No Score" for each dimension of the rubric.	42	0.08
03	A collection period does not have a minimum of three data points.	Entry is assigned a "No Score" for each dimension of the rubric.	30	0.06
04	An entry does not include at least one Student Work Record per Collection Period.	Entry is assigned a "No Score" for each dimension of the rubric.	198	0.38
05	A submitted Student Work Record for an entry does not connect to the API/s.	Entry is assigned a "No Score" for each dimension of the rubric.	2429	4.69
06	One out of two collection periods is incomplete.	Entry is assigned a "No Score" for each dimension on the rubric.	214	0.41
07	No API/s identified on a Student Work Record or Entry Data/Summary Sheet.	The collection period is considered incomplete. Entry is assigned a "No Score" for each dimension on the rubric.	0	0
08	The API/s is/are not grade-span appropriate.	The collection period is considered incomplete. Entry is assigned a "No Score" for each dimension on the rubric.	0	0
09	A single API is used in more than one entry.	The first instance is scored. In the second instance, the entry is assigned "0 Data Points" in both collection periods and "No Score" for each dimension of the rubric.	14	0.03

Table 12. Scoring Rules (contd.)

Code	Data Irregularity	Scoring Rule	# of Appearances in Scored 2010 Entries	% of Total Scored 2010 Entries
10	A single science content strand is used in more than one entry.	The first instance is scored. In the second instance, the entry is assigned "0 Data Points" in both collection periods and "No Score" for each dimension of the rubric.	22	0.04
11	Missing entry.	Entry is assigned "0 Data Points" in both collection periods and "No Score" for each dimension on the rubric.	540	1.04
12	API/s is/are not consistent across the 2 collection periods.	Entry is assigned a "No Score" for each dimension of the rubric.	3	0.01
13	Dates on the Entry/Data Summary Sheet and Student Work Records are not within the timeframes of the collection periods.	Any data from dates outside of the timeframes is not used for scoring.	0	0
14	One or more Student Work Records shows acquisition rather than application of the API/s.	The activity in these collection periods cannot be considered application.	7592	14.67
15	Student work sample or piece of tangible student work submitted without a Student Work Record attached.	The activity in this collection period cannot be considered application.	1	< 0.01
16	Student Work Record missing task/activity description.	The activity in this collection period cannot be considered application.	12	0.02
17	Submitted percentages are miscalculated.	Scorer corrects percentages.	1174	2.27
18	Percentage calculations for Accuracy or Independence cannot be verified for a Student Work Record.	Percentage for Accuracy or Independence for the Student Work Record is replaced with zero and entry average is recalculated to determine rubric score.	1994	3.86

More information regarding scoring criteria may be found in Appendix G.

Scorer Selection

ARC has experience hiring and training scorers to read, evaluate, and score open-ended assessments (fill-in-the-blank, short answer, short or long essay) for students at the primary, secondary, and post-secondary educational levels in subject areas including reading/language arts, mathematics, science, and social studies. Emphasis is placed on the maintenance of security and confidentiality of tests at all times. Scorers consult with scoring facilitators about scoring questionable responses to determine how to score them and attend regularly scheduled meetings in order to identify and provide input for solving problems or potential problems. Facilitators exercise functional supervision over reader/scorers and/or other staff as necessary.

ARC recruited scorers and facilitators specifically for the MAP-A program. Minimum qualifications for MAP-A scorers include a baccalaureate degree, strong communication skills, and demonstrated ability to critically review printed material. In addition, MAP-A scoring facilitators have prior scoring experience, strong facilitation skills, and the ability to instruct scorers regarding the meaning and application of scoring rubrics. Preferred qualifications for MAP-A scorers include previous experience scoring open-ended assessments, teaching, editing, and/or participating in structured analysis.

Eighteen scorers and five scoring facilitators scored the 2009-2010 MAP-A submissions from March through May 2010. Scorers and scoring facilitators were required to sign nondisclosure agreements and agreed to maintain the security of MAP-A materials at all times.

Scorer Training

Scorer candidates participated in training sessions led by MAP-A experts that involved paper-and-pencil scoring training. Scorer training focused on the MAP-A rubric and scoring rules. Scorers were given examples of typical student work illustrating various rubric scores and scoring decisions. Examples of "difficult" submissions presenting a variety of scoring challenges were included. Scorer training also included an emphasis on applying the rubric and decision rules as trained, guarding against bias. Following training, scorer candidates were given qualifying tests. If they passed these tests, candidates were certified to score the MAP-A. After they qualified, scorers participated in further hands-on training that consisted of additional MAP-A scoring exercises and the review of MAP-A submissions scored the previous year. See Appendix H for resources used in MAP-A scorer training.

Individuals who served as scoring facilitators began their MAP-A training earlier than the remaining scorer candidates. Their participation in intensive training sessions and successful completion of qualifying tests were initial activities in the MAP-A scoring window. In addition to these tasks, they also assisted with screening scorer candidates.

Scoring Procedures

The facilitators functioned as day-to-day monitors of MAP-A scoring, conducted retraining using materials approved by the ARC MAP-A program staff, and designated, with ARC MAP-A program staff approval, additional validation readers. Facilitators met with ARC MAP-A program staff on a regular basis to discuss scoring congruence and MAP-A submission irregularities. The facilitators conducted validation reads on fifty per cent of the portfolios that were randomly selected by grade level prior to delivery to ARC. They were responsible for inter-rater agreement, as described in the Reliability and Validity section of this report. In addition,

highly qualified senior scoring or program staff audited approximately 3% of MAP-A submissions at each grade span and circulated pre-scored submissions during the scoring window. In cases of disagreement with the initial score, the read-behind or audit-read score replaced the initial score as the score of record. Facilitators had access to a variety of quality control information, monitored several MAP-A scoring agreement reports throughout each scoring day, and used this information to assist, recalibrate, or retrain scorers as necessary. Scorers who were unable to maintain acceptable agreement rates were released from the MAP-A scoring project.

To organize the flow of work during a typical day, MAP-A facilitators outlined the basic tasks and order of work in a simple-to-follow set of instructions.

Steps for Scorers

1. Take one MAP-A binder from the "In Box."
2. Apply numbered sticker to MAP-A binder spine.
3. Verify that the student name and grade level on the MAP-A binder match the information in the MAP-A scoring interface.
4. Score according to directions.
5. Place completed MAP-A binder in the "Second Read Box" or "Completed Binder Box."
6. Repeat process as needed.

Steps for Scoring Facilitators

1. Stock the "In Box" with unscored MAP-A binders.
2. Conduct validation reads on MAP-A binders from the "Second Read Box."
3. Place validated MAP-A binders in the "Completed Binder Box."
4. Repeat process as needed.

To promote scoring consistency, MAP-A submissions were sorted and scored by grade span to allow scorers and facilitators to focus on one set of APIs for a prolonged period of time. The content strands and APIs assessed with the MAP-A change from grade span to grade span. Following completion of an entire grade span, the facilitators conducted training to calibrate scorers to the next set of APIs.

Reporting

Paper reports were created at the individual student level and at the district level. Two separate student-level reports were created, one for parents/guardians and one for teachers. Paper reports were printed at ARC or at the University of Missouri Printing Services, located in the same building as ARC. The score data did not leave ARC and the electronic prepress files were returned with the paper products. Paper reports were sent to both the district of residence and the district of attendance for each student as appropriate. A description of the paper reports follows and report samples may be found in Appendix I.

Reports

Individual Student Report–Parent/Guardian and Teacher

This report contained overall achievement level for a single content area, achievement level descriptors, raw rubric scores, and APIs assessed for each of the required entries. The only difference between the two student-level reports was that teacher reports included comments related to any submission irregularities in a student's MAP-A so that teachers could learn to make correct submissions in the future.

API History Report
The Individual Student API History Report listed APIs assessed in 2009-2010 and, if information is available, those assessed in previous years. APIs that were assessed with the MAP-A in more than one year are noted. This report is provided for informational purposes and is meant to assist administrators, teachers, and parents in tracking the breadth and depth of content assessed with the MAP-A from year to year across a student's educational span.

Student Record Label
The label contained assessment year and achievement level information.

District Report
This report summarized data based on student district of residence, and compared district performance by content area, grade span, and achievement level to overall state performance.

State Schools Building Report
This report was similar to the District Report but compared student data from one MSSD building by content area, grade span, and achievement level to overall MSSD performance.

State Schools Report
This report was similar to the District Report but compared student data from one MSSD building by content area, grade span, and achievement level to overall state performance.

State Schools District Report
This report was similar to the District Report but contained a summary of data of students who attend all MSSD buildings and compared overall MSSD performance by content area, grade span, and achievement level to overall state performance.

Report packages sent to districts included the mathematics, communication arts, and science reports for students who were enrolled or assessed in the district.

Reporting Decision Rules

Reports included achievement levels based upon the application of cut scores that may be found in Appendix E. Table 13 outlines the decision rules used for reporting of MAP-A scores.

Table 13. 2010 MAP-A Score Reporting Rules

Achievement Level	
Below Basic	Cut scores applied.
Basic	Cut scores applied.
Proficient	Cut scores applied.
Advanced	Cut scores applied.
Level Not Determined	No assessment data points are provided in content-area-required entries.
Participation	
Participating	Enrolled students for whom MAP-A binders are returned for scoring with evidence of at least a partial attempt to collect data.
Non-participating	Enrolled students for whom empty or no MAP-A binders are returned for scoring.
Accountability	
Accountable	All enrolled students, less those who meet health waiver or enrollment exemptions.
Reportable	All accountable students less Level Not Determined and Non-participating students.
Health Waiver	Approved on an individual basis by DESE committee composed of representatives from Special Education; Assessment; and Accountability, Data and Accreditation.
Enrollment Exemptions	Students who moved in or out of the district after January 8, 2010.

Student Performance

The following tables present information regarding 2010 MAP-A student performance and participation.

Table 14. 2010 Students Tested Using MAP-A by Grade Level

Grade Level	MAP-A Students	Total MO Students	% MAP-A
3	863	68,047	1.27
4	960	68,726	1.40
5	895	67,899	1.32
6	858	68,574	1.25
7	835	67,301	1.24
8	767	67,424	1.14
10	729	70,108	1.04
11	684	67,547	1.01
Total	6591	545,626	**1.21**

Table 15. 2010 MAP-A Achievement Level Distribution

Grade Span	Achievement Level	Mathematics		Communication Arts		Science	
		n	%	*n*	%	*n*	%
All Grades	Level Not Determined	46	0.78	40	0.68	24	1.02
	Below Basic	103	1.74	112	1.91	353	15.05
	Basic	269	4.55	377	6.43	429	18.29
	Proficient	1706	28.88	1710	29.17	430	18.33
	Advanced	3783	64.04	3623	61.80	1110	47.31
	Prof & Adv	5489	92.92	5333	90.98	1540	65.64
Grades 3, 4, 5	Level Not Determined	16	0.59	16	0.59	11	1.23
	Below Basic	28	1.03	31	1.14	128	14.30
	Basic	107	3.94	103	3.79	174	19.44
	Proficient	717	26.38	732	26.93	141	15.75
	Advanced	1850	68.06	1836	67.55	441	49.27
	Prof & Adv	2567	94.44	2568	94.48	582	65.03
Grades 6, 7, 8	Level Not Determined & Below Basic*	87	3.54	80	3.25	122	15.91
	Basic	127	5.16	209	8.50	146	19.04
	Proficient	781	31.75	793	32.24	177	23.08
	Advanced	1465	59.55	1378	56.02	322	41.98
	Prof & Adv	2246	91.30	2171	88.25	499	65.06
Grades 10, 11	Level Not Determined & Below Basic*	18	2.47	25	3.65	116	16.96
	Basic	35	4.80	65	9.50	109	15.94
	Proficient	208	28.53	185	27.05	112	16.37
	Advanced	468	64.20	409	59.80	347	50.73
	Prof & Adv	676	92.73	594	86.84	459	67.11

* Level Not Determined and Below Basic data combined due to small sample size.

Table 16. 2010 MAP-A Mathematics Achievement Level Distribution by Grade Level

Grade Span	Total Students	Level Not Determined & Below Basic *		Basic		Proficient		Advanced		Prof & Adv	
		n	%	*n*	%	*n*	%	*n*	%	*n*	%
3, 4, and 5	2718	44	1.62	107	3.94	717	26.38	1850	68.06	2567	94.44
6, 7, and 8	2460	87	3.54	127	5.16	781	31.75	1465	59.55	2246	91.30
10	729	18	2.47	35	4.80	208	28.53	468	64.20	676	92.73
Total	5907	149	2.52	269	4.55	1706	28.88	3783	64.04	5489	92.92

Table 17. 2010 MAP-A Communication Arts Achievement Level Distribution by Grade Level

Grade Span	Total Students	Level Not Determined & Below Basic *		Basic		Proficient		Advanced		Prof & Adv	
		n	%	*n*	%	*n*	%	*n*	%	*n*	%
3, 4, and 5	2718	47	1.73	103	3.79	732	26.93	1836	67.55	2568	94.48
6, 7, and 8	2460	80	3.25	209	8.50	793	32.24	1378	56.02	2171	88.25
11	684	25	3.65	65	9.50	185	27.05	409	59.80	594	86.84
Total	5862	152	2.59	377	6.43	1710	29.17	3623	61.80	5333	90.98

* Level Not Determined and Below Basic data combined due to small sample size.

Table 18. 2010 MAP-A Science Achievement Level Distribution by Grade Level

Grade	Total Students	Level Not Determined & Below Basic *		Basic		Proficient		Advanced		Prof & Adv	
		n	%	*n*	%	*n*	%	*n*	%	*n*	%
5	895	139	15.53	174	19.44	141	15.75	441	49.27	582	65.03
8	767	122	15.91	146	19.04	177	23.08	322	41.98	499	65.06
11	684	116	16.96	109	15.94	112	16.37	347	50.73	459	67.11
Total	2346	377	16.07	429	10.61	430	18.33	1110	47.31	1540	65.64

* Level Not Determined and Below Basic data combined due to small sample size.

Table 19. 2010 MAP-A Mathematics Achievement level Distribution by Gender, Ethnicity, Primary Disability, Student Status, ELL Status, and Classroom Instruction

	Level Not Determined		Below Basic		Basic		Proficient		Advanced		Prof & Adv	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*N*	%
Gender												
Male	27	0.7	67	1.8	176	4.6	1078	28.3	2465	64.6	3543	92.9
Female	19	0.9	36	1.7	93	4.4	628	30.0	1318	62.9	1946	92.9
Ethnicity												
White, not Hispanic	35	0.8	69	1.6	200	4.6	1229	28.1	2833	64.9	4062	93.0
Not Reported: Black, Not Hispanic; Native American or Alaska Native; Asian/Pacific Islander, and Hispanic groups*												
Primary Disability												
MR	16	0.5	50	1.7	123	4.1	825	27.5	1985	66.2	2810	93.7
Autism	10	0.9	16	1.4	53	4.8	302	27.1	733	65.8	1035	92.9
Multiple Disabilities	11	1.9	21	3.6	43	7.4	229	39.6	275	47.5	504	87.0
Not Reported: Specific LD, ED, Traumatic Brain Injury, Speech, Hearing, Language, Visual, Orthopedic, and Other Health impairments*												
Student Status												
IEP	46	0.8	103	1.7	268	4.6	1700	28.9	3771	64.0	5471	92.9
Not Reported: SES, Gifted, H.S. Career Education, IAP, In district less than a year, In building less than a year, Migrant, Title 1, and Voluntary Transfer Student designations*												
ELL Status												
Not Reported: Receiving ELL Services, ELL Monitoring, and Title III*												
Classroom Instruction												
More than 60% of school day	23	0.7	61	2.0	125	4.0	875	28.2	2023	65.1	2898	93.3
Separate School	18	1.7	25	2.4	85	8.2	383	37.0	524	50.6	907	87.6
Not Reported: Classroom Instruction Less than 21% of school day and From 21% to 60% of school day*												

* In compliance with confidentiality requirements, data from these subgroups are not reported due to small sample size ($n < 10$ in any one cell).

Table 20. 2010 MAP-A Communication Arts Achievement level Distribution by Gender, Ethnicity, Primary Disability, Student Status, ELL Status, and Classroom Instruction

	Level Not Determined		Below Basic		Basic		Proficient		Advanced		Prof & Adv	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Gender												
Male	24	0.6	78	2.1	226	6.0	1097	29.2	2326	62.0	3423	91.3
Female	16	0.8	34	1.6	151	7.2	613	29.0	1297	61.4	1910	90.5
Ethnicity												
White, not Hispanic	29	0.7	79	1.8	259	5.9	1265	29.0	2725	62.5	3990	91.6
Not Reported: Black, Not Hispanic; Native American or Alaska Native; Asian/Pacific Islander, and Hispanic groups*												
Primary Disability												
MR	13	0.4	51	1.7	166	5.6	824	27.8	1913	64.5	2737	92.2
Multiple Disabilities	13	2.2	20	3.4	68	11.7	215	36.9	266	45.7	481	82.6
Not Reported: Specific LD, ED, Autism, Traumatic Brain Injury, Speech, Hearing, Language, Visual, Orthopedic, and Other Health impairments*												
Student Status												
IEP	40	0.7	112	1.9	377	6.4	1706	29.2	3610	61.8	5316	90.9
Not Reported: SES, Gifted, H.S. Career Education, IAP, In district less than a year, In building less than a year, Migrant, Title 1, and Voluntary Transfer Student designations*												
ELL Status												
Not Reported: Receiving ELL Services, ELL Monitoring, and Title III*												
Classroom Instruction												
More than 60% of school day	17	0.6	60	2.0	184	6.0	880	28.7	1929	62.8	2809	91.5
Separate School	20	2.0	36	3.6	122	12.1	347	34.4	484	48.0	831	82.4
Not Reported: Classroom Instruction Less than 21% of school day and From 21% to 60% of school day*												

* In compliance with confidentiality requirements, data from these subgroups are not reported due to small sample size (*n* < 10 in any one cell).

Table 21. 2010 MAP-A Science Achievement level Distribution by Gender, Ethnicity, Primary Disability, Student Status, ELL Status, and Classroom Instruction

	Level Not Determined		Below Basic		Basic		Proficient		Advanced		Prof & Adv	
	n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
Gender												
Male	15	1.0	225	15.1	283	19.0	277	18.6	686	46.2	963	64.8
Not Reported: Female*												
Ethnicity												
White, not Hispanic	18	1.0	266	15.1	334	18.9	324	18.4	823	46.6	1147	65.0
Not Reported: Black, Not Hispanic; Native American or Alaska Native; Asian/Pacific Islander, and Hispanic groups*												
Primary Disability												
Not Reported: MR, Specific LD, Multiple Disabilities, ED, Autism, Traumatic Brain Injury, Speech, Hearing, Language, Visual, Orthopedic, and Other Health impairments*												
Student Status												
IEP	24	1.0	353	15.1	428	18.3	430	18.4	1106	47.2	1536	65.6
Not Reported: SES, Gifted, H.S. Career Education, IAP, In district less than a year, In building less than a year, Migrant, Title 1, and Voluntary Transfer Student designations*												
ELL Status												
Not Reported: Receiving ELL Services, ELL Monitoring, and Title III*												
Classroom Instruction												
More than 60% of school day	10	0.8	178	14.7	211	17.5	226	18.7	583	48.3	809	67.0
Separate School	12	2.5	94	19.4	93	19.2	99	20.4	187	38.6	286	59.0
Not Reported: Classroom Instruction Less than 21% of school day and From 21% to 60% of school day*												

* In compliance with confidentiality requirements, data from these subgroups are not reported due to small sample size ($n < 10$ in any one cell).

Reliability and Validity

Validity refers to how well a test does the job it was employed to do. Reliability refers to the consistency of results from an assessment, or the extent to which an assessment provides the same results over repeated administrations and the extent to which various items within a test tend to provide the same results (AERA, 1999). The validity of any assessment is limited by its reliability. That is, if a test does not consistently yield the same results at each administration, it is probably not valid.

Reliability

Typically the reliability of assessments is determined by correlations among test-retest administrations, parallel forms, and items within the test (e.g., item discrimination, Cronbach's alpha). Neither parallel forms, test-retest reliability, nor consistency of an individual student's performance over time can be computed for the MAP-A as it is currently designed, administered, and scored. Recall that on each student's Entry/Data Summary Sheet there are six data points, three data points collected during each of two collection periods. These are averaged for a single entry score.

Internal consistency or homogeneity of the MAP-A can be computed as an estimate of reliability, with caution. Recall that two entries are completed for each of two strands within the mathematics or communication arts domains. Each entry assesses a single API. Thus, each student has four entry scores recorded for each of these two domains. For the science domain there are only two entry scores. Each science entry assesses two APIs representing two different strands. One measure of internal consistency, split-half reliability, is typically computed by dividing the test in half (e.g., odd vs. even items) and correlating scores on half the test items with scores on the other half. This approach could be used to estimate the reliability of the MAP-A in two ways:

1. Treat the two entries as two halves of a test and correlate the two scores. For mathematics and communication arts this would provide an estimate of internal reliability for each of the two strands. For science this is the only estimate of reliability that is possible because there are only two entries.
2. Treat all four entries in mathematics or communication arts as items of a test of the same domain and compute Cronbach's coefficient alpha.

Each API is supposed to represent the same strand, and each strand is supposed to represent the same domain. Thus, correlations between them provide an estimate of how generalizable each entry score is to the strand or to the larger domain. However, there are three concerns regarding the interpretation of these estimates:

1. This method depends upon variation among scores. The MAP-A has restricted variation. Teachers can select APIs and design assessment activities that they are fairly certain each student can pass. Thus, there is a negative skew on entry average scores, with roughly 40-50% of the scores at ceiling. The distribution of rubric scores is more restricted, with 45-80% scoring at ceiling and 10-40% scoring at floor, or "0."
2. This is a very short test. On the MAP-A, the split-half reliability would be based on only two or four items. The Spearman-Brown formula could be applied to estimate the reliability of the whole test if the test were twice as long (i.e., four or eight items), but even doubled it would be a short test. Reliability is a problem on a short test.

3. This method is best applied to similar items measuring a single concept. Ideally, the two halves of a test should have similar content and difficulty level. Items measuring each behavior/skill should be on each half of the test. On the MAP-A, the halves are not likely to be equivalent because there is only one item on each half and because teachers are free to choose any two APIs from a field of dozens. For example, a 5th grader might be given the following two performance indicators: "*Recognize a small collection of 1 or 2 items"* (NO1.1a) and "*Develop fluency with basic number relationships of addition and subtraction for sums up to 10*" (NO9.4). Both of these APIs are designed to measure understanding of numbers and operations. However, they have different content and levels of difficulty.

Tables 22-24 show the domain of available APIs by content area and strand.

Table 22. 2010 Domain of Available and Assessed APIs in Grades 3-5

Content Area	Strand	Total APIs Available	# of APIs Assessed
MA	Numbers and Operations **(NO)**	86	86
	Algebraic Relationships **(AR)**	21	21
	Geometric and Spatial Relationships **(GS)**	32	30
CA	Reading: Develop and apply skills and strategies to the reading process (**RD** *and/or* **RP)**	69	69
	Writing: Compose well-developed text using standard English conventions **(WC)**	22	22
SC	Scientific Inquiry **(IN)**	18	17
	Impact of Science, Technology and Human Activity **(ST)**	5	4
	Characteristics and Interactions of Living Organisms **(LO)**	32	25
	Changes in the Ecosystems and Interaction of Organisms with their Environments **(EC)**	32	21

Table 23. 2010 Domain of Available and Assessed APIs in Grades 6-8

Content Area	Strand	Total APIs Available	# of APIs Assessed
MA	Numbers and Operations **(NO)**	142	134
	Data and Probability **(DP)**	32	32
CA	Reading: Develop and apply skills and strategies to the reading process (**RD** *and/or* **RP)**	87	85
	Writing: Apply a writing process in composing text or write effectively in various forms and types of writing **(WP)**	40	40
SC	Scientific Inquiry **(IN)**	25	24
	Impact of Science, Technology and Human Activity **(ST)**	16	8
	Properties and Principles of Matter and Energy **(ME)**	135	73
	Properties and Principles of Force and Motion **(FM)**	62	40

Table 24. 2010 Domain of Available and Assessed APIs in Grades 10-11

Content Area	Strand	Total APIs Available	# of APIs Assessed
MA	Numbers and Operations **(NO)**	147	119
	Measurement **(ME)**	55	53
CA	Reading: Develop and apply skills and strategies to the reading process (**RD** *and/or* **RP)**	94	83
	Writing: Apply a writing process in composing text or write effectively in various forms and types of writing **(WP)**	43	41
SC	Scientific Inquiry **(IN)**	39	31
	Impact of Science, Technology and Human Activity **(ST)**	27	4
	Process and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere) **(ES)**	144	62
	Composition and Structure of the Universe and the Motion of the Objects Within It **(UN)**	69	26

Tables 25-27 show the APIs that were assessed most often in each content area.

Table 25. 2010 API Usage in Mathematics

Grade Span	APIs Most Often Assessed	# of Times Assessed	% of Total Entries
Grades 3-5	AR3.1B	509	4.73%
	AR2.1A	427	3.97%
	AR1.1E	406	3.77%
	AR7.1B	361	3.35%
	AR3.1A	361	3.35%
	NO4.2	324	3.01%
	NO1.0	255	2.37%
	AR3.1C	232	2.16%
	NO1.18	222	2.06%
	GS3.1A	222	2.06%
Grades 6-8	DP2.1B	574	5.90%
	DP2.1A	482	4.96%
	DP4.1C	339	3.49%
	DP3.2B	325	3.34%
	DP3.1D	291	2.99%
	DP1.2	245	2.52%
	DP3.1C	242	2.49%
	DP3.1A	222	2.28%
	DP1.1B	218	2.24%
	DP1.2A	195	2.01%
Grade 10	ME3.4A	222	7.71%
	ME2.1B	99	3.44%
	ME2.1F	83	2.88%
	ME3.1D	83	2.88%
	ME2.1E	79	2.74%
	ME2.1A	78	2.71%
	NO12.2	71	2.47%
	NO1.0	63	2.19%
	ME3.4	53	1.84%
	NO4.2	51	1.77%

Table 26. 2010 API Usage in Communication Arts

Grade Span	APIs Most Often Assessed	# of Times Assessed	% of Total Entries
Grades 3-5	WC4.1	524	4.86%
	WC4.1	484	4.49%
	WC2.2	477	4.43%
	WC1.1	474	4.40%
	WC2.6	435	4.04%
	RD4.1	379	3.52%
	WC3.3	375	3.48%
	WC1.4	342	3.17%
	WC2.4	341	3.16%
	WC5.1	340	3.15%
Grades 6-8	WP1.3	408	4.19%
	WP2.3	359	3.69%
	WP1.8	330	3.39%
	WP1.1	329	3.38%
	WP3.1	316	3.24%
	WP1.7	274	2.81%
	WP3.2	224	2.30%
	WP5.4	215	2.21%
	WP3.4	214	2.20%
	WP1.5	206	2.11%
Grade 11	WP1.3	176	6.49%
	WP2.3	110	4.06%
	WP3.4	104	3.84%
	WP3.1	100	3.69%
	WP1.8	97	3.58%
	WP5.3	90	3.32%
	WP5.4	81	2.99%
	RD4.2	80	2.95%
	WP1.5	62	2.29%
	WP3.2	62	2.29%

Table 27. 2010 API Usage in Science

Grade	APIs Most Often Assessed	# of Times Assessed	% of Total Entries
Grade 5	IN5.1	221	12.49%
	LO1.5	127	7.18%
	IN2.1	127	7.18%
	EC1.5	103	5.82%
	LO1.1	98	5.54%
	IN1.2A	89	5.03%
	IN1.2	77	4.35%
	EC1.4A	59	3.33%
	IN1.1C	57	3.22%
	LO1.3	53	2.99%
Grade 8	IN2.1	131	8.61%
	IN1.2B	94	6.18%
	IN1.2	84	5.52%
	IN1.2A	82	5.39%
	ME1.1B	77	5.06%
	IN1.1A	38	2.50%
	IN2.3	38	2.50%
	ME2.2A	38	2.50%
	ME2.2B	36	2.37%
	IN5.1	35	2.30%
Grade 11	UN6.3	112	8.28%
	IN5.1	108	7.99%
	IN1.1C	69	5.10%
	IN3.1B	48	3.55%
	IN2.2	47	3.48%
	IN2.1	46	3.40%
	IN1.2	45	3.33%
	IN2.2A	45	3.33%
	UN2.3	44	3.25%
	UN2.1	36	2.66%

Noting these limitations to the interpretation of split-half reliability coefficients as applied to the MAP-A, Tables 28-32 report reliability estimates. In the mathematics and communication arts domains, the split-half reliabilities for Strands 1 and 2 can be thought of as replications of each other. Reliabilities for the rubric scores may be lower because the range is truncated.

Table 28. Reliability Estimates for the MAP-A, All Grades

	Mathematics			Communication Arts		
	Strand 1	**Strand 2**	**Alpha**	**Strand 1**	**Strand 2**	**Alpha**
Entry Average						
Accuracy (0 – 100)	.76	.76	.84	.72	.71	.81
Independence (0 – 100)	.85	.82	.89	.76	.80	.84
Rubric Score						
Level of Accuracy (0 – 4)	.59	.38	.62	.56	.60	.71
Level of Independence (0 – 4)	.67	.47	.70	.61	.69	.76
Connections to Standards (0 – 3)	.59	.42	.64	.55	.62	.69

Note. Numbers in the Strand 1 and Strand 2 columns present the Spearman-Brown split-half reliability coefficients for the two APIs within that strand. Alpha refers to Cronbach's alpha for the 4 API scores within each domain. Although the total sample was 6,591, due to missing data entry average reliabilities are based on 4,737 – 5,193 cases. Rubric score reliabilities are based on 5,862 – 5,907 cases. If there are scoring irregularities, the entry averages get no score and are treated as missing data in the reliability estimates. However, they are recorded as a "0" in the rubric scores. This results in fewer missing cases for reliability estimates of rubric scores.

Table 29. Reliability Estimates for the MAP-A, Grades 3 – 5

	Mathematics			Communication Arts		
	Strand 1	**Strand 2**	**Alpha**	**Strand 1**	**Strand 2**	**Alpha**
Entry Average						
Accuracy (0 – 100)	.74	.75	.84	.74	.69	.81
Independence (0 – 100)	.82	.83	.89	.73	.79	.82
Rubric Score						
Level of Accuracy (0 – 4)	.51	.33	.56	.49	.61	.69
Level of Independence (0 – 4)	.63	.43	.66	.54	.70	.74
Connections to Standards (0 – 3)	.55	.36	.61	.47	.63	.65

Note. Numbers in the Strand 1 and Strand 2 columns present the Spearman-Brown split-half reliability coefficients for the two APIs within that strand. Alpha refers to Cronbach's alpha for the 4 API scores within each domain. Although the total sample for these grades was 2,718, due to missing cases, entry average reliabilities are based on 2,151 – 2,414 cases. Rubric score reliabilities are based on the full 2,718 cases.

Table 30. Reliability Estimates for the MAP-A, Grades 6 – 8

	Mathematics			Communication Arts		
	Strand 1	Strand 2	Alpha	Strand 1	Strand 2	Alpha
Entry Average						
Accuracy (0 – 100)	.77	.75	.84	.68	.71	.80
Independence (0 – 100)	.87	.82	.90	.79	.82	.85
Rubric Score						
Level of Accuracy (0 – 4)	.63	.38	.64	.60	.61	.73
Level of Independence (0 – 4)	.71	.45	.72	.66	.69	.78
Connections to Standards (0 – 3)	.64	.44	.66	.61	.62	.73

Note. Numbers in the Strand 1 and Strand 2 columns present the Spearman-Brown split-half reliability coefficients for the two APIs within that strand. Alpha refers to Cronbach's alpha for the 4 API scores within each domain Although the total sample for these grades was 2,460, due to missing data, entry average reliabilities are based on 1,949 – 2,161 cases. Rubric score reliabilities are based on the full 2,460 cases.

Table 31. Reliability Estimates for the MAP-A, Grades 10 – 11

	Mathematics			Communication Arts		
	Strand 1	Strand 2	Alpha	Strand 1	Strand 2	Alpha
Entry Average						
Accuracy (0 – 100)	.80	.80	.87	.82	.74	.87
Independence (0 – 100)	.86	.83	.90	.78	.78	.88
Rubric Score						
Level of Accuracy (0 – 4)	.64	.69	.76	.64	.55	.71
Level of Independence (0 – 4)	.68	.70	.79	.63	.59	.73
Connections to Standards (0 – 3)	.58	.56	.70	.61	.58	.66

Note. Numbers in the Strand 1 and Strand 2 columns present the Spearman-Brown split-half reliability coefficients for the two APIs within that strand. Alpha refers to Cronbach's alpha for the 4 API scores within each domain. Although the total sample for these grades was 729 (10th grade) and 684 (11th grade), due to missing data entry average reliabilities are based on 618 – 637 cases. Rubric score reliabilities are based on the full 729 and 684 cases.

Table 32. Reliability Estimates for the MAP-A Science

	Grade			
	All Grades	5th Grade	8th Grade	11th Grade
Entry Average				
Accuracy (0 – 100)	.79	.75	.81	.81
Independence (0 – 100)	.81	.74	.86	.83
Rubric Score				
Level of Accuracy (0 – 4)	.44	.45	.43	.44
Level of Independence (0 – 4)	.48	.50	.48	.47
Connections to Standards (0 – 3)	.43	.41	.39	.51

Note. These numbers are the Spearman-Brown split-half reliability coefficients for the two science entry scores. Although the total sample for these grades was 895 (5th grade), 767 (8th grade) and 684(11th grade), due to missing data entry average reliabilities are based on 475 – 594 cases at each grade. Rubric score reliabilities are based on the full 684 – 895 cases.

Three steps have been taken to increase the reliability of the MAP-A. First, three data points are collected at each of two collection periods for a total of six data points for each entry. The average for these six data points is taken as the student's score for that entry. Multiple data points result in a more stable score because the effects of "outlier" data points are minimized, and the average score is closer to what may be the student's "true" score. Increasing the number of data points should result in higher reliability.

Second, two standard forms, the "Entry/Data Summary Sheet" and the "Student Work Record," along with actual student work, if appropriate, are used to report data. Test administrators are carefully trained to provide data on these standardized forms. The degree of accuracy and of independence that is required to earn each point on the rating scales is clearly specified, and models are used in training. Data collection, documentation, and submission requirements are prescribed in order to reduce the degree of variance in judgment that is somewhat inevitable in portfolio assessments. This standardized format contributes to reliability, although it has to be balanced with the need to design individualized assessments appropriate to each eligible student.

Third, scorers are carefully trained and monitored to assure inter-rater agreement. This is important because a test cannot have reliability that is higher than the reliability of the scoring. Inter-rater agreement is discussed in detail next.

Agreement Among Scorers

The extent to which two scorers assign the same score to an assessment when using the same rubric is referred to as inter-rater agreement. As part of ARC's quality control program for scoring MAP-A, inter-rater agreement reports are generated regularly. During scoring, facilitators conduct second scores, or read-behinds, on fifty percent of submissions scored by scorers. Thus, 50% of the MAP-A portfolios are checked for agreement by a scoring facilitator who is considered an expert rater.

As a scorer completes a binder, his/her scores for each entry in the binder are entered into the MAP-A score database. As a scorer completes a binder, his/her scores for each entry in the binder are entered into the MAP-A score database. A facilitator then conducts the second scoring of the binder; these scores are entered into the MAP-A score database and compared to the first set of scores. In case of a discrepancy, the facilitator's score becomes the score of record.

Facilitators review discrepancy logs and agreement reports comparing individual scorers' assessments with the facilitators' blind assessments. Early in the scoring season, agreement reports are reviewed daily with MAP-A program staff. As the season progresses and agreement rates stabilize, reports are reviewed by facilitators daily and with program staff at least twice a week.

Facilitators and program directors use inter-rater agreement reports to identify scorers in need of retraining and calibration and to identify any areas in which the entire scoring panel might have needed recalibration. With this information, retraining can be targeted and delivered quickly. Facilitators determine what retraining is necessary for scorers individually and as a group.

Tables 33, 34, and 35 summarize agreement reports for the MAP-A entries scored during the 2010 scoring season. Fifty percent of 23,628 mathematics, 23,448 communication arts, and 4,692 science entries received a second read by a facilitator. Agreement with facilitator reads for each subject may be found in the tables below. Level of accuracy and level of independence

dimensions are scored using a four-point rubric. Connection to the standards is scored using a three-point rubric. The maximum possible score per MAP-A entry is 11 points. The MAP-A scoring rules call for scorers to make decisions about whether an entry is scorable or unscorable. In cases of disagreement on such decisions, the resulting rubric scores differ by more than one point.

Table 33. Mathematics Agreement Rates

	Perfect	Perfect Plus Adjacent	Non-adjacent
Level of Accuracy	96.45	97.47	2.53
Level of Independence	96.28	97.55	2.45
Connection to the Standards	91.93	93.30	6.70

Table 34. Communication Arts Agreement Rates

	Perfect	Perfect Plus Adjacent	Non-adjacent
Level of Accuracy	96.82	97.93	2.70
Level of Independence	96.64	98.04	1.96
Connection to the Standards	91.35	93.27	6.73

Table 35. Science Agreement Rates

	Perfect	Perfect Plus Adjacent	Non-adjacent
Level of Accuracy	93.54	94.29	5.71
Level of Independence	93.35	94.42	5.58
Connection to the Standards	89.66	91.51	9.49

Validity

Validity refers to the appropriateness, meaningfulness, and usefulness of inferences made from test scores. It is the extent to which an assessment measures what it is intended to measure for a particular purpose. The purposes of the MAP-A are to (1) document student learning according to state academic standards, and (2) inform instruction. Some of the evidence to support the validity of the MAP-A for these purposes have already been discussed in earlier sections of the report that address test administration, test scoring, and test reliability. Another important piece of evidence to support validity of the MAP-A for these purposes is test content, which is discussed next.

Test Content

Lissitz & Samuelsen (2007) argue that the test construction process is at the heart of validity. They state, "*content validity, or internal validity, should be acknowledged as the critical initial*

characteristic to consider when evaluating the quality of a test" (p. 446). While there is controversy regarding whether test content is the most important aspect of validity (Embretson 2007), content validity is widely considered the minimal requirement for a valid test, but not a guarantee that a test is valid.

This aspect of validity refers to whether the content of the assessment corresponds with what content should be covered by the assessment, that is, whether test content is relevant and representative of the construct. It is based on judgment and is not quantifiable. We discuss three aspects of the MAP-A content that support its validity for the purposes discussed above:

1. The alignment of strands with standards;
2. The alignment of APIs with strands;
3. The range of content in portfolios.

First, during development of the MAP-A, a blueprint was used to outline the curriculum and standards for each subject and grade level. This process assured strong alignment of MAP-A strands with Missouri's Show-Me Standards, GLEs, and AGLEs. A summary of the assessment development process may be found in the Overview section of this report; refer to the *2006 MAP-A Technical Manual* for a detailed description of the mathematics and communication arts development process and to Appendix B for details regarding the science development process. The assessment blueprint may be found in the Operational Assessment Administration section.

Second, two steps have been taken to maximize alignment of APIs with strands. First, MAP-A administrators are carefully trained so that administration procedures are standardized. This process is described in the Operational Assessment Administration chapter. Second, each MAP-A portfolio is rated on its "connection to standards." This process is described in the Scoring and Reporting chapter. However, MAP-A administrators can choose what APIs to use to represent each strand with each student. Their choices influence the content validity of the MAP-A. In fact, the validity of each student's portfolio is potentially unique, depending on the APIs selected by the administrator.

Third, effort has been made to broaden the range of content assessed by the MAP-A. Typically, tests merely sample a portion of the universe of items that could be used to assess a content domain. The larger the sample, the more valid the test. Because lengthy assessments are onerous, particularly for the MAP-A student, a balance must be achieved between the number of actual APIs selected and the universe of possible APIs. A 2006 study of communication arts and mathematics MAP-A submissions was conducted by Dr. Norman Webb, University of Wisconsin, at DESE's request, to address this issue.

Dr. Webb led an alignment study team using the Webb Alignment Tool (WAT), which has been used to analyze curriculum standards and assessments in over 16 states preparing to meet Title I compliance as required by the U.S. Department of Education. Overall, the findings from this study indicated need for improvement in the alignment between the collection of portfolios and the Missouri communication arts and mathematics alternate standards. Specifically, the MAP-A had limited range. Teachers were required to assess only two APIs for each of two strands in both communication arts and mathematics, yet there are a large number of APIs.

Although the state determined that the Webb model did not lend itself well to assessing the alignment of an alternate assessment of MAP-A's nature, DESE in 2008 took the following actions to improve alignment.

Teachers were provided with specific guidance in addition to the assessment blueprint, requiring them to select APIs not only from different strands, but also from different goals within the strands. To help teachers implement these new requirements, DESE provided additional training for teachers focusing on the following:

1. selection of APIs and design of activities at appropriate depth-of-knowledge levels, and
2. creation of assessment activities that closely tie to the content in the given APIs.

DESE provided for the development of additional sample entries and scoring information to be made available to teachers to assist them in their efforts to improve alignment.

Other states have used a variety of approaches to evaluating the alignment of alternate assessments, many based on modifications of the Webb model. DESE conducted a re-review of the mathematics and communication arts in conjunction with the NCLB-required alignment study of the science MAP-A, in 2009. The findings and report are pending.

Consequences of MAP-A Testing

The *intended* consequence of the MAP-A is to enhance education outcomes for children with disabilities. To this end reports are provided to parents, teachers, schools, districts, and DESE, as described in the Scoring and Reporting chapter. Achievement Level Descriptors (ALD) provide users with clear reference points for mastery at each grade level, so that scores can be readily interpreted and used to inform curriculum and IEP development. However, different APIs are used from year to year, so annual growth for individual children for specific APIs cannot be tracked.

Assessments can also have both positive and negative *unintended* consequences. Researchers disagree about whether assessment of consequences is an aspect of validity of a test or not, but there is widespread agreement that test designers and users should explore and fully disclose identified consequences of a test's use, including negative consequences, whenever possible (Linn 1997; Popham 1997; Shepard 1997).

Therefore, DESE commissioned a study to evaluate the consequences of its state assessment program. Part of that study addressed the consequences of MAP-A. Focus group discussions and surveys were used to collect information from several stakeholder groups, among them teachers, parents, students, school board members, superintendents, principals, and personnel from DESE, and its Regional Professional Development Centers. Through this study and other contact with MAP-A stakeholders, a number of findings have emerged, both positive and negative.

1. MAP-A design lends itself to incorporation into IEP goals.
2. Requirements to administer the assessments led to better interventions for some MAP-A students.
3. MAP-A documentation and time requirements are onerous.
4. It is difficult to select appropriate APIs for the most severely disabled students.
5. Teachers' knowledge or lack of knowledge about how to administer the assessment and about the content standards affects student scores.

These findings suggest that stakeholders perceive the MAP-A as valid for the purpose of informing instruction. The findings also suggest that the assessment is challenging for teachers. Findings from multiple perspectives were presented in a symposium at the American Educational Research Association's annual meeting in April 2009.

Teachers' Role

Teachers have a significant role in administering, reporting, and using the information provided by the MAP-A. Thus, teachers influence the validity of the test. DESE provides training and on-going guidance to help teachers administer and report the assessment validly. Nevertheless, teachers introduce construct-irrelevant variance that may compromise the validity of the MAP-A. There are three ways that administration error can reduce a student's score.

1. If a teacher fails to provide evidence of evaluation on a student work record, the student would get a "0" on the accuracy and independence scores for that data point. This "0" would be averaged with the other two data points for that collection period. (If the teacher miscalculates, the entry is simply re-calculated, which could lead to a lower or higher score.) Thus, a student who may be fully capable of an API, but whose teacher fails to adequately document this on the student work record, would get a score of "67" [(100 + 100 + 0)/3] instead of a score of "100." This would result in a lower rubric score, and may or may not result in a lower overall achievement level.
2. If a teacher gives the student an *acquisition* rather than *application* task, the student would get a lower "connections to standards" score, which would reduce the rubric score to 9-10 instead of 11. This may or may not result in a lower overall achievement level.
3. If a teacher (a) chooses an API not in the grade span, (b) describes an activity that doesn't connect with the API, or (c) assesses the student outside the specified time period, the student would receive a "no score" for that API, which becomes a "0" for the rubric score. For example, the API that "Cody" was assessed on was "*Write simple directions for doing something, considering a given audience*" (WP5.4). Cody wrote a grocery list for a recipe to be prepared by his life skills class. Cody showed accuracy and independence, but received a rubric score of "0" because his teacher simply reported that Cody found the ingredients, but did not discuss his writing, nor what kind of prompt was needed. Cody's score of "0" suggests inability to complete this API, when in fact he could write a shopping list. A rubric score of "0" would reduce his overall score by 11 points, out of a possible 44. This is likely to place him in a lower overall achievement level.

Teacher error in administration of the MAP-A could result in artificially low scores for students, whereas a correct administration could have permitted the students to display their competence. Thus, the meaning of a particular student's rubric score is not entirely clear, and may or may not be valid for determining the student's overall achievement level.

In summary, we cannot know all aspects of validity and reliability of the MAP-A because of the nature of this assessment. We cannot compare scores from one student to another. We cannot know how their performance pertains to same-age peers who are completing standardized assessments. However, strong efforts have been made to ensure that the assessment is as valid and reliable as possible for an individualized performance assessment. The evidence described above suggests that the MAP-A's psychometric properties contribute to its intended consequence, that is, to make inferences about student achievement on the Show-Me Standards for communication arts, mathematics, and science and to improve instructional programs.

MAP-A Information Security

Although the MAP-A submissions do not contain secure test items, they do contain confidential student information. The security of this information is maintained throughout the MAP-A cycle, from enrollment to receipt and check-in of submissions and through scoring, reporting, and archiving.

Enrollment

Electronic enrollment was handled by an ASP.NET website with a back-end Oracle database located behind a firewall. The website is protected by 128-bit SSL encryption, and the webserver is protected with IP filters for minimal exposure. The website requires users to login with a username and password assigned by ARC. District test coordinators can elect to create accounts within the system that can be used by their designees to enroll students. Enrollment is limited to students within a district and edit/delete can only be done by the district test coordinator.

Scoring

MAP-A binders returned to ARC for scoring are shipped to and stored in a secure warehouse adjacent to the rooms where scoring takes place. Access to the warehouse is limited to employees of ARC. Binders are staged for scoring in a secure manner. All ARC staff, including scoring personnel, sign a confidentiality agreement that is legally binding in which they agree not to discuss any aspect of the scoring process or confidential student information. The scoring process and confidential student information are defined to include, but not be limited to, any aspect of scoring, student responses, districts or teachers administering the MAP-A outside the scoring room. In addition, all ARC staff wear security identification name badges at all times during the workday. No cell phones, cameras, or other recording devices are allowed in scoring areas. All materials necessary for scoring, including training materials, rubrics, and MAP-A binders, remain in designated scoring areas. When scoring is concluded, discarded paper and scoring materials are securely shredded.

Data Storage

The enrollment data and score data are stored on University of Missouri servers which are behind firewalls. Additional network-level protection is provided by IP filters that block access to unauthorized subnets and protocols, regardless of their presence inside the intranet. Data are stored in a combination of Oracle database and flat text file formats. File-level access control lists prevent unauthorized staff from accessing MAP-A data on the network.

Future Plans

Changes to the MAP-A assessment program planned for the 2010-2011 assessment year include general refinement and updating of the resources prepared for teachers. The administration training in all subjects will be updated, based on stakeholder feedback from the 2010 assessment year.

The MAP-A *Instructor's Guide and Implementation Manual*, which is an important resource for teachers who administer the MAP-A, will be updated, as it is annually. The administration training which employs this manual as a guide will also be updated. The mathematics, communication arts, and science sample entries and their accompanying explanations used in all MAP-A training and reference materials will be reviewed and updated as necessary.

Scorer training materials will be refined as appropriate to include samples of any trends in assessment activities and /or student responses. In addition to the annual train-the-trainer meeting for RPDC ICs, DESE, through ARC, will offer opportunities for ICs to participate in a MAP-A scorer training session designed specifically to assist them in their task of instructing teachers in the administration of the MAP-A. Again this year MAP-A scorer training sessions designed as professional development will be offered by ARC through the RPDCs directly to teachers who administer the MAP-A.

As in the previous year, DESE plans to continue its efforts to guide teachers in the selection of APIs. Through training materials and resources available at the DESE website, teachers will be encouraged to select APIs at the most advanced level appropriate for the student and representing as broad a range as possible, given the student's IEP and the content standards required for assessment by the MAP-A blueprint. To assist teachers in this process, APIs on which a student has been assessed with the MAP-A and the year or years in which they were assessed will continue to be provided with the student-specific assessment materials sent to districts each fall. Instructional teams that include content-area experts will continue to assist each student's primary teacher in his or her efforts to develop appropriate MAP-A assessment activities.

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Appendix A: Communication Arts and Mathematics Assessment Development Process

Alternate Grade Level Expectation (AGLE) Expansion

Process
The MAP-A was developed as a collaborative project between Measured Progress, the Assessment Resource Center (ARC) and the Missouri Department of Elementary and Secondary Education divisions of Curriculum and Assessment and Special Education.

Stakeholder involvement
An advisory committee, representing perspectives of parents, teachers, and administrators, provided input during the development of this assessment. In addition, teacher work groups were formed at several points in the development and revision process. Mathematics and communication arts AGLE review work groups, composed of general and special education teachers, were formed. These teachers reviewed the AGLE documents that are the basis of the skills evidenced for this assessment. A third group of special education teachers participated in the pilot testing and scoring of this assessment, providing valuable feedback about the test design.

Development of the Communication Arts and Mathematics AGLEs
The AGLEs were developed for students with significant cognitive disabilities not working at the same level as their age level counterparts. The AGLEs were developed using Missouri's Show Me Standards and GLEs for communication arts and mathematics. Measured Progress curriculum and special education specialists developed a draft of the AGLEs. The review committee participants and DESE staff provided input and recommendations for changes to the original draft. Using these recommendations Measured Progress revised the AGLEs. This document was used to develop the assessment performance indicators. Table 1 that follows shows how the document is organized and gives an example for each content area. The Missouri Show Me Standards and AGLEs are not included in this manual because of the length of each document. They are located on the DESE web site at http://www.dese.mo.gov/divimprove/assess/mapa.html.

Table 1: Missouri – Alternate Standards and AGLEs

Terminology		
Term/Description	**Examples**	
Content Area	**Mathematics**	**Communication Arts**
Standard/Strand Learning outcome expected for all students throughout all Grades.	"Data and Probability"	"Reading"
Big Idea A statement of the standard separating the essential components.	"Formulate questions that can be addressed with data and collect, organize and display relevant data to answer them."	"Develop and apply skills and strategies to the reading process."
Concept Expectation for typical students described for each grade level.	"Pose questions and gather data about themselves and their surroundings."	"Demonstrate basic concepts of print ."
Alternate Performance Indicator (API) Skill or concept expanded from the typical GLE to a basic level.	**"DP1.1** Formulate questions that can be addressed with data collection. **a.** Identify what information is interesting to know (e.g., favorite TV show, ice cream; number of pets, teeth lost). **b.** Formulate and pose question to answer/find information (e.g., "How many pets do you have?")."	**"RD1.1**. Attend to literacy-based materials. **RD1.2.** Understand print tells story by attending to and/or reading story. **RD1.3.** Match objects to like objects."

MAP-A AGLE Development Process Overview

An overview of the AGLE development process for the MAP-A program follows in Table 2, showing the development process form its initial stages to the completed documents that have been circulated to school and district personnel.

Table 2: AGLE Development Process Overview

Development Step	Procedure of the Step
Initial expansion of GLEs completed in Missouri Summer of 2004	• Work completed in Missouri by DESE and Missouri educators.
Initial Measured Progress review and Recommendations Fall of 2004	• Measured Progress curriculum and special education specialists commented on and made recommendations • on the GLE expansion work done in Missouri. • Recommendations were shared with the MO Alternate Assessment Advisory in November 2004. • DESE convened a set of teachers to go over the recommendations from Measured Progress and decided on which recommendations to take.
Measured Progress draft expansion was presented for review February 2005	• Measured Progress curriculum and special education specialists expanded the GLE document to create AGLEs. • Review groups in mathematics and communication arts were convened to review the AGLE documents and make further suggestions.
AGLEs were Finalized April 2005	• Measured Progress made revisions based on review committee recommendations. • DESE gave final approval for the documents. • Documents were published on the DESE website.

The Pilot

Blueprint and Design of the Pilot Assessment

Measured Progress presented an initial proposal for the assessment blueprint and design to the Alternate Advisory Committee in November 2004. Committee members were quite concerned with the amount of paperwork that the re-design might require for teachers to compile. The advisory suggested less evidence be collected than the original proposal. They also made recommendations for some changes to the blueprint. DESE listened to the recommendations of their Advisory and requested that changes be made to the assessment blueprint and design. Measured Progress presented this assessment blueprint and design to the Technical Advisory Committee in February 2005 seeking their recommendations and approval. The blueprint that was presented consisted of a consistent content strand across all grade levels and a second content strand that alternated by grade span (3-5, 6-8 and HS) for each content area being assessed. The TAC was not comfortable with this blueprint and recommended that all content strands in each content area be assessed at all grade levels. This change was incorporated for the pilot, requiring teachers to assess students on five math strands and 4 communication arts strands. Table 3 on the following page outlines the assessment blueprint that was recommended by the TAC and utilized for the pilot.

Table 3: Pilot Assessment Blueprint

Content Area	Title of Strand	Grade Focus
Mathematics Pilot	Numbers and Operations **(NO)**	Required at all grade levels
	Algebraic Relationships **(AR)**	
	Geometric and Spatial Relationships **(GS)**	
	Data and Probability **(DP)**	
	Measurement **(ME)**	
Communication Arts Pilot	Reading: Develop and apply skills and strategies to the reading process, A-H **(RD)**	Required at all grade levels
	Reading: Develop and apply skills and strategies to the reading process, F-I **(RP)**	
	Writing: Compose well-developed text using standard English conventions **(WC)**	
	Writing: Apply a writing process in composing text or write effectively in various forms and types of writing **(WP)**	

The TAC made recommendations on the assessment design as well. The Advisory group that had made initial recommendations to the design proposed by Measured Progress were concerned about the amount of paperwork required by teachers and wanted the collection of evidence to be limited to a data sheet and one piece of student work for each API. The TAC felt that this was insufficient evidence upon which to make assessment judgments and recommended that in addition to a data sheet that at least three pieces of student work be collected per API. Tables 4 and 5 show the design utilized for the pilot.

Table 4: Mathematics Pilot Assessment Design

Mathematics														
Strand 1 (NO)			Strand 2 (AR)			Strand 3 (GS)			Strand 4 (DP)			Strand 5 (ME)		
API 1			API 1			API 1			API 1			API 1		
Data Sheet			Data Sheet			Data Sheet			Data Sheet			Data Sheet		
CP1 WS	CP2 WS	CP3 WS	CP1 WS	CP2 WS	CP3 WS	CP1 WS	CP2 WS	CP3 WS	CP1 WS	CP2 WS	CP3 WS	CP1 WS	CP2 WS	CP3 WS

Table 5: Communication Arts Pilot Assessment Design

Communication Arts											
Strand 1 (RD)			Strand 2 (RP)			Strand 3 (WC)			Strand 4 (WP)		
API 1			API 1			API 1			API 1		
Data Sheet			Data Sheet			Data Sheet			Data Sheet		
CP1 WS	CP2 WS	CP3 WS	CP1 WS	CP2 WS	CP3 WS	CP1 WS	CP2 WS	CP3 WS	CP1 WS	CP2 WS	CP3 WS

API= Alternate Performance Indicator CP= Collection Period WS= Work Sample

Pilot Training

The pilot included a recruitment effort of up to 200 teachers, with each teacher limited to piloting the MAP-A with one or two students. The pilot was designed to accommodate up to 100 students per grade in grades 5, 7, 10 and 11. All teachers in the pilot were required to attend a one-day training session that was offered at four locations throughout the state. The dates and locations were as follows.

Table 6: 2004-2005 Pilot Teacher One-Day Trainings

Location	Date	Total Number of Participants
St. Louis	Tuesday, February 22	34
Columbia	Wednesday, February 23	40
Springfield	Thursday, February 24	26
Kansas City	Friday, February 25	29
	TOTAL	**129**

All pilot teachers were provided a MAP Alternate Examiner's Manual and the training required to administer the pilot. Teachers were further supplied with a CD version of ProFile, a software tool that could be used by teachers to record their data and evidence on the computer and then print out at the end of the collection.

The implementation window for the pilot was from March 1 to April 29, 2005. Teachers were provided information on how and when to return portfolios to the Assessment Resource Center (ARC). Teachers were further asked to complete a survey related to the pilot process and to return it with their pilot portfolios in early May 2005. (See survey responses in Appendix B.)

While the recruitment had specifically targeted students in grades 5, 7, 10 and 11 there were teachers who were interested in piloting the new MAP-A that did not have students currently in those grades so the recruitment expanded to allow student in grades 3- 8, 10 and 11. Table 7 below indicates the actual number of portfolios that were turned in for the pilot, and the grades and content areas covered.

Table 7: 2004-2005 MAP-A Pilot Participation

	Number of Students	
Grade Level	**Mathematics**	**Communication Arts**
3	4	4
4	7	7
5	13	13
6	6	6
7	27	27
8	3	3
10	23	6
11	4	11
All Grades	**87**	**77**

Pilot Scoring

The pilot portfolios were returned to ARC in early May. The portfolios were logged in and prepared for scoring. The scoring institute took place over three days in June 2005. There were four table leaders and twenty-four scorers. The table leaders and scorers were recruited from individuals involved in either the pilot development process or the piloting process itself.

Table leaders were trained in advance and required to qualify to score. Scorers were involved in a half day training and were also required to qualify to score. DESE staff were on site and available to make any policy decisions that arose and to address any scoring rules that needed to be agreed upon during the scoring process. Scoring took a day and a half. All portfolios were scored by two scorers in a double blind fashion. Any rubric dimensions that were not exact matches between scorer 1 and scorer 2 were scored by the table leader, whose score became the score of record. The inter-rater consistency for the pilot scoring is shown in Table 8 below.

Table 8: Pilot Scoring Inter-rater Consistency

Subject	Percent of 1st Scores that Matched 2nd Scores	Kappa Coefficient
Math	80.50	0.703
Communication Arts	80.40	0.689

Pilot Survey Results

Both pilot teachers and pilot scorers were asked to complete extensive surveys about the processes they had been involved in. Pilot teachers were asked questions that ranged from the usefulness of the training and materials provided to the assessment design itself and how well teachers felt it worked for their students. Pilot scorers were asked about the training they received, their understanding of the scoring process and the amount of time it took to score. Both the pilot teacher survey and pilot scorer survey results are provided in Appendix B. In addition to the scorer survey the state was able to facilitate a focused feedback session at the end of the scoring institute with the scorers.

Revisions from the Pilot

Feedback from the surveys and state led focused feedback session were used to make

changes to the assessment training, materials and design for the 2005-2006 implementation year. Some areas for further clarification and training included providing more examples of writing up evaluations of the student and understanding application of skills and how to evidence that. Further highlighted was a need to clarify some of the language on the forms being used to evidence student work. Suggestions were also made to improve the software tool ProFile for ease of use by teachers. All of these types of changes were incorporated into the materials provided to teachers in the form of the manual, teacher training and ProFile.

The most extensive change that came as a direct response from the feedback of the pilot teachers and scorers was in response to the idea that nine strands for assessment was too much to evidence in the timeframe of the assessment and too disjointed for students. DESE listened carefully to this feedback and sought advice from Measured Progress and from the federal government about this change. Ultimately the feedback they received on all fronts led to a change in the assessment blueprint and design so that teachers were assessing students on two strands at each grade level per content area, evidencing two APIs from each strand. The final assessment blueprint and design are shown in Tables 9 and 10.

Table 9: Final Assessment Blueprint

Content Area	Title of Strand	Grade Focus
Mathematics	• Numbers and Operations **(NO)**	Required at all grade levels
	• Algebraic Relationships **(AR)** *AND*/***OR*** • Geometric and Spatial Relationships **(GS)**	Required for elementary
	• Data and Probability **(DP)**	Required for middle school
	• Measurement **(ME)**	Required for high school
Communication Arts	• Reading: Develop and apply skills and strategies to the reading process **(RD and/or RP)**	Required at all grade levels
	• Writing: Compose well-developed text using standard English conventions **(WC)**	Required for elementary
	• Writing: Apply a writing process in composing text or write effectively in various forms and types of writing **(WP)**	Required for middle school and high school

Table 10: Final Assessment Design

Mathematics											
Strand 1 (NO)						Strand 2 (by grade span)					
API 1			API 2			API 1			API 2		
Data Sheet			Data Sheet			Data Sheet			Data Sheet		
CP 1	CP 2	CP 3	CP 1	CP 2	CP 3	CP 1	CP 2	CP 3	CP 1	CP 2	CP 3
WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS

Communication Arts											
Strand 1 (RD or RP)						Strand 2 (by grade span)					
API 1			API 2			API 1			API 2		
Data Sheet			Data Sheet			Data Sheet			Data Sheet		
CP 1	CP 2	CP 3	CP 1	CP 2	CP 3	CP 1	CP 2	CP 3	CP 1	CP 2	CP 3
WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS	WS

MAP-A Components

Required Documentation
The assessment requirements for the MAP-A include the following documentation:

Table of Contents Checklist acts as a guide for organization of the MAP-A. Validation Form **(**found in Appendix B) provides documentation of the individuals who have reviewed and/or contributed to the MAP-A. Obtain the principal verification signature prior to submission of the MAP-A.
Entry/Data Summary Sheet **(**found in Appendix A) must be used for each API documented within the assessed content area strands. The Data Summary Sheet is used to record student performance on each API assessed. The student's score for Level of Accuracy and Level of Independence for each API will be determined based on the percentages recorded on the Entry/ Data Summary Sheet.
Student Work Samples must be submitted for each collection period of each assessed API. Each student work sample should demonstrate the **application** of the API in a standards-based activity. Two different options have been provided for the submission of the student work samples**:**

- Option 1: Tangible Student Work Product
  - **o** Actual product completed by student
    - Worksheets
    - Drawings or writings
    - Journal entries
    - Projects
  - **o** Complete and submit Tangible Work Product Label (Attached to actual student work)

- Option 2: Written Teacher Observation and Anecdotal Record
  - **o** Used when there is no tangible work product to submit
  - **o** Complete and submit Anecdotal Record Form as a student work sample

Samples of the above forms are on the pages that follow.

Student: _____ School Year:_____ Grade: 3 4 5

Table of Contents Checklist
(Organize MAP-A in the following manner)

☐ Validation Form

Communication Arts Strand 1: Reading (RD, RP)
Alternate Performance Indicator #1
☐ Entry/Data Summary Sheet
☐ Collection Period 1 Student Work Sample
☐ Collection Period 2 Student Work Sample
☐ Collection Period 3 Student Work Sample

Communication Arts Strand 1: Reading (RD, RP)
Alternate Performance Indicator #2
☐ Entry/Data Summary Sheet
☐ Collection Period 1 Student Work Sample
☐ Collection Period 2 Student Work Sample
☐ Collection Period 3 Student Work Sample

Communication Arts Strand 2: Writing (WC)
Alternate Performance Indicator #1
☐ Entry/Data Summary Sheet
☐ Collection Period 1 Student Work Sample
☐ Collection Period 2 Student Work Sample
☐ Collection Period 3 Student Work Sample

Communication Arts Strand 2: Writing (WC)
Alternate Performance Indicator #2
☐ Entry/Data Summary Sheet
☐ Collection Period 1 Student Work Sample
☐ Collection Period 2 Student Work Sample
☐ Collection Period 3 Student Work Sample

Mathematics Strand 1: Numbers & Operations (NO)
Alternate Performance Indicator #1
☐ Entry/Data Summary Sheet
☐ Collection Period 1 Student Work Sample
☐ Collection Period 2 Student Work Sample
☐ Collection Period 3 Student Work Sample

Mathematics Strand 1: Numbers & Operations (NO)
Alternate Performance Indicator #2
☐ Entry/Data Summary Sheet
☐ Collection Period 1 Student Work Sample
☐ Collection Period 2 Student Work Sample
☐ Collection Period 3 Student Work Sample

Mathematics Strand 2: Algebraic Relationships and/or Geometric & Spatial Relationships
Alternate Performance Indicator #1
☐ Entry/Data Summary Sheet
☐ Collection Period 1 Student Work Sample
☐ Collection Period 2 Student Work Sample
☐ Collection Period 3 Student Work Sample

Mathematics Strand 2: Algebraic Relationships and/or Geometric &Spatial Relationships
Alternate Performance Indicator #2
☐ Entry/Data Summary Sheet
☐ Collection Period 1 Student Work Sample
☐ Collection Period 2 Student Work Sample
Collection Period 3 Student Work Sample

Validation Form **Student:**_____ **School Year:**_____

This form provides documentation of the individuals who have reviewed and/or contributed to this MAP-A.

Name:_____ Position: _____

Contribution to the MAP-A:_____

_____

Name:_____ Position: _____

Contribution to the MAP-A:_____

_____

Name:_____ Position: _____

Contribution to the MAP-A:_____

_____

Name:_____ Position: _____

Contribution to the MAP-A:_____

_____

Name:_____ Position: _____

Contribution to the MAP-A:_____

_____

Name:_____ Position: _____

Contribution to the MAP-A:_____

_____

Name:_____ Position: _____

Contribution to the MAP-A:_____

_____

Please obtain administrator's (principal, assistant principal, or special education director) signature prior to submission.

_____

Signature Date

Student: _____ Grade: 3 4 5 6 7 8 11

Entry/Data Summary Sheet	Communication Arts	Strand 1: Reading (RD/RP)
API #	**API Description**	
Task/Activity Description:		

	Collection Period 1 January 3-January 27					Collection Period 2 January 30-February 17					Collection Period 3 February 20-March 17				
Date															
Data Type															
Accuracy %															
Independence%															
Average % for Collection Period	Accuracy:					Accuracy:					Accuracy:				
	Independence:					Independence:					Independence:				

Data Type Key:

WS= Student Work Sample (Tangible Student Work Product **OR** Teacher Observation/Anecdotal Record Form)

DC= Data Collection System

	API Entry Average
Level of Accuracy	
Level of Independence	

MAP-A Tangible Work Product Label
(Attach to actual student work product)

Student Name:		**Date:**
Content Area (Circle One): **Mathematics** **Communication Arts**		**Strand** (Circle One): **1 or 2**
API:	**Description:**	
Task/Activity Description: (Write a brief description of the task/activity that resulted in the attached work product.)		
Evaluation of Student's Performance: (Describe the student's actual performance. Include information on how the percentages were determined for both Accuracy and Independence.)		
Level of Accuracy _____%	**Level of Independence** _____%	

MAP-A Teacher Observation & Anecdotal Record Form

(Student Work Sample)

Student Name:		**Date:**
Content Area (Circle One): **Mathematics** **Communication Arts**		**Strand** (Circle One): **1 or 2**
API:	**Description:**	
Student's Interaction in Task/Activity: (Write a brief description of the task/activity. Be sure to include information on how the student participated in the activity.)		
Evaluation of Student's Performance: (Describe the student's actual performance. Include information on how the percentages were determined for both Accuracy and Independence.)		
Level of Accuracy _____%	**Level of Independence** _____%	

Appendix B: Science Pilot Assessment Development Process

Alternate Grade Level Expectation (AGLE) Expansion

Process
The MAP-A Science Pilot was developed as a collaborative project between Measured Progress, the Assessment Resource Center (ARC) and the Missouri Department of Elementary and Secondary Education divisions of Curriculum and Assessment and Special Education.

Stakeholder involvement
The Science Assessment Development and Review Committee, representing perspectives of parents, teachers, and administrators, provided input during the development of this assessment. In addition, teacher work groups were formed at several points in the development and revision process. Science review work groups, composed of general and special education teachers, were formed for each grade level. These teachers reviewed the AGLE documents that are the basis of the skills evidenced for this assessment. A third group of special education teachers participated in the pilot testing and scoring of this assessment, providing valuable feedback about the test design. (See Attachment 1 for stakeholder lists.)

Development of the Science AGLEs
The AGLEs were developed for students with significant cognitive disabilities not working at the same level as their age level counterparts. The AGLEs were developed using Missouri's Show Me Standards and GLEs for science. Measured Progress curriculum and special education specialists developed a draft of the AGLEs. The review committee participants and DESE staff provided input and recommendations for changes to the original draft. Using these recommendations Measured Progress revised the AGLEs. This document was used to develop the assessment performance indicators. Table 1 that follows shows how the document is organized and gives an example. The Missouri Show Me Standards and AGLEs are not included in this manual because of the length of each document. They are located on the DESE web site at http://www.dese.mo.gov/divimprove/assess/mapa.html.

Table 1: Missouri – Alternate Standards and AGLEs

Terminology	
Term/Description	**Examples**
Content Area	**Science**
Strand Learning outcome expected for all students throughout all grades.	"Properties and Principles of Matter and Energy"
Big Idea A statement of the standard separating the essential components.	"Changes in properties and states of matter provide evidence of the atomic theory of matter."
Concept Expectation for typical students described for each grade level.	"Objects, and the materials they are made of, have properties that can be used to describe and classify them."
Alternate Performance Indicator (API) Skill or concept expanded from the typical GLE to a basic level.	**"ME1.1** Explore physical properties of objects. **a.** Recognize that objects have specific properties (i.e., size, shape, color, mass, smell, texture, and/or temperature). **b.** Using one or more of the five senses, explore the physical properties of different objects (e.g., identify one physical property of an object- the ball is round; it is red; the box is big; the ice cube is cold; the surface is rough; the feather is light)."

MAP-A AGLE Development Process Overview
An overview of the AGLE development process for the MAP-A Science Pilot follows in Table 2, showing the development process from its initial stages to the completed documents that have been circulated to school and district personnel. (See Attachment 2 for survey results from the July and August review meetings.)

Table 2: Science AGLE Development Process Overview

Development Step	Procedure of the Step
Science Assessment Development and Review Committee Meeting Spring 2006	• Measured Progress presented the proposed design for the science MAP-A. • Participants reviewed the GLEs and made recommendations to DESE on what science GLEs to expand.
Measured Progress draft expansion was presented for review July and August 2006	• Measured Progress curriculum and special education specialists expanded the GLE document to create AGLEs. • Review groups in science were convened to review the AGLE documents and make further suggestions.
AGLEs were finalized September 2006	• Measured Progress made revisions based on review committee recommendations. • DESE gave final approval for the documents. • Documents were published on the DESE website.

The Pilot

Blueprint and Design of the Pilot Assessment
Measured Progress presented an initial proposal for the assessment blueprint and design to the Science Assessment Development and Review Committee. The science strands in Missouri consist of 2 process strands and 6 content strands. Discussion was had about how to tie these strands together for assessment. It was decided that the science assessment would consist of assessing four strands at each grade level, but that this would be done within two entries. Teachers would be assigned the four required strands at each grade level, but would have a choice in how to pair the strands so that each entry would be comprised of one process strand API and one content strand API. The Science Assessment Development and Review Committee did not make any changes to the proposed design.

The Missouri TAC was presented with Science design in August of 2006. The blueprint and design follow in Tables 3 and 4.

Table 3: Pilot Assessment Blueprint

Content Area	Title of Strand	Grade Focus
Science Pilot	• Characteristics and Interactions of Living Organisms **(LO)**	Required for Elementary Grade 5
	• Changes in Ecosystems and Interactions of Organisms with Their Environments **(EC)**	Required for Elementary Grade 5
	• Properties and Principles of Matter and Energy **(PP)**	Required for Middle School Grade 8
	• Properties and Principles of Force and Motion **(FM)**	Required for Middle School Grade 8
	• Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere) **(ES)**	Required for High School Grade 11
	• Composition and Structure of the Universe and the Motion of the Objects Within It **(UM)**	Required for High School Grade 11
	• Scientific Inquiry **(SI)**	Required at all Grade Levels
	• Impact of Science, Technology, and Human Activity **(IS)**	Required at all Grade Levels

Table 4: Pilot Assessment Design

Science			
Strand 1 (SI and by grade span)		Strand 2 (IS and by grade span)	
Process API 1/Content API 2		Process API 1/Content API 2	
Data Sheet		Data Sheet	
CP 1 WS	CP 2 WS	CP 1 WS	CP 2 WS

API= Alternate Performance Indicator CP= Collection Period WS= Work Sample
SI= Scientific Inquiry IS=Impact of Science, Technology, and Human Activity

Pilot Training

The pilot included a recruitment effort of up to 200 teachers, with each teacher limited to piloting the MAP-A with one or two students. The pilot was designed to accommodate up to 100 students per grade in grades 5, 8 and 11. All teachers in the pilot were required to attend a one-day training session that was offered at four locations throughout the state. The dates, number of participants, and locations were as follows:

Table 5: 2006-2007 Pilot Teacher One-Day Trainings

Location	Date	Number of Participants
Kansas City	Tuesday, December 11	38
Springfield	Wednesday, December 12	39
Columbia	Thursday, December 13	32
St. Louis	Friday, December 14	26
	TOTAL	135

All pilot teachers were provided a MAP Alternate Examiner's Manual and the training required to administer the pilot. Teachers were further supplied with a CD version of Measured Progress ProFile, a software tool that could be used by teachers to record their data and evidence on the computer and then print out at the end of the collection.

The implementation window for the pilot was from January 8 to March 2, 2007. Teachers were provided information on how and when to return portfolios to the Assessment Resource Center (ARC). Teachers were further asked to complete a survey related to the pilot process and to return it with their pilot portfolios by March 19, 2007. (See survey responses in Attachment 2).

While the recruitment had specifically targeted students in grades 5, 8 and 11 there were teachers who were interested in piloting the new MAP-A Science Pilot that did not have students currently in those grades so the recruitment expanded to allow student in grades 3-8, 10, and 11. Table 6 indicates the actual number of portfolios that were turned in for the pilot, and the grades covered.

Table 6: 2004-2005 MAP-A Pilot Participation

Grade Level	Number of Students
3, 4, **5**	28
6, 7, **8**	50
9, 10, **11**	15
All Grades	92

Pilot Scoring

The pilot portfolios were returned to ARC in mid March. The portfolios were logged in and prepared for scoring. The scoring institute took place over three days in June 2007. There were five table leaders and twenty-five scorers. The table leaders and scorers were recruited from individuals involved in either the pilot development process or the piloting process itself.

Table leaders were trained in advance and required to qualify to score. Scorers were involved in a half day training and were also required to qualify to score. Qualifying to score required individuals to score at least 80% agreement with a set of two entries that had been prepared and scored in advance of qualification. DESE staff were on site and available to make any policy decisions that arose and to address any scoring rules that needed to be agreed upon during the scoring process. Scoring took a day and a half. All portfolios were scored by two scorers in a double blind fashion. Any rubric dimensions that were not exact matches between scorer 1 and scorer 2 were scored by the table leader, whose score became the score of record. The inter-rater consistency for the pilot scoring is shown in Table 7 below.

Table 7: Pilot Scoring Inter-rater Consistency

Subject	Percent of 1st Scores that Matched 2nd Scores	Kappa Coefficient
Science	80.20	0.772

Pilot Survey Results

Both pilot teachers and pilot scorers were asked to complete extensive surveys about the processes they had been involved in. Pilot teachers were asked questions that ranged from the usefulness of the training and materials provided to the assessment design itself and how well teachers felt it worked for their students. Pilot scorers were asked about the training they received, their understanding of the scoring process and the amount of time it took to score. Both the pilot teacher survey and pilot scorer survey results are provided in Attachment 2. In addition to the scorer survey the state was able to facilitate a focused feedback session at the end of the scoring institute with the scorers.

Two main themes were voiced in the pilot teacher and pilot scorer survey results. Teachers clearly wanted to be provided more examples and samples of science entries, especially focusing on how to connect the process and content APIs within the same entry. The second theme was that teachers felt it would be very important to provide enough training that teachers would feel comfortable completing the science portion of the MAP-A.

MAP-A Components

Required Documentation
The assessment requirements for the MAP-A include the following documentation:

Table of Contents Checklist acts as a guide for organization of the MAP-A.
Validation Form provides documentation of the individuals who have reviewed and/or contributed to the MAP-A. Teachers obtain the principal verification signature prior to submission of the MAP-A.

Entry/Data Summary Sheet must be used for each API documented within the assessed content area strands. The Data Summary Sheet is used to record student performance on each API assessed. The student's score for Level of Accuracy and Level of Independence for each API is determined based on the percentages recorded on the Entry/ Data Summary Sheet. Student Work Samples must be submitted for each collection period of each assessed API. Each student work sample should demonstrate the **application** of the API in a standards-based activity. Two different options are provided for the submission of the student work samples**:**

- Option 1: Tangible Student Work Product
    - Actual product completed by student
        - Worksheets
        - Drawings or writings
        - Journal entries
        - Projects
    - Complete and submit Tangible Work Product Label (Attached to actual student work)

- Option 2: Written Teacher Observation and Anecdotal Record
    - Used when there is no tangible work product to submit
    - Teachers complete and submit an Anecdotal Record Form as a student work sample.

Samples of the above forms are on the pages that follow.

Table of Contents Checklist

Elementary

Student: _____	School Year: _____	Grade: 5

(Organize MAP-A in the following manner)

- ☐ Table of Contents Checklist
- ☐ Validation Form

Communication Arts Strand 1: Reading (RD/RP)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Communication Arts Strand 1: Reading (RD/RP)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Communication Arts Strand 2: Writing (WC)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Communication Arts Strand 2: Writing (WC)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 1: Numbers & Operations (NO)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 1: Numbers & Operations (NO)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 2: Algebraic Relationships and/or Geometric & Spatial Relationships (AR/GS)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 2: Algebraic Relationships and/or Geometric & Spatial Relationships (AR/GS)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Science Strand 7: Scientific Inquiry (IN) and Strand 3 (LO) or 4 (EC)
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Science Strand 8: Impact of Science, Technology, and Human Activity (ST) and Strand 3 (LO) or 4 (EC)
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

MAP-A **Page # _____**

Validation Form

Student:_____ **Grade:**_____

District & School of Attendance:_____

This form provides documentation of the individuals who have reviewed and/or contributed to this MAP -A.

Name:_____ Position: _____

Contribution to the MAP-A: Person Responsible for the MAP-A Administration

Name:_____ Position: _____

Contribution to the MAP-A:_____

_____

Name:_____ Position: _____

Contribution to the MAP-A:_____

_____

Name:_____ Position: _____

Contribution to the MAP-A:_____

_____

Name:_____ Position: _____

Contribution to the MAP-A:_____

_____

OPTIONAL - Use this space to provide information regarding the student's mode of communication.

Please obtain administrator's (principal, assistant principal, or special education director) signature prior to submission.

_____

Signature Date

_____

Print Name

MAP-A **Page #** _____

Entry/Data Summary Sheet
Science

Student Name:				**Grade:**		
Content Area:				**Process Strand:** **Content Strand:**		
Process API: **Content API:**	**Process API Description:** **Content API Description:**					
	Collection Period 1 **January 14 – February 8**			**Collection Period 2** **February 11 – March 7**		
	Dates below do not need to be in chronological order.			Dates below do not need to be in chronological order.		
Date						
Data Type	Student Work Record	Data Point	Data Point	Student Work Record	Data Point	Data Point
Accuracy %						
Independence %						
Average % for Collection Period	Accuracy:			Accuracy:		
	Independence:			Independence:		

	API Entry Average
Level of Accuracy	
Level of Independence	

MAP-A **Page # _____**

Student Work Record
Science

Attach student work sample if appropriate

Student Name:	**Grade:**	**Date:**
Content Area:		**Process Strand:** **Content Strand:**
Process API: **Content API:**	**Process API Description:** **Content API Description:**	
Task/Activity: (Write a brief description of the task/activity, its connection to both APIs, and how it demonstrates application.)		
Evaluation of Student's Performance:		
Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for **Level of Accuracy**.	Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for **Level of Independence**.	
Level of Accuracy: _____%	**Level of Independence: _____%**	

MAP-A **Page # _____**

Administrator Training

On September 5, 2007, an administration training was provided through a train-the-trainer model to a selected group trainers involved with the state's Regional Professional Development Centers (RPDCs), State Schools' staff and the Department of Elementary and Secondary Education Curriculum and Assessment and Special Education staff. Participants represented all nine regions of the state.

The training encompassed the Mathematics, Communication Arts and Science content areas. Science was a focus of the training due to it being operational for the first time. Updates were made to the Instructor's Guide and Implementation Manual for 2007-2008 including the addition of a science glossary, and a section with entries that demonstrated "flawed" and "repaired" science samples.

Training focused on updates to the manual, lessons learned through the scoring process, the addition of science and updated samples. Trainers were also informed of the common mistakes evidenced in the MAP-As, the updates to the ProFile software tool for evidence collection and the MAP-A Enrollment site. (Trainer feedback from the session is found in Attachment 2.)

Attachment 1

Stakeholder Lists

- Design and Review Committee
- AGLE Review Committee
- Pilot Scorers

Design and Review Committee

Name	Role
Cheryl McCutcheon	Special Education Administrator
Katie Cook	RTAC
Bev Woodhurst	SAEP Member
Karen Allan	Special Education Director
Lynn Fain	Curriculum Coordinator
Lisa Buschart	Special Education Teacher
Barbara Stevens	Interim Superintendent
Robin Krick	Curriculum Coach
Susie Register	Special Education Teacher
Eric Hadley	Science Teacher
Charlotte Spencer	RTAC
Catherine McCormack	
John Palmer	Special Education Administrator
David Fager	Special Education Teacher
Kathie Wolff	Special Education Administrator
Janice Putman	RTAC
Eric Remelius	MO Parent Involvement Coordinator
Shirley Woods	Parent
Karen Willits-McCormack	Science
Tammy Boyt	

AGLE Review Committee

Name	Role
Katie Cook	RTAC
Karen Allan	Special Education Director
Lynn Fain	Curriculum Coordinator
Lisa Buschart	Special Education Teacher
Robin Krick	SLPS
Susie Register	Special Education Teacher
Charlotte Spencer	RTAC
John Palmer	Special Education Administrator
Kelly Fortune	SSD
Janice Putman	RTAC
Karen Willits-McCormack	Science/
Tammy Boyt	Science Teacher (Middle School)
Karen Wells	SSSH
Jackie Snow	Curriculum Specialist, Secondary Science 7-12
Karen Leigh-Kral	
Pam Mills	Earth Science Teacher (8th Grade)
Tracy Brown Hager	Science Teacher (Elementary)
Cay Miller	Science Curriculum Director
Jamie Edwards	SPED Teacher, 3-7

Pilot Scorers

Name	School District
Christine Baker	St. Louis Public
Anna Berkbuegler	Fredericktown R-I
Suzanne Bodkins	Dixon R-I
Katherine Bradley	Iberia
Terri Bradley	Archie R-V
Mindy Brown	Meadow Heights R-II
Linda Cook	Miller R-II
Tracy Cooper	State School
Glenn Dalton	Ste Genevieve R-II
Tanya Deering	Lincoln County R-III
David Fager	East Buchanan
Lynn Fain	Columbia Public
Kelly Fortune	Spec. Sch Dst
Shannon Grubb	Grain Valley R-5
Judith Hallmark	Seymour
Jane Harrington	Park Hill
Jennifer Johnson	Junction Hill C-12
Robin Krick	St. Louis Public
Sally LaVigne	Camdenton R-III
Thelma Livesay	Louisiana R-II
Nicole Martinez	North Kansas City
Marsha Meeker	Shelby County R-II
Julie Moore	Cassville R-IV
Linda Newman	Hillsboro R-III
Jennifer Siem	Spec. Sch Dst
Lisa Stevenson	Shelby County R-IV
Lori Wallace	Knox County R-I
Lynn Wapelhorst	Columbia Public
Jaime Edwards	Columbia Public

Attachment 2

Survey Results:

- Science AGLE Review Committee Survey Results: July
- Science AGLE Review Committee Survey Results: August
- Pilot Training Survey Results
- Pilot Teacher Survey Results
- Pilot Scorer Survey Results
- Train-the-Trainer Survey Results

MAP-A
Science AGLE Review Committee Evaluation
July 11 and 12, 2006
17 Respondents

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)	
Overall the AGLE review worked well.	1	2	3	4 6	5 11	4.65
The overview on the first day with the whole group was helpful.	1	2	3 2	4 6	5 9	4.41
Once in the small groups the task at hand was clearly defined.	1	2	3	4 4	5 13	4.76
The facilitation of my small group went well.	1	2	3 1	4 3	5 13	4.71
The materials provided were helpful in the process.	1	2 1	3	4 4	5 12	4.59
The facility worked well for this meeting.	1	2	3	4 4	5 13	4.76
The food was great.	1	2 2	3 1	4 7	5 7	4.12
Three things I liked best about this experience…	• Great learning experience (3) • Gaining more insight and knowledge of the subject • New perspective • Overall , an enlightening and enjoyable experience • Small group work (2) • Working with the science teachers (2) • High level of professionalism of participants (3) • Being with other professionals- blend of roles and experience (4)					

	• Excellent facilitation- whole and small group, very patient (4) • Skilled leadership provided by MP and ARC • Having definitions for the teacher • Organization • Flow of sessions • Timeline for meeting was followed • Discussion • Facility (5)	
Three things I would change about this experience…	• Establish vocabulary first (5) • Would like to see the Division of Special Education of DESE represented • Clear assignments for facilitator and recorder • Establish norms • Bring in those not familiar with MAP-A early, more info for those unfamiliar (3) • Full copy of GLEs for everyone (2) • Break into smaller groups- get work done faster	
Other comments…	• Cover use of i.e. and e.g. at training for teachers • Meeting well designed and planned • Facility was great and pleasant • Have stakeholder present and at the table (not in hall or leaving early) • APIs for science may be the same as APIs in math and Com Arts- how will this be addressed when individual teacher chooses APIs in each area? • Room temperature (2) • More bottled water	

MAP-A
Science AGLE Review Committee Evaluation
August 8 and 9, 2006

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)	Average
Overall the AGLE review worked well.	1	2	3	4	5	4.7
Comment:				4	9	
The overview on the first day with the whole group was helpful.	1	2	3	4	5	4.8
Comment:				3	10	
Once in small groups the task at hand was clearly defined.	1	2	3	4	5	4.8
Comment:				2	11	
The facilitation of my small group went well.	1	2	3	4	5	4.8
Comment:				3	10	
The materials provided were helpful in this process.	1	2	3	4	5	4.8
Comment:				2	11	
The facility worked well for this meeting.	1	2	3	4	5	4.5
Comment:		1		4	8	
The food was great.	1	2	3	4	5	3.8
Comment:		1	4	5	3	
Three things I liked best about this experience…	• Using lunch dessert as out afternoon break/snack was a good idea. • Stakeholders well represented; hotel accommodations EXCELLENT! PREP WORK FOR PACKETS/HANDOUTS – GREAT! • Working, collaborating w/other professionals and consistency of participation present. • Alex is great! Wonderful to work with! • Collaboration w/ colleagues & Measured Progress. • Extremely well organized. • We got started on time and stuck with the schedule.					

	• Everyone's opinion was valued and we were comfortable sharing ideas. • Small group work – organization of materials with color coding – obvious expertise of group/team leaders. • 1. The people we worked with – leaders & teachers; 2. the 2nd location was great! 3. Working in small groups then reporting to large group format. • Food & cleanliness & friendliness were wonderful.
Three things that I would change about this experience…	• Have coffee, sodas, & bottled water in each breakout room. Have fruit out for snacking on, not chocolate. • Use audio/visual projection to record changes for all to see (no repeats & recaps); have GLEs in our packet. • Location. • The meeting room was too cold. The temperature was not regulated. • More pre-review time to look over drafts of July work. (I got the materials in plenty of time but had not anticipated allowing time in my schedule to review). • Room temperature on 1st day was chilly (but not on the second). • 1. A little more moving us along from the facilitator on Aug 8th when we were stagnating a bit. 2. warmer room. • Room was cold. • Receiving the GLEs on Aug.8 was delayed.
Other Comments…	• Color coded GLEs worked well, Suggest that DESE keep color coding in final draft. • Great accommodations. • The final copy of the strands given back to us in color- that was really helpful! Thanks. • Again, this was a great learning experience for me. • Overall the accommodations were great. I appreciate the opportunity to participate in this enriching learning activity. • Can the final copies of the AGLEs be in color? • Could I have the names & emails of the Missouri group for my CEC mailing list re: CEC Spring Conference Mailings? – Lynn Fain • I liked separating the 4 days into 2 groups of 2 days. We were able to read & reflect on our July work before the Aug. work & we were able to come back with a fresh perspective.

MAP-A
Science Pilot Training Kansas City
December 11–14, 2006

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)	Average
Overall the training worked well.	0	0	1	17	8	4.27
The overview and manual walk through were helpful.	0	0	2	11	13	4.42
Applying the Step-by Step procedures to a student sample helped me understand the new MAP-A process.	1	0	5	10	10	4.08
The Writing Activity was helpful.	0	2	10	9	5	4.00
The Planning Worksheet Activity was helpful.	0	2	3	13	8	4.04
The questions I had about the pilot were answered.	0	0	1	12	13	4.46
The materials provided were helpful.	0	0	2	11	13	4.42
The facility worked well for this meeting.	3	1	3	10	9	3.81

Three things I liked best about this experience…	• Location • Information • Working with others • Paired with grade level MAP-A people • Knowledge people in charge • Willingness to answer individual questions • Informative • Close location • Relevant material • Manual was helpful • Helpful trainer • Great food • Very useful • Materials • Food • Informal atmosphere • Interaction and discussion with people from other districts • Other perceptions of the MAP-A • Materials • Getting this info early enough to process • Not your fault (facility) hopefully you can get money back because of the band. Room temp was also uncomfortable • PowerPoint • Training materials • Meeting other teachers from the field • Getting other ideas. • Knowledgeable staff • Excellent food • Collaboration with others visual presentations, exploring real life activities for students. • It gave me a chance to talk to other high school teachers and get their input into completing a science MAP-A • Having time to choose API's
Three things I would change about this experience….	• Shorter time • Workshop closer to my school • Earlier start and leave times • Bring elementary teacher • Working on individuals in own classroom was most helpful

	• Next door people were loud • Slower pace • Too much chatting at my table • Amount of time – I think a morning would have been enough • Writing about another kiddo is hard and I can process in a room full of people • Afternoon was a waste • Since we all have done MAP-A, the “pretend” exercise (Kathy) was unnecessary. We were all ready and eager to roll on our own kids. • Music next door • Time length (too long) • I wish I knew more about science. • Ministers next door too loud. • Work in small groups of 2 -3 • We needed more time for the writing activities and the planning activity
Questions I still have…	

MAP-A
Science Pilot Training Springfield
December 11–14,2006

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)	Average
Overall the training worked well.	0	0	0	15	11	4.42
The overview and manual walk through were helpful.	0	1	0	14	11	4.35
Applying the Step-by Step procedures to a student sample helped me understand the new MAP-A process.	0	0	1	12	13	4.46
The Writing Activity was helpful.	0	1	3	13	9	4.15
The Planning Worksheet Activity was helpful.	0	0	4	15	7	4.12
The questions I had about the pilot were answered.	0	0	3	12	10	4.28
The materials provided were helpful.	0	0	1	12	13	4.46
The facility worked well for this meeting.	0	1	1	14	10	4.27

Three things I liked best about this experience…	• I understand better because of the step by step walk through • The writing activity was so helpful and being able to share with others • More in dept than the MAP-A math and comm.. arts • Able to converse with others • Time to work with grade level colleagues • Students samples • Collaborating with peers, becoming knowledgeable for my district, clear guidelines. • Sharing ideas with others • Getting ideas from others • Receiving reassurance on activities • Gaining practice experience. • Breakfast, lunch, talking to colleagues • Group work • Hands on writing activities • Trainers were well informed professional. All questions were answered. • Still absorbing the information. Overall good training. • Lunch, mileage, manual • Handouts, work samples, soda • I appreciate that we were able to do a write up for our own student. The hands on of working with API'S • Collaboration • Length • Fairly well paced
Three things I would change about this experience….	• More user friendly API's • More time to look over API's • Clearer on activities 1 and 2 on last worksheet. Math and Comm Arts have been taught. • You have a roomful of teachers who are familiar with MAP-A. Perhaps don't spend as much time on basic MAP-A Science. • Tables were a little cramped. • Processing the info takes time, there is no changing that. • I won't tell a group to stop talking and get on task when they already were on task!
Questions I still have…	• I will let you know as I go along • I'm having a problem being able to match the process and content areas • How to combine the IS strand. API's with the PP and FM • To use same activity. I understand some students could have tweaking, didn't know it was an option. • How to assess those included in Reg. Ed. Classes

MAP-A
Science Pilot Training Columbia
December 11–14, 2006

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)	Average
Overall the training worked well.	0	0	1	14	14	4.45
The overview and manual walk through were helpful.	0	0	2	10	17	4.52
Applying the Step-by Step procedures to a student sample helped me understand the new MAP-A process.	0	0	1	12	16	4.52
The Writing Activity was helpful.	0	1	2	11	15	4.38
The Planning Worksheet Activity was helpful.	0	1	0	14	13	4.39
The questions I had about the pilot were answered.	0	0	3	12	14	4.38
The materials provided were helpful.	0	0	0	9	20	4.69
The facility worked well for this meeting.	0	1	1	5	22	4.66

Three things I liked best about this experience…	• ProFile walkthrough • Examples • Time to work on API's for my specific students • Presenter explained things and was knowledgeable. • Lunch was great • Materials. • Presenter did great. I wasn't so confused as I was from MAP-A last year. This year training for MAP–A has been good. • Questions were answered helped me understand what they were looking for, and materials area a great self help. • Didn't go page by page in manual • Lots of examples were gone over • Sat with same grade level] • Clear and concise information • Help and input from fellow teachers. • All the resources! • Nice accommodations • Grouped by grade level • Food was much better at this location than in the past • Gaining more insight into the science pilot • The communication of the staff/materials • Possibly because I had done this before it was easier to understand • Well organized and flowed smoothly so that time was not wasted. • Chocolate • Facilitators with knowledge • Ways contact help • Working with a partner • Time to collaborate knowledge staff (Susan, Lisa) • Speed of training, good speaking voice • Information presented in good manner • Writing a sample activity
Three things I would change about this experience….	• Lunch (buffet style) • Maybe a microphone. I'm not for sure everyone heard everything. • I couldn't see the info when you had the web site on the screen • Worked well maybe have a training for those who have never done MAP-A separately for computer program basics of process • Ask teacher who can't bring a science teacher to bring information about what curriculum will be covered

	during the collection period
Questions I still have…	• The only question I still have is….we have to click yes on the ye and no each time eve though we done submit student tangible work? Is this on the science MAP-A only? • Still somewhat overwhelming • Using ProFile

MAP-A
Science Pilot Training St. Louis
December 11 -14, 2006

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)	Average
Overall the training worked well.	0	0	0	15	15	4.50
The overview and manual walk through were helpful.	0	0	0	10	20	4.67
Applying the Step-by Step procedures to a student sample helped me understand the new MAP-A process.	0	0	0	14	17	4.55
The Writing Activity was helpful.	0	1	2	15	14	4.31
The Planning Worksheet Activity was helpful.	0	0	1	10	20	4.61
The questions I had about the pilot were answered.	0	0	2	10	19	4.55
The materials provided were helpful.	0	0	0	10	21	4.68
The facility worked well for this meeting.	0	0	1	8	22	4.68

Three things I liked best about this experience…	• Very clear explanation • Knowledgeable presenters • Color coding and organization of materials • Workshop was very practical. • Working with other teachers • Having questions answered receiving resources • Working with groups who had our aged kids • Working with other teachers from other schools that materials the instruction al leaders were very informative. • This is easier than math • More obtainable then I expected. • Having questions answered professionally • Being given contact information • The professionalism exhibited. • The presenters presented in as effective precise manner at a good pace. • The presented was very knowledgeable about the context. • The interactive activity was a good learning experience. • The drive with Sheila • Visiting with Susan and Lisa • Listening to the teachers. • Meeting others. • Seeing API's for science, getting ideas from others. • More info. • Stress on application • Knowledgeable instructors • Clarification of application • Working with teams of professionals of same grade. • The extent to which thing were explained. • The good step by step examples. • Planning worksheet • Application explanation • Talking about Map A process with other teachers. • Divided by grade level; PowerPoint paper copy • The best thing was being able to network with other professionals. • Going into ProFile to practice • Good clear instruction and use of technology. • Organization, place, writing activity

	• Planning, working with other 8th grade teachers • Facility • Good location • Informative • Green sheets • Interactions with peers • CD for input • Examples of applications • The presenters were very helpful! • Materials • The food was excellent. • Color coded • Seen others from out student populations • No manuals
Three things I would change about this experience….	• Possibly more group processing (pair/share) to check for understanding. • Better coffee for Sheila • Later start time for the drive ins • More colored sheets of paper • Have at a facility with computers. • Not so much sitting. • Bring an additional person from my school. • I think the manual could use some color coding for certain top pages even using post it tabs the flipping back and forth can be tedious and confusing. • Laptops available to use • Go closer to home • More trainings • Change scoring times • Two lines at lunch • No interactive work with peers; students are too different • More examples • Need more bathrooms • Have more trainings • More examples • Fill out with teachers • Have follow up before they are due.

Questions I still have…	• I really need to get started, I'm sure I will have questions. • On going….how best to find the time. • Acquisition and application are still confusing. • I'm sure they will come up but you have given me tools to find them out. • I'll be in touch if I have any.

Missouri Assessment Program-Alternate, Science Pilot
Teacher Survey

The Missouri Department of Elementary and Secondary Education, Measured Progress, and the Assessment Resource Center wish to thank you for your participation in the MAP-A Science Pilot and for taking the time to complete the following survey. This survey is instrumental for teacher input and feedback regarding the MAP-A Science Pilot. Information gathered through this survey will be helpful in determining any changes that may be necessary before full implementation of this process in the 2007-2008 school year.

If you have any questions regarding this survey, please contact Susan Izard at Measured Progress either through email (sizard@measuredprogress.org) or by phone (1-800-431-8901).

PART 1 Background Information

1. How many years have you taught students with significant cognitive disabilities?

   1-5 - **6** 6-10 - **4** 11-15 - **4** 16-20 - **2** 21+ - **4**

2. How many years of experience do you have with the MAP-A?

   1 - **3** 2 - **5** 3 - **4** 4 - **2** 5+ - **6**

3. Where do you currently teach?

   Public School - **20** State-operated School Other _____

4. What is the grade level(s) of the student(s) to whom you administered the MAP-A Science Pilot?

   Elementary (5) - **13** Intermediate (8) - **5** High School (11) - **2**

5. In what kind of community do you teach?

   Rural - **6** Urban - **1** Suburban - **13**

6. How many students completed the MAP-A Science Pilot?

   1 - **17** 2 - **3**

7. Approximately how much time outside of your school day did you use assembling the MAP-A Science Pilot?

   0-5 hours - **11** 6-10 hours - **5** 11-15 hours - **1** 16-20 hours - **3**

   More than 20 hours - **0**

PART 2 Pilot Information (Rate each of the following statements. In the comment section provided after each statement please give specific feedback.)

TRAINING

1. The training prepared me for completing the MAP-A Science Pilot.

Strongly Disagree	Disagree	Agree	Strongly Agree
0	**2**	**12**	**6**

What worked?

- The specific examples, and the discussion of what to consider.
- I found this to be pretty straight forward after having done math/reading.
- Knowing how to read and interpret strands how to make it "applicable".
- Getting together with other teachers and coming up with activities.
- Although we do Science activities in my classroom we don't have a specific time set aside for that. At first I wasn't sure anything I was doing was correct after having others look at it, I felt much better.
- Group discussions.
- Practice.
- Loved the computer program.
- The examples and the time to work on planning for the students we would be testing with the trainers there to help us.
- API's gave a good scope and sequence base.
- Ideas to mix the two API's together.
- Having time to write out assessment activities with a group where we could brainstorm.
- Going over the API's and suggestions being given to use for the API's.

What did not work?

- Completing it during the testing window.
- Not sure – thought I got it, but just peeked at my pilot submission and got a NS. Confusion…
- Not having "reference"/example MAP-A's.
- Too vague and hard to understand.
- It was difficult to match a process standard to the content standard.

What would you change?

- Need more specific examples of what's acceptable as matching API's.
- Give a scoring training in conjunction with training.
- More examples of what's right.
- More practice needed.
- The order of the standards. I would put the content standard first and the process standard second.
- Difficulty connecting API's – Teach staff to obtain content strand – then match to process strand – this may increase staff's ability to connect API's and reduce NS.
- Given suggestions about how to implement 2 separate strands at the same time.
- More samples on showing application.
- Give numerous examples of matching API's to process standards.

2. The training materials were useful once I began work on the MAP-A Science Pilot.

Strongly Disagree	Disagree	Agree	Strongly Agree
0	**0**	**12**	**8**

What worked?

- It gave me something to look back at and help this old mind remember the topics we talked about.
- They were exactly the same easy to follow.
- I was able to go back and check to see if I was on track.

What did not work?

- Making the connection of activities to the standards was challenging.

What would you change?

- More examples.
- There needs to be more training on connecting API's to standards and application.

3. The manual was helpful to me as I assembled the MAP-A Science Pilot.

Strongly Disagree	Disagree	Agree	Strongly Agree
0	**1**	**11**	**7**

What worked?

- I don't remember.
- Didn't need it too much.
- Step by Step.
- Using ProFile was a big help – It wouldn't let you picks API's that didn't go together.
- Exact order.
- Showed me how to assemble.

What did not work?

What would you change?

- Need more examples to refer to @ each grade level.
- Move beginner friendly to new MAP-A admin.

4. The sample entries provided in Chapter 3 and Appendix C were helpful.	Strongly Disagree	Disagree	Agree	Strongly Agree
	0	**0**	**14**	**6**

What worked?
- I don't remember.
- Helped to get ideas of right/wrong.
- Seeing how to correlate and make it application.
- Samples – Great.
- Gave me ideas!

What did not work?
- More examples.

What would you change?
- Need more.
- Give more.
- More examples – phrases to assist in application and accuracy/independence levels.
- Need more differences between acquisitions and applications.

PROFILE Did you use ProFile? YES - 13 NO - 7

(If no, proceed to question 8)

5. The directions provided with ProFile were easy to follow.	Strongly Disagree	Disagree	Agree	Strongly Agree
	0	**0**	**6**	**13**

What worked?
- I had no problems.
- It seems like the bugs from earlier LA and Mat have been worked out.
- Made it hard to mess up – liked the drop down box.
- Using ProFile was easy! I don't understand why someone wouldn't use it. I like that it checks off what's been done and that it wouldn't let you pick API's you can't use.
- ProFile was great.

What did not work?
- Not always user friendly at times.

What would you change?
- Easier movement from computer to computer.

6. ProFile was easy to use.	Strongly Disagree	Disagree	Agree	Strongly Agree
	0	**1**	**3**	**15**

What worked?

- I had no problems.
- Drop down boxes.
- Loved ProFile.
- The fact that it does not let you make a mistake on the strands.
- ProFile makes this process so much easier.

What did not work?

- Not always user friendly at times.
- I had problems when I had entered dates and score but the content sheet did not mark.
- It was confusing to me when I clicked on the first one and then moved to the second strands. I had difficulty with being consistent when entering the program and recording information.

What would you change?

- Have it print page numbers.

7. ProFile made printing the required forms simple.	Strongly Disagree	Disagree	Agree	Strongly Agree
	0	**0**	**2**	**17**

What worked?

- I had no problems.
- The “print all” button was a big help keeping papers organized this year.
- No problems with printer reading program.
- It showed you exactly what you needed. Print all button was good.
- Everything in one place.

What did not work?

What would you change?

OTHER

8. E-mails and phone calls were returned and/or responded to promptly by…

DESE

Strongly Disagree	Disagree	Agree	Strongly Agree
0	**0**	**1**	**5**

ARC

Strongly Disagree	Disagree	Agree	Strongly Agree
0	**0**	**2**	**7**

MEASURED PROGRESS

Strongly Disagree	Disagree	Agree	Strongly Agree
0	**0**	**2**	**5**

Comments:

- I did not call either DESE or Measured Progress.
- I only needed to call Measured Progress for a ProFile problem and they called me right back and fixed the problem.
- Lisa and Becky always got right back to me when I emailed them.
- I never emailed or called anyone.
- Didn't have to use this.
- We tried to contact ARC about a question and were not able to reach anyone.

9. Questions I had were answered clearly by…

DESE

Strongly Disagree	Disagree	Agree	Strongly Agree
0	**0**	**4**	**1**

ARC

Strongly Disagree	Disagree	Agree	Strongly Agree
0	**0**	**4**	**4**

MEASURED PROGRESS

Strongly Disagree	Disagree	Agree	Strongly Agree
0	**0**	**4**	**1**

Comments (What types of questions did you have?):

- What ways to complete MAP-A & how to mail back.
- Didn't have any experience with this.

10. I preferred the plastic case for pilot materials over a binder.

Strongly Disagree	Disagree	Agree	Strongly Agree
1	**0**	**3**	**14**

What worked?

- It was easier to handle, and carry around.
- Smaller and can be re-used multiple years.
- Binders took up a lot of space in the classroom and required the additional step of going to the office to use the 3 hole punch.
- Ease of use, need of space.
- Takes up less space.
- I liked the binder because it took up less space and it was able to hold all the required materials.
- Slender and workable.
- The plastic case was easier to handle, did not require punching.
- It was small.
- Much easier to manage.
- Thinner – can be reused.

What did not work?

- I wonder if grades lose or mix up papers if they're not stapled at least.
- I forgot to put them into the plastic cases.
- If I had my math and comm. Arts be too much to keep in order.

What would you change?

- I think binders make it easier to look through and organize.

11. The return materials were easy to use.

Strongly Disagree	Disagree	Agree	Strongly Agree
0	**0**	**5**	**15**

What worked?

- Very easy.
- Too the point.
- The postage paid packet was very easy to use.

What did not work?

- Having to pay for pick –up (we didn't but that is what they tried to tell us).

What would you change?

ASSESSMENT DESIGN

12. The Alternate Performance Indicators were easy to understand.

Strongly Disagree	Disagree	Agree	Strongly Agree
1	**3**	**8**	**8**

What worked?

- Similar to others.
- Most all verbs and explanations worked.

What did not work?

- Not being a science major, makes understanding some of the API's more difficult.
- Some need clarification i.e. the computer is not a measurement tool.
- Like I said earlier, apparently I missed something if mine was NC because API didn't match activity because I felt confident it did.
- While grading/scoring, teachers need to clarify how a child "explored" etc.
- I think that many people didn't look at the big idea of the API's they chose.
- They are very broad – not specific enough.

What would you change?

- Questions we had as scorers that need to be addressed in training?
    1. Is looking on the internet or a website measuring temperature?
    2. Is looking at pictures of animals "exploring objects in nature?"
    3. Is feeding a pet frog "explaining the environment?"
- Training on teachers clarifying how a child explored.
- In training, perhaps that could be stressed more.
- Suggestions or definitions of each.
- Example to clarify a little more.
- Some need to be clarified in training with teachers ie…cannot use internet to measure temperature, exploring objects in nature.
- More details – possibly more specific examples after statement.

13. I was able to pair process and content Alternate Performance Indicators in ways that made sense.

Strongly Disagree	Disagree	Agree	Strongly Agree
0	**1**	**13**	**6**

What worked?

- It was fairly easy.
- I believed it made it easier to make it an application activity.
- I was able to do this but at times it was difficult because I wanted to use them again.
- Working backwards by choosing the content standard and then finding a process standard to work with it.
- The “asking questions” API was easy to pair.

What did not work?

- Some took longer, the first set was easy.
- I kept second guessing and questioning. It took a lot of time to mix and match.
- Sometimes matching was hard.
- Difficult to match with activities the kids can do.
- The other set “impact of Science”.
- It was some what difficult to connect the IS standard.

What would you change?

- The order of process standards and content standards on ProFile and in the manual.

14. The amount of information required as evidence of student performance on the 4 required strands for the MAP-A Science Pilot was manageable.

Strongly Disagree	Disagree	Agree	Strongly Agree
1	**3**	**11**	**3**

What worked?

- It wasn’t overwhelming.

What did not work?

- Again the “IS” made it difficult to get correct data.
- I like the way it is organized much better than the way CA and Math is done

What would you change?

15. I was able to develop science activities that made sense for both the content and process APIs.

Strongly Disagree	Disagree	Agree	Strongly Agree
2	**5**	**9**	**3**

What worked?

- Process API's were ok.
- Making them applicable.
- Many things we were already doing went right along – weather, measurement, etc. I hadn't thought of them as science though.
- At 8th level, not enough choices. Etc.

What did not work?

- Some were harder than others.
- For 8th grade, it was hard to create FM and PP activities that were appropriate for an MR student.
- Trying to keep it functional.
- Difficult.
- The Impact of science paired with an alternate API.
- I struggled somewhat with the IS Strand.
- It was difficult considering the how sever the students disability was. It did force me to think of activities that were appropriate for my students.

What would you change?

- Are there any other content API's from the middle school to choose from?
- I think many people probably feel they are not addressing science but actually they are. I don't know that there is anything to change but just give examples.
- More training.
- Develop instruction for MAP-A Science.
- Provide science activities – ideas that match API's.

16. The MAP-A Science Pilot provided an accurate assessment of the student's abilities and/or performance.

Strongly Disagree	Disagree	Agree	Strongly Agree
1	**2**	**3**	**4**

What worked?

- I loved having a science teacher as a team leader.
- Flexibility in tasks.
- This test provides an assessment for the MAP-A teacher not the student.

What did not work?

- Not necessarily. It might for the activities listed, but does not show in an accurate assessment of students abilities?
- Any teacher will tell you that MAP-A's provide an assessment of the teacher's ability to complete the parameters of the MAP-A correctly. I also question the graders abilities.

What would you change?

- I feel it graded the teacher's paperwork skills more than student ability.

17. Additional Comments

What worked?

- Pilot Science was at a different time than the LA & Math, decreasing the time crush a little.

What did not work?

- In KC, general MAP-A training closed out before everyone who needed/wanted it could sign up. Every teacher needs the opportunity to be trained.
- Mostly grading the teacher on his/her picks.

What would you change?

- If it is at all possible for this to be done before or after the other two assessments. It is a ton of work for teachers who have a large number of MAP-A's.
- Need more specific examples/training.
- Need more opportunities for training.
- More training on API's data collection, connecting to standards.
- Take out blind scores.
- Saw another scorer looking off and changing her answers.

Other:

- This was my first MAP-A and it was not what I had expected. ProFile was user friendly and made my job much easier.
- It is hard to do all 3 subjects at the same time.
- For names on the test either have it be first then last or last then first.

MAP-A 2007 Science Pilot Scoring
June 5-7, 2007
Scorer Feedback

1. **Do you have comments or suggestions regarding the science portion of the MAP-A?**
   - It was user friendly. This was my first experience with MAP-A but heard it was much better than former MAP-A's.
   - More training on connecting API's.
   - Content training.
   - Some of the API's are vague.
   - I like the way is was organized grouping strands together.
   - Teachers need to make sure they pay attention to the terms used in the indicators to be accurate in activities.
   - Teachers may benefit from more examples combining the 2.
   - 8th grade was difficult to combine.
   - The main difficulty appeared to be connecting API's .
   - Also noted difficulty in abstaining application.
   - Make sure everyone must attend training.
   - Encourage use o ProFile by all means necessary
   - Make sure that all teachers attend training!
   - All teachers will need to be trained*. Teachers will need to work with a science teacher to help understand the concepts
   - *Not "train the trainer"
   - Schedule enough trainings so no gets closed out.
   - All teachers should attend training.
   - Create a data base of activities and what API's it could assess.

2. **Do you have comments or suggestion regarding science content training, MAP-A science assessment training, or other related training-including training materials-for teachers?**
   - More examples of good MAP-A projects.
   - The training was a little confusing but once I got started it wasn't as bad as I anticipated .
   - Have content API an process API switch places so teachers look at the content first. It will help teachers have API apply.
   - Many teachers used tools such as the internet for inquiry instead of tools such as thermometers. Teachers need to be trained on science materials.
   - Examples of activities (what is science and what is not for example sorting silverware).
   - Is there anyway that you can run workshops to "mock score?" Learning to score helps me so much more .
   - Need more training in how the API's can connect with each other.
   - More training in how what we are accessing relates to the API's.
   - The plastic folders were much nicer than the binders easier to keep track of materials.
   - The training sessions allowing for brainstorming and collaboration were extremely helpful.
   - Need more variety of grade level samples.
   - How to pair IS with other API required.
   - Difference between grading for accuracy and independence.
   - If RPDC is going to train teachers make sure they have training from the state, not their peers. I have found that misinformation is being given during training.
   - Staff should be taught to obtain content strand then match to process strand.

- Difficulty in application maybe eliminated by listing application ideas/phrases as examples.
- Give plenty of opportunities for teachers collaborate on their ideas for activities. This gives them a chance to learn and check their ideas for matching API's and verify application.
- Let teachers know to simplify – not reinvent the wheel!
- Give examples of correct MAP-A's stress during training to look at the big idea for API's and how individual API relates to it.
- Emphasize how to make the strands show application.
- Acquisition vs. application – how it was talked about today and yesterday.
- I think teachers need to know the difference between a task specific prompt and a non specific prompt and be (training) encouraged to use that vocabulary. I also think that it needs to stress teachers that the activities must connect to both the content and process standard.
- Internet is not a measuring tool
- Show examples of wood specific scoring like 1 pt, 1 pt = 2 100%
- Give us many examples at all levels.
- Go over: Internet not a tool to measure temp. What exactly is expected on "explore" nature? Is looking at pictures enough, or do you have to look at the actual object/animal?
- Teachers need to know:
    - Internet is not a tool to measure temperature
    - Clarify "explore objects in nature"
- Remind (stress) to the teachers to refer to the "big Idea" and glossery. This may help them design the task.

3. Do you have hints or tips for teachers regarding science instruction or assessment? Do you have suggestions for science activities for MAP-A students?

- Teachers: Don't make it harder than it is!
- Relax.
- Get together with others giving MAP-A to collaborate.
- Make sure you API's connect!
- Use ProFile Check to make sure both API's are covered.
- Go to the content training and MAP-A training.
- Provide some very basic concepts and provide some activities to coincide with the API's.
- Working with general education science teachers may be helpful in designing activities that connect to the API's.
- Use the science assessment and spawn off in to activities for CA and Math based on the science activity. Ex. Sink or float experiment – Sci; chart data – math; write about it – CA.
- QC before turning it in.
- Make application a part of your instruction all the time.
- Realize this test can actually be scored low because of teacher failure, not student.
- Also keep it simple! Some went way over what was needed!
- I would say that many teachers don't feel that they are doing science but when they look closely they see they are…weather, (calendar), measurement, etc.
- Keep it simple.
- It is beneficial to do large group experimental activities. That way it becomes application and you are collecting data for a group of children instead of having to do them on at a time.
- Do not include the prompt in any way in accuracy.
- Clarify prompt – content specific prompt.
- Clarify independence + no help

- Clarify activity must be within a science experiment – e.g. sorting cutlery: is that science?
- Have to do both API's in same student work record not one on one and one on the other.
- Prompts effect only independence not accuracy.
- I have seen several science task description in this Pilot that would easily lend it self to CA & MA assessment as well.

4. Do you have comments or suggestion related to the pilot scoring process?

- Excellent.
- It was a great experience.
- Much smoother process that I thought it would be.
- After the first scorer has finished scoring, place those papers in a manner such that the second scorer is unable to see.
- Going through the scoring process has allowed me to see things I could do or things I could do differently in my class.
- It helped me to understand how to better give the test.
- Scores need to be removed each time.
- I saw a scorer changing her score compare to another.
- I really enjoyed the process, the accommodations were wonderful.

MAP-A
Train-the-Trainer Workshop
September 5th, 2007

	Strongly Disagree (1)	Disagree (2)	Neither Agree nor Disagree (3)	Agree (4)	Strongly Agree (5)
1. Overall the training worked well. **Comment:**	1	2	3	4 7/20 = **35%**	5 13/20 = **65%**
2. The **Overview and Manual Walk Through** were helpful. **Comment:**	1	2	3	4 5/20 = **25%**	5 15/20 = **75%**
3. The addition of the **Justification Form** and **Individual Student History Report** for duplicate APIs was clearly explained. **Comment:**	1	2	3	4 4/20 = **20%**	5 16/20 = **80%**
4. Applying the **Step-by Step** procedures to student **Sample Entries** helped me understand the MAP-A process. **Comment:**	1	2	3	4 7/20 = **35%**	5 13/20 = **65%**
5. The student **Sample Entries** were helpful. **Comment:**	1	2	3 2/20 = **10%**	4 4/20 = **20%**	5 14/20 = **70%**
6. The **Science Sample Entries** helped me understand how to connect Process and Content Strands to Science Activities. **Comment:**	1	2 1/20 = **5%**	3 3/20 = **15%**	4 3/20 = **15%**	5 13/20 = **65%**
7. The **Lessons Learned** portion was helpful. **Comment:**	1	2	3	4 5/20 = **25%**	5 15/20 = **75%**

8. The **Process Information** was helpful. **Comment:**	1	2	3 1/20 = **5%**	4 8/20 = **40%**	5 11/20 = **55%**
9. The questions I had about the MAP-A were answered. **Comment:**	1	2	3 2/20 = **10%**	4 8/20 = **40%**	5 10/20 = **50%**
10. The materials provided were helpful. **Comment:**	1	2	3	4 3/20 = **15%**	5 17/20 = **85%**
11. Three things that worked well in this experience…	• Hands on, Flawed activities/Samples (14) • Discussions, Q & A (4) • Planning Worksheet Activity (4) – would like to revise for use with Math and Com Arts • Poster (from Diana Humphrey) • Group Work (4) • The opportunity to allow the group to ask questions as we went through the training. • The pace of the training (2) • Thanks for listening and answering questions. • Clear manual and power point (2) • LOVED the improvements to the manual, especially the flawed/corrected examples (4) • Food, treats, refreshments (2) • Professional materials – easy to read and understand (2) • Manual walk through (4) • Writing an actual Science activity (3) • Power Point with page numbers easy to follow! • New Forms • NEW APIs • The Glossaries • Doing the Student Work Record • ProFile Review & Updates (2) • Good information on “Big Idea” • Very well organized presentation. • “This was the first meeting (training) that I’ve attended where the assistant commissioner of Education attended. I really appreciate Heidi’s attendance and her willingness to seek input on the MAP-A process from us.” • Extra Handouts				

12. Three things that did not work well in this experience… 12. Three things that did not work well in this experience…**(CONTINUED)**	• How much that needs to be covered that is new – compared to amount of time we have in a single day's presentation…and we have experience! • As Stephanie observed – working on the Planning Worksheet was difficult before seeing the samples. • More good examples. Eliminate bad ones except a couple. • Doing Science Activity without the manual. • Send reminder sooner to bring a binder. • Need good examples. • I like using good examples before bad ones. • Lack of really good examples (participant wrote this 3x) • Need examples at lower levels of ability (2) • Not enough activity samples. • Many side conversations made it difficult to focus on training materials. • Needed more information before first activity and reporting on "Andi" became confusing as it was discussed. • Continues to be a complex, cumbersome process that doesn't match essential skills curriculum. • "This was not your fault (Stephanie's) but I get tired of people who just want to complain. I know is it cathartic to get concerns off out chest, but 2-3 people wasted quite a bit of time on matters that cannon be changed." • Had to go through manual page by page to get idea of where information is in manual – necessary information but maybe do as an activity to locate. • DESE folks got a little defensive – too bad because they are not responsible for our anxiety. • We still seem to be flipping back and forth in the manual.
13. Questions I still have…(or other comments)	• Time will tell! – I'm not sure at the moment. • Not any now, but I may later as I reflect. • Streamline the process. • I always ask all my questions, and you all always answer them all! You all are awesome! • Ways to make ProFile easier for teachers to download. • Why not provide clear, concrete, accurate examples for districts to use (refer to) to write (develop) individual MAP-A activities???

	• How does MAP-A actually assess student skills for those students who have severe disabilities as oppose to assessing the teacher's ability to gather information? • Very good training overall – Thanks so much! (2) • Just hope I can do a good job when I do training.

2007-08
Missouri Assessment Program - Alternate
(MAP-A)

Science Standard-Setting Report
June 3 & 4, 2008
Columbia, Missouri

Prepared by Measured Progress for the
Missouri Department of Elementary and Secondary Education

Introduction

In response to requirements outlined in the Individuals with Disabilities Education Act (IDEA) Amendments of 1997, the reauthorization of IDEA in 2004, and the No Child Left Behind Act of 2001 (NCLB), states have developed alternate assessments for students with disabilities. A variety of measurement formats have been implemented in these assessment systems (Thompson & Thurlow, 2001; Roeber, 2002; Smith, 2003; Malehorn, 1994; Navarrete, Wilde, Nelson, Martinez, & Hargett, 1990). Due to differential requirements within their Individual Education Plans (IEPs), students with disabilities may be administered different assessments appropriate to their level of ability. The test scores and performance level categories of these students, however, are reported as a single group. Given the nature of the alternate assessments, setting performance level standards for the alternate assessments can be challenging in terms of educational and policy considerations.

A number of standard setting methods have been developed over the last 30 years (Berk, 1986; Reckase, 2000; Hambleton, Jaeger, Plake, & Mills, 2000; Cizek, 2001; Hambleton & Powell, 1983; Kane, 1994; Livingston & Zieky, 1982; Lunz, 1995). Most of the methods (e.g., Bookmark, Body of Work, etc.) were developed in large-scale assessment settings. Each has its advantages as well as a number of limitations. The choice for a particular application should be based on a thorough review of existing methods in terms of their pros and cons for the concrete testing situation at hand (Cizek, 1996; Reckase, 2000; Hambleton, 2001). The most important criteria are:

(a) The appropriateness of the method for the concrete situation;
(b) The feasibility of the method implementation under the current circumstances;
(c) The existing validity evidence for the quality of the selected method.

Given the complexity of alternate assessments (e.g., differential assessments, unique learning attributes of this population, etc.), there is increased emphasis on developing new

standard setting methods, or modifying existing methods, appropriate to these new conditions. Not many methods can address the complexity, so states tend to retrofit existing methods to their alternate assessment programs. Some of the very popular standard setting methods used in alternate assessment programs so far include Modified Angoff (Angoff, 1971), Bookmark (Lewis , Mitzel, & Green, 1996), Body of Work (Kingston, Kahl, Sweeney, & Bay, 2001), and Judgmental Policy Capturing (Jaeger, 1995).

Feasibility and validity are of great importance when evaluating a standard setting method (Cizek, 1996). The modified Body of Work (mBoW) procedure was chosen for the Standard setting activities for the Missouri Alternate Assessment in Science. In this method, panelists review student portfolios that represent the range of student scores. The panelists independently classify each student portfolio into one of four performance levels based on their understanding of the alternate performance level descriptors. Because the logistic burden of classifying each portfolio into one of four performance levels at the outset, as outlined in the BoW approach, is quite high, a modified approach was implemented. Panelists first focused on the middle cut, classifying portfolios above or below this cut. As a second step they took the portfolios they had classified below the middle cut and classified them into the lower two achievement levels. As a final step panelists took the portfolios they had classified above the middle cut and classified them into the upper two achievement levels. This modified version of the method has been in use for a number of years, substantially reduces the logistical burden of the method, and has been found to yield reasonable and defensible cut points. This report documents the procedures and results of the mBoW procedure implemented for the Missouri Alternate Assessment in Science.

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Standard Setting Process

The Missouri Alternate Assessment in Science occurred June 3rd and 4th, 2008. At the June standard-setting meeting, cut-points were recommended for the alternate Science assessment in grades five, eight, and eleven using the data from the spring 2008 administration. This report documents the procedures and results of the June standard-setting meeting.

Each panel consisted of eleven to twelve participants. Each panel completed the standard-setting process for one grade level for two days. The modified Body of Work (mBoW) standard-setting method (Kingston, Kahl, Sweeney, & Bay, 2001) was implemented for all grades. In the Body of Work method, panelists are presented with a set of actual student work (in this case, student science entries) and make their judgments based on those work samples. Specifically, panelists examine each student work sample and determine which performance level best matches the particular skills and abilities the student exhibits through his/her performance on the work sample.

The Body of Work standard setting method was developed specifically for use with assessments that are designed to allow for a range of student responses, such as a portfolio and performance based assessments. he modified BoW procedure was used for science standard-setting in the same manner that it had been utilized for setting standards on the MAP-A mathematics and communication arts in 2006.

To help ensure consistency of procedures between panels, all participants attended a large-group training session at the beginning of the meeting. In addition, each panel was led through the standard setting process by a trained facilitator from Measured Progress.

This report is organized into three major sections, describing tasks completed prior to, during, and following the standard-setting meeting.

1. TASKS COMPLETED PRIOR TO THE STANDARD-SETTING MEETING

1.1 Creation of Achievement Level Descriptors (ALDs)

The ALDs presented to panelists provided the official description of the set of knowledge, skills, and abilities that students are expected to display in order to be classified into each performance level. These descriptors were created prior to the standard-setting meeting by staff of the Missouri Department Elementary and Secondary Education (DESE). The draft descriptors were created to mirror the already existing mathematics and communication arts descriptors. The draft descriptors are provided as Appendix A of this report.

1.2 Preparation of Materials for Panelists

The following materials were assembled for presentation to the panelists at the standard setting-meeting:

- Meeting Agenda
- Draft Alternate Achievement Level Descriptors (ALDs) for grades 5, 8 and 11
- MAP-A Portfolios representing the range of possible scores
- Rating Forms for each step in the process
- Evaluation Form for panelists to respond to the overall process, the factors that influenced their decisions and their overall confidence in the cut scores being recommended

The ALDs, meeting agenda, rating forms, and evaluation form are provided in Appendix A through D of this report, respectively.

1.3 Preparation of Presentation Materials

The PowerPoint presentations used in the opening session were prepared prior to the meeting. Two sets of PowerPoint slides are included as Appendix E of this document: the first set provides an overview of the Missouri Alternate Assessment, the criteria for participation in the assessment, and an explanation of the administration and scoring procedures. The second set

provides an overview of the issues of standard setting, specifics about the standard setting process, and an overview of the activities the panelists would be completing during the standard-setting meeting.

1.4 Preparation of Instructions for Facilitators Documents

A document was created for the group facilitators to refer to while working through the process. This document outlines the step-by-step process that the facilitator leads the panelists through during standard setting. Facilitators are provided a training prior to the standard setting meeting where they become familiar with the process, materials and facilitator script. The facilitators for the MO standards setting meeting consisted of two program managers and an assistant director. Responsibilities during the meeting include: time management, keeping participants on task, interacting with participants, and facilitating the group discussions. The facilitators are also responsible for the security of the materials and collecting panelist rating forms. The facilitator document for Science is provided in Appendix F.

1.5 Preparation of Systems and Materials for Analysis During the Meeting

The computational programming to carry out all analyses during the standard-setting meeting was completed and thoroughly tested prior to the standard-setting meeting. The program designed to calculate cuts and impact data was written using SAS statistical software.

1.6 Selection of Panelists

Panelists were recruited and selected to reflect as diverse of a population as possible. The Assessment Resource Center (ARC) and Missouri DESE staff worked together to recruit panelists, with DESE's final approval over participant selection.

The goal of the panelist recruitment was to assemble panels of approximately 12 participants. Ideally, each panel was to include a minimum of six special education teachers

experienced in working with students with significant disabilities, three subject area content teachers, and three school administrators, higher education personnel, stakeholders from interest groups related to significant disabilities, and/or parents of students with significant cognitive disabilities. An additional goal was for the panels to reflect a balance of gender, race/ethnicity, and geographic location. Finally, panelists were selected who were familiar either with the grade level subject matter or the special education population for which they would be setting standards. The numbers of panelists who participated in the standard setting ranged from eleven to twelve per group, as shown in Table 1 below. A list of the panelists' affiliations and their roles can be found in Appendix G.

Table 1: Numbers of Participants by Group

Panel	Number of Panelists
Science - Grade 5	12
Science - Grade 8	12
Science - Grade 11	11
Total	35

1.6.1 Participant Demographics

As part of the application process for panelist recruitment panelists were asked to self-report demographic information. Table 2 shows the gender of the participants in each grade group, and Table 3 shows their ethnicity. Table 4 shows the work experience of the participants in each grade group based on the number of years of teaching experience of the participants.

Table 2: Gender of Participants by Group

Panel	N	Male	Female
Science - Grade 5	12	8.3%	91.7%
Science - Grade 8	12	16.7%	83.3%
Science - Grade 11	11	27.3%	72.7%

Table 3: Ethnicity of Participants by Group

Panel	N	Asian/Pacific Islander	African American	American Indian	Hispanic	White	Other	No Response
Science - Grade 5	12	0.0%	0.0%	0.0%	0.0%	91.7%	0.0%	8.3%
Science - Grade 8	12	8.3%	0.0%	0.0%	0.0%	83.3%	0.0%	8.3%
Science - Grade 11	11	0.0%	0.0%	9.1%	0.0%	91.9%	0.0%	0.0%

Table 4: Number of Years Teaching of Participants by Group

Panel	N	1-5	6-10	11-15	16-20	21+	No Response
Science - Grade 5	12	8.3%	16.7%	16.7%	16.7%	33.3%	8.3%
Science - Grade 8	12	41.7%	25%	8.3%	0.0%	16.7%	8.3%
Science - Grade 11	11	9.1%	36.4%	9.1%	27.3%	18.2%	0.0%

2. TASKS COMPLETED DURING THE STANDARD-SETTING MEETING

2.1 Orientation

The standard-setting meeting began with a general orientation session that was attended by all panelists. The purpose of the orientation was to ensure that all panelists heard the same message about the need for and goals of standard setting and about their part in the process. The orientation consisted of three parts. First, DESE welcomed the panelists and thanked them for participating, provided some context about the Missouri Alternate Assessment and the need for setting standards, and some general information about their role in the process. Next, a Measured Progress Special Education Assistant Director provided an overview of the MAP-As, including participation criteria, and administration and scoring procedures. Finally, a Measured Progress psychometrician gave an introduction to the issues of standard setting and to the standard-setting method that was being used for Missouri, and provided an overview of the activities that the standard-setting panelists would be completing. Panelists were given an opportunity to ask questions at the end of the session.

Once the general orientation was complete, each panel reconvened into its breakout room, where the panelists received more detailed training and completed the standard-setting activities.

2.2 Standard-Setting Process

The standard-setting process included three rounds; in the first round, panelists reviewed and discussed the ALDs and then recommended cut-points individually without discussion. Then, in Rounds 2 and 3, they recommended cut-points individually, following extensive group

discussion. Because of the large quantity of assessment materials the panelists had to familiarize themselves with, the three rounds of ratings were further broken down into smaller tasks. Panelists started with the middle cut, between *Basic* and *Proficient*, by sorting the MAP-As into two piles: those they felt represented below proficient performance and those they felt represented performance that was proficient or above. Once the MAP-As were sorted into two piles, they then sorted each of those piles into two piles, starting with the subset of MAP-As they had classified as below proficient. Each of these sorting tasks was done in two rounds; after the two rounds were completed for all three cuts, Round 3 was completed simultaneously for all three cuts.

2.2.1 Discuss Achievement Level Descriptors

The first step in the process, once the panelists convened into their grade groups, was to discuss the Achievement Level Descriptors. This important step of the process was designed to ensure that panelists thoroughly understood the needed knowledge, skills, and abilities for portfolios to be classified as *Below Basic*, *Basic*, *Proficient*, and *Advanced*. Panelists began by reviewing the descriptors individually and then discussed them as a group, clarifying each level and coming to consensus as to the definitions of each. Bulleted lists of characteristics for each level were generated based on the group discussion and posted in the room for panelists to refer to during Round 1.

2.2.2 Round 1 & 2 : Middle Cut Judgments

In the first round, panelists worked individually with the ALDs, the rating form for the middle cut, and the set of MAP-As ordered from easiest to most difficult by total score. Each set of MAP-As consisted of approximately 35 portfolios (34 in grade 5, 36 in grade 8, and 35 in grade 11), with two portfolios for each observed score ranging from the minimum observed

score to the maximum possible score (22). For each portfolio, the panelists considered the skills and abilities demonstrated by a student, and decided which performance level was the best match for each portfolio.

The panelists began the rating process by individually reviewing the set of MAP-As, beginning with the first (the lowest scoring MAP-A in the set), then every fifth MAP-A after that up through the highest scoring MAP-A. This step enabled panelists to familiarize themselves with MAP-As across the full range of performance represented and also to narrow in on the set of MAP-As they felt was near the cut between *Basic* and *Proficient*. Once they identified the subset of MAP-As around the *Basic* and *Proficient* cut, they reviewed all of them in the subset, sorting them into the two piles. All of the MAP-As below their chosen subset were placed into the below proficient pile, and all those above were placed into the proficient or above pile. This allowed the panelists to separate the MAP-As into two piles without being overwhelmed by having to review all of them. Panelists were told that they would have multiple opportunities later in the process to move MAP-As between piles.

Once the panelists were finished working their way through the portfolios individually, without consulting with their colleagues, they completed the rating form, recording their ratings for each portfolio in the "Round 1" column of the rating form. While the portfolios were presented in order of total score, panelists were not required to rate them in strictly increasing order. Instead, panelists were encouraged to take a holistic look at the *portfolio*, rather than making a judgment based primarily on the ordering of the portfolios.

Panelists were given the following materials:

- Administration Manual to be used as a reference tool as needed
- MAP-As that represented the possible range of scores
- Rating Form – Middle Cut

Prior to beginning the group discussion, and using a show of hands, the facilitator recorded how many panelists placed each portfolio into each performance level on chart paper. Starting with the first portfolio for which there was disagreement as to how it should be categorized, the panelists began discussing the categorization of the portfolios according to their initial ratings. Panelists were encouraged both to share their own point of view as well as to listen to the thoughts of their colleagues. The goal was to allow each panelist the opportunity to explain why he or she sorted a particular MAP-A into one pile or the other. Facilitators made sure the panelists knew that the purpose of the discussion was not to come to consensus: at every point throughout the standard-setting process, panelists were asked to provide their own individual best judgment.

Once the discussions were complete, the panelists filled in the Round 2 column of their portfolios rating form, making any necessary adjustments to their Round 1 ratings.

2.2.3 Round 1 & 2: Lower Cut Judgments

Once Rounds 1 and 2 were completed for the middle cut, the panelists set the pile of MAP-As they had categorized as proficient or above aside, and began reviewing the full set of MAP-As in their below proficient pile. The task was to separate that pile of MAP-As into two sub-groups, representing the lower two achievement levels: *Below Basic* and *Basic*. As with the middle cut, the task for the lower cut was done in two rounds and, after each round, each panelist's categorizations were recorded on the Lower Cut Rating Form. For the first round panelists recorded their initial individual judgments, then there was discussion on any portfolios where panelists were not in agreement. Panelists were then given the opportunity to record their Round 2 ratings. Panelists may or may not have made any adjustments to their Round 1 ratings.

2.2.4 Round 1 & 2: Upper Cut Judgments

In this step, the panelists separated the pile of proficient or above MAP-As into an additional two piles representing the upper two achievement levels: *Proficient* and *Advanced*. As with the previous two cuts, the ratings were done in two rounds and each panelist recorded his/her Round 1 and Round 2 judgments on the Upper Cut Rating Form.

2.2.5 Tabulation of Round 2 Results

After all panelists had completed their individual ratings, Measured Progress staff calculated the mean cut-points for the group based on the Round 2 ratings. (The full Round 2 ratings can be found in Appendix I). Cuts were calculated using SAS statistical software by first determining each panelist's individual cuts using logistic regression (PROC LOGISTIC), then averaging across panelists to get the overall cuts. In statistics, logistic regression is a model used for prediction of the probability of occurrence of an event by fitting data to a logistic curve. In standard setting, an event consists of a panelist's classification of a portfolio. Each panelist classified each portfolio into an achievement level. By setting up dichotomies, denoting whether a portfolio is classified below or above each category, a logistic curve can be established. This logistic curve essentially represents the empirical relationship among the total score of each portfolio and a panelist's ratings. The inflection point of the logistic curve corresponds to an estimate of the panelists cut point. For each panelist, a logistic curve was fit for each cut point (*Below Basic/Basic*, *Basic/Proficient*, and *Proficient/Advanced*) and the estimates for each cut point were averaged across panelists.

Finally, impact data were calculated, consisting of the percentage of students who fell into each performance level based on the group mean Round 2 ratings. A psychometrician shared the percent of students who fell in each performance level with the group to assist them in their

group discussion and Round 3 ratings. The psychometrician also informed panelists which portfolios the mean cut scores fell between. Panelists were not given the raw score range of the performance levels, as this information often leads to panelists re-scoring the portfolios. Please note that participants were only shown the Round 2 results for their own grade. The Round 2 results are outlined in Table 5.

Table 5: Round Two Results

Grade	Achievement Level	Mean Cut	Standard Error	Raw Score		Percent of Students
				Min	Max	
5	Below Basic	N/A	N/A	0	14	54.7
	Basic	14.41	0.25	15	17	3.4
	Proficient	17.67	0.39	18	21	18.8
	Advanced	21.56	0.01	22	22	23.1
8	Below Basic	N/A	N/A	0	8	23.0
	Basic	9.00	0.15	9	14	27.4
	Proficient	14.67	0.23	15	21	30.1
	Advanced	21.69	0.36	22	22	19.5
11	Below Basic	N/A	N/A	0	12	50.2
	Basic	12.14	0.68	13	16	4.8
	Proficient	16.54	0.20	17	20	25.1
	Advanced	20.31	0.13	21	22	19.9

The mean panelist cut score and the spread or dispersion of the panelist cut scores are outlined in columns three and four, respectively. The mean panelist cut score gives precise information about where each cut was placed between its adjacent raw score points. The mean scores are rounded up to the nearest whole number to obtain the minimum raw score required to be classified in each achievement level. It is for this reason that an mean cut is not calculated for *Below Basic*: Examinees simply need to obtain a score of 0 to be classified as below basic. The percent of students classified in each achievement level is displayed in the final column of Table 5. For example, in Grade 5, 54.7% of students scored between zero and 14.

2.2.6 Round 3 Judgments

Once the panelists completed their Round 2 ratings, the facilitator once again asked for a show of hands and tallied the number of panelists who categorized each portfolio into each performance level on chart paper. As in Round 2, starting with the first portfolio for which there was disagreement as to its categorization, the panelists discussed their rationale for how they rated the Round 2 portfolios. Again, the purpose of the discussion was for the panelists to benefit from the points of view of their colleagues, not to come to consensus about the ratings.

Panelists were also asked to include the impact data (percent of students classified in each category) as part of their discussion. In presenting the impact data, the psychometrician explained to the panelists that its purpose was to provide a "reasonableness check," and that they should resist letting it influence their decisions in isolation. Instead, if any of the percentages seemed too high or too low, they were told to return to the assessment and to the Achievement Level Descriptors, and consider whether they needed to make adjustments to their Round 2 ratings.

Once the discussions had been completed, the panelists recorded their ratings in the Round 3 rating sheet and the sheets were submitted for data analysis. The results of the panelists' Round 3 ratings are outlined in Table 6. The full panelist ratings for Rounds 2 and 3 can be found in Appendix I.

Table 6: Round Three Results

Grade	Achievement Level	Mean Cut	Standard Error	Raw Score		Percent of Students
				Min	Max	
5	Below Basic	N/A	N/A	0	13	53.9
	Basic	13.02	0.26	14	17	4.2
	Proficient	17.67	0.39	18	21	18.8
	Advanced	21.56	0.01	22	22	23.1
8	Below Basic	N/A	N/A	0	8	23.0
	Basic	8.97	0.20	9	15	27.7
	Proficient	15.24	0.38	16	21	29.8
	Advanced	21.58	0.17	22	22	19.5
11	Below Basic	N/A	N/A	0	10	34.5
	Basic	10.61	0.43	11	16	20.5
	Proficient	16.54	0.20	17	20	25.1
	Advanced	20.35	0.13	21	22	19.9

A graphical display of the results across grades is also provided in Figures 1 and 2. The percent of students in each performance level, based on the panelist recommendations is outlined in Figure 1, while the proportion of the total score that each performance level represents is outlined in Figure 2.

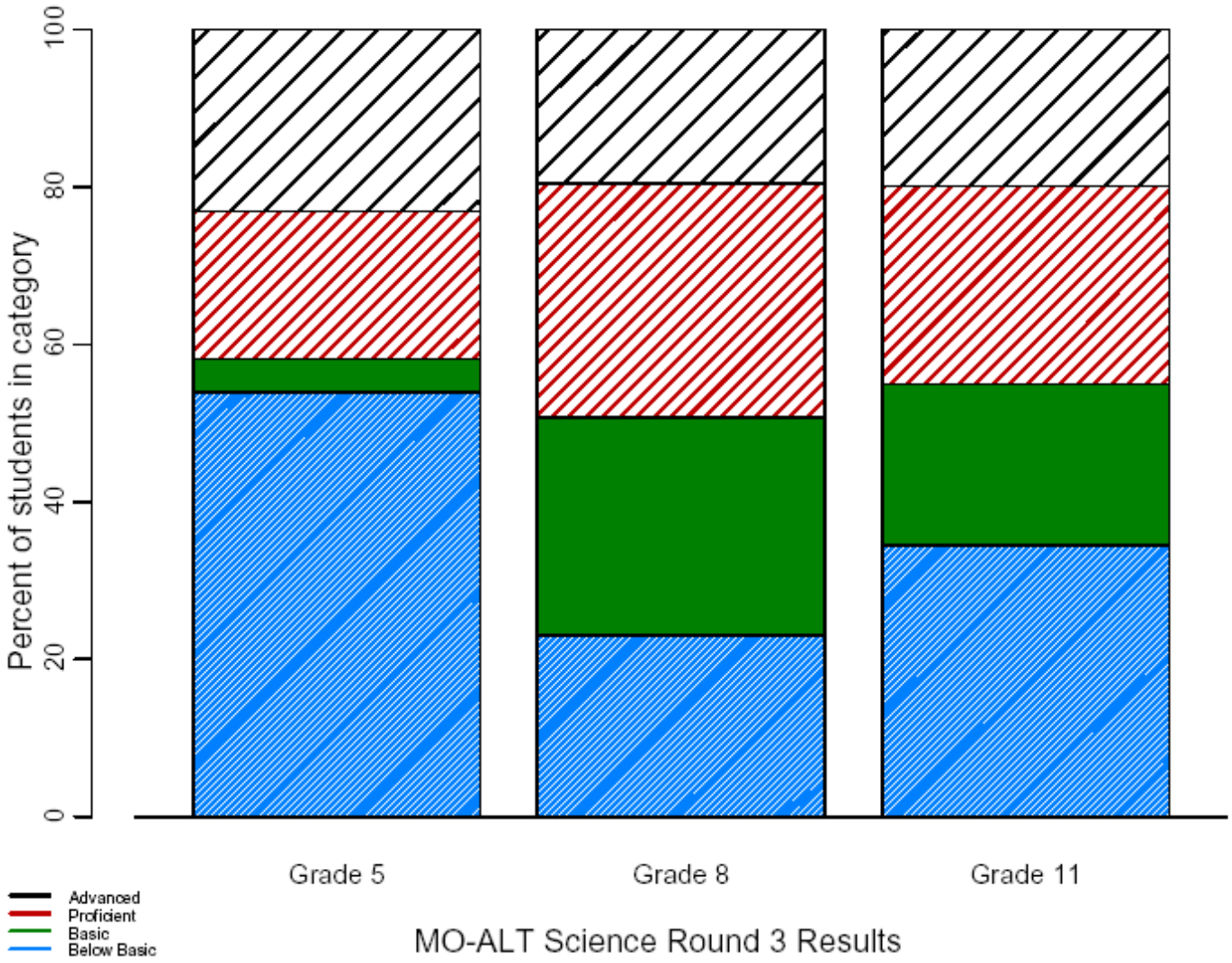

Figure 1: The percent of students falling at each achievement level

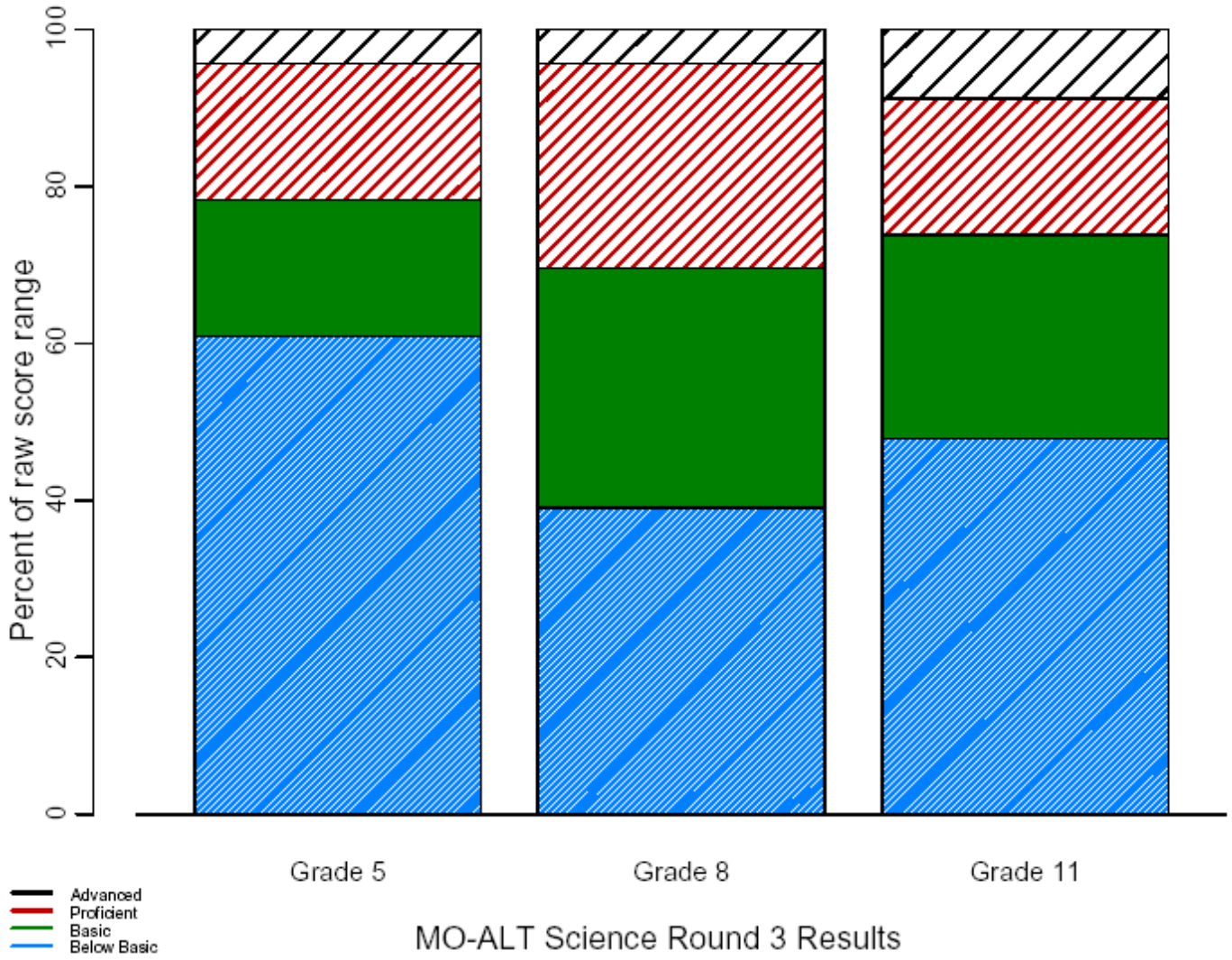

Figure 2: The percent of total raw score range for each achievement level

2.2.7 Recommendations for Modifications to ALDs

After completing Round 3, the panelists were given an opportunity to provide feedback on the Achievement Level Descriptors. Panelists were asked to focus on providing language that is clearer and more teacher- and parent-friendly. Panelists were informed that the suggestions they made were just recommendations and that they may or may not be implemented by DESE. The descriptor recommendations provided by the panelists are included in Appendix H.

2.2.8 Complete the Evaluation

As the last step in the standard-setting process, panelists in all three groups anonymously completed an evaluation form. A copy of the evaluation is presented as Appendix D, and the results of the evaluations are presented as Appendix I. Further discussion about some of the results can be found in section 3.1.

3. TASKS COMPLETED AFTER THE STANDARD-SETTING MEETING

Upon conclusion of the standard-setting meeting, several important tasks were completed. These tasks centered on reviewing the standard-setting meeting and addressing anomalies that may have occurred in the process or in the results and making any final revisions or adjustments.

3.1 Analysis and Review of Panelists' Feedback

Upon completion of the evaluation forms, panelists' responses were reviewed. This review did not reveal any anomalies in the standard-setting process or indicate any reason that a particular panelist's data should not be included when the final cut-points were calculated. It appeared that all panelists understood the rating task and attended to it appropriately.

The results of the evaluations for each of the three panels were somewhat mixed. Some of the panelists made comments about not feeling that they understood the process until the first afternoon or the second day of the process. It appears, based on the conversations that took place in the small groups, that some of the misunderstanding about the process had more to do with the portfolios that panelists were asked to look at and rate. Not all of the portfolios fell neatly into one of the Achievement Level Descriptors. This was especially true of the lower scoring portfolios with the lowest total raw scores. In this case many of these raw scores came about from one entry being unscorable and the other entry being scored. Panelists discussed how this should impact their decisions. The one scorable entry taken by itself met a higher Achievement Level Descriptor, however the fact that half of the required evidence was unscorable had to be factored in for a final decision by each panelist. During these types of conversations staff from

DESE, the Assessment Resource Center and Measured Progress were brought into the room to help panelists get to a place where they felt they could continue with the process.

When taking a look at the overall process questions, the factors that were used to make decisions and the overall feeling by panelists as to whether or not they had placed the cuts correctly it appears that the majority of panelists were comfortable with the standard setting process. Panelists were asked to respond to their overall impression of the process used for setting the science standards. The majority of panelists, 67% felt the overall process was good or very good, 23% were unsure and 9% (3 panelists) felt it was poor or very poor. Seventy-seven percent of the panelists found the assessment samples to be the most influential factor in setting standards, followed by their own experience in the field (65%). Eighty-nine percent of the panelists felt that the discussion with other panelists was useful or very useful. Overall when asked whether or not they felt that the cut scores their panel had set were correctly placed 71% felt they were probably or definitely placed correctly, 23% were unsure and 6 % (or 2 panelists) felt they were probably or definitely not correctly placed.

The above results have been somewhat typical in standard setting activities for science alternate assessments. As a whole, many participants and educators have had difficulty with the measurement of science content. This issue tends to be further exacerbated in alternate assessments. Complete results of the evaluations, presented for all groups combined, and by grade level, are provided in Appendix I.

3.2 Preparation of Recommended Cut Scores

The results of the June standard setting activities for the Missouri Assessment Program-Alternate (MAP-A) Science assessment raised a few areas of concern. First, the Grade 5 and 8 panelists set the *Proficient/Advanced* cut at 22, the maximum possible score. This meant that a

perfect score was required to be classified as *Advanced*. It is not believed that this was the panelists' intention. At no time were the panelists presented with the raw score cut points or the raw score ranges of the achievement levels. They were provided with the location of the cut points, in relation to the portfolios that they fell between. In Grades 5 and 8, the panelist placed the *Proficient/Advanced* cut so that the two highest portfolios (both of which had a perfect score) were classified as *Advanced*. Panelists were also provided with the percent of students that would be classified in each performance level. The percent of students classified as *Advanced* was quite high for all three grades. None of the impact data provided any indication that a perfect score was required to be classified as *Advanced*. Second, the Grade 5 panelists set the *Below Basic/Basic* and *Basic/Proficient* cuts in such a way that only four percent of the students who took the assessment were classified as *Basic* and almost 60% of students were classified below proficient. The Grade 5 panelists did not seem to be concerned about this distribution, despite efforts of the on-site psychometrician, DESE representative, and facilitator. In contrast, the panelists in Grade 11, who were faced with a similar issue after the presentation of Round 2 impact data (3.4% of the students were classified as Basic), did incorporate the information and adjusted the placement of the cut scores in Round 3. After careful consideration, and discussion with DESE staff, it was determined that the panelist cut scores should be smoothed across grades.

According to the achievement level descriptors, the definitions of *Below Basic*, *Basic*, *Proficient*, and *Advanced* are consistent across grade level. The differences in the descriptors are based on the different Science Strands that are assessed at each grade level. The correspondence of the achievement level descriptors coupled with the small range of possible score points and the desirability of having similar score patterns across grades suggests that similar cuts should be

established for all grade levels. Because the raw score is our best means of linking the scales across the grades, the same raw-score cuts were established for each grade. This was achieved by averaging the Round 3 mean panelist cut scores across grades. For example, the mean Round 3 panelist cut scores for the *Basic/Proficient* Science cuts were 17.67, 15.24, and 16.54 in grades 5, 8, and 11, respectively (Table 6). The mean of these scores is 16.48. This corresponds to an operational *Basic/Proficient* raw score cut of 17 (i.e., a student must receive a score of 17 or higher in order to be classified as *Proficient*). It is worthwhile noting that the recommended cut is rounded for operational use, after the panelist recommendations have been averaged across grades. An mean cut score across grades was calculated for the *Below Basic/Basic* cut and the *Basic/Proficient* cut. A summary of the Round 3 mean panelist cuts and the mean of these cuts is outlined in Table 7.

Table 7: A Summary of Round 3 and Smoothed Cuts.

Grade	Round 3			Smoothed	
	Grade 05	Grade 08	Grade 11	Mean	Operational
Below Basic/Basic	13.02	8.97	10.61	10.87	11
Basic/Proficient	17.67	15.24	16.54	16.48	17
Proficient/Advanced	21.56	21.58	20.35	21.16	22

Unfortunately, averaging the three *Proficient/Advanced* cuts (21.56, 21.58, and 20.35 for Grades 5, 8, and 11, respectively) led to an operational cut score of 22. Averaging the Round 3 results did not eliminate the need for a perfect score to be classified as advanced. After much discussion with the Department, it was determined, from a policy standpoint that "perfection" should not be required to be classified as advanced. Consequently, it was decided that the Round

3 Grade 11 results for the *Proficient/Advanced* cut would be applied to the other two grades. The *Proficient/Advanced* cut was set at 21 for all three grades.

The result of the smoothed cuts, including raw score ranges and impact data are presented in Table 8. A graphical display of the smoothed results across grades is also provided in Figures 3 and 4. The percent of students in each performance level, based on the panelist recommendations is outlined in Figure 3, while the proportion of the total score that each performance level represents is outlined in Figure 4.

Table 8: Final Results

Grade	Achievement Level	Mean Cut	Raw Score		Percent of Students
			Min	Max	
5	Below Basic	N/A	0	10	35.7
	Basic	10.87	11	16	21.0
	Proficient	16.48	17	20	14.9
	Advanced	20.35	21	22	28.4
8	Below Basic	N/A	0	10	36.6
	Basic	10.87	11	16	15.6
	Proficient	16.48	17	20	22.0
	Advanced	20.35	21	22	25.7
11	Below Basic	N/A	0	10	34.5
	Basic	10.87	11	16	20.5
	Proficient	16.48	17	20	25.1
	Advanced	20.35	21	22	19.9

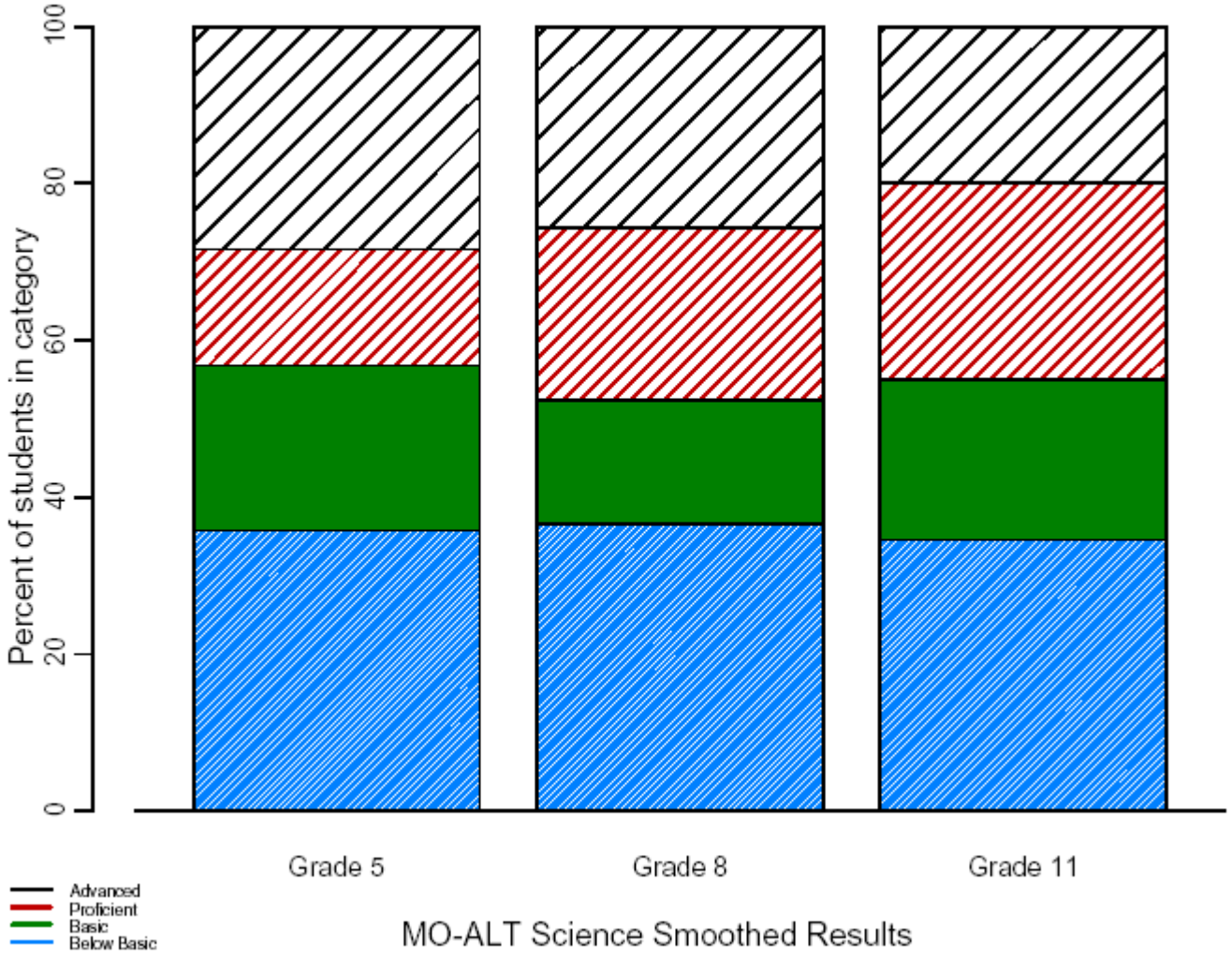

Figure 3: The percent of students falling at each achievement level

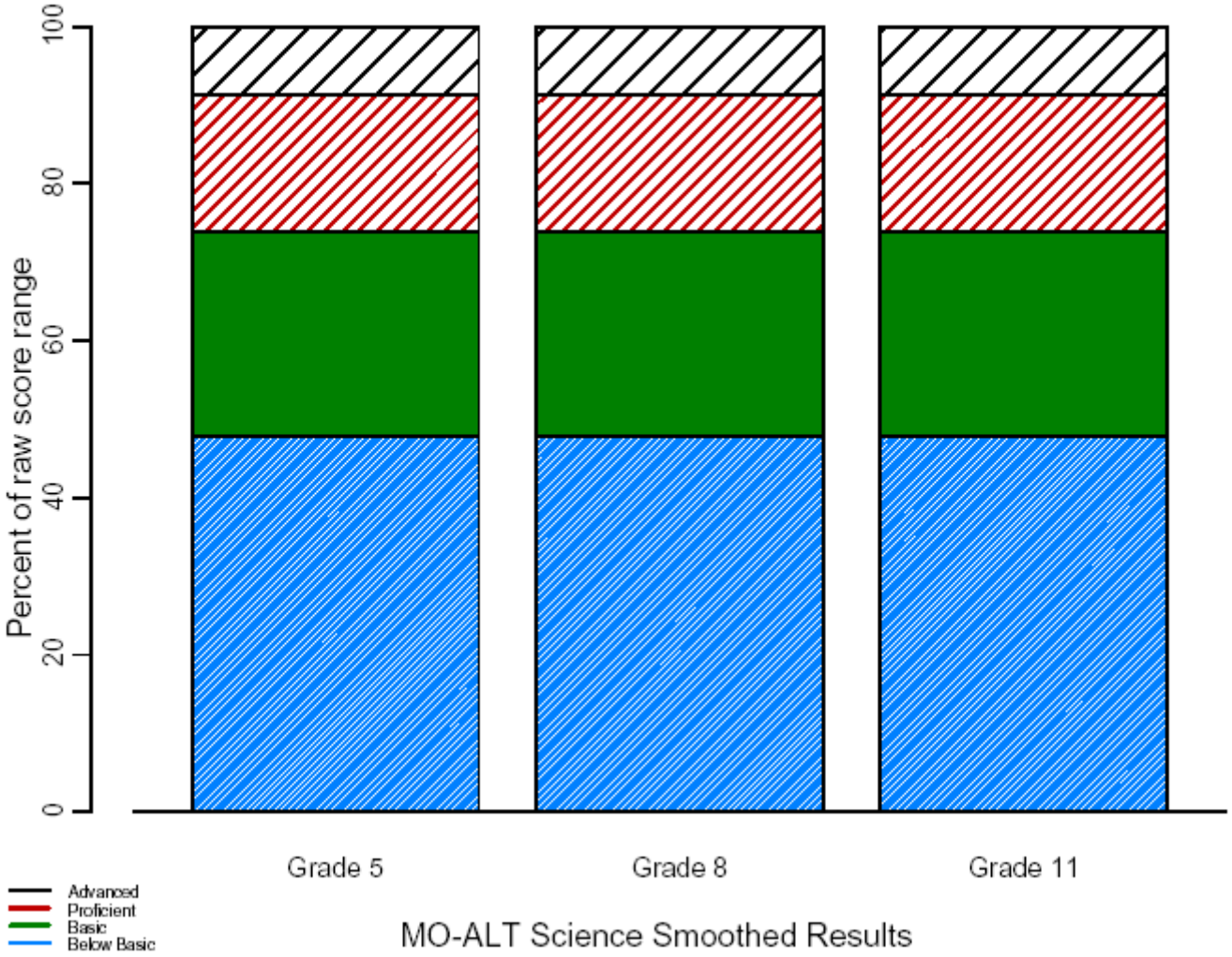

Figure 4: The percent of total raw score range for each achievement level

3.3 Preparation of Standard-Setting Report

Following final compilation of standard-setting results, Measured Progress prepared this report, which documents the procedures and results of the June 2008 standard-setting meeting in order to establish performance standards for the Missouri Assessment Program-Alternate in Science.

Experiences in other states, where science has been added to alternate assessments for the first time, show that many teachers are struggling with the science content and therefore the student samples that are available for setting science standards in the first year are not of the best quality. This is true of the samples that were available for standard setting in Missouri. Based on this issue and further conversations with DESE, Measured Progress recommends that a validation focus group be convened to review the science cuts in another year or two.

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APPENDIX A: DRAFT ACHIEVEMENT LEVEL DESCRIPTORS

Grade 5	Science
Below Basic	Student has a minimal understanding of the concepts contained in the grade appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Characteristics and Interactions of Living Organisms and Changes in Ecosystems and Interactions of Organisms with Their Environment. Student work may be loosely connected to the strands. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Basic	Student has a fundamental understanding of the concepts contained in the grade appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Characteristics and Interactions of Living Organisms and Changes in Ecosystems and Interactions of Organisms with Their Environment. Student work may be somewhat connected to the strands. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Proficient	Student has a sound understanding of the concepts contained in the grade appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Characteristics and Interactions of Living Organisms and Changes in Ecosystems and Interactions of Organisms with Their Environment. Student work may be connected to the strands and demonstrate application. Student likely requires some verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.
Advanced	Student has a strong understanding of the concepts contained in the grade appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Characteristics and Interactions of Living Organisms and Changes in Ecosystems and Interactions of Organisms with Their Environment. Student work may be closely connected to the strands and demonstrate strong application. Student likely requires minimal verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

Grade 8	Science
Below Basic	Student has a minimal understanding of the concepts contained in the grade appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Properties and Principles of Matter and Energy, and Properties and Principles of Force and Motion. Student work may be loosely connected to the strands. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Basic	Student has a fundamental understanding of the concepts contained in the grade appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Properties and Principles of Matter and Energy, and Properties and Principles of Force and Motion. Student work may be somewhat connected to the strands. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Proficient	Student has a sound understanding of the concepts contained in the grade appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Properties and Principles of Matter and Energy, and Properties and Principles of Force and Motion. Student work may be connected to the strands and demonstrate application. Student likely requires some verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.
Advanced	Student has a strong understanding of the concepts contained in the grade appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Properties and Principles of Matter and Energy, and Properties and Principles of Force and Motion. Student work may be closely connected to the strands and demonstrate strong application. Student likely requires minimal verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

Grade 11	Science
Below Basic	Student has a minimal understanding of the concepts contained in the grade appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Processes and Interactions of the Earth's Systems and Composition and Structure of the Universe and the Motion of the Objects Within It. Student work may be loosely connected to the strands. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Basic	Student has a fundamental understanding of the concepts contained in the grade appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Processes and Interactions of the Earth's Systems and Composition and Structure of the Universe and the Motion of the Objects Within It. Student work may be somewhat connected to the strands. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Proficient	Student has a sound understanding of the concepts contained in the grade appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Processes and Interactions of the Earth's Systems and Composition and Structure of the Universe and the Motion of the Objects Within It. Student work may be connected to the strands and demonstrate application. Student likely requires some verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.
Advanced	Student has a strong understanding of the concepts contained in the grade appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Processes and Interactions of the Earth's Systems and Composition and Structure of the Universe and the Motion of the Objects Within It. Student work may be closely connected to the strands and demonstrate strong application. Student likely requires minimal verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

APPENDIX B: AGENDA

MISSOURI ASSESSMENT PROGRAM- ALTERNATE STANDARD SETTING
SCIENCE
June 3&4, 2008
AGENDA

TUESDAY, JUNE 3

8:30 – 9:00	Registration & Breakfast
9:00 – 10:30	Introduction, Overview, and Training of Standard Setting Process
10:30 – 10:45	Break
10:45 – 12:00	Move to Grade Level/Content Area Work Rooms
12:00 – 12:45	Lunch
12:45 – 2:30	Continue in Work Rooms
2:30 – 2:45	Break
2:45 – 4:00	Continue in Work Rooms
4:00	Adjourn

WEDNESDAY, JUNE 4

8:00 – 8:30	Breakfast
8:30 – 10:30	Move to Grade Level/Content Area Work Rooms
10:30 – 10:45	Break
10:45 – 12:00	Continue in Work Rooms
12:00 – 12:45	Lunch
12:45 – 2:30	Continue in Work Rooms
2:30 – 2:45	Break
2:45 – 4:00	Continue in Work Rooms
4:00	Adjourn

APPENDIX C: RATING FORMS

Complete this form FIRST **ID Number: _____**

MAP-A Science Grade 05
Rating Form – Middle Cut

	Round 1		Round 2	
	Below Proficient	**Proficient or Above**	**Below Proficient**	**Proficient or Above**
1				
2				
3				
4				
5				
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34				

Transcribe these figures into the appropriate columns on the Lower and Upper Cut Rating Forms

Below Proficient includes:
BB: *Below Basic*
B: *Basic*

Proficient or Above includes:
P: *Proficient*
A: *Advanced*

Complete this form SECOND **ID Number: _____**

MAP-A Science Grade 05
Rating Form – Lower Cut

	Round 1			Round 2		
	BB	**B**	**Proficient or Above**	**BB**	**B**	**Proficient or Above**
1						
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Transcribe your Round 2 "Proficient or Above" Ratings from the Middle Cut Rating Form Here

Below Proficient includes:
BB: *Below Basic*
B: *Basic*

Proficient or Above includes:
P: *Proficient*
A: *Advanced*

Complete this form THIRD **ID Number: _____**

MAP-A Science Grade 05
Rating Form – Upper Cut

	Round 1			Round 2		
	Below Proficient	**P**	**A**	**Below Proficient**	**P**	**A**
1						
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Transcribe your Round 2 "Below Proficient" ratings from the Middle Cut Rating Form here

Below Proficient includes:
BB: *Below Basic*
B: *Basic*

Proficient or Above includes:
P: *Proficient*
A: *Advanced*

Complete this form FIRST **ID Number: _____**

MAP-A Mathematics Science 05
Rating Form – All Cuts

	Round 3			
	BB	**B**	**P**	**A**
1				
2				
3				
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30				
31				
32				
33				
34				

BB: *Below Basic*
B: *Basic*
P: *Proficient*
A: *Advanced*

MAP-A Science Grade 08
Rating Form – Middle Cut

Complete this form FIRST **ID Number: _____**

	Round 1		Round 2	
	Below Proficient	**Proficient or Above**	**Below Proficient**	**Proficient or Above**
1				
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4				
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35				
36				

Transcribe these figures into the appropriate columns on the Lower and Upper Cut Rating Forms

Below Proficient includes:
BB: *Below Basic*
B: *Basic*

Proficient or Above includes:
P: *Proficient*
A: *Advanced*

Complete this form SECOND **ID Number: _____**

MAP-A Science Grade 08
Rating Form – Lower Cut

	Round 1			Round 2		
	BB	**B**	**Proficient or Above**	**BB**	**B**	**Proficient or Above**
1						
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36						

Transcribe your Round 2 "Proficient or Above" Ratings from the Middle Cut Rating Form Here

Below Proficient includes:
BB: *Below Basic*
B: *Basic*

Proficient or Above includes:
P: *Proficient*
A: *Advanced*

Complete this form THIRD **ID Number: _____**

MAP-A Science Grade 08
Rating Form – Upper Cut

	Round 1			Round 2		
	Below Proficient	**P**	**A**	**Below Proficient**	**P**	**A**
1						
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Transcribe your Round 2 "Below Proficient" ratings from the Middle Cut Rating Form here

Below Proficient includes:
BB: *Below Basic*
B: *Basic*

Proficient or Above includes:
P: *Proficient*
A: *Advanced*

Complete this form FIRST **ID Number: _____**

MAP-A Mathematics Science 08
Rating Form – All Cuts

	Round 3			
	BB	**B**	**P**	**A**
1				
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BB: *Below Basic*
B: *Basic*
P: *Proficient*
A: *Advanced*

Complete this form FIRST **ID Number: _____**

MAP-A Science Grade 11
Rating Form – Middle Cut

	Round 1		Round 2	
	Below Proficient	**Proficient or Above**	**Below Proficient**	**Proficient or Above**
1				
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Transcribe these figures into the appropriate columns on the Lower and Upper Cut Rating Forms

Below Proficient includes:
BB: *Below Basic*
B: *Basic*

Proficient or Above includes:
P: *Proficient*
A: *Advanced*

Complete this form SECOND **ID Number: _____**

MAP-A Science Grade 11
Rating Form – Lower Cut

	Round 1			Round 2		
	BB	**B**	**Proficient or Above**	**BB**	**B**	**Proficient or Above**
1						
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Transcribe your Round 2 "Proficient or Above" Ratings from the Middle Cut Rating Form Here

Below Proficient includes:
BB: *Below Basic*
B: *Basic*

Proficient or Above includes:
P: *Proficient*
A: *Advanced*

Complete this form THIRD **ID Number: _____**

MAP-A Science Grade 11
Rating Form – Upper Cut

	Round 1			Round 2		
	Below Proficient	**P**	**A**	**Below Proficient**	**P**	**A**
1						
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Transcribe your Round 2 "Below Proficient" ratings from the Middle Cut Rating Form here

Below Proficient includes:
BB: *Below Basic*
B: *Basic*

Proficient or Above includes:
P: *Proficient*
A: *Advanced*

Complete this form FOURTH **ID Number: _____**

MAP-A Mathematics Science 11
Rating Form – All Cuts

	Round 3			
	BB	**B**	**P**	**A**
1				
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BB: *Below Basic*
B: *Basic*
P: *Proficient*
A: *Advanced*

APPENDIX D: EVALUATION

Science Standard Setting Panel
Evaluation Form

Evaluation of the Standard setting Procedures for the Missouri Alternate Assessment

1. What is your overall impression of the process used to set performance standards for the Missouri Alternate Assessment? *(Circle one)*

   A. Very Good
   B. Good
   C. Unsure
   D. Poor
   E. Very Poor

2. How clear were you with the achievement level descriptors? *(Circle one)*

   A. Very Clear
   B. Clear
   C. Somewhat Clear
   D. Not Clear

3. How would you judge the length of time of this meeting for setting performance standards? *(Circle one)*

   A. About right
   B. Too little time
   C. Too much time

4. What factors influenced the standards you set? (For each, circle the most appropriate rating from 1=Not at all Influential to 5=Very Influential)

   A. The achievement level descriptors

Not at all Influential		Moderately Influential		Very Influential
1	2	3	4	5

   B. The assessment samples

Not at all Influential		Moderately Influential		Very Influential
1	2	3	4	5

   C. Other panelists

Not at all Influential		Moderately Influential		Very Influential
1	2	3	4	5

D. My experience in the field

Not at all Influential		Moderately Influential		Very Influential
1	2	3	4	5

E. Other (*please specify*_____)

Not at all Influential		Moderately Influential		Very Influential
1	2	3	4	5

5. Do you believe the cut scores set by the panel are correctly placed?

A. Definitely Yes
B. Probably Yes
C. Unsure
D. Probably No
E. Definitely No

Please explain your answer:

_____

_____

_____

6. How could the standard setting process have been improved?

_____
_____
_____
_____
_____

For each statement below, please circle the rating that best represents your judgment.

7. The opening session was:

Not at all Useful				Very Useful
1	2	3	4	5

8. The achievement level descriptors were:

Not at all Clear				Very Clear
1	2	3	4	5

9. Providing additional details to the achievement level descriptors was:

Not at all Useful				Very Useful
1	2	3	4	5

10. The discussion with other panelists was:

Not at all Useful				Very Useful
1	2	3	4	5

11. The portfolio rating task was:

Not at all Clear				Very Clear
1	2	3	4	5

12. The impact data provided prior to the last round of ratings was:

Not at all Useful				Very Useful
1	2	3	4	5

Additional Comments

13. Please provide any additional comments or suggestions about the standard setting process. Use extra paper if necessary.

APPENDIX E: OPENING SESSION POWER POINTS

Slide 1

Missouri Assessment Program Alternate (MAP-A) Science Standard Setting

Slide 2

Who are MAP-A students?

To be eligible for the MAP-A, a student with a disability must meet the following criteria:

- The student has a demonstrated significant cognitive disability and adaptive behavioral skills. Therefore, the student has difficulty acquiring new skills, and skills must be taught in very small steps.
- The student does not keep pace with peers, even with the majority of students in special education, with respect to the total number of skills acquired.

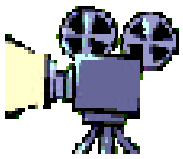
Slide 3

Who are MAP-A students?

- The student's educational program centers on the application of essential skills to the Missouri Show-Me Standards.
- The IEP team, as documented in the IEP, does not recommend participation in the MAP subject area assessments or taking the MAP with accommodations.
- The student's inability to participate in the MAP subject-area assessments is not primarily the result of excessive absences; visual or auditory disabilities; or social, cultural, language, or economic differences.

Slide 4

Video Clips



Slide 5

What is the MAP-A?

The MAP-A is

- required by federal law;
- designed only for students with significant cognitive disabilities who meet age and participation criteria;
- administered at the same grade levels as students participating in Missouri's general assessment;

Slide 6

What is the MAP-A?

- scored using the MAP-A Scoring Rubric to obtain student performance levels which are then used to determine reportable scores; and
- reflective of input from an instructional team, which may include teachers, physical therapists, speech therapists, occupational therapists, paraprofessionals, job coaches, parents or guardians, and the student, if appropriate.

Slide 7

What is assessed?

Content Area	Grade Focus	Title of Strand
Science	PROCESS STRANDS	
	Required at Grades 5, 8, and 11	Strand 7: Scientific Inquiry **(IN)**
	Required at Grades 5, 8, and 11	Strand 8: Impact of Science, Technology, and Human Activity **(ST)**
	CONTENT STRANDS	
	Required for Elementary Grade 5	Strand 3: Characteristics and Interactions of Living Organisms **(LO)**
	Required for Elementary Grade 5	Strand 4: Changes in Ecosystems and Interactions of Organisms with Their Environments **(EC)**
	Required for Middle School Grade 8	Strand 1: Properties and Principles of Matter and Energy **(ME)**
	Required for Middle School Grade 8	Strand 2: Properties and Principles of Force and Motion **(FM)**
	Required for High School Grade 11	Strand 5: Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere) **(ES)**
	Required for High School Grade 11	Strand 6: Composition and Structure of the Universe and the Motion of the Objects Within It **(UN)**

Slide 8

What is the design?

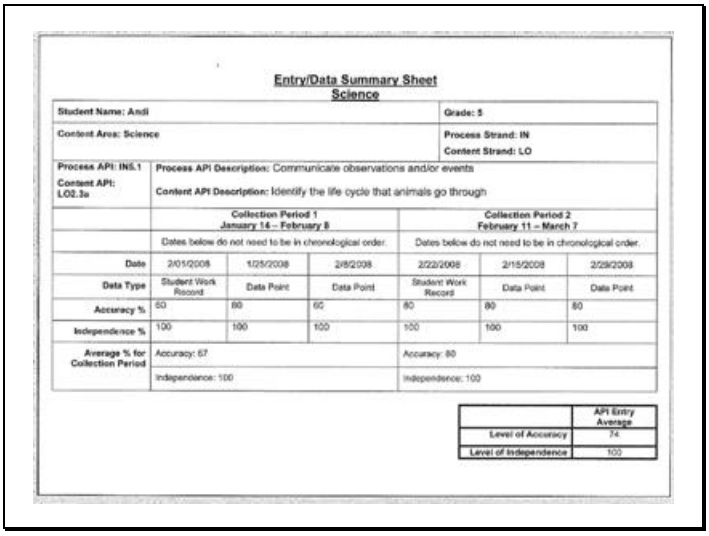
Science			
Process Strand 7 and Content Strand		Process Strand 8 and Content Strand	
Process API 1	Content API 1	Process API 2	Content API 2
Entry/Data Summary Sheet		Entry/Data Summary Sheet	
Collection Period 1 Student Work Record	Collection Period 2 Student Work Record	Collection Period 1 Student Work Record	Collection Period 2 Student Work Record

Slide 9

What are the MAP-A requirements?

Content	Description
Entry/Data Summary Sheet	Serves as a record of student performance on each API assessed. The student's score for Level of Accuracy and Level of Independence for each API will be determined based on the percentages recorded on the Entry/Data Summary Sheet.
Student Work Records	Provides documentation of student work for each API assessed in both collection periods. Student Work Records should demonstrate the application of the API/s in a standards-based activity. You may show evidence of student work by: • collecting student work samples such as worksheets, drawings, writings, journal entries, or projects; or • observing the student and recording his or her performance.

Slide 10

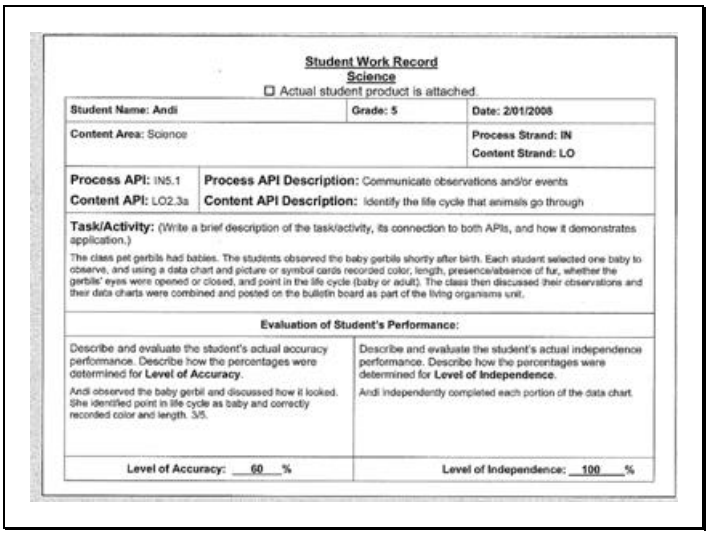


Entry/Data Summary Sheet
Science

Student Name: Andi				**Grade: 5**		
Content Area: Science				**Process Strand: IN** **Content Strand: LO**		
Process API: IN5.1 **Content API: LO2.3a**	**Process API Description:** Communicate observations and/or events **Content API Description:** Identify the life cycle that animals go through					
	Collection Period 1 **January 14 – February 8**			**Collection Period 2** **February 11 – March 7**		
	Dates below do not need to be in chronological order.			Dates below do not need to be in chronological order.		
Date	2/01/2008	1/25/2008	2/8/2008	2/22/2008	2/15/2008	2/29/2008
Data Type	Student Work Record	Data Point	Data Point	Student Work Record	Data Point	Data Point
Accuracy %	60	80	60	80	80	80
Independence %	100	100	100	100	100	100
Average % for Collection Period	Accuracy: 67			Accuracy: 80		
	Independence: 100			Independence: 100		

	API Entry Average
Level of Accuracy	74
Level of Independence	100

Slide 11



Student Work Record
Science
☐ Actual student product is attached.

Student Name: Andi	**Grade: 5**	**Date: 2/01/2008**
Content Area: Science		**Process Strand: IN** **Content Strand: LO**

Process API: IN5.1 **Process API Description:** Communicate observations and/or events
Content API: LO2.3a **Content API Description:** Identify the life cycle that animals go through

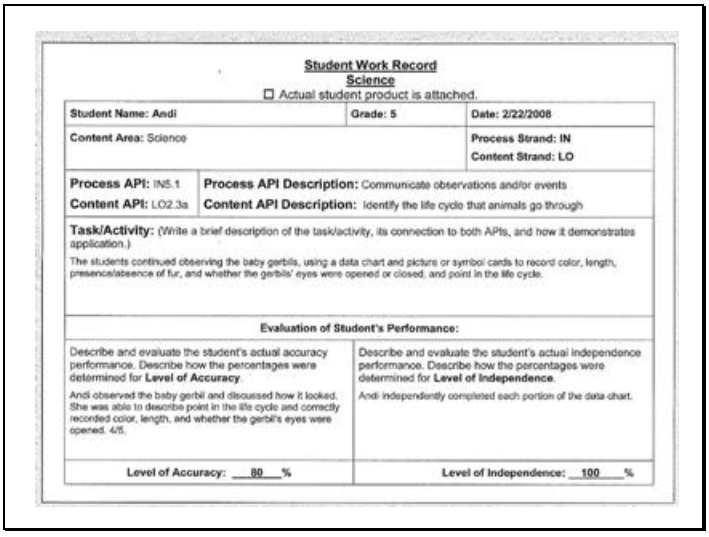
Task/Activity: (Write a brief description of the task/activity, its connection to both APIs, and how it demonstrates application.)

The class pet gerbils had babies. The students observed the baby gerbils shortly after birth. Each student selected one baby to observe, and using a data chart and picture or symbol cards recorded color, length, presence/absence of fur, whether the gerbils' eyes were opened or closed, and point in the life cycle (baby or adult). The class then discussed their observations and their data charts were combined and posted on the bulletin board as part of the living organisms unit.

Evaluation of Student's Performance:

Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for **Level of Accuracy**.	Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for **Level of Independence**.
Andi observed the baby gerbil and discussed how it looked. She identified point in life cycle as baby and correctly recorded color and length. 3/5.	Andi independently completed each portion of the data chart.
Level of Accuracy: 60 %	**Level of Independence: 100 %**

Slide 12



Student Work Record
Science
☐ Actual student product is attached.

Student Name: Andi	**Grade: 5**	**Date: 2/22/2008**
Content Area: Science		**Process Strand: IN** **Content Strand: LO**

Process API: IN5.1 **Process API Description:** Communicate observations and/or events
Content API: LO2.3a **Content API Description:** Identify the life cycle that animals go through

Task/Activity: (Write a brief description of the task/activity, its connection to both APIs, and how it demonstrates application.)

The students continued observing the baby gerbils, using a data chart and picture or symbol cards to record color, length, presence/absence of fur, and whether the gerbils' eyes were opened or closed, and point in the life cycle.

Evaluation of Student's Performance:

Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for **Level of Accuracy**.	Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for **Level of Independence**.
Andi observed the baby gerbil and discussed how it looked. She was able to describe point in the life cycle and correctly recorded color, length, and whether the gerbil's eyes were opened. 4/5.	Andi independently completed each portion of the data chart.
Level of Accuracy: 80 %	**Level of Independence: 100 %**

Slide 13

What does the MAP-A Assess?

- The MAP-A documents student learning directly connected to the Show-Me Standards through the Alternate Grade-Level Expectations (Alternate-GLEs) for students who are MAP-A eligible. The assessment has three criteria:
  - Level of Accuracy
  - Level of Independence
  - Connection to the Standards

Slide 14

MAP-A Rubric

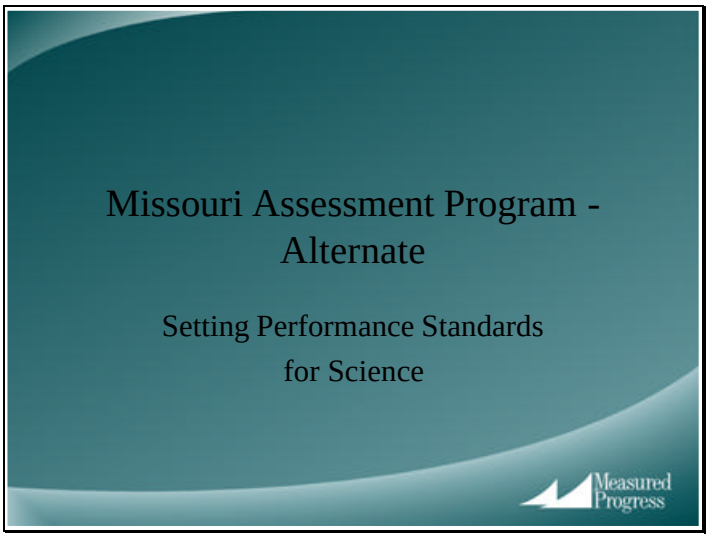
SCORE	4	3	2	1	No Score
Level of Accuracy	Student performance of skills "based on Alternate Performance Indicators" demonstrates a high level of understanding of concepts. **76–100% Accuracy**	Student performance of skills "based on Alternate Performance Indicators" demonstrates some understanding of concepts. **51–75% Accuracy**	Student performance of skills "based on Alternate Performance Indicators" demonstrates a limited understanding of concepts. **26–50% Accuracy**	Student performance of skills "based on Alternate Performance Indicators" demonstrates a minimal understanding of concepts. **0–25% Accuracy**	Entry contains insufficient information to determine a score.
Level of Independence	Student requires minimal verbal, visual, and/or physical assistance to demonstrate skills and concepts. **76–100% Independence**	Student requires some verbal, visual, and/or physical assistance to demonstrate skills and concepts. **51–75% Independence**	Student requires frequent verbal, visual, and/or physical assistance to demonstrate skills and concepts. **26–50% Independence**	Student requires extensive verbal, visual, and/or physical assistance to demonstrate skills and concepts. **0–25% Independence**	Entry contains insufficient information to determine a score.
Connection to the Standards		There is evidence of applying the Alternate Performance Indicator in two standards-based activities, one per collection period.	There is evidence of applying the Alternate Performance Indicator in at least one standards-based activity, one out of two collection periods.	There is some evidence of a connection to the Alternate Performance Indicator.	There is insufficient evidence of a connection to the Alternate Performance Indicator.

Slide 15

Who scored the MAP-As?

- The Assessment Resource Center hired scorers in Missouri and provided training.
- DESE staff were present at the training and available as needed to answer questions.

Slide 1



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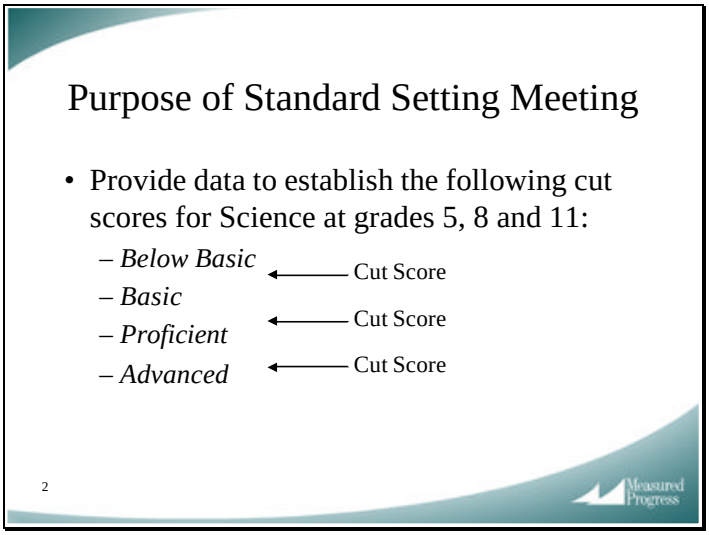

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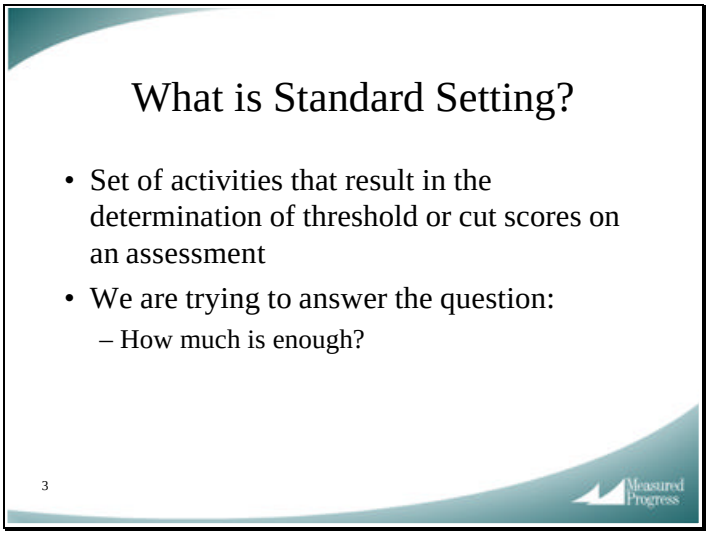

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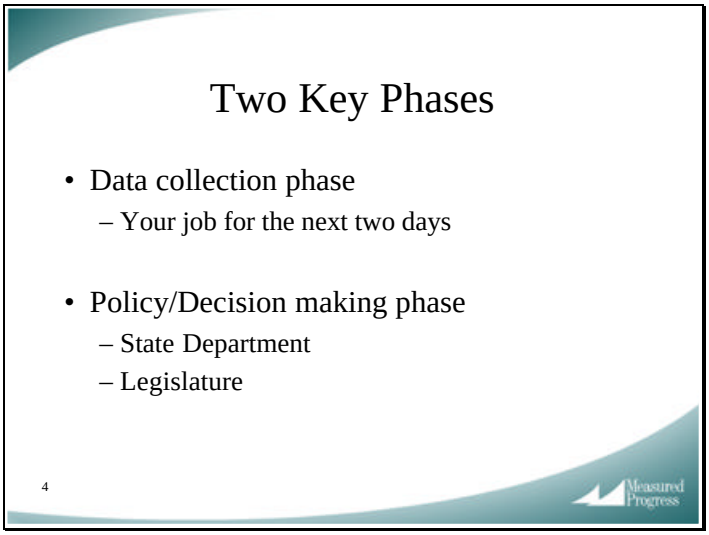

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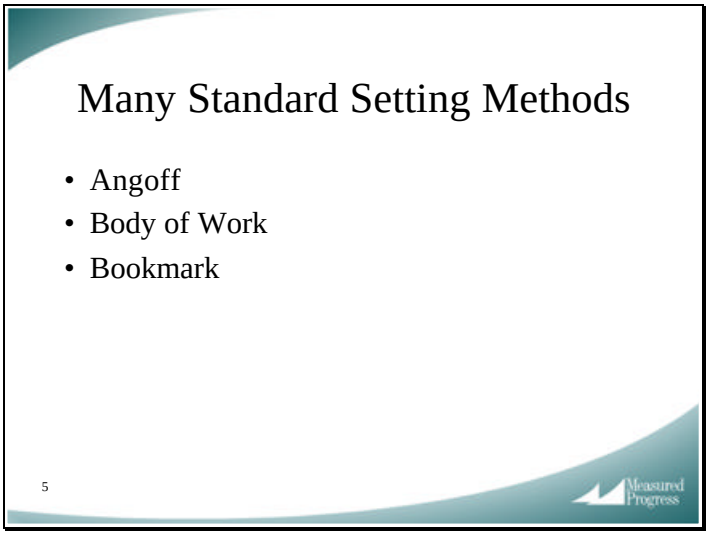

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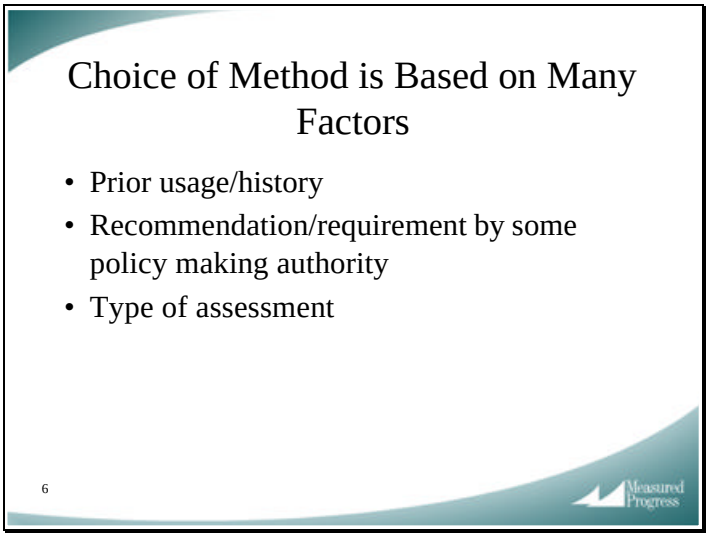

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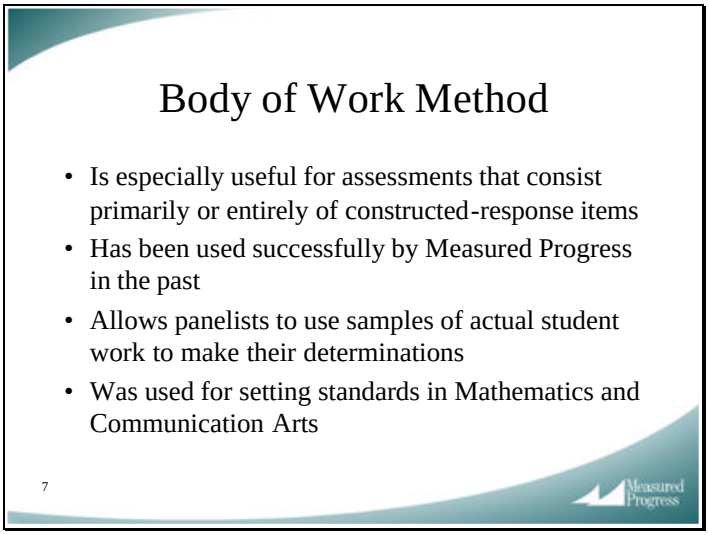

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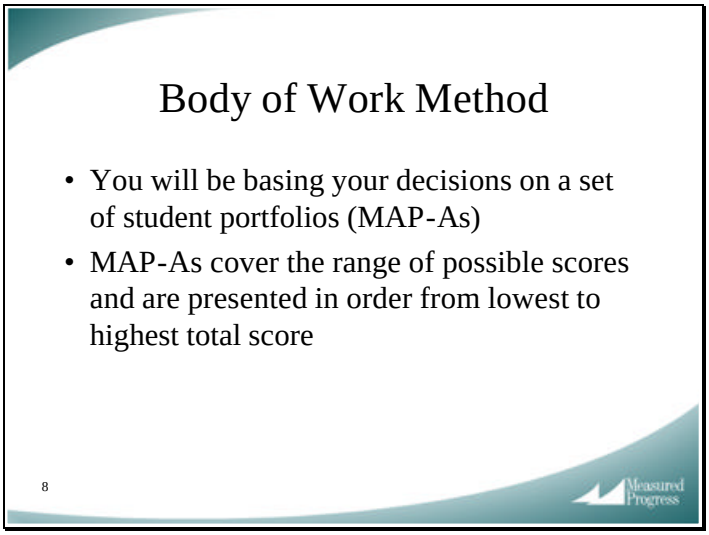

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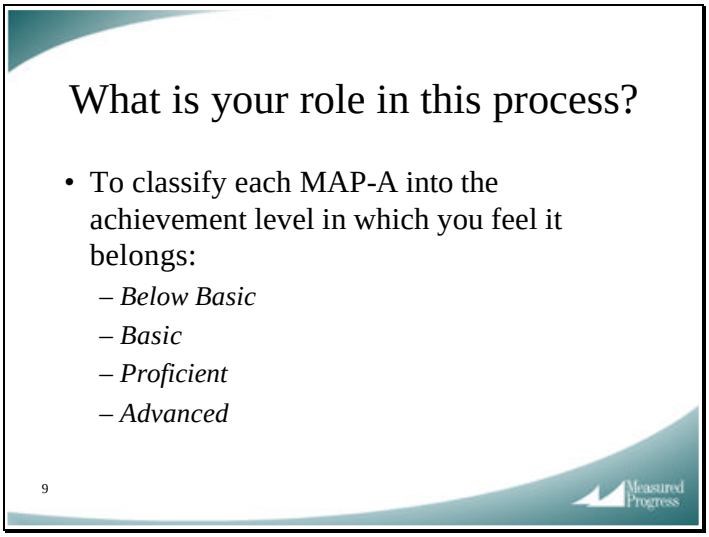

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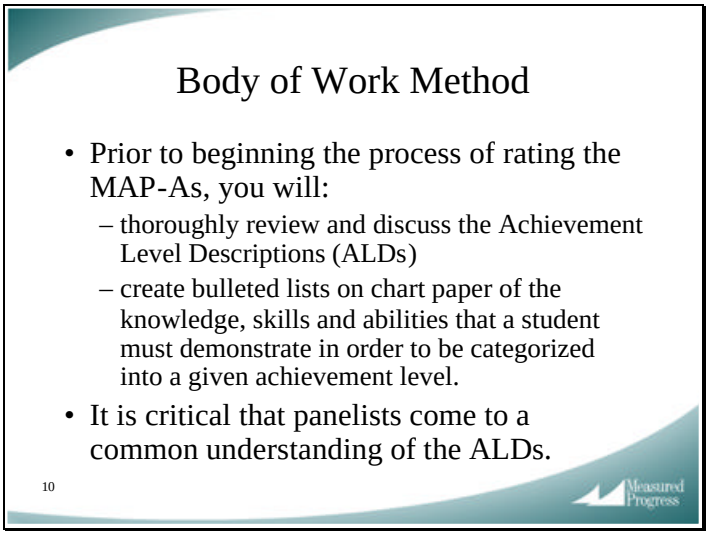

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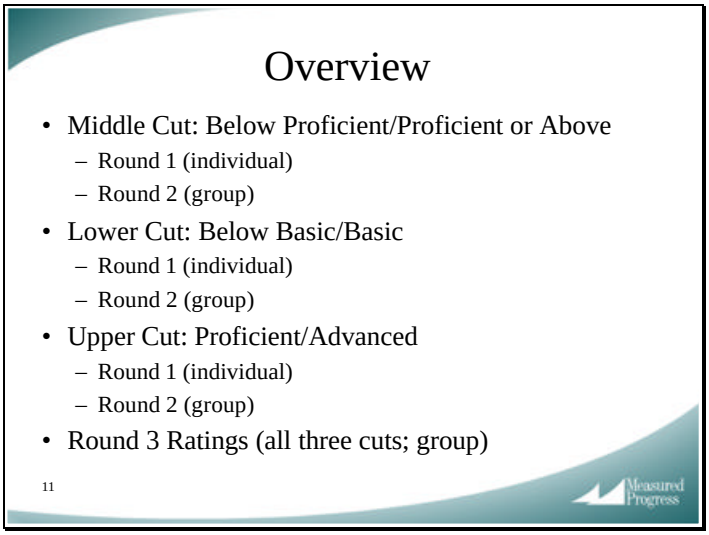

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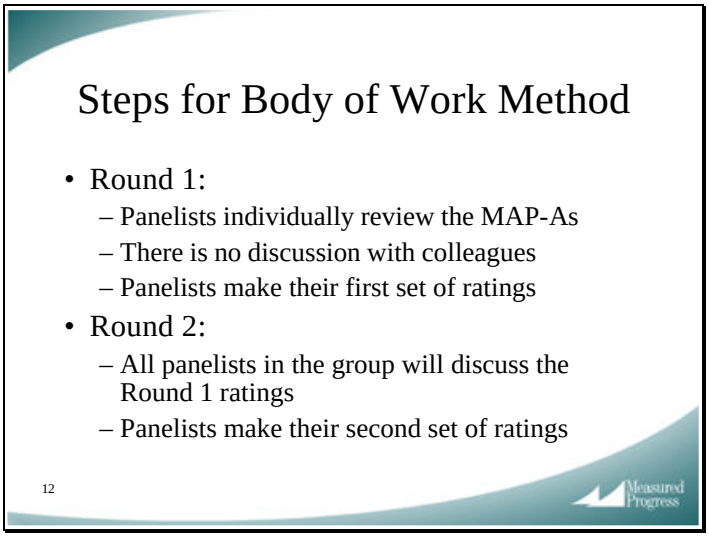

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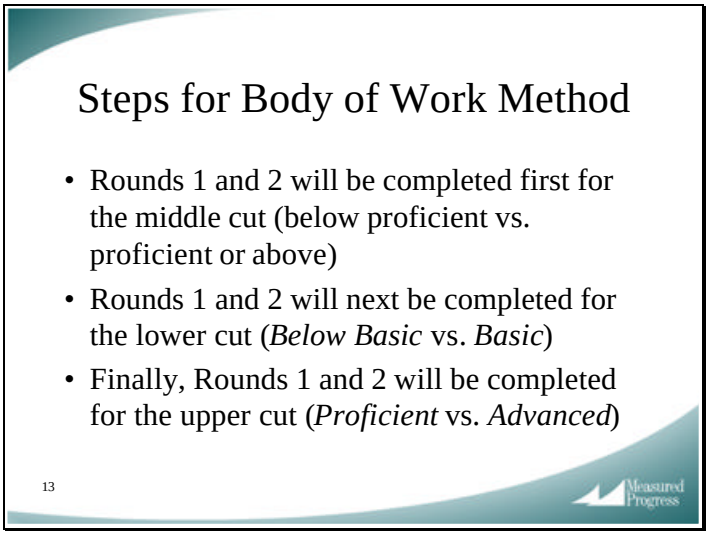

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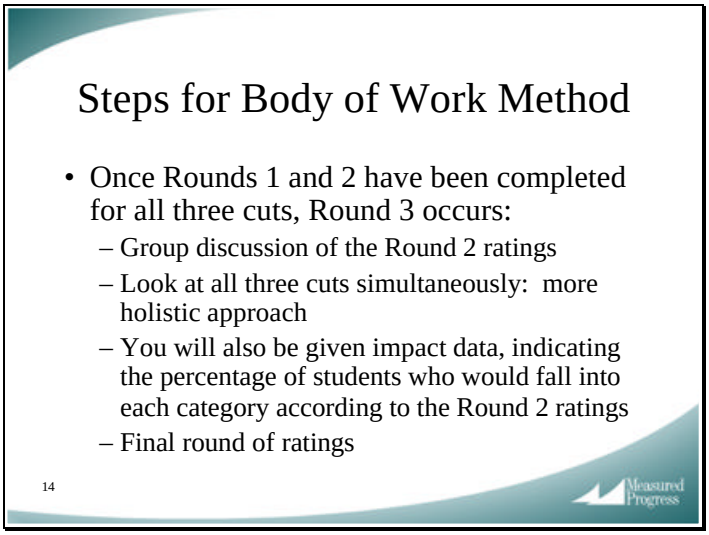

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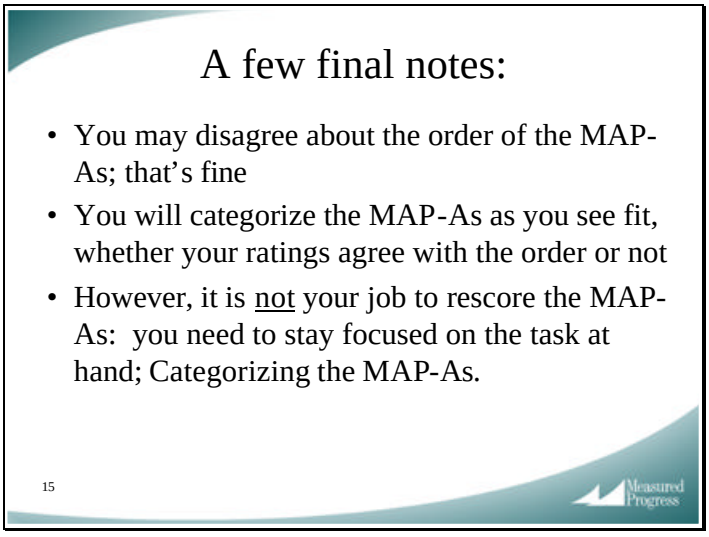

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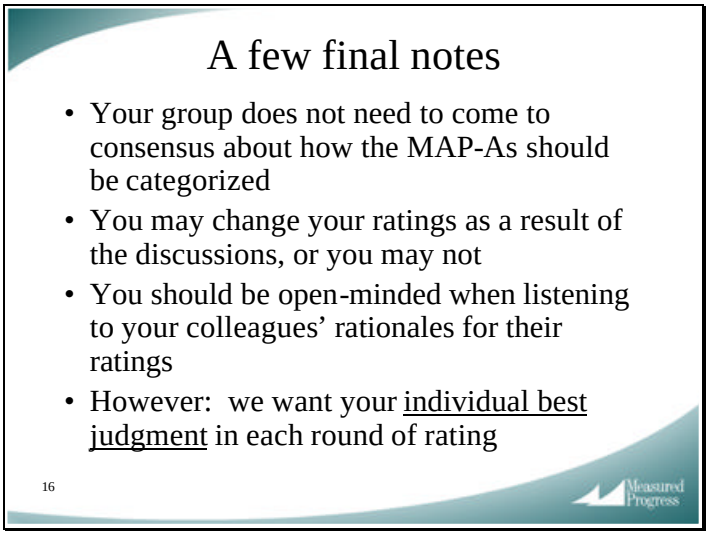

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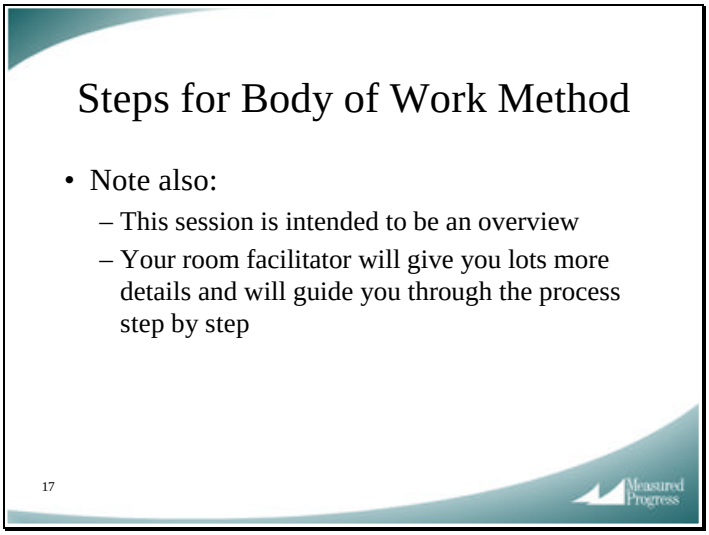

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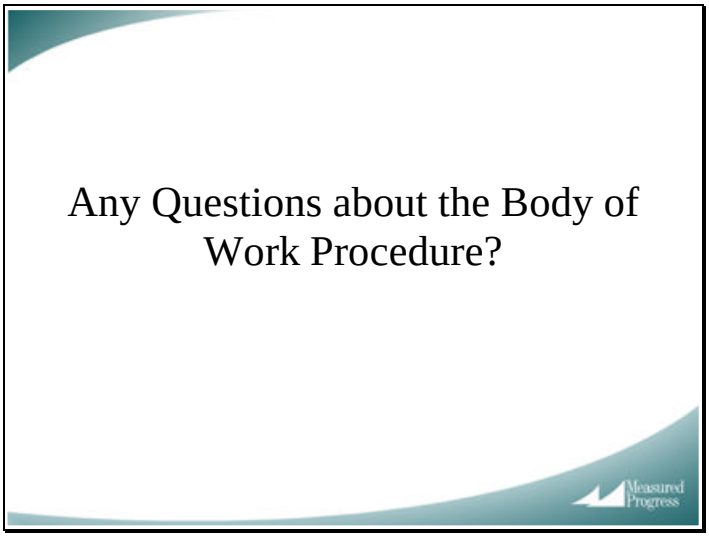

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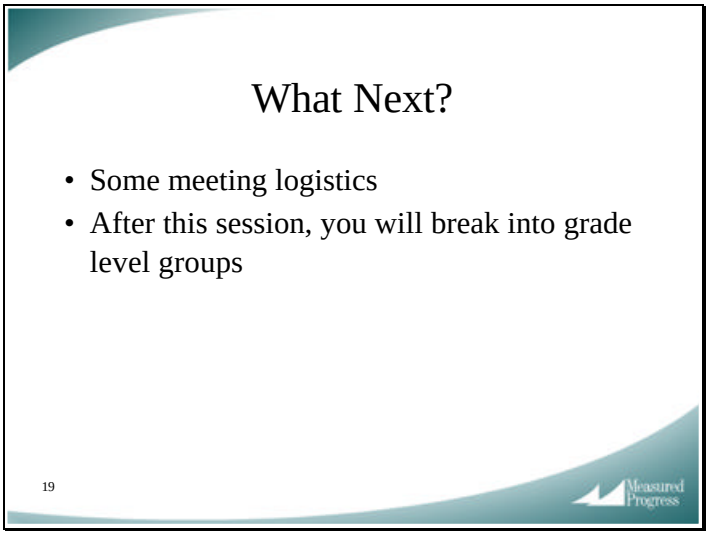

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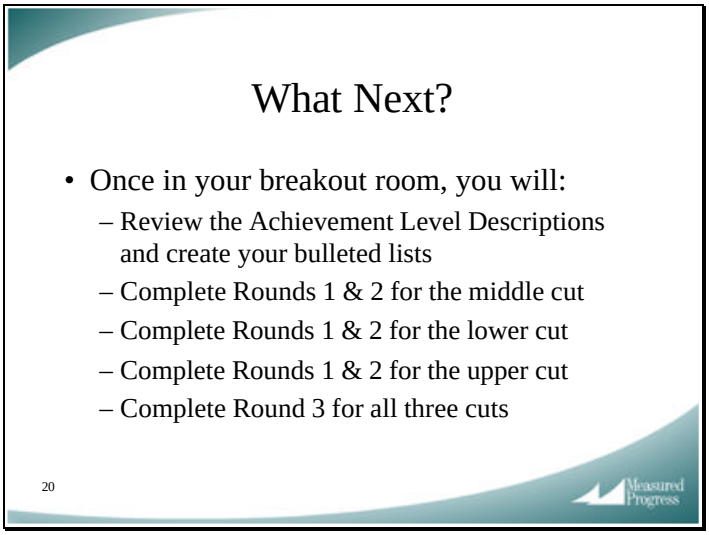

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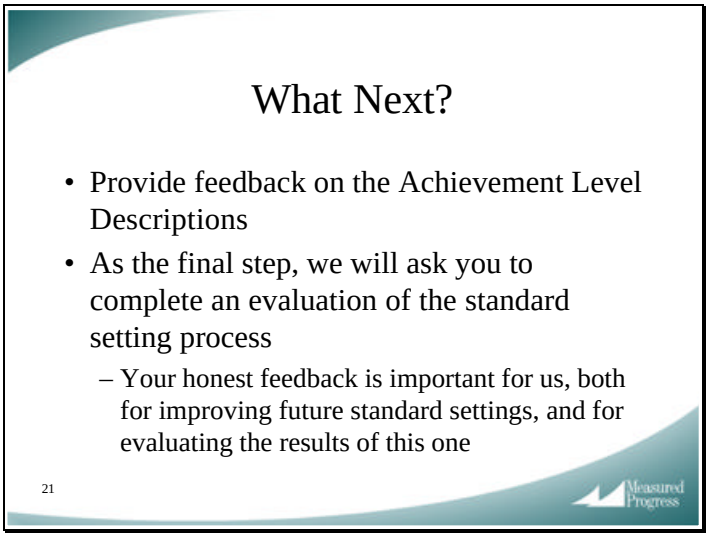

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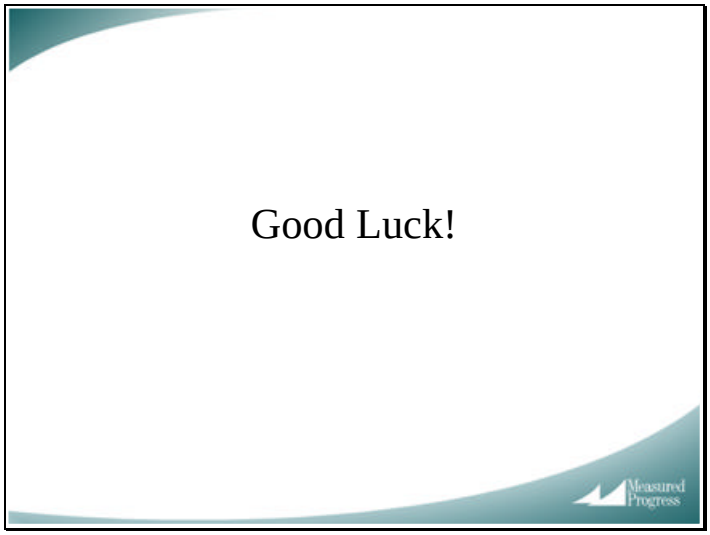


APPENDIX F: FACILITATOR SCRIPT

GENERAL INSTRUCTIONS FOR GROUP FACILITATORS
(MAP-A) SCIENCE STANDARD SETTING

June 3 and 4, 2008

Introductions

1. Welcome group, introduce yourself (name, affiliation, a little selected background information).
2. Have each participant introduce him/herself.
3. Ask participants to complete Non-Disclosure Forms. Collect forms

Review Assessment Materials

Overview: Some of the panelists administered the assessment to students, while others did not. In order to ensure that all panelists have an understanding of the knowledge and skills assessed, thoroughly review the student portfolios and APIs with the group.

1) Review the student portfolios
2) Review the APIs

Discuss Achievement Level Descriptions

Overview: In order to establish a thorough understanding of the expected performance of students on the test, panelists must have a clear understanding of:

1) the definition of the four achievement levels, and
2) what the key characteristics are that distinguish students in adjacent achievement level categories.

The purpose of this activity is for the panelists to come to consensus about what characterizes students in each of the four achievement level categories. This activity is critical since the ratings panelists will be making in Rounds 1 through 3 will be based on these understandings.

Activities:

1. Introduce task. In this activity they will:
    a. Individually review the Achievement Level Descriptions;
    b. discuss Descriptions as a group; and
    c. generate bulleted lists that describe the main characteristics that define students in each achievement level category.

2. Have panelists individually review all Achievement Level Descriptions. They can make notes if they like. The goal here is for the panelists to come to a common understanding of what it means to be in each achievement level. It is not unusual for panelists to

disagree with the descriptions they will see; almost certainly there will be some panelists who will want to change them. However, the task at hand is for panelists to have a common understanding of what knowledge, skills, and abilities are described by each Achievement Level Description. Panelists will have an opportunity to provide feedback and suggestions for edits to the Descriptors after the standard setting activities are completed.

3. After individually reviewing the Descriptions, have the panelists discuss each one as a group, starting with *Basic*, and provide clarification. The purpose of this is to have a collegial discussion in which to bring up/clarify any issues or questions that any individual may have and to reach consensus on an understanding of the description.

4. During the discussion for each achievement level, using chart paper, create a bulleted list for each level, specifying the characteristics that best describe students in that level. The panelists want to answer the question, what characteristics must a student demonstrate in order to be classified in the *Basic* category. Or, put another way, what are the most important characteristics that distinguish a *Below Basic* student from a student in the *Basic* category. They will then repeat this process for the *Proficient* and *Advanced* categories.

Ratings: Middle Cut

Overview of Middle Cut Ratings: The panelists will begin the rating process by separating the MAP-As into two piles, those that represent performance that is below proficient (*Below Basic* or *Basic*) vs. proficient or above (*Proficient* or *Advanced*). The ratings will be done in two rounds. The first round will be done individually, without consulting with their colleagues. In the second round, they will have an opportunity to discuss their Round 1 ratings with the other panelists.

Middle Cut Round 1: The first step in the process will be for the panelists to individually review the MAP-As, beginning with #1, and then every fifth MAP-A after that (i.e., #6, #11, etc.). Once they have narrowed in on the MAP-As they feel are near the cut point between below proficient and proficient or above, they will review all the MAP-As in that range. As they proceed through the MAP-As, the panelists should ask themselves whether the knowledge, skills and abilities demonstrated in each are consistent with performance that is below proficient, or proficient or above. At the end of Round 1, each panelist will complete the Round 1 section of the Middle Cut Rating Form, indicating the level they feel each MAP-A should be categorized into.

Activities:

1. Make sure panelists have the following materials:
    a. Set of MAP-As
    b. Achievement Level Descriptions
    c. Rating Form for the Middle Cut

2. Orient panelists to the set of MAP-As. Explain that the MAP-As are ordered by the student's total raw score, which was obtained using a straight forward summing of the 2

content entries (3 domain scores summed = content entry score.) Make sure they know that, if they disagree with the order of the MAP-As, they are free to categorize them as they feel appropriate, regardless of their ordering. For example, if they feel that MAP-A #15 represents performance that is proficient or above, but #16 (which has a higher total score) represents below proficient performance, they should categorize them as such.

3. Provide an overview of Round 1. Emphasize the following:
    a. The primary purpose is to separate the MAP-As into two piles.
    b. Panelists will be working individually in this round, without consulting with their colleagues. They will have opportunities in Rounds 2 and 3 to discuss their categorizations and make changes.
    c. Each panelist needs to base his/her judgments on his/her experience with the content, understanding of students, and the Achievement Level Descriptions.
    d. If panelists are struggling with categorizing a particular MAP-A, they should use their best judgment and move on. They will have an opportunity to revise their categorizations.
    e. Panelists should feel free to take notes if there are particular points about a certain MAP-A and how they think it should be categorized that they would like to discuss in Round 2.

4. Go over the rating form with panelists:
    a. Have panelists write their ID number on the rating form. The ID number is on their name tag.
    b. Lead panelists through a step-by-step demonstration of how to fill in the rating form.
    c. There should be one and only one checkmark in each row for each round of ratings.

5. Give panelists an opportunity to ask questions about their task in Round 1, then tell them they may begin.

6. Have panelists individually review the MAP-As, beginning with #1, and then every fifth one after that (i.e., #6, #11, etc.), ending with the last MAP-A. It is important that panelists continue all the way through the last MAP-A so they have a good sense of the entire range of performance represented. As they are reviewing the MAP-As, the panelists should keep in mind the Achievement Level Descriptions. They should consider the knowledge, skills and abilities demonstrated by each and how they relate to the definitions of the achievement levels. As they complete each MAP-A, have them place it into one of two piles: below proficient, vs. proficient or above.

7. Once they have narrowed in on the MAP-As they feel are near the cut point between below proficient and proficient or above, they will review all the MAP-As in that range, again placing each in the appropriate pile. **Note**: the panelists will not be reviewing all of the MAP-As at this time; this is done intentionally, to break the work into more manageable pieces.

8. Panelists may want to take notes as they work.

9. Once panelists have finished sorting the MAP-As, they will fill in the Round 1 section of the Middle Cut Rating Form.

10. As panelists complete the task, ask them to carefully inspect their rating forms to ensure they are filled out properly.
    a. The ID number must be filled in.
    b. Each MAP-A must be assigned to one and only one achievement level.
    c. Although the MAP-As are presented in order from lowest- to highest-scoring, the panelists' category assignments do not need to be in strictly increasing order.

Middle Cut Round 2: In Round 2, the panelists will discuss their categorizations of the MAP-As into the two levels as a large group. After the discussions are complete, the panelists will do their second round of ratings.

Activities:

1. Make sure panelists have the following materials:
    a. Set of MAP-As
    b. Achievement Level Descriptions
    c. Rating Form for the Middle Cut

2. Using a show of hands, indicate on a piece of chart paper how many panelists assigned each MAP-A to each category (below proficient vs. proficient or above).

3. Beginning with the first MAP-A for which there was disagreement as to its categorization, the panelists will discuss their rationale for categorizing it as they did.
    a. Panelists only need to discuss those MAP-As for which there was disagreement as to how they should be categorized.
    b. Panelists should be encouraged to listen to their colleagues as well as express their own points of view.
    c. If the panelists hear a logic/rationale/argument that they did not consider and that they feel is compelling, then they may adjust their ratings to incorporate that information.
    d. The group does not have to achieve consensus. If panelists honestly disagree, that is fine. We are trying to get the best judgment of each panelist. Panelists should not feel compelled or coerced into making a rating they disagree with.
    e. As they finish the discussion for each MAP-A, each panelist should once again place it into the appropriate pile.

    Encourage the panelists to use the discussion and feedback to assess how stringent or lenient a judge they are. If a panelist is categorizing MAP-As consistently higher or lower than the group, he/she may have a different understanding of the Achievement Level Descriptions than the rest of the group. **It is O.K. for panelists to disagree,**

but that disagreement should be based on a common understanding of the Achievement Level Descriptions.

4. Once the discussions have been completed, each panelist will complete the Round 2 section of the Middle Cut Rating Form, again indicating the level they feel each MAP-A should be categorized into.

Ratings: Lower Cut

Overview of Lower Cut Ratings: Once Rounds 1 and 2 have been completed for the middle cut, the process will be repeated for the lower cut. The panelists will set aside the pile of MAP-As that they have classified as proficient or above, and work only with the MAP-As they feel are below proficient. Working their way through each MAP-A in the pile, the panelists will subdivide them into two new piles: *Below Basic* and *Basic*. As with the middle cut ratings, in the first round of ratings, panelists will work individually and, in the second round, they will have an opportunity to discuss their categorizations before making their second round ratings.

Lower Cut Round 1: The process here will be basically the same as for the middle cut, except that they will be subdividing the MAP-As they categorized as below proficient into two achievement levels: *Below Basic* and *Basic*. They will individually work their way through each of the MAP-As they categorized as below proficient. As they proceed through the MAP-As, the panelists should ask themselves whether the knowledge, skills and abilities demonstrated in each are consistent with performance that is *Below Basic*, or *Basic*. At the end of Round 1, each panelist will complete the Round 1 section of the Lower Cut Rating Form, indicating the level they feel each MAP-A should be categorized into.

Activities:

1. Make sure panelists have the following materials:
    a. Set of MAP-As
    b. Achievement Level Descriptions
    c. Rating Form for the Middle Cut
    d. Rating Form for the Lower Cut
    e. Rating Form for the Upper Cut (they will be preparing it for when they get to the upper cut ratings)

2. Ask the panelists to transfer their ratings in the Round 2: Proficient or Above column of the Middle Cut Rating Form into the Proficient or Above columns of the Lower Cut Rating Form; the ratings should be entered into the Proficient or Above column for both rounds. Once they have done that, have them transfer their Below Proficient ratings onto the Upper Cut Rating Form, again placing them in the Below Proficient columns for both rounds.

3. Have the panelists place the pile of MAP-As they categorized as above proficient, as well as the Upper Cut Rating Form, aside, where they will be out of their way.

4. Have the panelists individually review each MAP-A in their below proficient pile; they will have reviewed some of them while doing their middle cut ratings, but they should revisit those briefly to refresh their memory.

5. As they are reviewing the MAP-As, the panelists should keep in mind the Achievement Level Descriptions. They should consider the knowledge, skills and abilities demonstrated by each and how they relate to the definitions of the achievement levels. As they complete each MAP-A, have them place it into one of two piles: *Below Basic* or *Basic*.

6. **Note**: Because the panelists will be reviewing some MAP-As for the first time in this step, it is possible that they may feel that one or more should have been placed in the proficient or above pile in the previous step. Tell them that, in that case, they should categorize it as *Basic* for the time being, but make a note on it indicating that it needs to be recategorized. They will have an opportunity in Round 3 to change any of the categorizations; for now, however, they may not move MAP-As out of the below proficient category.

7. Once panelists have finished sorting the MAP-As, they will fill in the Round 1 section of the Lower Cut Rating Form.

8. As panelists complete the task, ask them to carefully inspect their rating forms to ensure they are filled out properly.
    a. The ID number must be filled in.
    b. Each MAP-A must be assigned to one and only one achievement level.
    c. Although the MAP-As are presented in order from lowest- to highest-scoring, the panelists' category assignments do not need to be in strictly increasing order.

Lower Cut Round 2: In Round 2, the panelists will discuss their categorizations of the MAP-As into the two levels as a large group. After the discussions are complete, the panelists will do their second round of ratings.

Activities:

1. Make sure panelists have the following materials:
    a. Set of MAP-As
    b. Achievement Level Descriptions
    c. Rating Form for the Lower Cut

2. Using a show of hands, indicate on a piece of chart paper how many panelists assigned each MAP-A to each category. In this case, you will be including three categories: *Below Basic*, *Basic*, and proficient or above. Even though the panelists will be confining their discussions to the *Below Basic/Basic* cut, including all three categories on the chart paper should help minimize any confusion.

3. Beginning with the first MAP-A for which there was disagreement as to whether it should be categorized as *Below Basic* or *Basic*, the panelists will discuss their rationale for categorizing it as they did.
    a. Panelists only need to discuss those MAP-As for which there was disagreement as to whether it should be categorized as *Below Basic* or *Basic*.
    b. Panelists should be encouraged to listen to their colleagues as well as express their own points of view.
    c. If the panelists hear a logic/rationale/argument that they did not consider and that they feel is compelling, then they may adjust their ratings to incorporate that information.
    d. The group does not have to achieve consensus. If panelists honestly disagree, that is fine. We are trying to get the best judgment of each panelist. Panelists should not feel compelled or coerced into making a rating they disagree with.
    e. As they finish the discussion for each MAP-A, each panelist should once again place it into the appropriate pile.

    Encourage the panelists to use the discussion and feedback to assess how stringent or lenient a judge they are. If a panelist is categorizing MAP-As consistently higher or lower than the group, he/she may have a different understanding of the Achievement Level Descriptions than the rest of the group. **It is O.K. for panelists to disagree, but that disagreement should be based on a common understanding of the Achievement Level Descriptions.**

4. Once the discussions have been completed, each panelist will complete the Round 2 section of the Lower Cut Rating Form, again indicating the level they feel each MAP-A should be categorized into.

5. Check the Round 2 section of the Lower Cut Rating Form to ensure they have been completed properly and deliver the forms to the war room for data entry. These forms will be returned to the panelists to facilitate with Round 3.

Ratings: Upper Cut

Overview of Upper Cut Ratings: Once Rounds 1 and 2 have been completed for the middle and lower cuts, the process will be repeated one more time for the upper cut. The panelists will set aside the two piles of MAP-As that they have classified as either *Below Basic* or *Basic*, and work only with the MAP-As they feel are proficient or above. Working their way through each MAP-A in the pile, the panelists will subdivide them into two new piles: *Proficient* and *Advanced*. As with the middle and lower cut ratings, in the first round of ratings, panelists will work individually and, in the second round, they will have an opportunity to discuss their categorizations before making their second round ratings.

Upper Cut Round 1: The process here will be basically the same as for the lower cut, except that they will be subdividing the MAP-As they categorized as proficient or above into two achievement levels: *Proficient* and *Advanced*. They will individually work their way through each of the MAP-As they categorized as proficient or above. As they proceed through the MAP-

As, the panelists should ask themselves whether the knowledge, skills and abilities demonstrated in each are consistent with performance that is *Proficient*, or *Advanced.* At the end of Round 1, each panelist will complete the Round 1 section of the Upper Cut Rating Form, indicating the level they feel each MAP-A should be categorized into.

Activities:

1. Make sure panelists have the following materials:
    a. Set of MAP-As
    b. Achievement Level Descriptions
    c. Rating Form for the Upper Cut

2. Have the panelists place the piles of MAP-As they categorized as *Below Basic* or *Basic* aside, where they will be out of their way.

3. Have the panelists individually review each MAP-A in their proficient or above pile; they will have reviewed some of them while doing their middle cut ratings, but they should revisit those briefly to refresh their memory.

4. As they are reviewing the MAP-As, the panelists should keep in mind the Achievement Level Descriptions. They should consider the knowledge, skills and abilities demonstrated by each and how they relate to the definitions of the achievement levels. As they complete each MAP-A, have them place it into one of two piles: *Proficient* or *Advanced*.

5. **Note**: Because the panelists will be reviewing some MAP-As for the first time in this step, it is possible that they may feel that one or more should have been placed in the below proficient pile in the first step. Tell them that, in that case, they should categorize it as *Proficient* for the time being, but make a note on it indicating that it needs to be recategorized. They will have an opportunity in Round 3 to change any of the categorizations; for now, however, they may not move MAP-As out of the proficient or above category.

6. Once panelists have finished sorting the MAP-As, they will fill in the Round 1 section of the Upper Cut Rating Form.

7. As panelists complete the task, ask them to carefully inspect their rating forms to ensure they are filled out properly.
    a. The ID number must be filled in.
    b. Each MAP-A must be assigned to one and only one achievement level.
    c. Although the MAP-As are presented in order from lowest- to highest-scoring, the panelists' category assignments do not need to be in strictly increasing order.

Upper Cut Round 2: In Round 2, the panelists will discuss their categorizations of the MAP-As into the two levels as a large group. After the discussions are complete, the panelists will do their second round of ratings.

Activities:

1. Make sure panelists have the following materials:
    a. Set of MAP-As
    b. Achievement Level Descriptions
    c. Rating Form for the Upper Cut

2. Using a show of hands, indicate on a piece of chart paper how many panelists assigned each MAP-A to each category. In this case, you will be including three categories: below proficient, *Proficient*, and *Advanced*. Even though the panelists will be confining their discussions to the *Proficient/Advanced* cut, including all three categories on the chart paper should help minimize any confusion.

3. Beginning with the first MAP-A for which there was disagreement as to whether it should be categorized as *Proficient* or *Advanced*, the panelists will discuss their rationale for categorizing it as they did.
    a. Panelists only need to discuss those MAP-As for which there was disagreement as to whether they should be categorized as *Proficient* or *Advanced*.
    b. Panelists should be encouraged to listen to their colleagues as well as express their own points of view.
    c. If the panelists hear a logic/rationale/argument that they did not consider and that they feel is compelling, then they may adjust their ratings to incorporate that information.
    d. The group does not have to achieve consensus. If panelists honestly disagree, that is fine. We are trying to get the best judgment of each panelist. Panelists should not feel compelled or coerced into making a rating they disagree with.
    e. As they finish the discussion for each MAP-A, each panelist should once again place it into the appropriate pile.

    Encourage the panelists to use the discussion and feedback to assess how stringent or lenient a judge they are. If a panelist is categorizing MAP-As consistently higher or lower than the group, he/she may have a different understanding of the Achievement Level Descriptions than the rest of the group. **It is O.K. for panelists to disagree, but that disagreement should be based on a common understanding of the Achievement Level Descriptions.**

4. Once the discussions have been completed, each panelist will complete the Round 2 section of the Upper Cut Rating Form, again indicating the level they feel each MAP-A should be categorized into.

5. Check the Round 2 section of the Upper Cut Rating Form to ensure they have been completed properly and deliver the forms to the war room for data entry. These forms will be returned to the panelists to facilitate with Round 3.

Tabulation of Round 2 Results

Once Round 2 has been completed for all three cuts, the data will be analyzed and information will be provided that the panelists will use for Round 3.

Ratings: Round 3 – All Cuts

Overview of Round 3: The primary purpose of Round 3 is to ask the panelists to discuss their Round 2 ratings for all three cuts as a whole group and to revise their ratings on the basis of that discussion. They will discuss their ratings in the context of the ratings made by other members of the group. Prior to beginning the Round 3 discussions, using a show of hands, indicate on a piece of chart paper how many panelists assigned each MAP-A to each of the four achievement level categories. Also show on the chart paper which MAP-As will be assigned to each level according to the group mean cut points from Round 2 (you will be provided this information by the data analysis team). Focusing on the MAP-As that are near the cut points, the panelists will discuss why they categorized each MAP-A as they did, making sure that all different points of view are included in the discussion.

To aid with the discussion, panelists will also be given impact data, showing the approximate percentage of students who would be classified into each achievement level category based on the room mean cut points from Round 2.

This round will be similar to the Round 2 discussions, except that the panelists will be discussing all three cut points. The purpose of this round is to look at the results holistically, rather than each cut individually. Therefore, the panelists should start the discussions with the lower cut, then proceed to the middle cut and, finally, the upper cut.

Once panelists have reviewed and discussed the Round 2 categorizations, they will be given the opportunity to change or revise their Round 2 ratings.

Activities:

1. Make sure panelists have the following materials:
    a. The Round 3 rating form
    b. Set of MAP-As
    c. Achievement Level Descriptions

2. Have panelists write their ID number on the rating form.

3. Provide an overview of Round 3. Paraphrase the following:
    a. As in Rounds 1 and 2, the primary purpose is to categorize each MAP-A into the achievement level category where you feel it belongs.
    b. Each panelist needs to base his/her judgments on his/her experience with the content area, understanding of students, discussions with other panelists and the knowledge, skills, and abilities required to answer each item.
    c. In addition to the categorization of each MAP-A, panelists should also consider the impact data: based on their knowledge of students and the Achievement Level Descriptions, do the percentages of students falling into each category make

sense? If they do, that is an indication that the cut points are placed appropriately. If they don't, the panelists may want to consider revising their ratings.

4. Review the feedback information with the panelists.
    a. Show the panelists how the MAP-As will be categorized based on the room mean Round 2 cut point placements.
    b. Go over the impact data, explaining that if the Round 2 ratings were to be used to set the final cut points, these are the approximate percentages of students who would be classified into each achievement level category.

5. Give panelists an opportunity to ask questions about the feedback information or about the task for Round 3.

6. Beginning with the MAP-As for which there was disagreement as to whether they should be categorized as *Below Basic* or *Basic*, the panelists should begin discussing the categorization of the MAP-As according to the Round 2 ratings. Once they have completed the discussion for the lower cut, they will then proceed to the middle cut and then, finally, to the upper cut.
    a. Panelists only need to discuss those MAP-As for which there was disagreement as to how they should be categorized.
    b. Panelists should be encouraged to listen to their colleagues as well as express their own points of view.
    c. If the panelists hear a logic/rationale/argument that they did not consider and that they feel is compelling, then they may adjust their ratings to incorporate that information.
    d. The group does not have to achieve consensus. If panelists honestly disagree, that is fine. We are trying to get the best judgment of each panelist. Panelists should not feel compelled or coerced into making a rating they disagree with.
    e. As they finish the discussion for each MAP-A, each panelist should place it into one of four piles: *Below Basic, Basic, Proficient,* or *Advanced.*

    Encourage the panelists to use the discussion and feedback to assess how stringent or lenient a judge they are. If a panelist is categorizing MAP-As consistently higher or lower than the group, he/she may have a different understanding of the Achievement Level Descriptions. **It is O.K. for panelists to disagree, but that disagreement should be based on a common understanding of the Achievement Level Descriptions.**

7. Once the discussions are complete for the full set of MAP-As, have the panelists fill in the Round 3 Rating Form. When you collect the rating forms, carefully inspect them to ensure they are filled out properly.
    a. The ID number must be filled in.
    b. Each MAP-A for Round 3 must have one (and only one) rating.

Grade Level Achievement Level Descriptors

After recommended cut scores have been established for the grade spans, the panels will be asked to revisit the draft achievement level descriptors. They will be asked to make recommendations for language that is teacher and parent friendly.

Complete Evaluation Form

Upon completion of the standard setting process, have panelists fill out the evaluation form. Emphasize that their honest feedback is important.

APPENDIX G: STANDARD SETTING PANELISTS

2008 MAP-A Science Standard Setting Panelist Distribution									
	Elementary Panel		**RPDC #**	**Middle School Panel**		**RPDC #**	**High School Panel**		**RPDC #**
Science Teachers	Amy	Barlow	**1**	Dennis	Kocher	**9**	Paul	Rutherford	**3**
	John	Dyck	**9**	Melissa	Eckert	**8**			
Parents				Ellen	Rowland	**3**			
Administrators	Sheryl	Alermatt		Regina	Higgins	**9**	Walt	Brown	**3**
	Kathie	Wolff	**8**	John	Palmer	**8**	Christine	Taylor	**6**
	Meg	Sneed	**3**				Becky	Killian	**7**
	Mary	Gage	**9**				Diana	Humphreys	**2**
Spec. Ed. Teachers	Christine	Bates	**6**	Glenn	Dalton	**1**	Mindy	Brown	**3**
	Ronda	Brown	**3**	Jennifer	Siem	**8**	John	Cox	**6**
	Jennifer	Johnson	**6**	Nicole	Martinez	**3**	Lynn	Wapelhurst	**2**
	Catherine	McCormack	**4**	Leslie	Laws	**7**	Marsha	Meeker	**4**
	Susie	Register	**2**	Sneh	Kothari	**8**	Rachael	Thompson	**6**
	Laura	Borghardt	**2**	Heather	Suerig		Ronda	McDaniel	**1**
				Kathy	Gregory	**8**			

RPDC Code Key	
SE-Cape Girardeau	1
Heart of MO-Columbia	2
Kansas City	3
NE/Truman-Kirksville	4
NW-Maryville	5
S Central-Rolla	6
SW-Springfield	7
St. Louis	8
Central-Warrensburg	9

APPENDIX H: PANELIST DESCRIPTOR RECOMMENDATIONS

MAP-A Draft Achievement Level Descriptors
Recommendations

	Science
Below Basic	Student has a minimal understanding of the concepts contained in the grade appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Characteristics and Interactions of Living Organisms and Changes in Ecosystems and Interactions of Organisms with Their Environment. Student work evidence may be loosely connected to the strands. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Basic	Student has a fundamental understanding of the concepts contained in the grade appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Characteristics and Interactions of Living Organisms and Changes in Ecosystems and Interactions of Organisms with Their Environment. Student work evidence is somewhat connected to the strands. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Proficient	Student has a sound understanding of the concepts contained in the grade appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Characteristics and Interactions of Living Organisms and Changes in Ecosystems and Interactions of Organisms with Their Environment. Student work evidence is connected to the strands and demonstrates application. Student likely requires some verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.
Advanced	Student has a strong understanding of the concepts contained in the grade appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Characteristics and Interactions of Living Organisms and Changes in Ecosystems and Interactions of Organisms with Their Environment. Student work evidence is strongly connected to the strands and demonstrates strong application. Student likely requires minimal verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

APPENDIX I: EVALUATION RESULTS

OVERALL

	Very Good	Good	Unsure	Poor	Very Poor	N
What is your overall impression of the process used to set performance standards for the Missouri Alternate Assessment?	7	17	8	2	1	35
	Very Clear	**Clear**	**Somewhat Clear**	**Not Clear**		**N**
How clear were you with the achievement level descriptors?	8	17	9	1		35
	About Right	**Too little time**	**Too much time**			**N**
How would you judge the length of time of this meeting for setting performance standards	26	7	2			35
What factors influenced the standards you set?	**Not at all Influential 1**	**2**	**Moderately Influential 3**	**4**	**Very Influential 5**	**N**
The achievement level descriptors		3	20	12		35
The assessment samples			8	13	14	35
Other panelists	1	4	18	10	2	35
My experience in the field		2	10	17	5	34
	Definitely Yes	**Probably Yes**	**Unsure**	**Probably No**	**Definitely No**	**N**
Do you believe the cut scores set by the panel are correctly placed on the exam score scale?	4	21	8	1	1	35
How could the standard setting process have been improved?	**See GradeSpan/Content Area Results**					

For each statement below, please circle the rating that best represents your judgment.	**Not at all Useful/Clear 1**	**2**	**3**	**4**	**Very Useful/Clear 5**	**N**
The opening session was:		1	13	17	3	34
The achievement level descriptors were:	1	1	7	21	4	34
Providing additional details to the achievement level descriptors was:	2	2	9	14	8	35
The discussion with other panelists was:			4	16	15	35
The portfolio rating task was:		3	9	20	2	34
The impact data provided prior to the last round of ratings was:			10	15	6	31

GRADE 5

	Very Good	Good	Unsure	Poor	Very Poor	N
What is your overall impression of the process used to set performance standards for the Missouri Alternate Assessment?	1	7	4			12
	Very Clear	**Clear**	**Somewhat Clear**	**Not Clear**		**N**
How clear were you with the achievement level descriptors?	2	5	5			12
	About Right	**Too little time**	**Too much time**			
How would you judge the length of time of this meeting for setting performance standards	10	2				12
What factors influenced the standards you set?	**Not at all Influential 1**	**2**	**Moderately Influential 3**	**4**	**Very Influential 5**	**N**
The achievement level descriptors				8	4	12
The assessment samples			3	4	5	12
Other panelists		3	5	3	1	12
My experience in the field		2	5	4		11
	Definitely Yes	**Probably Yes**	**Unsure**	**Probably No**	**Definitely No**	**N**
Do you believe the cut scores set by the panel are correctly placed on the exam score scale?	1	7	4			12

~ I've looked at ALL aspects of the portfolio to make a determination.
~ We had a variety of people with different backgrounds, providing input.
~ There were very few numbered MAP-A's that I had to place in a higher or level cut score category.
~ We had a little trouble coming to a consensus, but overall I believe we had a good cut scores.
~ Some people in our group have done work in scoring MAP-A and I think they lowered our cut scores.
~ Yes - but it is concerning that so many were below basic because they didn't connect to the standards - it seems the teachers were not clear on how to set up their MAP-A.
~ We seemed somewhat sure but still had some voiced concerns.
~ I felt that everyone put time and their knowledge to make the best judgment. The decisions made were pretty clear cut.
~ There was some disagreement on a few items. Also, the way they were scored (ordered) was not necessarily the way I felt they should have been.
~ We had lots of discussion about the portfolios and had great difficulty with understanding why portfolio #17 ranked so high.
~ Questionable due to being 1st year for science other than pilot - appears that more training needed regarding connection to standards. Facilitator needs to be either trained or experienced to expedite process to ask guiding questions.

How could the standard setting process have been improved?~ More descriptive (measureable words) achievement level descriptors.~ A more clearly defined explanation of what factors should not influence our rating. For example, should we consider data errors, should we penalize for activity descriptions not matching accuracy and independence explanations.~ Note: one panelist was very unprofessional in that she put feet upon another chair with shoes off. Very distracting and took away from the setting. ~ Additionally training on how the portfolios were scored. What made some unscorable, etc!~ Explain more about the scores at the beginning. Being a first time standard setter, I did not really understand the process and why we were making cut scores. ~ Maybe more insight into the scoring process before we did our part. It was hard to tell why some of the portfolios were ranked high or low and with out knowing what made part of a portfolio "unscorable" we were unsure of how to rate the other part. ~ Our facilitator needed a bit ore training and knowledge regarding the process. When the tests are given to us are #1 low to ? high are we not somewhat biased? ~ The facilitator did a good job - but I think it would have helped her to have more training herself in the actual MAP-A. She stated she was unfamiliar with our test. ~ Our leader from Measured Progress, Amanda was very nervous. I feel she needed more training. She was not familiar with the assessment.~ By perhaps not giving the panelist the portfolio in scored order - it seems to influence the decisions.

For each statement below, please circle the rating that best represents your judgment.	**Not at all Useful/Clear 1**	**2**	**3**	**4**	**Very Useful/Clear 5**	**N**
The opening session was:		1	7	4		12
The achievement level descriptors were:		1	4	5	1	11

Providing additional details to the achievement level descriptors was:			4	4	4	12
The discussion with other panelists was:			1	4	7	12
The portfolio rating task was:		1	6	5		12
The impact data provided prior to the last round of ratings was:			7	3	1	11

Please provide any additional comments or suggestions about the standard setting process.

~ I really need to look at this measurement and process as a whole.
~ Many of our MAP-A's were poorly scored. This made it difficult to make a clear decision. A lot of down time.
~ Referring to #11 above. The rating task was not explained well, by our Elementary adequately trained and didn't stay with the group throughout the process. Many cell phone interruptions gave the appearance she was more concerned with things out of the room/city than here.
~ The proctors need more training!
~ I think people who have never given the MAP-A had a great disadvantage in this process. I felt sorry for the science teachers because they really didn't understand or have prior knowledge. Maybe they could have an extra session at the beginning to explain more about the MAP-A in general. We had too much down time in the afternoon of the 2nd day! It took an hour for us to get back our scores. Is there any way this could be organized in a different way so we wouldn't have to wait to get the cut scores back?
~ More than 1 statistician is needed.
~ May need more than 1 statistician for the process.
~ Hard to determine rating with unscorable portfolios. Didn't know if it should be ignored or figured in...Also, felt bad for our leader ---definitely needed more training.
~ There was a large amount of down time.
~ Having a 2nd statistician would have helped move the process along faster.

GRADE 8

	Very Good	Good	Unsure	Poor	Very Poor	N
What is your overall impression of the process used to set performance standards for the Missouri Alternate Assessment?	1	5	3	2	1	12
	Very Clear	**Clear**	**Somewhat Clear**	**Not Clear**		**N**
How clear were you with the achievement level descriptors?	1	8	2	1		12
	About Right	**Too little time**	**Too much time**			
How would you judge the length of time of this meeting for setting performance standards	6	5	1			12
What factors influenced the standards you set?	**Not at all Influential 1**	**2**	**Moderately Influential 3**	**4**	**Very Influential 5**	**N**
The achievement level descriptors			1	7	4	12
The assessment samples			3	4	5	12
Other panelists	1		6	4	1	12
My experience in the field			2	7	3	12
	Definitely Yes	**Probably Yes**	**Unsure**	**Probably No**	**Definitely No**	**N**
Do you believe the cut scores set by the panel are correctly placed on the exam score scale?	3	7	2			12

~ Much group discussion
~ The curve is balanced and shows the skill levels of these students appropriately.
~ After discussions within our group I believe the reasons why a panelist put a portfolio in a certain category were justified.
~ Seems like an appropriate proportion
~ I think a lot of this is very subjective not objective.
~ I thought we were right on! Our scores came out 50/50.

How could the standard setting process have been improved?~ Simplify~ I think it would have been beneficial to know the process the end result. I don't believe that was explained very well. The first day was very frustrating! We did not see the purpose and we were not sure what we were being asked to do. The second day was much better!~ At times, conversations were rambling and not conducive to overall findings on scorable papers. ~ The purpose was unclear, process seemed random, making it feel unimportant and irrelevant. ~ Anchor papers~ It seems we had different rules for every level and very little consistency. It also seems it is the first year and people wouldn't really know what to do. ~ More clarity on B, BB, P and A levels. ~ Redefining or elaborating the achievement level descriptors was very confusing and made our work get off to a different start.

For each statement below, please circle the rating that best represents your judgment.	**Not at all Useful/Clear 1**	**2**	**3**	**4**	**Very Useful/Clear 5**	**N**
The opening session was:			5	4	2	11
The achievement level descriptors were:	1		2	7	2	12
Providing additional details to the achievement level descriptors was:	2	2	4	3	1	12
The discussion with other panelists was:			2	7	3	12
The portfolio rating task was:		2	2	6	1	11
The impact data provided prior to the last round of ratings was:			2	6	2	10

Please provide any additional comments or suggestions about the standard setting process.
~ It took much time for me to catch on to the what were to look at and consider as we analyzed each portfolio - some prior and further explanation may have helped - some example.
~ Our facilitator was not sure what we were suppose to be doing, it was not until after lunch that she was able to tell us what information we needed to consider. I also felt the "rules" changed between rounds. After we found out what we were supposed to do, it was much better. I just felt sometime was wasted.
~ Validity is questioned as there appears to be different rules in almost every round.
~ There seemed to be a lack of significance.
~ Descriptors were very non-descriptive and having facilitators who weren't allowed to help as very frustrating.

GRADE 11

	Very Good	Good	Unsure	Poor	Very Poor	N
What is your overall impression of the process used to set performance standards for the Missouri Alternate Assessment?	5	5	1			11
	Very Clear	**Clear**	**Somewhat Clear**	**Not Clear**		**N**
How clear were you with the achievement level descriptors?	5	4	2			11
	About Right	**Too little time**	**Too much time**			
How would you judge the length of time of this meeting for setting performance standards	10		1			11
What factors influenced the standards you set?	**Not at all Influential 1**	**2**	**Moderately Influential 3**	**4**	**Very Influential 5**	**N**
The achievement level descriptors			2	5	4	11
The assessment samples			2	5	4	11
Other panelists		1	7	3		11
My experience in the field			3	6	2	11
	Definitely Yes	**Probably Yes**	**Unsure**	**Probably No**	**Definitely No**	**N**
Do you believe the cut scores set by the panel are correctly placed on the exam score scale?		7	2	1	1	11

~ I feel that teacher training is a significant factor in the %'s. Teachers need more training in #1 assessment as well as content. ~ Different factors such as: teacher knowledge science application to goals of student individually. ~ With a variety of expertise in the room, explanations and discussions, the cohesiveness of the group allowed for a positive and productive score setting.~ Below basic and basic were off balance. ~ Originally the cut between below basic and basic was too broad making the below basic too high (a lot of unscorable portions). So will depend on how final cut went. ~ We looked at the samples very carefully. However, there were a lot of unscorable entries that messed up the placements.~ We readjusted. Should fall out okay. ~ The gaps were not as expected. Cut off scores were to unequal at lower level.

How could the standard setting process have been improved?

~ using a smaller number of people per grade level - 1 each of all categories of people - 1 science, 1 reg teacher 1 reg. sped, etc.
~ more chocolate.
~ Don't make us check out @ noon from the hotel - either stay another night or have us finish @ noon.
~ This was a learning experience. I see no improvements.
~ Too much time when some people could not go on and had long wait times between activities.
~ For us to not have gotten them in order but rather by "letter" so we wouldn't have a pre-conceived idea of ranking.
~ Training of teachers implementing the MAP-A needs to before intensive. Many of the errors/unscorables might have been teacher training issues.
~ no suggestions - it went well.
~ A training session for those unfamiliar with MAP-A might be helpful.

For each statement below, please circle the rating that best represents your judgment.	**Not at all Useful/Clear 1**	**2**	**3**	**4**	**Very Useful/Clear 5**	**N**
The opening session was:			1	9	1	11
The achievement level descriptors were:			1	9	1	11
Providing additional details to the achievement level descriptors was:			1	7	3	11
The discussion with other panelists was:			1	5	5	11
The portfolio rating task was:			1	9	1	11

The impact data provided prior to the last round of ratings was:			1	6	3	10

Please provide any additional comments or suggestions about the standard setting process.

~ Being my first time I really have no additional comments or suggestion other than thank you for choosing me. This was an experience and enjoyed the time to meet other people.
~ It is always learning experience for me and I hope to continue to be able to be involved in it. Thank you.
~ Achievement level Descriptors.
~ Maybe connected on proficient clarified.
~ Basic (practice skill).
~ Good job Susan!

APPENDIX J: PANELIST RESULTS

Table 1: Round 2 Ratings: Grade 5

Portfolio	Raw Score	Panelist												Performance Level
		id_01	id_02	id_03	id_04	id_05	id_06	id_07	id_08	id_09	id_10	id_11	id_12	
1	6	1	1	1	1	1	1	1	1	1	1	1	1	1
2	6	1	1	1	1	1	1	1	1	1	1	1	1	1
3	7	1	1	1	1	1	1	1	1	1	1	1	1	1
4	7	1	1	1	1	1	1	1	1	1	1	1	1	1
5	8	1	1	1	1	1	1	1	1	1	1	1	1	1
6	8	1	2	2	2	1	1	2	1	1	1	1	2	1
7	9	1	1	1	1	1	1	1	1	1	1	1	1	1
8	9	1	1	1	1	1	1	1	1	1	1	1	1	1
9	10	1	1	1	1	1	1	1	1	1	1	1	1	1
10	10	1	1	1	1	1	1	1	1	1	1	1	1	1
11	11	1	1	1	1	1	1	1	1	1	1	1	1	1
12	11	1	2	2	2	1	1	1	1	1	1	1	1	1
13	12	1	1	1	1	1	1	1	1	1	1	1	1	1
14	12	1	1	1	1	1	1	1	1	1	1	1	1	1
15	13	1	2	2	2	1	1	2	1	1	1	1	2	1
16	13	1	1	1	2	1	1	1	1	1	1	1	1	1
17	14	1	1	1	1	1	1	1	1	1	1	1	1	1
18	14	1	1	1	1	1	1	1	1	1	1	1	1	1
19	15	2	2	2	2	2	2	2	2	2	2	1	2	2
20	15	2	3	3	3	2	2	2	2	2	2	2	3	2
21	16	2	2	2	2	2	2	2	2	2	2	2	2	2
22	16	1	2	1	1	1	1	1	1	1	1	1	1	2
23	17	3	3	3	3	3	3	3	3	3	3	3	3	2
24	17	3	3	3	3	3	2	3	2	3	2	2	3	2
25	18	4	4	4	4	3	4	4	4	4	4	4	4	3
26	18	2	3	3	3	3	2	3	2	3	2	2	3	3
27	19	3	3	3	3	3	3	3	2	3	2	2	3	3
28	19	3	2	2	2	3	2	2	2	3	2	2	2	3
29	20	2	3	3	3	2	2	2	2	3	2	2	3	3
30	20	3	3	3	3	3	3	3	2	3	2	2	3	3
31	21	3	3	3	3	3	3	3	3	3	3	3	3	3
32	21	3	3	3	3	3	3	3	3	3	3	3	3	3
33	22	4	4	4	4	4	4	4	4	4	4	4	4	4
34	22	4	4	4	4	4	4	4	4	4	4	4	4	4

Table 2: Round 2 Ratings: Grade 8

Portfolio	Raw Score	Panelist												Performance Level
		id_01	id_02	id_03	id_04	id_05	id_06	id_07	id_08	id_09	id_10	id_11	id_12	
1	5	1	1	1	1	1	1	1	1	1	1	1	1	1
2	5	1	1	1	1	1	1	1	1	1	1	1	1	1
3	6	1	1	1	1	1	1	1	1	1	1	1	1	1
4	6	1	1	1	1	1	1	1	1	1	1	1	1	1
5	7	1	1	1	1	1	1	1	1	1	1	1	1	1
6	7	1	2	2	1	2	2	1	1	2	2	2	2	1
7	8	2	2	2	2	2	2	2	2	2	2	1	2	1
8	8	1	1	2	1	1	1	1	2	1	1	1	1	1
9	9	1	1	1	1	1	1	1	2	1	1	1	1	2
10	9	2	2	2	2	2	2	2	2	2	2	2	2	2
11	10	2	2	2	2	2	2	2	2	2	2	2	2	2
12	10	1	1	1	1	1	1	1	1	1	1	1	1	2
13	11	2	2	2	2	2	2	2	2	2	2	2	2	2
14	11	2	3	2	1	2	2	2	2	2	2	2	2	2
15	12	2	3	2	2	1	2	2	1	1	2	2	1	2
16	12	2	2	2	2	2	2	2	2	2	2	2	2	2
17	13	2	3	2	2	2	2	2	2	2	2	2	2	2
18	13	3	3	3	3	3	3	3	3	3	2	3	3	2
19	14	2	1	2	2	1	2	2	1	1	2	2	2	2
20	14	3	3	2	3	3	3	3	3	3	3	3	3	2
21	15	3	3	3	3	3	3	3	2	2	3	3	2	3
22	15	3	1	3	2	2	2	2	2	3	3	2	2	3
23	16	3	3	3	3	2	3	3	2	2	2	3	2	3
24	16	3	2	3	3	2	2	3	2	2	3	3	3	3
25	17	4	1	2	2	1	3	3	1	1	2	1	4	3
26	17	3	3	3	4	4	3	3	3	3	3	3	3	3
27	18	4	4	4	4	4	4	4	4	4	4	3	4	3
28	18	3	3	3	4	4	3	3	3	3	3	3	4	3
29	19	3	3	3	4	3	3	3	3	3	3	3	3	3
30	19	3	3	3	3	3	3	3	3	3	3	3	3	3
31	20	3	3	3	3	3	3	3	3	3	3	3	3	3
32	20	3	3	3	3	3	3	3	3	3	3	3	3	3
33	21	4	4	4	4	4	4	4	4	4	4	4	4	3
34	21	3	3	3	3	3	3	3	3	3	3	3	3	3
35	22	4	4	4	4	4	3	4	4	4	4	4	4	4
36	22	4	3	3	4	3	3	3	3	3	3	3	3	4

Table 3: Round 2 Ratings: Grade 11

Portfolio	Raw Score	Panelist											Performance Level
		id_01	id_02	id_03	id_04	id_05	id_06	id_07	id_08	id_09	id_10	id_11	
1	5	1	1	1	1	1	1	1	1	1	1	1	1
2	5	1	1	1	1	1	1	1	1	1	1	1	1
3	6	1	1	1	1	1	1	1	1	1	1	1	1
4	6	1	1	1	1	1	1	1	1	1	1	1	1
5	7	1	1	1	1	1	1	1	1	1	1	1	1
6	7	1	1	1	1	1	1	1	1	1	1	1	1
7	8	1	1	1	1	1	1	1	1	2	1	1	1
8	8	1	1	1	1	1	1	1	1	2	1	1	1
9	9	1	1	1	1	1	1	1	1	2	2	1	1
10	9	1	2	1	1	1	2	1	1	2	2	1	1
11	10	2	2	2	2	1	1	1	1	1	2	1	1
12	10	1	1	1	1	1	1	1	1	2	1	1	1
13	11	1	2	1	1	1	2	1	1	2	2	2	1
14	11	1	2	2	2	2	1	2	2	2	2	2	1
15	12	1	2	1	2	1	1	1	1	1	2	2	1
16	12	1	2	1	1	1	1	1	1	2	2	1	1
17	13	2	2	2	2	2	1	2	2	2	2	2	2
18	14	1	2	1	1	1	2	1	1	2	2	1	2
19	14	1	2	1	2	1	2	1	1	2	2	2	2
20	15	2	2	2	1	1	2	2	2	2	2	2	2
21	15	2	2	3	3	2	3	2	2	2	2	2	2
22	16	2	2	2	2	1	3	2	1	2	2	2	2
23	16	1	3	1	1	1	3	1	1	2	2	2	2
24	17	2	3	2	2	2	3	3	2	3	2	3	3
25	17	3	3	3	3	2	3	3	3	3	3	3	3
26	18	3	3	3	3	3	4	3	3	3	3	3	3
27	18	3	3	3	3	3	3	3	3	3	3	3	3
28	19	3	3	3	3	3	3	3	3	3	3	3	3
29	19	3	4	3	3	3	3	4	4	3	3	4	3
30	20	4	4	4	4	4	4	4	4	4	4	4	3
31	20	3	3	3	3	3	3	3	3	3	3	3	3
32	21	4	4	4	4	4	4	4	4	4	4	3	4
33	21	4	3	3	3	3	3	3	4	3	4	3	4
34	22	4	4	4	4	4	4	4	4	4	4	4	4
35	22	4	4	4	4	4	3	4	4	4	4	4	4

Table 4: Round 3 Ratings: Grade 5

Portfolio	Raw Score	Panelist												Performance Level
		id_01	id_02	id_03	id_04	id_05	id_06	id_07	id_08	id_09	id_10	id_11	id_12	
1	6	1	1	1	1	1	1	1	1	1	1	1	1	1
2	6	1	1	1	1	1	1	1	1	1	1	1	1	1
3	7	1	1	1	1	1	1	1	1	1	1	1	1	1
4	7	1	1	1	1	1	1	1	1	1	1	1	1	1
5	8	1	1	1	1	1	1	1	1	1	1	1	1	1
6	8	1	2	2	2	1	1	2	1	1	1	1	2	1
7	9	1	1	1	1	1	1	1	1	1	1	1	1	1
8	9	1	1	1	1	1	1	1	1	1	1	1	1	1
9	10	1	1	1	1	1	1	1	1	1	1	1	1	1
10	10	1	1	1	1	1	1	1	1	1	1	1	1	1
11	11	1	1	1	1	1	1	1	1	1	1	1	1	1
12	11	2	2	2	2	2	2	2	2	2	2	2	2	1
13	12	2	2	2	2	2	1	2	2	1	2	2	1	1
14	12	1	2	1	1	1	1	1	1	1	1	1	1	1
15	13	2	2	2	2	2	2	2	2	1	2	2	2	1
16	13	2	2	2	2	2	1	2	2	1	1	1	2	1
17	14	1	1	1	1	1	1	1	1	1	1	1	1	2
18	14	1	1	1	1	1	1	1	1	1	1	1	1	2
19	15	2	2	2	2	2	2	2	2	2	2	1	2	2
20	15	2	3	3	3	2	2	2	2	2	2	2	3	2
21	16	2	2	2	2	2	2	2	2	2	2	2	2	2
22	16	1	2	1	2	1	1	1	1	1	1	1	1	2
23	17	3	3	3	3	3	3	3	3	3	3	3	3	2
24	17	3	3	3	3	3	2	3	2	3	2	2	3	2
25	18	4	4	4	4	3	4	4	4	4	4	4	4	3
26	18	2	3	3	3	3	2	3	2	3	2	2	3	3
27	19	3	3	3	3	3	3	3	2	3	2	2	3	3
28	19	3	2	2	2	3	2	2	2	3	2	2	2	3
29	20	2	3	3	3	2	2	2	2	3	2	2	3	3
30	20	3	3	3	3	3	3	3	2	3	2	2	3	3
31	21	3	3	3	3	3	3	3	3	3	3	3	3	3
32	21	3	3	3	3	3	3	3	3	3	3	3	3	3
33	22	4	4	4	4	4	4	4	4	4	4	4	4	4
34	22	4	4	4	4	4	4	4	4	4	4	4	4	4

Table 5: Round 3 Ratings: Grade 8

Portfolio	Raw Score	Panelist												Performance Level
		id_01	id_02	id_03	id_04	id_05	id_06	id_07	id_08	id_09	id_10	id_11	id_12	
1	5	1	1	1	1	1	1	1	1	1	1	1	1	1
2	5	1	1	1	1	1	1	1	1	1	1	1	1	1
3	6	1	1	1	1	1	1	1	1	1	1	1	1	1
4	6	1	1	1	1	1	1	1	1	1	1	1	1	1
5	7	1	2	1	1	1	1	1	1	1	1	1	1	1
6	7	1	2	2	1	2	2	2	1	2	2	2	2	1
7	8	2	2	2	2	2	2	2	2	2	2	2	2	1
8	8	1	1	1	1	1	1	1	1	1	1	1	1	1
9	9	1	1	1	1	1	1	1	1	1	1	1	1	2
10	9	2	3	2	2	3	3	3	2	3	3	2	2	2
11	10	2	2	2	2	2	2	2	2	2	2	2	2	2
12	10	1	1	1	1	1	1	1	1	1	1	1	1	2
13	11	2	2	2	2	2	2	2	2	2	2	2	2	2
14	11	2	2	2	1	2	2	2	2	2	2	2	2	2
15	12	2	2	2	2	1	2	2	1	1	2	2	1	2
16	12	2	2	2	2	2	2	2	2	2	2	2	2	2
17	13	2	2	2	2	2	2	2	2	2	2	2	2	2
18	13	3	3	3	3	3	3	3	3	3	3	3	3	2
19	14	2	2	2	2	1	1	2	1	1	2	2	2	2
20	14	3	3	3	3	3	3	3	2	3	3	3	3	2
21	15	3	3	3	3	2	2	3	2	2	3	3	2	2
22	15	3	2	2	2	2	2	2	2	2	2	2	2	2
23	16	3	3	3	3	3	3	3	2	3	3	3	3	3
24	16	3	2	3	3	1	2	2	2	2	2	3	3	3
25	17	4	2	2	2	1	2	2	1	2	2	1	4	3
26	17	3	3	3	3	3	3	3	3	3	3	3	3	3
27	18	4	4	4	4	4	4	4	4	4	4	4	3	3
28	18	3	3	3	4	4	3	3	3	3	3	3	4	3
29	19	3	2	3	3	2	3	2	2	3	3	3	3	3
30	19	3	3	3	3	3	3	3	3	3	3	3	3	3
31	20	3	4	3	3	2	3	3	2	2	3	3	3	3
32	20	3	3	3	3	2	3	3	2	2	3	3	3	3
33	21	4	4	4	4	4	4	4	4	4	4	4	4	3
34	21	3	3	3	3	3	3	3	3	3	3	3	3	3
35	22	4	4	4	4	4	4	4	4	4	4	4	4	4
36	22	4	3	3	4	3	3	3	3	3	3	3	3	4

Table 6: Round 3 Ratings: Grade 11

Portfolio	Raw Score	Panelist											Performance Level
		id_01	id_02	id_03	id_04	id_05	id_06	id_07	id_08	id_09	id_10	id_11	
1	5	1	1	1	1	1	1	1	1	1	1	1	1
2	5	1	1	1	1	1	1	1	1	1	1	1	1
3	6	1	1	1	1	1	1	1	1	1	1	1	1
4	6	1	1	1	1	1	1	1	1	1	1	1	1
5	7	1	1	1	1	1	1	1	1	1	1	1	1
6	7	1	1	1	1	2	1	1	1	1	1	1	1
7	8	1	1	1	1	1	1	1	1	1	1	1	1
8	8	1	1	1	1	1	1	1	1	2	1	2	1
9	9	1	1	1	1	1	1	1	1	2	2	1	1
10	9	1	2	1	1	1	2	2	2	2	2	1	1
11	10	2	2	2	2	2	2	2	2	2	2	2	1
12	10	1	1	1	1	1	1	1	1	1	1	2	1
13	11	2	2	2	2	2	2	2	2	2	2	2	2
14	11	2	2	2	2	2	2	2	2	2	2	2	2
15	12	1	2	1	2	1	1	2	2	2	2	2	2
16	12	2	2	2	1	1	1	1	1	1	2	2	2
17	13	2	2	2	2	2	2	2	2	2	2	2	2
18	14	1	2	2	1	1	2	1	2	2	2	2	2
19	14	2	2	2	2	1	2	1	2	2	2	2	2
20	15	2	2	2	1	1	2	2	2	2	2	2	2
21	15	2	2	3	3	2	3	2	2	2	2	2	2
22	16	2	2	2	2	1	3	2	2	2	2	2	2
23	16	1	3	2	1	1	3	1	1	2	2	2	2
24	17	2	3	2	2	2	3	3	2	3	2	3	3
25	17	3	3	3	3	2	3	3	3	3	3	3	3
26	18	3	3	3	3	3	4	3	3	3	3	3	3
27	18	3	3	3	3	3	3	3	3	3	3	3	3
28	19	3	3	3	3	3	3	3	3	3	3	3	3
29	19	3	4	3	3	3	3	3	4	3	3	4	3
30	20	4	4	4	4	4	4	3	4	4	4	4	3
31	20	3	3	3	3	3	3	3	3	3	3	3	3
32	21	4	4	4	4	4	4	4	4	4	4	3	4
33	21	4	3	3	3	3	3	4	4	3	4	3	4
34	22	4	4	4	4	4	4	4	4	4	4	4	4
35	22	4	4	4	4	4	3	4	4	4	4	4	4

Appendix D: Forms

This appendix describes and presents samples of the forms required in a completed MAP-A. The forms are described and outlined in Table 1. Data collection and submission requirements are outlined in Tables 2 – 5.

Table 1. MAP-A Forms

Form	Description
Table of Contents Checklist	Acts as a guide for organization of the completed MAP-A.
Validation Form	Provides documentation of the individuals who have reviewed and/or contributed to the MAP-A. Allows for optional brief reporting of extended absences and/or student's communication mode. The principal, assistant principal or special education director must sign this form prior to submission of the MAP-A.
Entry/Data Summary Sheets	Serves as a record of student performance on each API assessed. The student's score for Level of Accuracy and Level of Independence for each API will be determined based on the percentages recorded on the Entry/Data Summary Sheet.
API Duplication/Justification Form	Supplies specific content-based evidence to support the justification/rationale for duplicate use of the API.
Student Work Records	Provides documentation of student work for each API assessed in both collection periods. Student Work Records should demonstrate the **application** of the API in a standards-based activity. You may show evidence of student work by • collecting student work samples such as worksheets, drawings, writings, journal entries, or projects; or • observing the student and recording his or her performance.

Table 2. Minimum Page Requirements for MAP-A Submissions at Each Grade Level

Grade Level	Mathematics	Communication Arts	Science	Min. Total of Pages
Elementary Grades 3 & 4	12	12	---	26
Elementary Grade 5	12	12	6	32
Middle School Grades 6 & 7	12	12	---	26
Middle School Grade 8	12	12	6	32
High School Grade 10	12	---	---	14
High School Grade 11	---	12	6	20

Table 3. Mathematics MAP-A Data Collection and Submission Requirements

Strand	API	Collection Period	Data Collection Required	Forms Required		Min. Total of Pages
Strand 1	API 1	1	3 data points	1 Entry/Data Summary Sheet	2 Student Work Records	12
		2	3 data points			
	API 2	1	3 data points	1 Entry/Data Summary Sheet	2 Student Work Records	
		2	3 data points			
Strand 2	API 1	1	3 data points	1 Entry/Data Summary Sheet	2 Student Work Records	
		2	3 data points			
	API 2	1	3 data points	1 Entry/Data Summary Sheet	2 Student Work Records	
		2	3 data points			

Table 4. Communication Arts MAP-A Data Collection and Submission Requirements

Strand	API	Collection Period	Data Collection Required	Forms Required		Min. Total of Pages
Strand 1	API 1	1	3 data points	1 Entry/Data Summary Sheet	2 Student Work Records	12
		2	3 data points			
	API 2	1	3 data points	1 Entry/Data Summary Sheet	2 Student Work Records	
		2	3 data points			
Strand 2	API 1	1	3 data points	1 Entry/Data Summary Sheet	2 Student Work Records	
		2	3 data points			
	API 2	1	3 data points	1 Entry/Data Summary Sheet	2 Student Work Records	
		2	3 data points			

Table 5. Science MAP-A Data Collection and Submission Requirements

Strand	API	Collection Period	Data Collection Required	Forms Required		Min. Total of Pages
Process Strand 7 and Content Strand	Process API 1 and Content API 1	1	3 data points	1 Entry/Data Summary Sheet	2 Student Work Records	**6**
		2	3 data points			
Process Strand 8 and Content Strand	Process API 2 and Content API 2	1	3 data points	1 Entry/Data Summary Sheet	2 Student Work Records	
		2	3 data points			

Table 6. Requirements for Proper MAP-A Documentation

	Mathematics	Communication Arts	Science
Grades Tested	3-8, 10	3-8, 11	5, 8, 11
# of Strands required per content area	2	2	4
# of APIs required per Strand	2	2	1
# of Entries Required	4	4	2
Minimum pages per content area	12	12	6

The following forms are required for the MAP-A.

1. Table of Contents Checklists
    - Grades 3, 4
    - Grade 5
    - Grades 6, 7
    - Grade 8
    - Grade 10
    - Grade 11
2. Validation Form
3. Entry/Data Summary Sheet
4. API Duplication/Justification Form
5. Student Work Record

The MAP-A requires content area strands specific to grade span. Correct strands must be recorded on the Entry/Data Summary Sheets for each student.

Table 7. Title

Content Area	Title of Strand	Grades
Mathematics	**Strand 1**: Numbers and Operations (**NO**)	All Grades
	Strand 2: Algebraic Relationships and/or Geometric and Spatial Relationships (**AR/GS**)	Grades 3–5
	Strand 2: Data and Probability (**DP**)	Grades 6–8
	Strand 2: Measurement (**ME**)	Grade 10
Communication Arts	**Strand 1:** Reading (**RD** and/or **RP**)	All Grades
	Strand 2: Writing (**WC**)	Grades 3–5
	Strand 2: Writing (**WP**)	Grades 6–8, 11
Science	**CONTENT STRANDS**	
	Strand 7: Scientific Inquiry **(SI)**	All Grades
	Strand 8: Impact of Science, Technology and Human Activity **(IS)**	All Grades
	PROCESS STRANDS	
	Strand 3: Characteristics and Interactions of Living Organisms **(LO)**	Grade 5
	Strand 4: Changes in the Ecosystems and Interaction of Organisms with their Environments **(EC)**	Grade 5
	Strand 1: Properties and Principles of Matter and Energy **(ME)**	Grade 8
	Strand 2: Properties and Principles of Force and Motion **(FM)**	Grade 8
	Strand 5: Process and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere) **(ES)**	Grade 11
	Strand 6: Composition and Structure of the Universe and the Motion of the Objects Within It **(UN)**	Grade 11

Table of Contents Checklist

Elementary

Student: _____	School Year:_____	Grade: 3 4

(Organize MAP-A in the following manner)

- ☐ Table of Contents Checklist
- ☐ Validation Form

Communication Arts Strand 1: Reading (RD/RP)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Communication Arts Strand 1: Reading (RD/RP)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Communication Arts Strand 2: Writing (WC)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Communication Arts Strand 2: Writing (WC)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 1: Numbers & Operations (NO)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 1: Numbers & Operations (NO)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 2: Algebraic Relationships and/or Geometric & Spatial Relationships (AR/GS)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 2: Algebraic Relationships and/or Geometric & Spatial Relationships (AR/GS)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Table of Contents Checklist

Elementary

Student: _____	School Year:_____	Grade: 5

(Organize MAP-A in the following manner)

- ☐ Table of Contents Checklist
- ☐ Validation Form

Communication Arts Strand 1: Reading (RD/RP)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Communication Arts Strand 1: Reading (RD/RP)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Communication Arts Strand 2: Writing (WC)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Communication Arts Strand 2: Writing (WC)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 1: Numbers & Operations (NO)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 1: Numbers & Operations (NO)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 2: Algebraic Relationships and/or Geometric & Spatial Relationships (AR/GS)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 2: Algebraic Relationships and/or Geometric & Spatial Relationships (AR/GS)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Science Strand 7: Scientific Inquiry (IN) and Strand 3 (LO) or 4 (EC)
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Science Strand 8: Impact of Science, Technology, and Human Activity (ST) and Strand 3 (LO) or 4 (EC)
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Table of Contents Checklist

Middle School

Student: _____	School Year:_____	Grade: 6 7

(Organize MAP-A in the following manner.)

- Table of Contents Checklist
- Validation Form

Communication Arts Strand 1: Reading (RD/RP)
Alternate Performance Indicator #1
- Entry/Data Summary Sheet
- Collection Period 1 Student Work Record
- Collection Period 2 Student Work Record

Communication Arts Strand 1: Reading (RD/RP)
Alternate Performance Indicator #2
- Entry/Data Summary Sheet
- Collection Period 1 Student Work Record
- Collection Period 2 Student Work Record

Communication Arts Strand 2: Writing (WP)
Alternate Performance Indicator #1
- Entry/Data Summary Sheet
- Collection Period 1 Student Work Record
- Collection Period 2 Student Work Record

Communication Arts Strand 2: Writing (WP)
Alternate Performance Indicator #2
- Entry/Data Summary Sheet
- Collection Period 1 Student Work Record
- Collection Period 2 Student Work Record

Mathematics Strand 1: Numbers & Operations (NO)
Alternate Performance Indicator #1
- Entry/Data Summary Sheet
- Collection Period 1 Student Work Record
- Collection Period 2 Student Work Record

Mathematics Strand 1: Numbers & Operations (NO)
Alternate Performance Indicator #2
- Entry/Data Summary Sheet
- Collection Period 1 Student Work Record
- Collection Period 2 Student Work Record

Mathematics Strand 2: Data & Probability (DP)
Alternate Performance Indicator #1
- Entry/Data Summary Sheet
- Collection Period 1 Student Work Record
- Collection Period 2 Student Work Record

Mathematics Strand 2: Data & Probability (DP)
Alternate Performance Indicator #2
- Entry/Data Summary Sheet
- Collection Period 1 Student Work Record
- Collection Period 2 Student Work Record

Table of Contents Checklist

Middle School

Student: _____	School Year:_____	Grade: 8

(Organize MAP-A in the following manner.)

- ☐ Table of Contents Checklist
- ☐ Validation Form

Communication Arts Strand 1: Reading (RD/RP)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Communication Arts Strand 1: Reading (RD/RP)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Communication Arts Strand 2: Writing (WP)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Communication Arts Strand 2: Writing (WP)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 1: Numbers & Operations (NO)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 1: Numbers & Operations (NO)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 2: Data & Probability (DP)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 2: Data & Probability (DP)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Science Strand 7: Scientific Inquiry (IN) and Strand 1 (ME) or 2 (FM)
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Science Strand 8: Impact of Science, Technology, and Human Activity (ST) and Strand 1 (ME) or 2 (FM)
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Table of Contents Checklist

High School

Student: _____	School Year:_____	Grade: 10

(Organize MAP-A in the following manner.)

- ☐ Table of Contents Checklist
- ☐ Validation Form

Mathematics Strand 1: Numbers & Operations (NO)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 1: Numbers & Operations (NO)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 2: Measurement (ME)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 2: Measurement (ME)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Table of Contents Checklist

High School

Student: _____	School Year:_____	Grade: 11

(Organize MAP-A in the following manner.)

- ☐ Table of Contents Checklist
- ☐ Validation Form

Communication Arts Strand 1: Reading (RD/RP)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Communication Arts Strand 1: Reading (RD/RP)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Communication Arts Strand 2: Writing (WP)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Communication Arts Strand 2: Writing (WP)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Science Strand 7: Scientific Inquiry (IN) and Strand 5 (ES) or 6 (UN)
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Science Strand 8: Impact of Science, Technology, and Human Activity (ST) and Strand 5 (ES) or 6 (UN)
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Validation Form

Student:_____ Grade:_____

District & School of Attendance:_____

This form provides documentation of the individuals who have reviewed and/or contributed to this MAP-A.

Name:_____ Position: _____

Contribution to the MAP-A: Person Responsible for the MAP-A Administration

Name:_____ Position: _____

Contribution to the MAP-A:_____

_____

Name:_____ Position: _____

Contribution to the MAP-A:_____

_____

Name:_____ Position: _____

Contribution to the MAP-A:_____

_____

Name:_____ Position:_____

Contribution to the MAP-A:_____

_____

OPTIONAL- Use this space to provide information regarding the student's mode of communication.

Please obtain administrator's (principal, assistant principal, or special education director) signature prior to submission.

_____

Signature Date

_____

Print Name

Entry/Data Summary Sheet
Mathematics/Communication Arts

Student Name:				**Grade:**		
Strand:	**Big Idea:**			**Concept:**		
API :						
Has this student been assessed on this API in previous years? Y □ N □						
	Collection Period 1 January 12 – February 6			**Collection Period 2 February 9 – March 6**		
	Dates below do not need to be in chronological order.			Dates below do not need to be in chronological order.		
Date						
Data Type	Student Work Record	Data Point	Data Point	Student Work Record	Data Point	Data Point
Accuracy %						
Independence %						
Average % for Collection Period	Accuracy:			Accuracy:		
	Independence:			Independence:		

	API Entry Average
Level of Accuracy	
Level of Independence	

API Duplication Justification Form
Mathematics/Communication Arts

Student Name:		**Grade:**
Content Area:		**Strand:**
API #:	**API Description:**	
You indicated that this student has been assessed on this API in previous years. **The instructional decision to duplicate an API from a prior year's MAP-A assessment must be justified on this form. The justification must be included with the MAP-A submission.**		
Justification/Rationale: (Supply specific justification for duplicate use of the API.)		
Plan of Student Progress: (Supply specific plans in place to assure student growth across API's content.)		

Entry/Data Summary Sheet
Science

Student Name:			**Grade:**			
Process Strand:	**Big Idea:**		**Concept:**			
Process API:						
Content Strand:	**Big Idea:**		**Concept:**			
Content API:						
	Collection Period 1 January 12 – February 6			**Collection Period 2 February 9 – March 6**		
	Dates below do not need to be in chronological order.			Dates below do not need to be in chronological order.		
Date						
Data Type	Student Work Record	Data Point	Data Point	Student Work Record	Data Point	Data Point
Accuracy %						
Independence %						
Average % for Collection Period	Accuracy:			Accuracy:		
	Independence:			Independence:		

	API Entry Average
Level of Accuracy	
Level of Independence	

Student Work Record
Mathematics/Communication Arts

Attach student work sample if appropriate

Student Name:		**Grade:**	**Date:**
Strand:	**Big Idea:**		**Concept:**
API:			
Task/Activity: (Write a brief description of the task/activity, its connection to the API, and how it demonstrates application.)			
Evaluation of Student's Performance:			
Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for **Level of Accuracy**.		Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for **Level of Independence**.	
Level of Accuracy _____%		**Level of Independence _____%**	

Student Work Record
Science

Attach student work sample if appropriate

Student Name:		**Grade:**	**Date:**
Process Strand:	**Big Idea:**		**Concept:**
Process API:			
Content Strand:	**Big Idea:**		**Concept:**
Content API:			
Task/Activity: (Write a brief description of the task/activity, its connection to both APIs, and how it demonstrates application.)			
Evaluation of Student's Performance:			
Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for **Level of Accuracy**.		Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for **Level of Independence**.	
Level of Accuracy: _____%		**Level of Independence: _____%**	

Include student work sample here, if appropriate.

Submit student work sample on 8 ½ X 11 paper.

This page is a placeholder. **Do not** tape, staple, or otherwise attach student work to this page.

Do not submit photos.

Appendix E: MAP-A Achievement Level Descriptors and Cut Scores

Achievement Level Descriptors

Table 1. Grades 3-5 Mathematics Achievement Level Descriptors

Achievement Level	Descriptor
Level not Determined	Insufficient evidence was reported to assign raw scores to this student's MAP-A; therefore, no achievement level may be assigned.
Below Basic	Student has a minimal understanding of the concepts contained in the grade appropriate APIs within the strands of Numbers and Operations and Algebraic Relationships and/or Geometric and Spatial Relationships. Student work may be loosely connected to the strands. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Basic	Student has a fundamental understanding of the concepts contained in the grade appropriate APIs within the strands of Numbers and Operations and Algebraic Relationships and/or Geometric and Spatial Relationships. Student work may be somewhat connected to the strands. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Proficient	Student has a sound understanding of the concepts contained in the grade appropriate APIs within the strands of Numbers and Operations and Algebraic Relationships and/or Geometric and Spatial Relationships. Student work may be connected to the strands and demonstrate application. Student likely requires some verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.
Advanced	Student has a strong understanding of the concepts contained in the grade appropriate APIs within the strands of Numbers and Operations and Algebraic Relationships and/or Geometric and Spatial Relationships. Student work may be closely connected to the strands and demonstrate strong application. Student likely requires minimal verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

Table 2. Grades 6-8 Mathematics Achievement Level Descriptors

Achievement Level	Descriptor
Level not Determined	Insufficient evidence was reported to assign raw scores to this student's MAP-A; therefore, no achievement level may be assigned.
Below Basic	Student has a minimal understanding of the concepts contained in the grade appropriate APIs within the strands of Numbers and Operations and Data and Probability. Student work may be loosely connected to the strands. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Basic	Student has a fundamental understanding of the concepts contained in the grade appropriate APIs within the strands of Numbers and Operations and Data and Probability. Student work may be somewhat connected to the strands. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Proficient	Student has a sound understanding of the concepts contained in the grade appropriate APIs within the strands of Numbers and Operations and Data and Probability. Student work may be connected to the strands and demonstrate application. Student likely requires some verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.
Advanced	Student has a strong understanding of the concepts contained in the grade appropriate APIs within the strands of Numbers and Operations and Data and Probability. Student work may be closely connected to the strands and demonstrate strong application. Student likely requires minimal verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

Table 3. Grade 10 Mathematics Achievement Level Descriptors

Achievement Level	Descriptor
Level not Determined	Insufficient evidence was reported to assign raw scores to this student's MAP-A; therefore, no achievement level may be assigned.
Below Basic	Student has a minimal understanding of the concepts contained in the grade appropriate APIs within the strands of Numbers and Operations and Measurement. Student work may be loosely connected to the strands. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Basic	Student has a fundamental understanding of the concepts contained in the grade appropriate APIs within the strands of Numbers and Operations and Measurement. Student work may be somewhat connected to the strands. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Proficient	Student has a sound understanding of the concepts contained in the grade appropriate APIs within the strands of Numbers and Operations and Measurement. Student work may be connected to the strands and demonstrate application. Student likely requires some verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.
Advanced	Student has a strong understanding of the concepts contained in the grade appropriate APIs within the strands of Numbers and Operations and Measurement. Student work may be closely connected to the strands and demonstrate strong application. Student likely requires minimal verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

Table 4. Grades 3-5 Communication Arts Achievement Level Descriptors

Achievement Level	Descriptor
Level not Determined	Insufficient evidence was reported to assign raw scores to this student's MAP-A; therefore, no achievement level may be assigned.
Below Basic	Student has a minimal understanding of the concepts contained in the grade appropriate APIs within the standards of the Reading Development and Processes and Standard English Conventions. Student work may be loosely connected to the standards. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Basic	Student has a limited understanding of the concepts contained in the grade appropriate APIs within the standards of the Reading Development and Processes and Standard English Conventions. Student work may be somewhat connected to the standards. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Proficient	Student has some understanding of the concepts contained in the grade appropriate APIs within the standards of the Reading Development and Processes and Standard English Conventions. Student work may be connected to the standards and demonstrate application. Student likely requires some verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.
Advanced	Student has a high level of understanding of the concepts contained in the grade appropriate APIs within the standards of the Reading Development and Processes and Standard English Conventions. Student work may be closely connected to the standards and demonstrate strong application. Student likely requires minimal verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

Table 5. Grades 6-8 Communication Arts Achievement Level Descriptors

Achievement Level	Descriptor
Level not Determined	Insufficient evidence was reported to assign raw scores to this student's MAP-A; therefore, no achievement level may be assigned.
Below Basic	Student has a minimal understanding of the concepts contained in the grade appropriate APIs within the standards of Reading and Writing Development and Processes. Student work may be loosely connected to the standards. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Basic	Student has a limited understanding of the concepts contained in the grade appropriate APIs within the standards of Reading and Writing Development and Processes. Student work may be somewhat connected to the standards. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Proficient	Student has some understanding of the concepts contained in the grade appropriate APIs within the standards of Reading and Writing Development and Processes. Student work may be connected to the standards and demonstrate application. Student likely requires some verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.
Advanced	Student has a high level of understanding of the concepts contained in the grade appropriate APIs within the standards of Reading and Writing Development and Processes. Student work may be closely connected to the standards and demonstrate strong application. Student likely requires minimal verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

Table 6. Grade 11 Communication Arts Achievement Level Descriptors

Achievement Level	Descriptor
Level not Determined	Insufficient evidence was reported to assign raw scores to this student's MAP-A; therefore, no achievement level may be assigned.
Below Basic	Student has a minimal understanding of the concepts contained in the grade appropriate APIs within the standards of Reading and Writing Development and Processes. Student work may be loosely connected to the standards. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Basic	Student has a limited understanding of the concepts contained in the grade appropriate APIs within the standards of Reading and Writing Development and Processes. Student work may be somewhat connected to the standards. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Proficient	Student has some understanding of the concepts contained in the grade appropriate APIs within the standards of Reading and Writing Development and Processes. Student work may be connected to the standards and demonstrate application. Student likely requires some verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.
Advanced	Student has a high level of understanding of the concepts contained in the grade appropriate APIs within the standards of Reading and Writing Development and Processes. Student work may be closely connected to the standards and demonstrate strong application. Student likely requires minimal verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

Table 7. Grade 5 Science Achievement Level Descriptors

Achievement Level	Descriptor
Level not Determined	Insufficient evidence was reported to assign raw scores to this student's MAP-A; therefore, no achievement level may be assigned.
Below Basic	Student has a minimal understanding of the concepts contained in the grade-appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Characteristics and Interactions of Living Organisms and Changes in Ecosystems and Interactions of Organisms with Their Environment. Student work may be loosely connected to the strands. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Basic	Student has a fundamental understanding of the concepts contained in the grade-appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Characteristics and Interactions of Living Organisms and Changes in Ecosystems and Interactions of Organisms with Their Environment. Student work may be somewhat connected to the strands. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Proficient	Student has a sound understanding of the concepts contained in the grade-appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Characteristics and Interactions of Living Organisms and Changes in Ecosystems and Interactions of Organisms with Their Environment. Student work may be connected to the strands and demonstrate application. Student likely requires some verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.
Advanced	Student has a strong understanding of the concepts contained in the grade-appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Characteristics and Interactions of Living Organisms and Changes in Ecosystems and Interactions of Organisms with Their Environment. Student work may be closely connected to the strands and demonstrate strong application. Student likely requires minimal verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

Table 8. Grade 8 Science Achievement Level Descriptors

Achievement Level	Descriptor
Level not Determined	Insufficient evidence was reported to assign raw scores to this student's MAP-A; therefore, no achievement level may be assigned.
Below Basic	Student has a minimal understanding of the concepts contained in the grade-appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Properties and Principles of Matter and Energy, and Properties and Principles of Force and Motion. Student work may be loosely connected to the strands. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Basic	Student has a fundamental understanding of the concepts contained in the grade-appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Properties and Principles of Matter and Energy, and Properties and Principles of Force and Motion. Student work may be somewhat connected to the strands. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Proficient	Student has a sound understanding of the concepts contained in the grade-appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Properties and Principles of Matter and Energy, and Properties and Principles of Force and Motion. Student work may be connected to the strands and demonstrate application. Student likely requires some verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.
Advanced	Student has a strong understanding of the concepts contained in the grade-appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Properties and Principles of Matter and Energy, and Properties and Principles of Force and Motion. Student work may be closely connected to the strands and demonstrate strong application. Student likely requires minimal verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

Table 9. Grade 11 Science Achievement Level Descriptor

Achievement Level	Descriptor
Level not Determined	Insufficient evidence was reported to assign raw scores to this student's MAP-A; therefore, no achievement level may be assigned.
Below Basic	Student has a minimal understanding of the concepts contained in the grade-appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Process and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere), and Composition and Structure of the Universe and the Motion of the Objects Within It. Student work may be loosely connected to the strands. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Basic	Student has a fundamental understanding of the concepts contained in the grade-appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Process and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere), and Composition and Structure of the Universe and the Motion of the Objects Within It. Student work may be somewhat connected to the strands. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.
Proficient	Student has a sound understanding of the concepts contained in the grade-appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Process and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere), and Composition and Structure of the Universe and the Motion of the Objects Within It. Student work may be connected to the strands and demonstrate application. Student likely requires some verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.
Advanced	Student has a strong understanding of the concepts contained in the grade-appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Process and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere), and Composition and Structure of the Universe and the Motion of the Objects Within It. Student work may be closely connected to the strands and demonstrate strong application. Student likely requires minimal verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

MAP-A Cut Scores

MAP-A cut scores for Mathematics, Communication Arts, and Science are found in the following table.

Table 10. MAP-A Cut Scores

Grade Span	Content Area	Achievement Level	Raw Score Range
3-5	Mathematics	BB	3-15
		B	16-26
		P	27-39
		A	40-44
3-5	Communication Arts	BB	3-18
		B	19-29
		P	30-40
		A	41-44
5	Science	BB	3-10
		B	11-16
		P	17-20
		A	21-22
6-8	Mathematics	BB	3-20
		B	21-28
		P	29-40
		A	41-44
6-8	Communication Arts	BB	3-20
		B	21-32
		P	33-41
		A	42-44
8	Science	BB	3-10
		B	11-16
		P	17-20
		A	21-22
10	Mathematics	BB	3-19
		B	20-30
		P	31-41
		A	42-44
11	Communication Arts	BB	3-23
		B	24-33
		P	34-40
		A	41-44
11	Science	BB	3-10
		B	11-16
		P	17-20
		A	21-22

MAP-A 2009 – 2010 Administration Training

Department of Elementary and Secondary Education
Assessment Resource Center
Measured Progress

MAP-A Administration Topics

- Timeline
- What's new this year?
- Process Overview
  - What is the MAP-A?
  - Who are MAP-A students?
  - Design
- Documentation
  - Forms
- Scoring Criteria
  - Level of Accuracy
  - Level of Independence

MAP-A Administration Topics

- Data Collection & MAP-A Activities
  - Alternate Performance Indicators
  - Activity Design
- ProFile
- Lessons Learned
- Timeline
- Q & A

Missouri Assessment Program-Alternate (MAP-A)

Instructor's Guide
and Implementation Manual
2009-2010

DEVELOPED BY
Missouri Department of Elementary and Secondary Education
Measured Progress • Assessment Resource Center

2009-2010 MAP-A Timeline

Enrollment Window Opens	September 21
MAP-A Materials Ship	December 7 – January 8
Transfer Student Participation Deadline	January 8
Collection Period 1	January 11 – February 5
Collection Period 2	February 8 – March 5
Return-by Date	March 10
ProFile Closes	March 26

What's New?

- Exemplar Samples
  - 3 new samples, one in each subject
- ProFile
  - See Chapter 4
  - Time-outs, Save Features, Login and Passwords
  - Close Date: March 26, 2010

What is the MAP-A?

- Large-Scale Assessment
- No Child Left Behind
  - All students participate in state tests
- Missouri Assessment Program
  - Mathematics, Communication Arts, and Science
  - Links Missouri's Show-Me Standards, Curriculum, Instruction, and Assessment
  - Alternate assessment provides opportunities for all Missouri students

Who are MAP-A Students?

- IEP team makes eligibility decisions
- DESE-determined eligibility criteria
  - 5 yes-no questions
  - 5 yes responses – the student is MAP-A eligible

http://www.dese.mo.gov/divimprove/assess/MAP_A/eligibility_criteria_10_07.pdf

Who are MAP-A Students?

- Severe cognitive disabilities
- Do not keep pace with peers
- Educational focus centers on essential skills
- IEP team recommends alternate assessment
- Excessive absences, visual or auditory disabilities, social, cultural, language, or economic differences alone don't call for MAP-A

Who are MAP-A Students?

- Primary Disability Diagnosis
  - 60% MR
  - 15% Autism
  - 12% Multiple Disabilities
  - 5% Other Traumatic Injury
  - Remainder, Various Diagnoses

Creating MAP-A Assessment

- Know your student
- Select/design assessment tasks
  - Know and can do
  - Grade-appropriate APIs
  - Consider student accuracy and independence
- Write brief description
- Administer activities & record data
  - 6 data points
- Describe student performance

Design

Content Area	Title of Strand	Grade Focus
Mathematics MA	Numbers and Operations (NO)	3 – 8 & 10
	Algebraic Relationships (AR) *and/or* Geometric and Spatial Relationships (GS)	3, 4, & 5
	Data and Probability (DP)	6, 7, & 8
	Measurement (ME)	10
Communication Arts CA	Develop and apply skills and strategies to the reading process. (RD and/or RP)	3-8 & 11
	Compose well-developed text using standard English conventions. (WC)	3, 4, & 5
	Apply a writing process in composing text or write effectively in various forms and types of writing. (WP)	6 – 8 & 11

Design

Content Area	Title of Strand	Grade Focus
Science SCI *Process Strands*	Scientific Inquiry (IN)	5, 8, & 11
	Impact of Science, Technology, and Human Activity (ST)	5, 8, & 11
Science SCI *Content Strands*	Characteristics and Interactions of Living Organisms (LO)	5
	Changes in Ecosystems and Interactions of Organisms with Their Environments (EC)	5
	Properties and Principles of Matter and Energy (ME)	8
	Properties and Principles of Force and Motion (FM)	8
	Processes and Interactions of the Earth's Systems (ES)	11
	Composition and Structure of the Universe and the Motion of the Objects within It (UN)	11

Design

- Mathematics
  - 3-8 and 10
- Communication Arts
  - 3-8 and 11
- Science
  - 5, 8, and 11

Design

- Status model assessment
  - Snapshot
- Collection of information
  - Description of assessment activities
  - Evaluation of student participation
  - May include student work samples

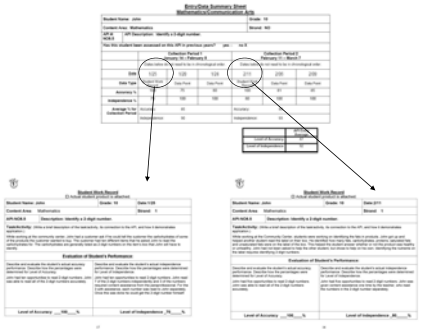
Design

- MAP-A Entry
  - Building block of the MAP-A assessment
  - Demonstration of what a student knows and can do
  - Used to Assess APIs
  - Student Work Record
    - Basic component
    - Description of assessment activity
    - Evaluation of student participation

Design

- MAP-A Entry
  - 2 Student Work Records
  - 1 Entry Data Summary Sheet

MAP-A Entry



Design

- MAP-A Entry
  - 2 Student Work Records
    - Actual student work may be attached
  - 1 Entry Data Summary Sheet
- How many entries in a MAP-A?
  - 2 Science (SCI)—4APIs
  - 4 Mathematics (MA)—4 APIs
  - 4 Communication Arts (CA)—4 APIs

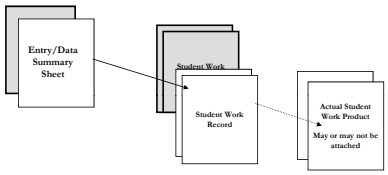
Assessment Requirements

MAP-A Entry and API Requirements			
	Science	Communication Arts	Mathematics
Entries	2	4	4
APIs per Entry	2	1	1
Total APIs	4	4	4

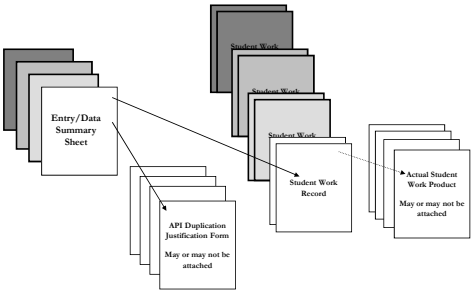
Science

- Grades 5, 8, and 11
- Selection of APIs is different than Communication Arts & Mathematics
- Only requires 2 Entries
- Each entry must assess **2** different APIs
  - **ONE** from each grade-specific science CONTENT Strand (Strands 1-6), and
  - ONE from each grade-specific Science PROCESS Strand (Strands 7 & 8)
- MAP-A Science assesses 4 APIs
- APIs are paired, and a SCIENCE activity that addresses both is designed and assessed

Paperwork for Science Entries



Paperwork for Mathematics or Communication Arts Entries



Documentation

- Table of Contents Checklist
- Validation Form
- Entry/Data Summary Sheet
- API Duplication/Justification Form
- Student Work Record

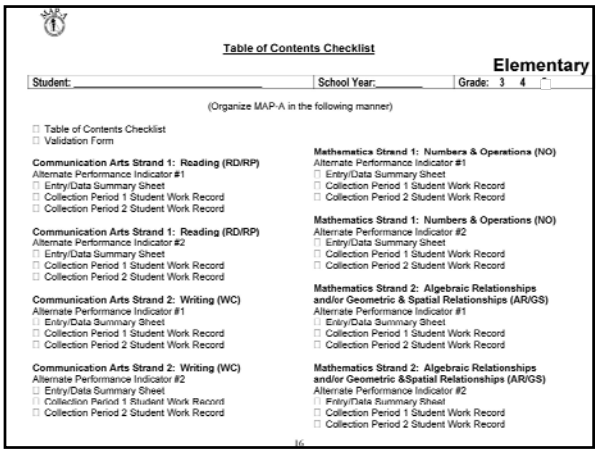


Table of Contents Checklist

Elementary

Student: _____ School Year: _____ Grade: 3 4

(Organize MAP-A in the following manner)

- ☐ Table of Contents Checklist
- ☐ Validation Form

Communication Arts Strand 1: Reading (RD/RP)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Communication Arts Strand 1: Reading (RD/RP)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Communication Arts Strand 2: Writing (WC)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Communication Arts Strand 2: Writing (WC)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

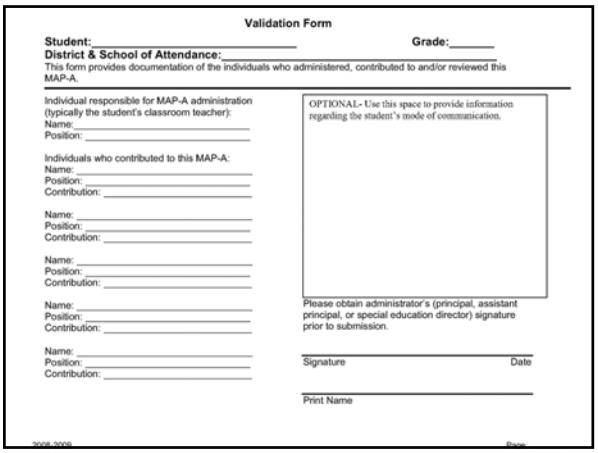
Mathematics Strand 1: Numbers & Operations (NO)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 1: Numbers & Operations (NO)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 2: Algebraic Relationships and/or Geometric & Spatial Relationships (AR/GS)
Alternate Performance Indicator #1
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

Mathematics Strand 2: Algebraic Relationships and/or Geometric &Spatial Relationships (AR/GS)
Alternate Performance Indicator #2
- ☐ Entry/Data Summary Sheet
- ☐ Collection Period 1 Student Work Record
- ☐ Collection Period 2 Student Work Record

16



Validation Form

Student:_____ **Grade:**_____

District & School of Attendance:_____

This form provides documentation of the individuals who administered, contributed to and/or reviewed this MAP-A.

Individual responsible for MAP-A administration (typically the student's classroom teacher):
Name: _____
Position: _____

Individuals who contributed to this MAP-A:
Name: _____
Position: _____
Contribution: _____

Name: _____
Position: _____
Contribution: _____

Name: _____
Position: _____
Contribution: _____

Name: _____
Position: _____
Contribution: _____

Name: _____
Position: _____
Contribution: _____

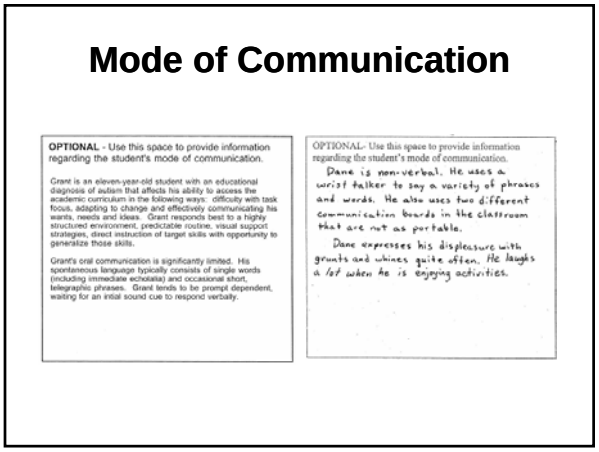
OPTIONAL- Use this space to provide information regarding the student's mode of communication.

Please obtain administrator's (principal, assistant principal, or special education director) signature prior to submission.

_____
Signature Date

_____
Print Name

2008-2009 Page:



Mode of Communication

OPTIONAL - Use this space to provide information regarding the student's mode of communication.

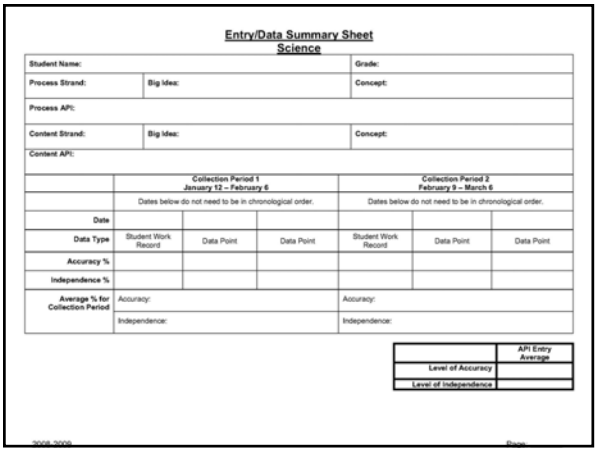
Grant is an eleven-year-old student with an educational diagnosis of autism that affects his ability to access the academic curriculum in the following ways: difficulty with task focus, adapting to change and effectively communicating his wants, needs and ideas. Grant responds best to a highly structured environment, predictable routine, visual support strategies, direct instruction of target skills with opportunity to generalize those skills.

Grant's oral communication is significantly limited. His spontaneous language typically consists of single words (including immediate echolalia) and occasional short, telegraphic phrases. Grant tends to be prompt dependent, waiting for an initial sound cue to respond verbally.

OPTIONAL- Use this space to provide information regarding the student's mode of communication.

Dane is non-verbal. He uses a wrist talker to say a variety of phrases and words. He also uses two different communication boards in the classroom that are not as portable.

Dane expresses his displeasure with grunts and whines quite often. He laughs a lot when he is enjoying activities.

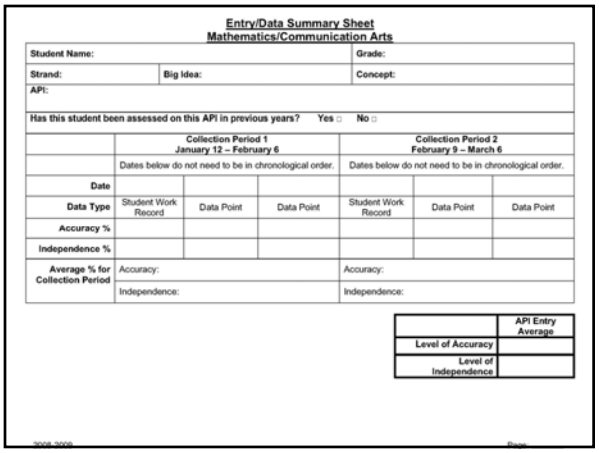


Entry/Data Summary Sheet
Science

Student Name:				**Grade:**		
Process Strand:	**Big Idea:**			**Concept:**		
Process API:						
Content Strand:	**Big Idea:**			**Concept:**		
Content API:						
	Collection Period 1 January 12 – February 6			**Collection Period 2 February 9 – March 6**		
	Dates below do not need to be in chronological order.			Dates below do not need to be in chronological order.		
Date						
Data Type	Student Work Record	Data Point	Data Point	Student Work Record	Data Point	Data Point
Accuracy %						
Independence %						
Average % for Collection Period	Accuracy:			Accuracy:		
	Independence:			Independence:		

	API Entry Average
Level of Accuracy	
Level of Independence	

2008-2009 Page:

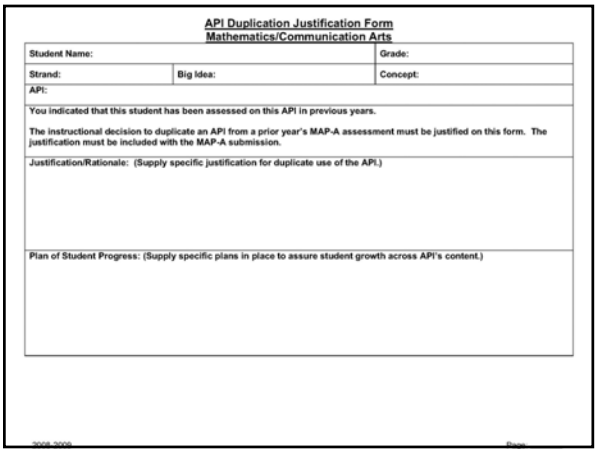


Entry/Data Summary Sheet
Mathematics/Communication Arts

Student Name:				**Grade:**		
Strand:	**Big Idea:**			**Concept:**		
API:						
Has this student been assessed on this API in previous years? Yes ☐ No ☐						
	Collection Period 1 January 12 – February 6			**Collection Period 2 February 9 – March 6**		
	Dates below do not need to be in chronological order.			Dates below do not need to be in chronological order.		
Date						
Data Type	Student Work Record	Data Point	Data Point	Student Work Record	Data Point	Data Point
Accuracy %						
Independence %						
Average % for Collection Period	Accuracy:			Accuracy:		
	Independence:			Independence:		

	API Entry Average
Level of Accuracy	
Level of Independence	

2008-2009 Page:



API Duplication Justification Form
Mathematics/Communication Arts

Student Name:		**Grade:**
Strand:	**Big Idea:**	**Concept:**
API:		

You indicated that this student has been assessed on this API in previous years.

The instructional decision to duplicate an API from a prior year's MAP-A assessment must be justified on this form. The justification must be included with the MAP-A submission.

Justification/Rationale: (Supply specific justification for duplicate use of the API.)

Plan of Student Progress: (Supply specific plans in place to assure student growth across API's content.)

2008-2009 Page:

Student Work Record
Science
Attach student work sample if appropriate.

Student Name:	**Grade:**	**Date:**
Process Strand:	**Big Idea:**	**Concept:**
Process API:		
Content Strand:	**Big Idea:**	**Concept:**
Content API:		
Task/Activity: (Write a brief description of the task/activity, its connection to both APIs, and how it demonstrates application.)		
Evaluation of Student's Performance:		
Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for **Level of Accuracy**.	Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for **Level of Independence**.	
Level of Accuracy: _____%	**Level of Independence: _____%**	

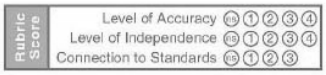
2008-2009 Page:

Student Work Record
Mathematics/Communication Arts
Attach student work sample if appropriate.

Student Name:	**Grade:**	**Date:**
Strand:	**Big Idea:**	**Concept:**
API:		
Task/Activity: (Write a brief description of the task/activity, its connection to the API, and how it demonstrates application.)		
Evaluation of Student's Performance:		
Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for **Level of Accuracy**.	Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for **Level of Independence**.	
Level of Accuracy _____%	**Level of Independence _____%**	

2008-2009 Page: _____

Scoring Criteria



- Level of Accuracy
- Level of Independence
- Connection to Standards

Level of Accuracy

Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for Level of Accuracy.

John had ten opportunities to read 2-digit numbers. John was able to read all of the 2-digit numbers accurately.

Level of Accuracy ___100____%

Level of Accuracy

Entry/Data Summary Sheet
Mathematics/Communication Arts

Student Name: John				**Grade: 10**		
Content Area: Mathematics				**Strand: NO**		
API #: NO8.5	**API Description: Identify a 2-digit number.**					
Has this student been assessed on this API in previous years? yes ☐ no X						
	Collection Period 1 January 14 – February 8			**Collection Period 2 February 11 – March 7**		
	Dates below do not need to be in chronological order.			Dates below do not need to be in chronological order.		
Date	1/25	1/20	1/24	2/11	2/06	2/09
Data Type	Student Work Record	Data Point	Data Point	Student Work Record	Data Point	Data Point
Accuracy %	100	75	80	100	81	85
Independence %	70	100	100	80	100	100
Average % for Collection Period	Accuracy: 85			Accuracy: 89		
	Independence: 90			Independence: 93		

	API Entry Average
Level of Accuracy	87
Level of Independence	92

Level of Accuracy Rubric

Score Point	Entry Average %	Description
4	76 -100	The Entry/Data Summary Sheet indicates the student provided an accurate answer or response an average of 76–100% of the time across the two data collection periods.
3	51-75	The Entry/Data Summary Sheet indicates the student provided an accurate answer or response an average of 51–75% of the time across the two data collection periods.
2	26-50	The Entry/Data Summary Sheet indicates the student provided an accurate answer or response an average of 26–50% of the time across the two data collection periods.
1	0-25	The Entry/Data Summary Sheet indicates the student provided an accurate answer or response an average of 0–25% of the time across the two data collection periods.
NS		Insufficient information was given. The Entry/Data Summary Sheet was incomplete. Each entry must have six data points (three per collection period) as indicated on the Entry/Data Summary Sheet.

Level of Independence

Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for Level of Independence.

John had ten opportunities to read 2-digit numbers. John read 7 of the 2-digit numbers independently and 3 of the numbers required content assistance from the paraprofessional. For the 3 with assistance, each number was read to John separately. Once this was done he could get the 2-digit number himself.

Level of Independence _70_____%

Level of Independence

Entry/Data Summary Sheet
Mathematics/Communication Arts

Student Name: John				Grade: 10		
Content Area: Mathematics				Strand: NO		
API #: NO8.5	API Description: Identify a 2-digit number.					
Has this student been assessed on this API in previous years? yes ☐ no X						
	Collection Period 1 January 14 – February 8			Collection Period 2 February 11 – March 7		
	Dates below do not need to be in chronological order.			Dates below do not need to be in chronological order.		
Date	1/25	1/20	1/24	2/11	2/06	2/09
Data Type	Student Work Record	Data Point	Data Point	Student Work Record	Data Point	Data Point
Accuracy %	100	75	80	100	81	85
Independence %	70	100	100	80	100	100
Average % for Collection Period	Accuracy:	85		Accuracy:	89	
	Independence:	90		Independence:	93	

	API Entry Average
Level of Accuracy	87
Level of Independence	92

Level of Independence Rubric

Score Point	Entry Average %	Description
4	76 -100	The Entry/Data Summary Sheet indicates the student demonstrates skills and concepts independently an average of 76–100% of the time across the two data collection periods. The student required minimal (0–24% of the time) cueing, prompting, or assistance.
3	51-75	The Entry/Data Summary Sheet indicates the student demonstrates skills and concepts independently an average of 51–75% of the time across the two data collection periods. The student required some (25–49% of the time) cueing, prompting, or assistance.
2	26-50	The Entry/Data Summary Sheet indicates the student demonstrates skills and concepts independently an average of 26–50% of the time across the two data collection periods. The student required frequent (50–74% of the time) cueing, prompting, or assistance.
1	0-25	The Entry/Data Summary Sheet indicates the student demonstrates skills and concepts independently an average of 0–25% of the time across the two data collection periods. The student required extensive (75–100% of the time) cueing, prompting, or assistance.
NS		Insufficient information was given. The Entry/Data Summary Sheet was incomplete. Each entry must have six data points (three per collection period) as indicated on the Entry/Data Summary Sheet.

Level of Independence

- Task Specific Prompts
- Non-Task Specific Prompts
  - Redirection or focus prompts do not lower independence scores EXCEPT when the API includes "Attend to…"

Content Area: Communication Arts
Strand: Writing
API Stem: Describe a familiar object, person, characters, places and/or events using words/pictures/ symbols/objects/actions.
API: WP2.9 Attend to descriptions of objects.

Connection to the Standards

- Is the API appropriate to the grade span?
- Does the activity described connect to the API?
- Does the activity demonstrate application?

Grade-Span Appropriate APIs

Student Name: John	Grade: 10	Date:1/25
Content Area Mathematics		Strand 1
API:NO8.5	Description: Identify a 2-digit number.	

Assessment Blueprint

Content Area	Title of Strand	Grade Focus
MA Mathematics	Numbers and Operations (NO)	MAP-A Strand 1 all grade spans Grades 3-8 & 10
	Algebraic Relationships (AR) ***and/or*** Geometric and Spatial Relationships (GS)	MAP-A Strand 2 elementary Grades 3, 4, & 5
	Data and Probability (DP)	MAP-A Strand 2 middle school Grades 6, 7, & 8
	Measurement (ME)	MAP-A Strand 2 high school Grade 10

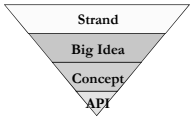
Connecting the Activity to the API

- What is the activity?
- What skills does it assess?

Content Area: Mathematics	Strand: 1
API:NO8.5	Description: Identify a 2-digit number.
Task/Activity: (Write a brief description of the task/activity, its connection to the API, and how it demonstrates application.) While working at the community center, John had a customer ask if he could tell the customer the carbohydrates of some of the products the customer wanted to buy. The customer had ten different items that he asked John to read the carbohydrates for. The carbohydrates are generally listed as 2-digit numbers on the item's box that John will have to identify.	

Connecting the Activity to the API

- Inverted pyramid
  - API at the lower point



Strand 1: Numbers and Operations

Big Idea	Concept	Alternate Performance Indicators (APIs)
3 Compute fluently and make reasonable estimates	A Describe or represent mental strategies	Recognize numerals. NO8.1. Represent a number or a quantity (e.g., tap, draw objects or tallies). NO8.2. Discriminate between numerals and other printed symbols. NO8.3. Identify/recognize numerals 1 through 10 (e.g., point out a 5, given a choice of numerals). NO8.4. Communicate numerals 1 through 9 (e.g., write, use number cards, communication board). **NO8.5. Identify a 2-digit number.** NO8.6. Communicate 2-digit numbers. NO8.9.

Does the activity connect to the API?

Big Idea	Concept	Alternate Performance Indicators (APIs)
1 Develop and apply skills and strategies to the reading process	G During Reading	During reading or read-alouds, develop and utilize strategies. RP2.1. Attend to the reading of the story and to the pictures. RP2.2. Predict and check. RP2.3. Check content and process using cueing systems. a. Meaning: Does the word make sense? b. Structure: Does the word sound right? c. Visual: Does the word look right? RP2.4. **Self-question: who, what, where, when, why, and how?** RP2.5. **Visualize. (e.g., What does something important in the story or article, not depicted in illustrations, look like?)**

Kayla

Student Work Record
Mathematics/Communication Arts
Attach student work sample if appropriate

Student Name: Kayla (	Grade: 3	Date: 1/16/2007
Content Area: Communication Arts		Strand: (RD, RP)
API: RP2.2	Description: Predict and check	

Task/Activity: (Write a brief description of the task/activity, its connection to the API, and how it demonstrates application.)
We are starting a new story in our reading books. Before reading the story, Kayla will do a picture walk through the story. She will go through the book and look at the pictures and discuss what she thinks will happen in the story. She will write her predictions on a piece of paper. After making her predictions, we will read the story together then she will check her predictions.

Evaluation of Student's Performance:

Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for Level of Accuracy.	Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for Level of Independence.
Before reading the story, Kayla made her predictions about what she thought would happen at the beginning, middle, and end. After reading, she checked her predictions to see if she was correct. She checked two out of three predictions correctly for an accuracy level of 67%.	She was able to make and check all of her predictions with no prompts for an independence level of 100%
Level of Accuracy 67%	**Level of Independence 100%**

Application

- What is the purpose of the activity?
  - Practice of the skill in the API
  - Some purpose other than practice

Content Area: Mathematics	Strand: 1
API:NO8.5	Description: Identify a 2-digit number.
Task/Activity: (Write a brief description of the task/activity, its connection to the API, and how it demonstrates application.) While working at the community center, John had a customer ask if he could tell the customer the carbohydrates of some of the products the customer wanted to buy. The customer had ten different items that he asked John to read the carbohydrates for. The carbohydrates are generally listed as 2-digit numbers on the item's box that John will have to identify.	

Acquisition or Application?

Acquisition	Application through Standards-based Activities
Key word drill and skill with flashcards	Key words highlighted in a weekly reader with student identifying highlighted words
Copy spelling words	Correct use of spelling words in a journal entry
Flashcard practice of math facts	Application of math facts to determine lunch count

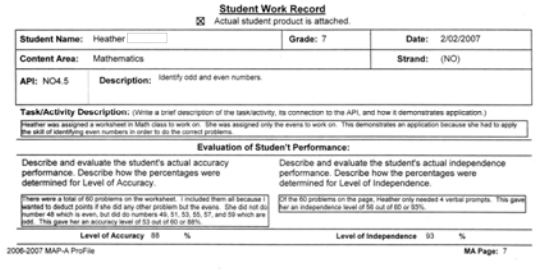
Acquisition or Application?

Acquisition	Application through Standards-based Activities
Flashcard practice of organism parts	Identifying organism parts to participate in a class game of Organism Bingo
Sort ingredients by attribute	Sort ingredients of a mixture to identify/communicate their observation of what makes up the mixture
Sort coins into piles of like coins	Sort coins needed to make a purchase (e.g., quarters for a juice from the vending machine)

Application in Science

- Application is shown when the activity asks the student to apply a set of skills with an objective in mind
- e.g., Student records temperature using a thermometer (Process Strand). Connecting this Strand to how weather affects humans (Content Strand) – a potential application could be shown when the student selects items of clothing appropriate for the temperature on the thermometer
- Student MUST USE SKILL to complete an activity for purpose other than practice.

Application



Student Work Record

☒ Actual student product is attached.

Student Name: Heather		Grade: 7	Date: 2/02/2007
Content Area: Mathematics			Strand: (NO)
API: NO4.5	Description: Identify odd and even numbers.		

Task/Activity Description: (Write a brief description of the task/activity, its connection to the API, and how it demonstrates application.)

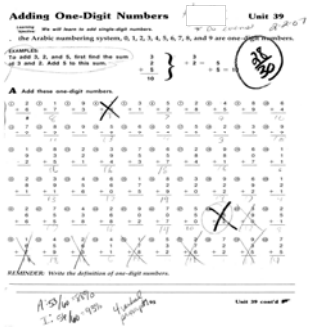
Heather was assigned a worksheet in Math class to work on. She was assigned only the evens to work on. This demonstrates an application because she had to apply the skill of identifying even numbers in order to do the correct problems.

Evaluation of Studen't Performance:

Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for Level of Accuracy.	Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for Level of Independence.
There were a total of 60 problems on the worksheet. I included them all because I wanted to deduct points if she did any other problem but the evens. She did not do number 48 which is even, but did do numbers 49, 51, 53, 55, 57, and 59 which are odd. This gave her an accuracy level of 53 out of 60 or 88%.	Of the 60 problems on the page, Heather only needed 4 verbal prompts. This gave her an independence level of 56 out of 60 or 93%.
Level of Accuracy 88 %	Level of Independence 93 %

2006-2007 MAP-A ProFile MA Page: 7

Application



Adding One-Digit Numbers Unit 39

Connection to the Standards Rubric

Score Point	Description
3	The Student Work Records provide documentation of the application of the API/s in two standards-based activities, one per collection period.
2	The Student Work Records provide documentation of the application of the API/s in one standards-based activity (one out of two collection periods).
1	The Student Work Records provide documentation of the API/s but do not include application of the API/s in standards-based activities.
NS	Insufficient information was given. There were no work samples included for the API/s or the work samples submitted were not connected to the API/s.

Data Collection & MAP-A Activities

- API Selection Guidelines
  - Consider depth and breadth
  - Material new to the grade span is bolded
  - Remember the big idea (and the concept, and the stem)
  - Justify duplications

Data Collection & MAP-A Activities

- Activity Design

  Interpretation of the API and its content is *CRITICAL* to successfully design a MAP-A activity.
  - And
  - Or
  - And/or
  - i.e.
    - Inclusive list
  - e.g.
    - Potential list

Data Collection & MAP-A Activities

- AGLEs, APIs, IEPs, and the MAP-A
  - Districts should plan the selection and use of the AGLEs/APIs for MAP-A assessment during development of yearly IEPs.
  - IEP Teams CAN use APIs as the basis for writing goals appropriate for the student
  - Decisions should include the Instructional Team, which can include non-IEP Team Members (e.g., Science Teacher)

Data Collection & MAP-A Activities

- APIs *can be* selected and developed into measurable and observable goals if they fit the individual student's learning needs.
  - Teachers can collect data for progress toward IEP goals at the SAME time they collect data for MAP-A.
- Teachers can plan (Prior to Administration):
  - student acquisition,
  - practice, and
  - application of the skill(s).

Data Collection & MAP-A Activities

- Teachers may wish to plan more than 1 year out when evaluating which APIs to use, as some students need more than one year to:
  - acquire,
  - practice, and
  - apply a new skill area.

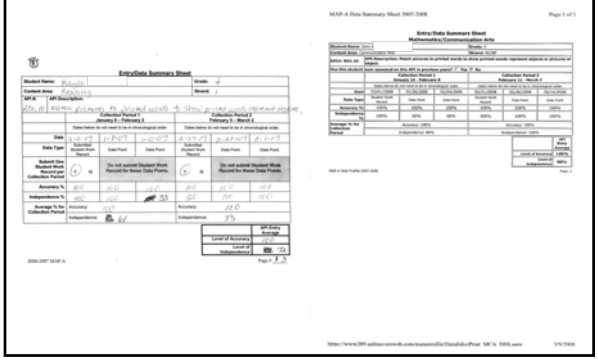
API Glossaries

- Manual Glossary
- API Glossaries are located at the beginning of each content area (Mathematics, Communication Arts, and Science)
  - Reference point for teachers
- Science hierarchy of terms

Glossary and Hierarchy of Terms Developed by the Science AGLE Review Committee

Terms	Definitions
Explore	Use of one or more of the five senses*, to participate within a science content activity.
Identify	Measurable recognition of a science concept (this may be shown in many modes, such as matching, labeling, naming, signing, pointing, and/or touching.)
Investigate	Conduct an science inquiry for purpose of gaining information.
Describe	Communicate/convey information about a science concept.
Compare/Contrast	Identify similarities and differences about a science concept.
Predict	Use of prior knowledge to determine what will or could happen within the content of a science activity.
***Five Senses**	Use of smell, hearing, sight, taste and/or touch (includes sensory feeling, such as how your body feels when a car slows down).

ProFile



ProFile

- **Web-Based Version**
  - 2009 – 2010 web only!
  - Use the current version
  - Available at any computer that has an internet connection
  - Data is secure (SSL is used for encryption - same as banking industry), loss of data is unlikely.

ProFile

- **Web-Based Version**
  - Some variability in printing from computer to computer
  - Entire portfolio may be printed at once
  - Make certain printer has 3/4" margins
  - Cannot be saved to external storage device
  - Options for local electronic storage
    - Adobe Acrobat Pro may be used to print a page to PDF and store the PDF
    - After pressing "print" in ProFile, select the page or pages, copy and paste into Word
  - Save often
    - Data lost if web site times out

ProFile

- **Updated Forms**

  - Validation Form
  - Entry/Data Summary Sheets
  - Student Work Record
  - API Duplication Justification Form
    - prompted automatically by selecting "Yes" on the Data/Entry Summary Sheet to the question regarding duplicating APIs

ProFile

- ProFile Site
  http://www.map-aprofile.org/Login.aspx

12 Step Process

Prior to the Administration Window

- Step 1: Verify student eligibility
- Step 2: Determine instructional team for MAP-A
- Step 3: Identify mandatory strands
- Step 4: Select APIs for assessment

12 Step Process

Prior to the Administration Window

- Step 5: Review documentation requirements:
  - Entry/Data Summary Sheet
  - If assessing APIs from a previous year, fill out the **API Duplication/Justification Form**
  - Student Work Record
    - Student Work Sample, if appropriate

12 Step Process

Prior to the Administration Window

- Step 6: Determine data collection system

Descriptions of Data Collection Charts

Chart Type	Possible Uses	Examples of Use
Single Step Task/Activity	Record worksheet scores	Daily worksheet with 10 or more problems.
	Collect data on a skill that happens daily	Identify the next number on the calendar.
Multi-Trial/Multi-Step Task/Activity	Trials	Each time data is taken the student gets a set number of trials (e.g., five opportunities to identify coins).
	Task Analysis	Five steps for completing a shopping list from a given recipe.
Time Segments	Attending to Task	During reading, attend to the story for five minutes with data taken every minute.

12 Step Process

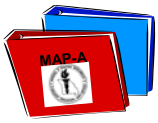
During the Administration Window

- Step 7: Collect and record data
- Step 8: Select data points and student work to submit
- Step 9: Complete Student Work Record
- Step 10: Complete Entry/Data Summary Sheet

12 Step Process

Following the Administration Window

- Step 11: Assemble the MAP-A



- Step 12: Submit MAP-A by UPS

Lessons Learned

- **APIs- What's the Big Idea?**
- **Science**
  - The science of APIs
  - Website or thermometer?
  - Explore vs. Investigate
- **Application vs. Acquisition**
  - Setting does not = application

Lessons Learned

- **ProFile- test it out ahead of time**

- **Remember, mistakes can and do affect the MAP-A score!**

Preventing common mistakes

- **…which may affect the MAP-A score:**
  - Avoid Carrots
  - No Photographs
  - Sample Student Work Properly
  - Submit Required Forms and 8 ½ X 11 Ordered Pages

How Many Pages in a MAP-A?

Table 5: Requirements for Proper MAP-A Data Collection

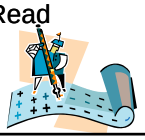
	Mathematics	Communication Arts	Science
Grades Assessed	3-8, 10	3-8, 11	5, 8, 11
# of Strands Assessed	2	2	4
# of APIs required per Strand	2	2	1
# of Entries Required	4	4	2
Minimum # of Pages per Entry	3	3	3
Minimum pages per content area	12	12	6

How Many Pages in a MAP-A?

- Entry/Data Summary Sheet
  - Attach API Duplication/Justification Form if appropriate
- Student Work Record
  - Attach tangible student work if appropriate
- Table of Contents Checklist
- Validation Form

Preventing common mistakes

- **…which do affect the MAP-A score.**
  - Select Grade-Appropriate APIs
  - Connect the Activity to the API
  - Describe Level of Accuracy and Level of Independence Evaluations
  - "Stranger" Read



MAP-A Materials

- Instructor's Guide & Implementation Manual
- MAP-A Binder
  - Bar-coded, student specific cover sheet
- Hard-copy MAP-A forms
- Prepaid UPS return shipping labels

Remember: 2009-2010 MAP-A Timeline

Enrollment Window Opens	September 21
MAP-A Materials Ship	December 7 – January 8
Transfer Student Participation Deadline	January 8
Collection Period 1	January 11 – February 5
Collection Period 2	February 8 – March 5
Return-by Date	March 10
ProFile Closes	March 26

MAP-A Enrollment

map-aenrollment.arc.missouri.edu

Content/Process Questions

- **Regional Professional Development Centers (RPDC)**
  - Heart of Missouri RPDC -- Columbia
  - Kansas City RPDC -- Kansas City
  - Northeast RPDC -- Kirksville
  - Northwest RPDC -- Maryville
  - St. Louis RPDC -- St. Louis
  - South Central RPDC -- Rolla
  - Southeast RPDC -- Cape Girardeau
  - Southwest RPDC -- Springfield
  - Central RPDC -- Warrensburg

Policy Questions

Department of Elementary and Secondary Education (DESE)

- Lin Everett
  - Lin.Everett@dese.mo.gov
  - (573) 526-4295
- Martha Leader
  - Martha.Leader@dese.mo.gov
  - (573) 751-2512

http://dese.mo.gov/divimprove/assess/mapa.html

ProFile Questions

- **Measured Progress**
  - John Cunningham
    - jcunningham@measuredprogress.org BEST!
    - (866) 834-8880
  - Special Education Department ProFile Help
    - (800) 431-8901
  - Information to have ready
    - Your name, school, state
    - Your computer platform
    - What do you want to do that you cannot do?

Materials/Process Questions

- Assessment Resource Center
  - **(800) 366-8232**
- Josh Green
  - greenjos@missouri.edu
- Becky Hinshaw
  - hinshawb@missouri.edu
- Jon Henry
  - henryjon@missouri.edu
- Paul Hirsch
  - hirschp@missouri.edu
- Lisa Sireno
  - sirenol@missouri.edu

Questions

???

Appendix G: MAP-A Scoring Criteria

Mathematics and Communication Arts must address **two strands** as indicated on the Assessment Blueprint. Within each strand, **two different** Alternate Performance Indicators (APIs) are assessed, each in a single entry. Science must address **four strands** (two process and two content) as indicated on the Assessment Blueprint, assessing one API per strand. Two APIs, one content and one process are assessed in a single entry. The rubric will be applied to each **entry** addressed in the MAP-A.

Level of Accuracy Rubric and Scoring

How accurate is the student's performance of the skills and concepts addressed in the MAP-A? See the rubric in Table 1 below. Table 2 describes how each level of this rubric dimension is scored.

Table 1. Level of Accuracy Rubric

	Score Point				
	4	**3**	**2**	**1**	**No Score**
Level of Accuracy (Based on Alternate Performance Indicators)	Student performance of skills demonstrates a high level of understanding of concepts. **76–100% Accuracy**	Student performance of skills demonstrates some understanding of concepts. **51–75% Accuracy**	Student performance of skills demonstrates a limited understanding of concepts. **26–50% Accuracy**	Student performance of skills demonstrates a minimal understanding of concepts. **0–25% Accuracy**	Entry contains insufficient information to determine a score.

Table 2: Description of Scoring Rubric Dimensions for Level of Accuracy

Score Point	Description
4	The Entry/Data Summary Sheet indicates the student provided an accurate answer or response an average of 76–100% of the time across the two data collection periods.
3	The Entry/Data Summary Sheet indicates the student provided an accurate answer or response an average of 51–75% of the time across the two data collection periods.
2	The Entry/Data Summary Sheet indicates the student provided an accurate answer or response an average of 26–50% of the time across the two data collection periods.
1	The Entry/Data Summary Sheet indicates the student provided an accurate answer or response an average of 0–25% of the time across the two data collection periods.
NS	Insufficient information was given. The Entry/Data Summary Sheet was incomplete. Each API must have six data points (three per collection period) as indicated on the Entry/Data Summary Sheet.

All data must be reported as a percentage score on the Entry/Data Summary Sheet. More information is provided in the *Instructor's Guide and Implementation Manual* regarding data collection strategies. The teacher averages the two data periods. The student's level of accuracy for each entry will be determined from the average score.

Level of Independence

How independent is the student in demonstrating knowledge and skills addressed in the MAP-A? See the rubric in Table 3 below. Table 4 describes how each level of this rubric dimension is scored.

Table 3: Level of Independence Rubric

	Score Point				
	4	**3**	**2**	**1**	**No Score**
Level of Independence	Student requires minimal verbal, visual, and/or physical assistance to demonstrate skills and concepts. **76–100% Independence**	Student requires some verbal, visual, and/or physical assistance to demonstrate skills and concepts. **51–75% Independence**	Student requires frequent verbal, visual, and/or physical assistance to demonstrate skills and concepts. **26–50% Independence**	Student requires extensive verbal, visual, and/or physical assistance to demonstrate skills and concepts. **0–25% Independence**	Entry contains insufficient information to determine a score.

Table 4: Description of Scoring Rubric Dimensions for Level of Independence

Score Point	Description
4	The Entry/Data Summary Sheet indicates the student demonstrates skills and concepts independently an average of 76–100% of the time across the two data collection periods. The student required minimal (0–24% of the time) cueing, prompting, or assistance.
3	The Entry/Data Summary Sheet indicates the student demonstrates skills and concepts independently an average of 51–75% of the time across the two data collection periods. The student required some (25–49% of the time) cueing, prompting, or assistance.
2	The Entry/Data Summary Sheet indicates the student demonstrates skills and concepts independently an average of 26–50% of the time across the two data collection periods. The student required frequent (50–74% of the time) cueing, prompting, or assistance.
1	The Entry/Data Summary Sheet indicates the student demonstrates skills and concepts independently an average of 0–25% of the time across the two data collection periods. The student required extensive (75–100% of the time) cueing, prompting, or assistance.
NS	Insufficient information was given. The Entry/Data Summary Sheet was incomplete. Each API must have six data points (three per collection period) as indicated on the Entry/Data Summary Sheet.

All data must be reported as a percentage score on the Entry/Data Summary Sheet. More information is provided in the *Instructor's Guide and Implementation Manual* regarding data collection strategies. The teacher averages the two data periods. The student's level of independence for each API entry will be determined from the average score.

For the purpose of determining level of independence on the MAP-A, percentages are assigned to work that students perform independently. Different levels of assistance may be necessary for the student to perform a skill or complete a task and would be considered task specific assistance.

Cues, prompts, or assistance needed to redirect attention to or focus on a task is considered non-task specific assistance and would not affect a student's independence on the task.

A student who participates in an activity without a task specific prompt from the teacher scores 100% level of independence. Examples of task specific assistance are outlined in Table 5.

Table 5: Examples of Task Specific Assistance

Type of Assistance	Description
Gestural Prompt	Natural prompts of a nonverbal nature that tell a student what to do (e.g., hand movement, pointing, facial expressions). Gestural prompts are easy to use and do not involve direct physical contact.
Verbal Prompt	Spoken statements that help students respond correctly. Verbal prompts guide students on **how** to respond rather than tell them that they are to respond (e.g., how to do all or part of the skill); give them a rule to use; and/or provide hints.
Model	Demonstrating a desired behavior in order to prompt an imitative response.
Partial Physical Prompt	Requires that teachers physically guide the students through the target skill/task, but at a less intrusive level (e.g., hand over wrist, elbow, shoulder).
Full Physical Prompt	Requires that the teacher place his/her hand on top of student's hand and physically guide the student through the target behavior/task (hand over hand). The teacher, rather than the student, exerts the effort, which minimizes errors. Full physical prompts are the most intrusive type of prompt.

The cues or prompts in Table 6 typically refer to non-task specific assistance. The use of these types of redirection or focus on the task **should not be considered levels of assistance when determining level of independence**.

Table 6: Forms of Non-Task Specific Assistance

Form of Assistance	Description
Environmental Prompt	Naturally occurring cue used by teachers to alert all students to an appropriate behavior (e.g., the bell ringing to signal it is time to go to lunch, flipping the light switch to get everyone's attention).
Redirection	Repeating directions, rules, etc. when needed to help a student get back on task.
Focus	Encouraging the student to stay with the task, or to keep going.
Minimum Physical Prompt	Requires that teachers lightly touch the student but do not control their movements. The light touch is used to redirect or focus the student on the task.

Connection to the Standards

Do the submitted Student Work Records provide evidence of the application of the Alternate Performance Indicator in standards-based activities? See the rubric in Table 7. Table 8 describes how each level of this rubric dimension is scored.

Table 7: Connection to the Standards Rubric

	Score Points			
	3	**2**	**1**	**No Score**
Connection to the Standards	There is evidence of applying the Alternate Performance Indicator/s in two standards-based activities, one in each of two collection periods.	There is evidence of applying the Alternate Performance Indicator/s in at least one standards-based activity, one out of two collection periods.	There is some evidence of a connection to the Alternate Performance Indicator/s.	There is insufficient evidence of a connection to the Alternate Performance Indicator/s.

Table 8: Description of Scoring Rubric Dimensions for Connection to the Standards

Score Point	Description
3	The Student Work Records provide documentation of the application of the API in two standards-based activities, one per collection period.
2	The Student Work Records provide documentation of the application of the API in one standards-based activity (one out of two collection periods).
1	The Student Work Records provide documentation of the API but do not include application of the API in standards-based activities.
NS	Insufficient information was given. There were no work samples included for the API or the work samples submitted were not connected to the API.

Following are guidelines for submitting work to ensure sufficient evidence is provided for the application of the APIs:

1. A Student Work Record must be submitted for each collection period.
2. Student Work Records must be dated. Each date must match a corresponding date on the Entry/Data Summary Sheet.
3. If tangible student work is submitted without a Student Work Record attached, the work will not be scored for Connection to the Standards.
4. If the Student Work Record does not have the student interaction and/or evaluation portions completed, the work will not be scored for Connection to the Standards.

Application in Mathematics and Communication Arts

Standards-based activities are more likely to show evidence of instruction toward the application of state standards. Even though entries may connect to the API, if Student Work Records do not show application of the skill, the score on the assessment will be affected.

When deciding if an activity is an example of acquisition or application, consider the answer to the question, "What is the purpose of the activity?" If the purpose of the activity is simply to practice something, it is most likely an example of acquisition. Application activities require the student to apply skills. In other words, the student must use a skill to complete an activity for a purpose other than practicing the skill. The application activity often results in some type of end product.

Application in Science

As previously mentioned, standards-based activities are more likely to show evidence of instruction toward the application of state standards. In Science, because it is required to link a Process Strand with a Content Strand, application is shown by having the student to apply a set of skills with an objective in mind.

For example: a student records the temperature of a thermometer, thus using the Process Strand skill of gathering scientific information. By connecting this skill to a Content Strand—such as understanding how weather affects humans—a possible application could be shown by having the student select items of clothing that are appropriate to the temperature on the thermometer.

If the purpose of the activity is simply to practice something, and there is no objective, it is most likely an example of acquisition. The student must use a skill to complete an activity for a purpose other than practicing the skill.

Table 9 compares acquisition activities (skill and drill) to standards-based application activities.

Table 9: Activities Demonstrating Acquisition versus Application

Acquisition	Application through Standards-based Activities
Key word drill and skill with flashcards	Key words highlighted in a weekly reader with student identifying highlighted words
Copy spelling words	Correct use of spelling words in a journal entry
Track switch activation	Track switch activation to turn a page in a storybook
Flashcard practice of math facts	Application of math facts to determine lunch count
Flashcard practice of organism parts	Identifying organism parts to make qualitative observations by participating in a class game of Organism Bingo
Increase duration of attending	Increase duration of attending to a story to identify the main idea
Sort ingredients by attribute	Sort ingredients of a mixture to identify/communicate their observation of what makes up the mixture
Sort coins into piles of like coins	Sort coins needed to make a purchase (e.g., quarters for a juice from the vending machine)
Copy science words	Correct use of science terms in a journal entry to describe an investigation.
Track switch activation	Track switch activation to turn a page in a science article, magazine, and/or textbook to participate in class exploration of life cycles.
Sort genetic information into piles of like genetic information	Sort genetic information of parents and off-spring to determine what information is passed along from the parents to new off-spring (e.g., humans, and/or animals) to communicate the results of their investigation.

MAP-A Scorer Training

Assessment Resource Center
Spring 2010

Topics

- What is the MAP-A?
- Students Assessed with MAP-A
- Design of the MAP-A
- Scoring Dimensions
- Alternate Performance Indicators
- Scoring Procedures
  - Making Scoring Decisions

What is the MAP-A?

- Tests and Assessments
- No Child Left Behind
  - All students participate in state tests
- Missouri Assessment Program
  - Mathematics, Communication Arts, and Science
  - Links Missouri's Show-Me Standards, Curriculum, Instruction, and Assessment
  - Alternate assessment provides opportunities for all Missouri students

Who are MAP-A Students?

- Severe cognitive disabilities
- Do not keep pace with peers
- Educational focus centers on essential skills
- IEP team recommends alternate assessment
- Excessive absences, visual or auditory disabilities, social, cultural, language, or economic differences alone don't call for MAP-A

Who are MAP-A Students?

- Primary Disability Diagnosis
  - 62% MR
  - 18% Autism
  - 13% Multiple Disabilities
  - 7% Other Traumatic Injury

MAP-A Forms

- Table of Contents Checklist
- Validation Form
- Entry/Data Summary Sheet
- API Duplication/Justification Form
- Student Work Record

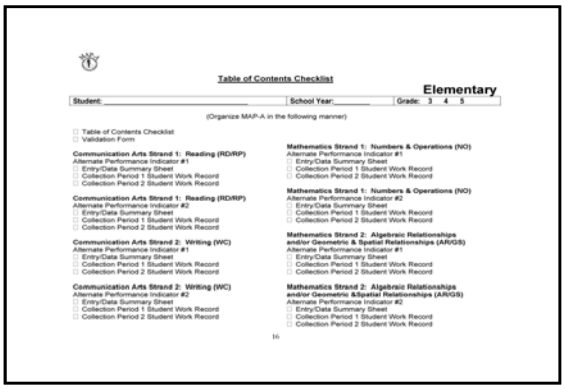


Table of Contents Checklist

Elementary

Student: _____ School Year:_____ Grade: 3 4 5

(Organize MAP-A in the following manner)

☐ Table of Contents Checklist
☐ Validation Form

Communication Arts Strand 1: Reading (RD/RP)
Alternate Performance Indicator #1
☐ Entry/Data Summary Sheet
☐ Collection Period 1 Student Work Record
☐ Collection Period 2 Student Work Record

Communication Arts Strand 1: Reading (RD/RP)
Alternate Performance Indicator #2
☐ Entry/Data Summary Sheet
☐ Collection Period 1 Student Work Record
☐ Collection Period 2 Student Work Record

Communication Arts Strand 2: Writing (WC)
Alternate Performance Indicator #1
☐ Entry/Data Summary Sheet
☐ Collection Period 1 Student Work Record
☐ Collection Period 2 Student Work Record

Communication Arts Strand 2: Writing (WC)
Alternate Performance Indicator #2
☐ Entry/Data Summary Sheet
☐ Collection Period 1 Student Work Record
☐ Collection Period 2 Student Work Record

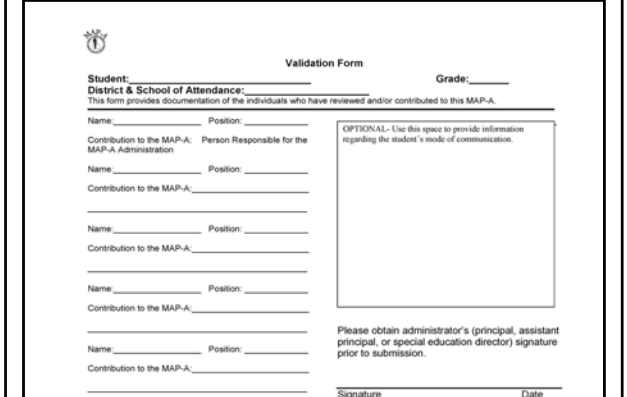
Mathematics Strand 1: Numbers & Operations (NO)
Alternate Performance Indicator #1
☐ Entry/Data Summary Sheet
☐ Collection Period 1 Student Work Record
☐ Collection Period 2 Student Work Record

Mathematics Strand 1: Numbers & Operations (NO)
Alternate Performance Indicator #2
☐ Entry/Data Summary Sheet
☐ Collection Period 1 Student Work Record
☐ Collection Period 2 Student Work Record

Mathematics Strand 2: Algebraic Relationships and/or Geometric & Spatial Relationships (AR/GS)
Alternate Performance Indicator #1
☐ Entry/Data Summary Sheet
☐ Collection Period 1 Student Work Record
☐ Collection Period 2 Student Work Record

Mathematics Strand 2: Algebraic Relationships and/or Geometric &Spatial Relationships (AR/GS)
Alternate Performance Indicator #2
☐ Entry/Data Summary Sheet
☐ Collection Period 1 Student Work Record
☐ Collection Period 2 Student Work Record

16



Validation Form

Student:_____ Grade:_____
District & School of Attendance:_____
This form provides documentation of the individuals who have reviewed and/or contributed to this MAP-A.

Name:_____ Position: _____
Contribution to the MAP-A: Person Responsible for the MAP-A Administration

Name:_____ Position: _____
Contribution to the MAP-A:_____

Name:_____ Position: _____
Contribution to the MAP-A:_____

Name:_____ Position: _____
Contribution to the MAP-A:_____

Name:_____ Position: _____
Contribution to the MAP-A:_____

OPTIONAL- Use this space to provide information regarding the student's mode of communication.

Please obtain administrator's (principal, assistant principal, or special education director) signature prior to submission.

_____
Signature Date

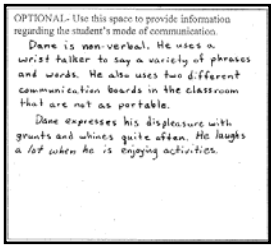
17

Mode of Communication

OPTIONAL - Use this space to provide information regarding the student's mode of communication.

Grant is an eleven-year-old student with an educational diagnosis of autism that affects his ability to access the academic curriculum in the following ways: difficulty with task focus, adapting to change and effectively communicating his wants, needs and ideas. Grant responds best to a highly structured environment, predictable routine, visual support strategies, direct instruction of target skills with opportunity to generalize those skills.

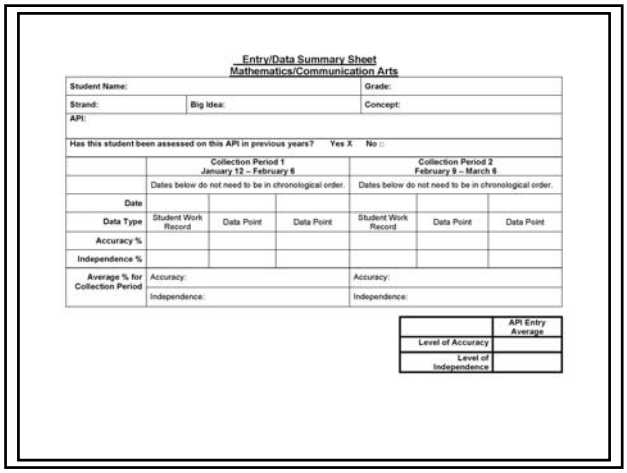
Grant's oral communication is significantly limited. His spontaneous language typically consists of single words (including immediate echolalia) and occasional short, telegraphic phrases. Grant tends to be prompt dependent, waiting for an intial sound cue to respond verbally.



OPTIONAL- Use this space to provide information regarding the student's mode of communication.

Dane is non-verbal. He uses a wrist talker to say a variety of phrases and words. He also uses two different communication boards in the classroom that are not as portable.

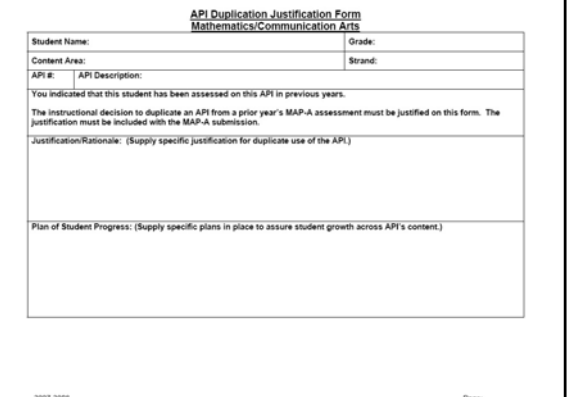
Dane expresses his displeasure with grunts and whines quite often. He laughs a lot when he is enjoying activities.



Entry/Data Summary Sheet
Mathematics/Communication Arts

Student Name:				Grade:		
Strand:	Big Idea:			Concept:		
API:						
Has this student been assessed on this API in previous years? Yes X No ☐						
	Collection Period 1 January 12 – February 6			Collection Period 2 February 9 – March 6		
	Dates below do not need to be in chronological order.			Dates below do not need to be in chronological order.		
Date						
Data Type	Student Work Record	Data Point	Data Point	Student Work Record	Data Point	Data Point
Accuracy %						
Independence %						
Average % for Collection Period	Accuracy:			Accuracy:		
	Independence:			Independence:		

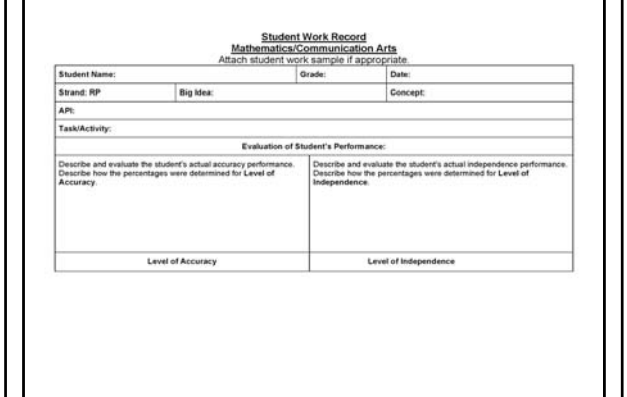
	API Entry Average
Level of Accuracy	
Level of Independence	



API Duplication Justification Form
Mathematics/Communication Arts

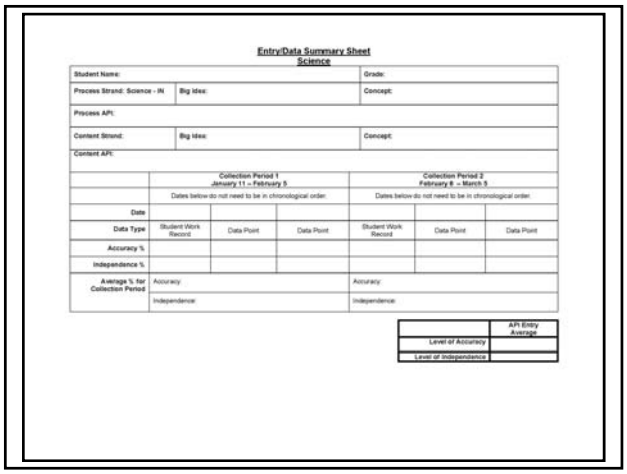
Student Name:		Grade:
Content Area:		Strand:
API #:	API Description:	
You indicated that this student has been assessed on this API in previous years. The instructional decision to duplicate an API from a prior year's MAP-A assessment must be justified on this form. The justification must be included with the MAP-A submission.		
Justification/Rationale: (Supply specific justification for duplicate use of the API.)		
Plan of Student Progress: (Supply specific plans in place to assure student growth across API's content.)		

2007-2008 Page: _____



Student Work Record
Mathematics/Communication Arts
Attach student work sample if appropriate.

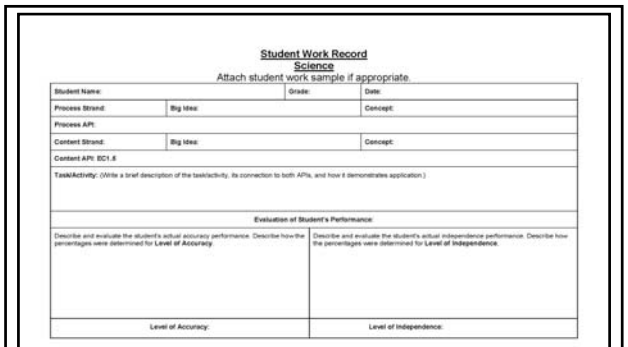
Student Name:		Grade:	Date:
Strand: RP	Big Idea:		Concept:
API:			
Task/Activity:			
Evaluation of Student's Performance:			
Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for **Level of Accuracy**.		Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for **Level of Independence**.	
Level of Accuracy		Level of Independence	



Entry/Data Summary Sheet
Science

Student Name:				Grade:		
Process Strand: Science - IN	Big Idea:			Concept:		
Process API:						
Content Strand:	Big Idea:			Concept:		
Content API:						
	Collection Period 1 January 11 – February 5			Collection Period 2 February 8 – March 5		
	Dates below do not need to be in chronological order.			Dates below do not need to be in chronological order.		
Date						
Data Type	Student Work Record	Data Point	Data Point	Student Work Record	Data Point	Data Point
Accuracy %						
Independence %						
Average % for Collection Period	Accuracy:			Accuracy:		
	Independence:			Independence:		

	API Entry Average
Level of Accuracy	
Level of Independence	



Student Work Record
Science
Attach student work sample if appropriate.

Student Name:		Grade:	Date:
Process Strand:	Big Idea:		Concept:
Process API:			
Content Strand:	Big Idea:		Concept:
Content API: EC1.6			
Task/Activity: (Write a brief description of the task/activity, its connection to both APIs, and how it demonstrates application.)			
Evaluation of Student's Performance:			
Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for **Level of Accuracy**.		Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for **Level of Independence**.	
Level of Accuracy:		Level of Independence:	

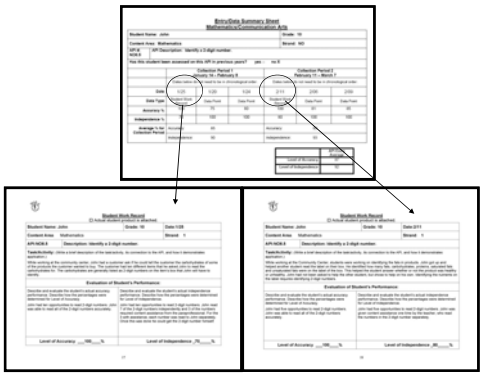
MAP-A Design

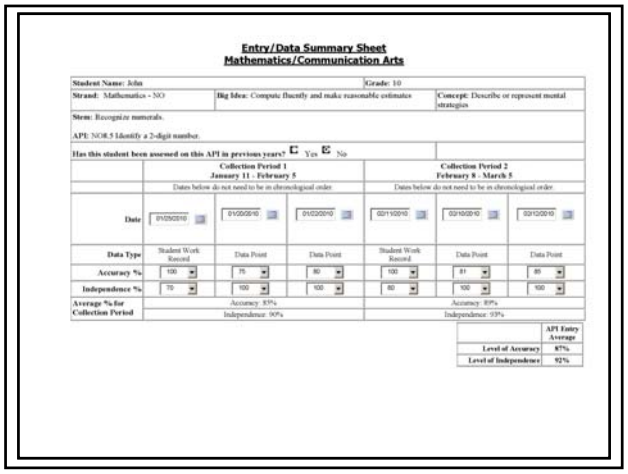
- MAP-A Entry
  - Building block of the MAP-A assessment
  - Demonstration of what a student knows and can do
  - Student Work Record
    - Basic component
    - Description of assessment activity
    - Evaluation of student participation

MAP-A Design

- MAP-A Entry
  - 2 Student Work Records
  - 1 Entry Data Summary Sheet

MAP-A Entry

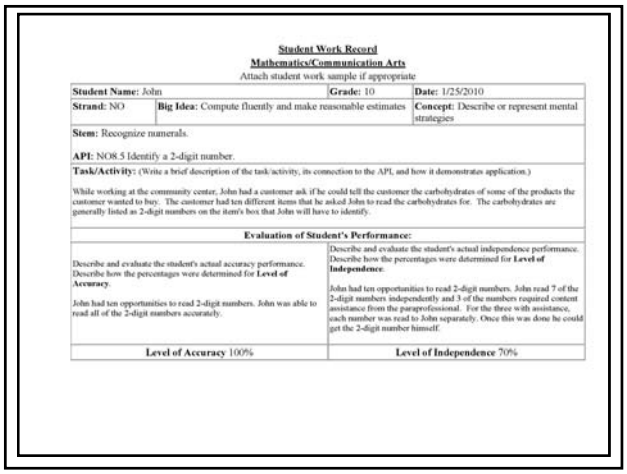




Entry/Data Summary Sheet
Mathematics/Communication Arts

Student Name: John				Grade: 10		
Strand: Mathematics - NO	Big Idea: Compute fluently and make reasonable estimates			Concept: Describe or represent mental strategies		
Stem: Recognize numerals.						
API: NO8.5 Identify a 2-digit number.						
Has this student been assessed on this API in previous years? ☐ Yes ☒ No						
	Collection Period 1 January 11 - February 5			Collection Period 2 February 8 - March 5		
	Dates below do not need to be in chronological order.			Dates below do not need to be in chronological order.		
Date	01/25/2010	01/26/2010	01/27/2010	02/11/2010	02/10/2010	02/12/2010
Data Type	Student Work Record	Data Point	Data Point	Student Work Record	Data Point	Data Point
Accuracy %	100	75	80	100	81	85
Independence %	70	100	100	80	100	100
Average % for Collection Period	Accuracy: 83%			Accuracy: 89%		
	Independence: 90%			Independence: 93%		

	API Entry Average
Level of Accuracy	87%
Level of Independence	92%



Student Work Record
Mathematics/Communication Arts
Attach student work sample if appropriate

Student Name: John		**Grade:** 10	**Date:** 1/25/2010
Strand: NO	**Big Idea:** Compute fluently and make reasonable estimates		**Concept:** Describe or represent mental strategies

Stem: Recognize numerals.

API: NO8.5 Identify a 2-digit number.

Task/Activity: (Write a brief description of the task/activity, its connection to the API, and how it demonstrates application.)

While working at the community center, John had a customer ask if he could tell the customer the carbohydrates of some of the products the customer wanted to buy. The customer had ten different items that he asked John to read the carbohydrates for. The carbohydrates are generally listed as 2-digit numbers on the item's box that John will have to identify.

Evaluation of Student's Performance:

Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for **Level of Accuracy**. John had ten opportunities to read 2-digit numbers. John was able to read all of the 2-digit numbers accurately.	Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for **Level of Independence**. John had ten opportunities to read 2-digit numbers. John read 7 of the 2-digit numbers independently and 3 of the numbers required content assistance from the paraprofessional. For the three with assistance, each number was read to John separately. Once this was done he could get the 2-digit number himself.
Level of Accuracy 100%	**Level of Independence** 70%

MAP-A Design

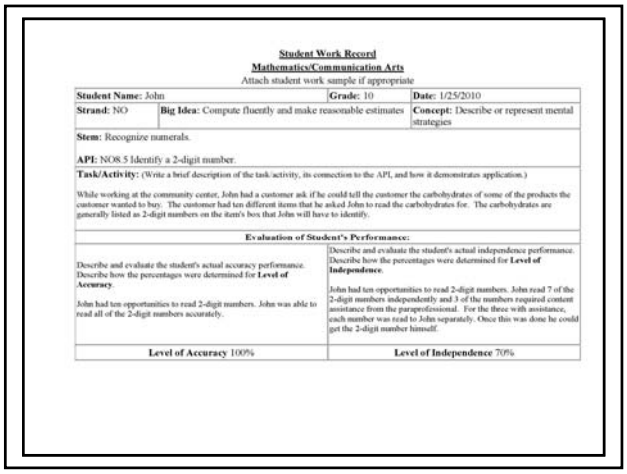
- How many entries in a MAP-A?
  - 2 Science (SCI)—4APIs
  - 4 Mathematics (MA)—4 APIs
  - 4 Communication Arts (CA)—4 APIs

How to Score a MAP-A Entry

- Does the Activity Connect to the API?
- Does the Activity Demonstrate Application?
- Verify the Accuracy Score
- Verify the Independence Score
- Refigure the Entry Averages if Necessary
- Record the Score Information

Connecting the Activity to the API

- Is the API appropriate to the grade span?
- Does the activity described connect to the API?



Student Work Record
Mathematics/Communication Arts
Attach student work sample if appropriate

Student Name: John		**Grade:** 10	**Date:** 1/25/2010
Strand: NO	**Big Idea:** Compute fluently and make reasonable estimates		**Concept:** Describe or represent mental strategies

Stem: Recognize numerals.

API: NO8.5 Identify a 2-digit number.

Task/Activity: (Write a brief description of the task/activity, its connection to the API, and how it demonstrates application.)

While working at the community center, John had a customer ask if he could tell the customer the carbohydrates of some of the products the customer wanted to buy. The customer had ten different items that he asked John to read the carbohydrates for. The carbohydrates are generally listed as 2-digit numbers on the item's box that John will have to identify.

Evaluation of Student's Performance:

Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for **Level of Accuracy**. John had ten opportunities to read 2-digit numbers. John was able to read all of the 2-digit numbers accurately.	Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for **Level of Independence**. John had ten opportunities to read 2-digit numbers. John read 7 of the 2-digit numbers independently and 3 of the numbers required content assistance from the paraprofessional. For the three with assistance, each number was read to John separately. Once this was done he could get the 2-digit number himself.
Level of Accuracy 100%	**Level of Independence** 70%

Connecting the Activity to the API

Strand 1: Numbers and Operations

Big Idea	Concept	Alternate Performance Indicators (APIs)
3 Compute fluently and make reasonable estimates	A Describe or represent mental strategies	Recognize numerals. **NO8.1.** Represent a number or a quantity (e.g., tap, draw objects or tallies). **NO8.2.** Discriminate between numerals and other printed symbols. **NO8.3.** Identify/recognize numerals 1 through 10 (e.g., point out a 5, given a choice of numerals). **NO8.4.** Communicate numerals 1 through 9 (e.g., write, use number cards, communication board). **NO8.5. Identify a 2-digit number.** **NO8.6. Communicate 2-digit numbers.** **NO8.9.**

Connecting the Activity to the API

- What is the activity?
- What skills does it assess?

Student Name: John		**Grade:** 10	**Date:** 1/25/2010
Strand: NO	**Big Idea:** Compute fluently and make reasonable estimates		**Concept:** Describe or represent mental strategies
Stem: Recognize numerals.			
API: NO8.5 Identify a 2-digit number.			
Task/Activity: (Write a brief description of the task/activity, its connection to the API, and how it demonstrates application.)			
While working at the community center, John had a customer ask if he could tell the customer the carbohydrates of some of the products the customer wanted to buy. The customer had ten different items that he asked John to read the carbohydrates for. The carbohydrates are generally listed as 2-digit numbers on the item's box that John will have to identify.			

Kayla

Student Work Record
Mathematics/Communication Arts
Attach student work sample if appropriate.

Student Name: Kayla Gibson		**Grade:** 3	**Date:** 1/16/2007
Strand: RP 2.2	**Big Idea:** Develop and apply skills and strategies to the reading process		**Concept:** During Reading
API: Predict and Check			
Task/Activity: (Write a brief description of the task/activity, its connection to the API, and how it demonstrates application.) We are stating a new story in our reading books. Before reading the story, Kayla will do a picture walk through the story. She will go through the book and look at the pictures and discuss what she thinks will happen in the story. She will write her predictions on a piece of paper. After making her predictions, we will read the story together then she will check her predictions			
Evaluation of Student's Performance:			
Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for **Level of Accuracy**. Before reading the story, Kayla made her predictions about what she thought would happen at the beginning, middle and end. After reading, she checked her predictions to see if she was correct. She checked two out of three predictions correctly for an accuracy level of 67%		Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for **Level of Independence**. She was able to make and check all of her predictions with no prompts for an independence level of 100%	
Level of Accuracy 67%		**Level of Independence** 100%	

Big Idea	Concept	Alternate Performance Indicators (APIs)
1 Develop and apply skills and strategies to the reading process	E Vocabulary	**RD5.6. Use context clues to predict words.** **RD5.7. Use a basic dictionary and glossary (may be picture dictionary or personal dictionary).** **RD5.8. Demonstrate use of common inflectional endings (e.g., "s" for plural nouns).**
	F Pre-Reading	Develop and apply pre-reading strategies to aid comprehension. **RP1.1.** Attend to pictures in text. **RP1.2.** Preview text and/or pictures. **RP1.3.** Demonstrate understanding that pictures/symbols/objects/actions have meaning. **RP1.4.** Access prior knowledge. (What do I know? [K-W-L] Informational passages only.) **RP1.5.** Predict what storybook or article may be about, based on pictures/symbols/objects/actions, **with evidence.** **RP1.7. Set a purpose for reading. (What do I want to know? [K-W-L] Informational passages only.)**
	G During Reading	During reading or read-alouds, develop and utilize strategies. **RP2.1.** Attend to the reading of the story and to the pictures. **RP2.2.** Predict and check. **RP2.3.** Check content and process using cueing systems. **a.** Meaning: Does the word make sense? **b.** Structure: Does the word sound right? **c.** Visual: Does the word look right? **RP2.4. Self-question: who, what, where, when, why, and how?** **RP2.6. Visualize. (e.g., What does something important in the story or article, not depicted in illustrations, look like?)**

Does the activity connect to the API?

You Decide

How to Score a MAP-A Entry

- Does the Activity Connect to the API?
- Does the Activity Demonstrate Application?
- Verify the Accuracy Score
- Verify the Independence Score
- Refigure the Entry Averages if Necessary
- Record the Score Information

Acquisition or Application?

Acquisition	Application through Standards-based Activities
Copy spelling words	Correct use of spelling words in a journal entry
Flashcard practice of math facts	Application of math facts to determine lunch count

Acquisition or Application?

Acquisition	Application through Standards-based Activities
Flashcard practice of organism parts	Identifying organism parts to participate in a class game of Organism Bingo
Sort coins into piles of like coins	Sort coins needed to make a purchase (e.g., quarters for a juice from the vending machine)

Acquisition or Application?

Acquisition	Application through Standards-based Activities
Copy science words	Correct use of science terms in a journal entry to describe an investigation.

Application

- What is the purpose of the activity?
  - Practice of the skill in the API
  - Some purpose other than practice

Student Name: John	**Grade:** 10	**Date:** 1/25/2010
Strand: NO	**Big Idea:** Compute fluently and make reasonable estimates	**Concept:** Describe or represent mental strategies
Stem: Recognize numerals. **API:** NO8.5 Identify a 2-digit number.		
Task/Activity: (Write a brief description of the task/activity, its connection to the API, and how it demonstrates application.) While working at the community center, John had a customer ask if he could tell the customer the carbohydrates of some of the products the customer wanted to buy. The customer had ten different items that he asked John to read the carbohydrates for. The carbohydrates are generally listed as 2-digit numbers on the item's box that John will have to identify.		

Application

Student Work Record

☒ Actual student product is attached.

Student Name: Heather Smith		**Grade:** 7	**Date:** 2/02/2007
Content Area: Mathematics			**Strand:** (NO)
API: NO4.5	**Description:** Identify odd and even numbers.		

Task/Activity Description: (Write a brief description of the task/activity, its connection to the API, and how it demonstrates application.)

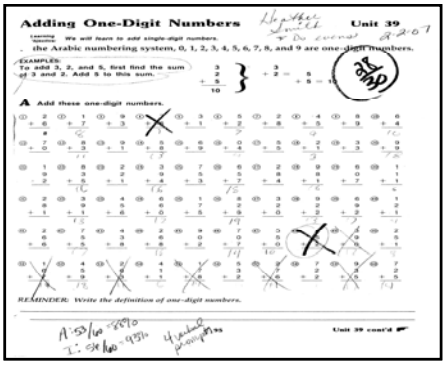
Heather was assigned a worksheet in Math class to work on. She was assigned only the evens to work on. This demonstrates an application because she had to apply the skill of identifying even numbers in order to do the correct problems.

Evaluation of Studen't Performance:

Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for Level of Accuracy.	Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for Level of Independence.
There were a total of 60 problems on the worksheet. I included them all because I wanted to deduct points if she did any other problem but the evens. She did not do number 48 which is even, but did do numbers 49, 51, 53, 55, 57, and 59 which are odd. This gave her an accuracy level of 53 out of 60 or 88%.	Of the 60 problems on the page, Heather only needed 4 verbal prompts. This gave her an independence level of 56 out of 60 or 93%.
Level of Accuracy 88 %	**Level of Independence** 93 %

2006-2007 MAP-A ProFile — **MA Page:** 7

Application



Adding One-Digit Numbers — Unit 39

We will learn to add single-digit numbers.

the Arabic numbering system, 0, 1, 2, 3, 4, 5, 6, 7, 8, and 9 are one-digit numbers.

EXAMPLES: To add 3, 2, and 5, first find the sum of 3 and 2. Add 5 to this sum.

A Add these one-digit numbers.

REMINDER: Write the definition of one-digit numbers.

Unit 39 cont'd

Application or Acquisition?

Student Work Record

☒ Actual student product is attached.

Student Name: Kayla Kendall		**Grade:** 4	**Date:** 2-2-07
Content Area Reading			**Strand**
API: RD4.10	**Description:** Match pictures to printed words; to show pictures of words represent objects or pictures of objects		

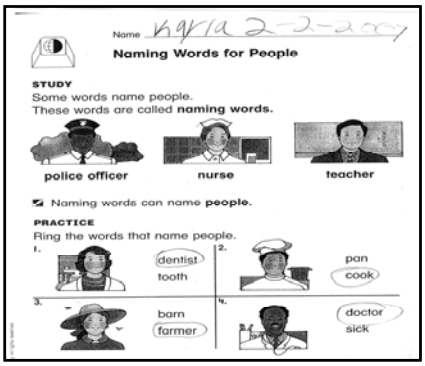
Task/Activity: (Write a brief description of the task/activity, its connection to the API, and how it demonstrates application.) Kayla is to apply that she knows and understands that some words name people. These naming words she is to circle the correct word to match the picture. There are 4 responses.

Evaluation of Student's Performance:

Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for Level of Accuracy.	Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for Level of Independence.
Kayla was able to circle the correct naming word to match its picture. She earns 4/4 = 100 in accuracy.	Kayla needed 2 of these words read to her, otherwise she did the other test by herself for 2/4 = 50% for a level of independence.
Level of Accuracy 100 %	**Level of Independence** 50 %

2006-2007 MAP-A — Page # 8 4

Application or Acquisition?



Name Kayla 2-2-2007

Naming Words for People

STUDY

Some words name people.
These words are called **naming words.**

police officer | nurse | teacher

Naming words can name **people.**

PRACTICE

Ring the words that name people.

1. dentist / tooth
2. pan / cook
3. barn / farmer
4. doctor / sick

Application or Acquisition?

You Decide

How to Score a MAP-A Entry

- Does the Activity Connect to the API?
- Does the Activity Demonstrate Application?
- Verify the Accuracy Score
- Verify the Independence Score
- Refigure the Entry Averages if Necessary
- Record the Score Information

Level of Accuracy

Entry/Data Summary Sheet
Mathematics/Communication Arts

Student Name: John				**Grade:** 10		
Content Area: Mathematics				**Strand:** NO		
API #: NO8.5	**API Description:** Identify a 2-digit number.					
Has this student been assessed on this API in previous years? yes ☐ no X						
	Collection Period 1 January 14 – February 8			**Collection Period 2 February 11 – March 7**		
	Dates below do not need to be in chronological order.			Dates below do not need to be in chronological order.		
Date	1/25	1/20	1/24	2/11	2/06	2/09
Data Type	Student Work Record	Data Point	Data Point	Student Work Record	Data Point	Data Point
Accuracy %	100	75	80	100	81	85
Independence %	70	100	100	80	100	100
Average % for Collection Period	Accuracy: 85			Accuracy: 89		
	Independence: 90			Independence: 93		

	API Entry Average
Level of Accuracy	87
Level of Independence	92

Level of Accuracy

Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for Level of Accuracy.

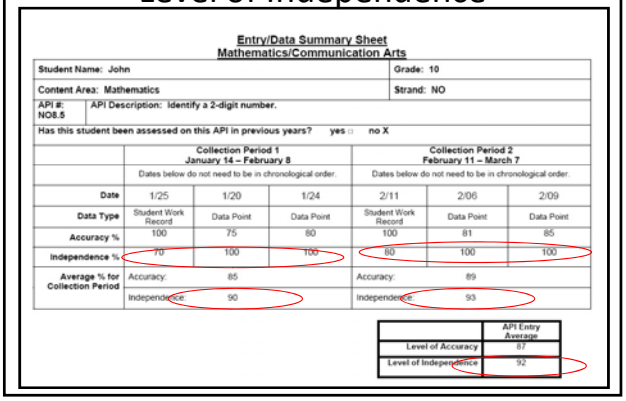
John had ten opportunities to read 2-digit numbers. John was able to read all of the 2-digit numbers accurately.

Level of Accuracy ___100___%

How to Score a MAP-A Entry

- Does the Activity Connect to the API?
- Does the Activity Demonstrate Application?
- Verify the Accuracy Score
- Verify the Independence Score
- Refigure the Entry Averages if Necessary
- Record the Score Information

Level of Independence



Entry/Data Summary Sheet
Mathematics/Communication Arts

Student Name: John				**Grade:** 10		
Content Area: Mathematics				**Strand:** NO		
API #: NO8.5	**API Description:** Identify a 2-digit number.					
Has this student been assessed on this API in previous years? yes ☐ no X						
	Collection Period 1 January 14 – February 8			**Collection Period 2 February 11 – March 7**		
	Dates below do not need to be in chronological order.			Dates below do not need to be in chronological order.		
Date	1/25	1/20	1/24	2/11	2/06	2/09
Data Type	Student Work Record	Data Point	Data Point	Student Work Record	Data Point	Data Point
Accuracy %	100	75	80	100	81	85
Independence %	70	100	100	80	100	100
Average % for Collection Period	Accuracy:	85		Accuracy:	89	
	Independence:	90		Independence:	93	

	API Entry Average
Level of Accuracy	87
Level of Independence	92

Level of Independence

- Task Specific Prompts
- Non-Task Specific Prompts
  - Redirection or focus prompts do not lower independence scores EXCEPT when the API includes "Attend to…"

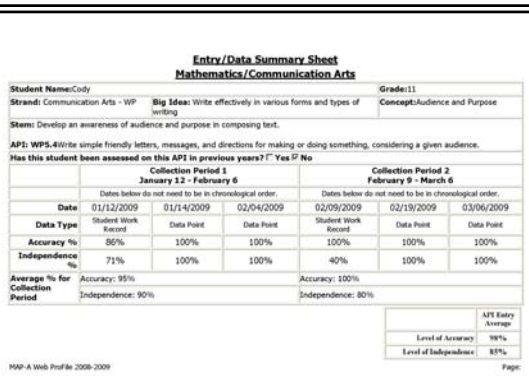
Content Area: Communication Arts
Strand: Writing
API Stem: Describe a familiar object, person, characters, places and/or events using words/pictures/ symbols/objects/actions.
API: WP2.9 Attend to descriptions of objects.

Level of Independence

Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for Level of Independence.

John had ten opportunities to read 2-digit numbers. John read 7 of the 2-digit numbers independently and 3 of the numbers required content assistance from the paraprofessional. For the 3 with assistance, each number was read to John separately. Once this was done he could get the 2-digit number himself.

Level of Independence _70_____%

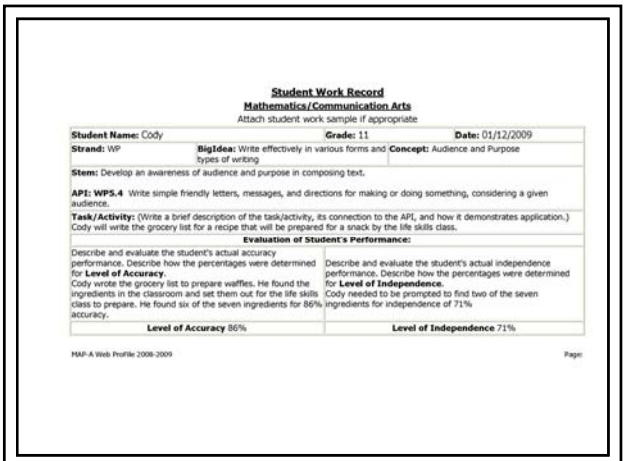


Entry/Data Summary Sheet
Mathematics/Communication Arts

Student Name: Cody				**Grade:** 11		
Strand: Communication Arts - WP	**Big Idea:** Write effectively in various forms and types of writing			**Concept:** Audience and Purpose		
Stem: Develop an awareness of audience and purpose in composing text.						
API: WPS.4 Write simple friendly letters, messages, and directions for making or doing something, considering a given audience.						
Has this student been assessed on this API in previous years? ☐ Yes ☑ No						
	Collection Period 1 January 12 - February 6			**Collection Period 2 February 9 - March 6**		
	Dates below do not need to be in chronological order.			Dates below do not need to be in chronological order.		
Date	01/12/2009	01/14/2009	02/04/2009	02/09/2009	02/19/2009	03/06/2009
Data Type	Student Work Record	Data Point	Data Point	Student Work Record	Data Point	Data Point
Accuracy %	86%	100%	100%	100%	100%	100%
Independence %	71%	100%	100%	40%	100%	100%
Average % for Collection Period	Accuracy: 95%			Accuracy: 100%		
	Independence: 90%			Independence: 80%		

	API Entry Average
Level of Accuracy	98%
Level of Independence	85%

MAP-A Web Profile 2008-2009 Page:



Student Work Record
Mathematics/Communication Arts
Attach student work sample if appropriate

Student Name: Cody	**Grade:** 11	**Date:** 01/12/2009
Strand: WP	**BigIdea:** Write effectively in various forms and types of writing	**Concept:** Audience and Purpose

Stem: Develop an awareness of audience and purpose in composing text.

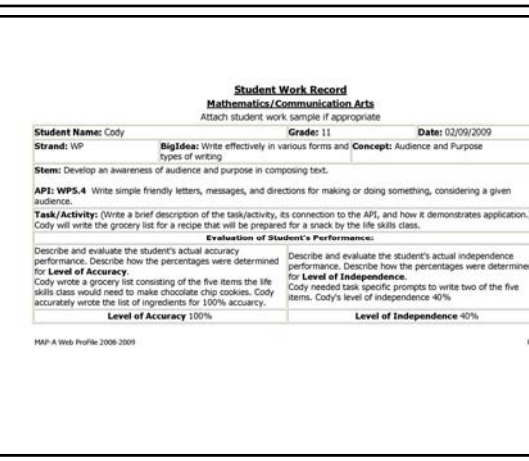
API: WPS.4 Write simple friendly letters, messages, and directions for making or doing something, considering a given audience.

Task/Activity: (Write a brief description of the task/activity, its connection to the API, and how it demonstrates application.)
Cody will write the grocery list for a recipe that will be prepared for a snack by the life skills class.

Evaluation of Student's Performance:

Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for **Level of Accuracy**. Cody wrote the grocery list to prepare waffles. He found the ingredients in the classroom and set them out for the life skills class to prepare. He found six of the seven ingredients for 86% accuracy.	Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for **Level of Independence**. Cody needed to be prompted to find two of the seven ingredients for independence of 71%
Level of Accuracy 86%	**Level of Independence** 71%

MAP-A Web Profile 2008-2009 Page:



Student Work Record
Mathematics/Communication Arts
Attach student work sample if appropriate

Student Name: Cody	**Grade:** 11	**Date:** 02/09/2009
Strand: WP	**BigIdea:** Write effectively in various forms and types of writing	**Concept:** Audience and Purpose

Stem: Develop an awareness of audience and purpose in composing text.

API: WPS.4 Write simple friendly letters, messages, and directions for making or doing something, considering a given audience.

Task/Activity: (Write a brief description of the task/activity, its connection to the API, and how it demonstrates application.)
Cody will write the grocery list for a recipe that will be prepared for a snack by the life skills class.

Evaluation of Student's Performance:

Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for **Level of Accuracy**. Cody wrote a grocery list consisting of the five items the life skills class would need to make chocolate chip cookies. Cody accurately wrote the list of ingredients for 100% accuracy.	Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for **Level of Independence**. Cody needed task specific prompts to write two of the five items. Cody's level of independence 40%
Level of Accuracy 100%	**Level of Independence** 40%

MAP-A Web Profile 2008-2009 Page:

How to Score a MAP-A Entry

- Does the Activity Connect to the API?
- Does the Activity Demonstrate Application?
- Verify the Accuracy Score
- Verify the Independence Score
- Refigure the Entry Averages if Necessary
- Record the Score Information

Cody
Collection Period 1

Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for **Level of Accuracy**.	Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for **Level of Independence**.
Cody wrote the grocery list to prepare waffles. He found the ingredients in the classroom and set them out for the life skills class to prepare. He found six of the seven ingredients for 86% accuracy.	Cody needed to be prompted to find two of the seven ingredients for independence of 71%
Level of Accuracy 86%	**Level of Independence** 71%

Cody
Collection Period 2

Evaluation of Student's Performance:	
Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for **Level of Accuracy**.	Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for **Level of Independence**.
Cody wrote a grocery list consisting of the five items the life skills class would need to make chocolate chip cookies. Cody accurately wrote the list of ingredients for 100% accuracy.	Cody needed task specific prompts to write two of the five items. Cody's level of independence 40%
Level of Accuracy 100%	**Level of Independence** 40%

Entry/Data Summary Sheet
Mathematics/Communication Arts

Student Name: Cody — **Grade:** 11
Strand: Communication Arts - WP — **Big Idea:** Write effectively in various forms and types of writing — **Concept:** Audience and Purpose
Stem: Develop an awareness of audience and purpose in composing text.
API: WPS.4 Write simple friendly letters, messages, and directions for making or doing something, considering a given audience.
Has this student been assessed on this API in previous years? ☐ Yes ☑ No

	Collection Period 1 January 12 - February 6			Collection Period 2 February 9 - March 6		
	Dates below do not need to be in chronological order.			Dates below do not need to be in chronological order.		
Date	01/12/2009	01/14/2009	02/04/2009	02/09/2009	02/19/2009	03/06/2009
Data Type	Student Work Record	Data Point	Data Point	Student Work Record	Data Point	Data Point
Accuracy %	86%	100%	100%	100%	100%	100%
Independence %	71%	100%	100%	40%	100%	100%
Average % for Collection Period	Accuracy: 95%			Accuracy: 100%		
	Independence: 90%			Independence: 80%		

	API Entry Average
Level of Accuracy	98%
Level of Independence	85%

MAP-A Web Profile 2008-2009 — Page:

Entry/Data Summary Sheet
Mathematics/Communication Arts

Student Name: Cody — **Grade:** 11
Strand: Communication Arts - WP — **Big Idea:** Write effectively in various forms and types of writing — **Concept:** Audience and Purpose
Stem: Develop an awareness of audience and purpose in composing text.
API: WPS.4 Write simple friendly letters, messages, and directions for making or doing something, considering a given audience.
Has this student been assessed on this API in previous years? ☐ Yes ☑ No

	Collection Period 1 January 12 - February 6			Collection Period 2 February 9 - March 6		
	Dates below do not need to be in chronological order.			Dates below do not need to be in chronological order.		
Date	01/12/2009	01/14/2009	02/04/2009	02/09/2009	02/19/2009	03/06/2009
Data Type	Student Work Record	Data Point	Data Point	Student Work Record	Data Point	Data Point
Accuracy %	0%	100%	100%	100%	100%	100%
Independence %	0%	100%	100%	60%	100%	100%
Average % for Collection Period	Accuracy: 95%			Accuracy: 100%		
	Independence: 90%			Independence: 80%		

	API Entry Average
Level of Accuracy	98%
Level of Independence	85%

Entry/Data Summary Sheet
Mathematics/Communication Arts

Student Name: Cody — **Grade:** 11
Strand: Communication Arts - WP — **Big Idea:** Write effectively in various forms and types of writing — **Concept:** Audience and Purpose
Stem: Develop an awareness of audience and purpose in composing text.
API: WPS.4 Write simple friendly letters, messages, and directions for making or doing something, considering a given audience.
Has this student been assessed on this API in previous years? ☐ Yes ☑ No

	Collection Period 1 January 12 - February 6			Collection Period 2 February 9 - March 6		
	Dates below do not need to be in chronological order.			Dates below do not need to be in chronological order.		
Date	01/12/2009	01/14/2009	02/04/2009	02/09/2009	02/19/2009	03/06/2009
Data Type	Student Work Record	Data Point	Data Point	Student Work Record	Data Point	Data Point
Accuracy %	0%	100%	100%	100%	100%	100%
Independence %	0%	100%	100%	60%	100%	100%
Average % for Collection Period	Accuracy: 67%			Accuracy: 100%		
	Independence: 67%			Independence: 87%		

	API Entry Average
Level of Accuracy	84%
Level of Independence	77%

How to Score a MAP-A Entry

- Does the Activity Connect to the API?
- Does the Activity Demonstrate Application?
- Verify the Accuracy Score
- Verify the Independence Score
- Refigure the Entry Averages if Necessary
- Record the Score Information

Scoring Guide

Preliminary Scoring Questions & Procedures

- Does the MAP-A binder have a barcoded, student-specific cover sheet?
- Do you know the student, school, or teacher?

CODY

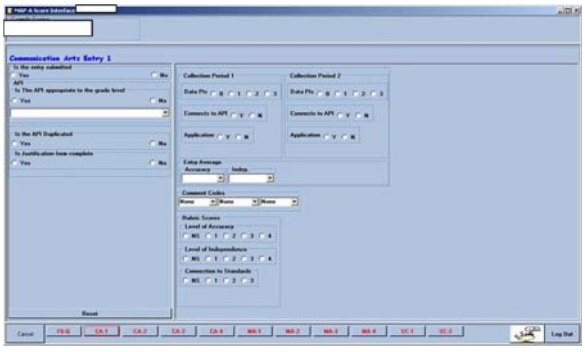
Entering the Score Information for Cody

Scoring Guide

Preliminary Scoring Questions & Procedures

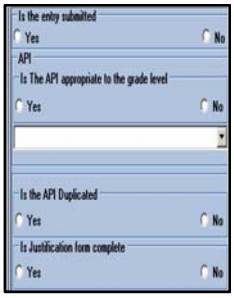
- Does the grade level on score sheet match the grade level in the binder?
- Is the Table of Contents Checklist submitted?
- Is the Validation Form submitted?
- Is the Validation Form signed?
- Did the teacher use ProFile Web?
- Was MAP-A Material Submitted?

MAP-A Score Interface



Scoring Guide

Entry Scoring Questions & Procedures



- Review the Entry/Data Summary Sheet and Student Work Records for the entry.
- Is the entry submitted?
- According to your grade-span-specific API list, is the API appropriate to the grade level?
- Enter in the API or APIs.
- Is the API Duplicated?
- Is the Justification Form Complete?

Scoring Guide

Entry Scoring Questions & Procedures

For each collection period:

- Do the dates on the Student Work Record correspond to the dates on the Entry/Data Summary Sheet?
- Do the dates fall within the allowable collection period time frames?
- How many data points were recorded?

Scoring Guide

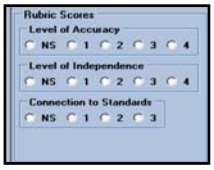
Entry Scoring Questions & Procedures

For each collection period:

- Does the activity described on the Student Work Record connect to the API or APIs?
- Is the activity application?
- Is the Level of Accuracy evaluation complete?
- Is the Level of Independence evaluation complete?
- Verify calculations in non-ProFile generated binders.

Scoring Guide

Entry Scoring Questions & Procedures



Summarize for each entry:

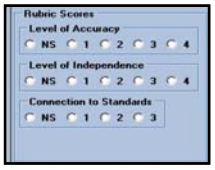
- Record the Entry Average percentage for Level of Accuracy.
- Assign rubric score for Level of Accuracy.

Level of Accuracy Rubric

Score Point	Entry Average %	Description
4	76 -100	The Entry/Data Summary Sheet indicates the student provided an accurate answer or response an average of 76–100% of the time across the two data collection periods.
3	51-75	The Entry/Data Summary Sheet indicates the student provided an accurate answer or response an average of 51–75% of the time across the two data collection periods.
2	26-50	The Entry/Data Summary Sheet indicates the student provided an accurate answer or response an average of 26–50% of the time across the two data collection periods.
1	0-25	The Entry/Data Summary Sheet indicates the student provided an accurate answer or response an average of 0–25% of the time across the two data collection periods.
NS		Insufficient information was given. The Entry/Data Summary Sheet was incomplete. Each entry must have six data points (three per collection period) as indicated on the Entry/Data Summary Sheet.

Scoring Guide

Entry Scoring Questions & Procedures



Summarize for each entry:

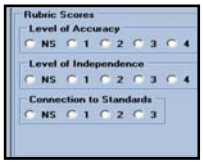
- Record the Entry Average percentage for Level of Independence.
- Assign rubric score for Level of Independence.

Level of Independence Rubric

Score Point	Entry Average %	Description
4	76 -100	The Entry/Data Summary Sheet indicates the student demonstrates skills and concepts independently an average of 76–100% of the time across the two data collection periods. The student required minimal (0–24% of the time) cueing, prompting, or assistance.
3	51-75	The Entry/Data Summary Sheet indicates the student demonstrates skills and concepts independently an average of 51–75% of the time across the two data collection periods. The student required some (25–49% of the time) cueing, prompting, or assistance.
2	26-50	The Entry/Data Summary Sheet indicates the student demonstrates skills and concepts independently an average of 26–50% of the time across the two data collection periods. The student required frequent (50–74% of the time) cueing, prompting, or assistance.
1	0-25	The Entry/Data Summary Sheet indicates the student demonstrates skills and concepts independently an average of 0–25% of the time across the two data collection periods. The student required extensive (75–100% of the time) cueing, prompting, or assistance.
NS		Insufficient information was given. The Entry/Data Summary Sheet was incomplete. Each entry must have six data points (three per collection period) as indicated on the Entry/Data Summary Sheet.

Scoring Guide

Entry Scoring Questions & Procedures



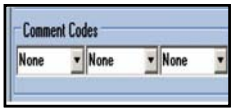
Summarize for each entry:

- Assign rubric score for Connection to the Standards.

Connection to the Standards Rubric	
Score Point	**Description**
3	**The Student Work Records provide documentation of the application of the API/s in two standards-based activities, one per collection period.**
2	**The Student Work Records provide documentation of the application of the API/s in one standards-based activity (one out of two collection periods).**
1	**The Student Work Records provide documentation of the API/s but do not include application of the API/s in standards-based activities.**
NS	**Insufficient information was given. There were no work samples included for the API/s or the work samples submitted were not connected to the API/s.**

Scoring Guide

Entry Scoring Questions & Procedures



Summarize for each entry:

- Record scoring irregularities in the Comment Codes section.
- Use the Scoring Irregularities and Rules to make scoring decisions.

Scoring Rules

	Scoring Irregularity	Scoring Rule
01	No dates given on Entry/Data Summary Sheet and on Student Work Records.	Assign "No Score" for each dimension of the rubric for this entry.
02	Missing Entry/Data Summary Sheet	Assign "No Score" for each dimension of the rubric for this entry.
03	A collection period does not have a minimum of three data points.	Assign "No Score" for each dimension of the rubric for this entry.
04	An entry does not include at least one Student Work Record per collection period.	Assign "No Score" for each dimension of the rubric for this entry.

Scoring Rules

	Scoring Irregularity	Scoring Rule
05	A submitted Student Work Record for an entry does not connect to the API/s.	Assign "No Score" for each dimension of the rubric for this entry.
06	One out of two collection periods are incomplete.	Assign "No Score" for each dimension of the rubric for this entry.
07	No API/s identified.	Assign "No Score" for each dimension of the rubric for this entry.
08	API/s is/are not grade span appropriate.	Assign "No Score" for each dimension of the rubric for this entry.

Scoring Rules

	Scoring Irregularity	Scoring Rule
09	A single API is used in more than one entry.	The first instance will be scored and the second instance will result in "Entry Not Submitted." Assign "No Score" for each dimension of the rubric for the second entry.
10	A single science content strand is used in more than one entry.	The first instance will be scored and the second instance will result in "Entry Not Submitted." Assign "No Score" for each dimension of the rubric for the second entry.

Scoring Rules

	Scoring Irregularity	Scoring Rule
11	Missing entry.	Will result in "Entry Not Submitted." Assign "No Score" for each dimension of the rubric for this entry.
12	API/s is/are not consistent across the 2 collection periods.	If the API/s is/are different in both collection periods the entry cannot be scored. Assign "No Score" for each dimension of the rubric for this entry.
13	Dates on the Entry/Data Summary Sheet and Student Work Records are not within the timeframes of the collection periods.	Any data from dates outside of the timeframes will not be used for scoring.

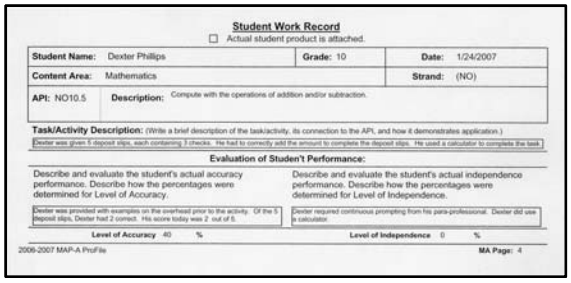
Scoring Rules

	Scoring Irregularity	Scoring Rule
14	One or more Student Work Records shows acquisition rather than application of the API/s.	The activity in these collection periods cannot be considered application.
15	Tangible student work submitted without a Student Work Record	The activity in this collection period cannot be considered application.
16	Student Work Record missing task/activity description	The activity in this collection period cannot be considered application.

Scoring Rules

	Scoring Irregularity	Scoring Rule
17	Submitted percentages are miscalculated.	Scorer corrects percentages.
18	Percentage calculations for Accuracy or Independence cannot be verified for a Student Work Record.	Percentage for Accuracy or Independence for the Student Work Record is replaced with zero and entry average is recalculated to determine rubric score.
?		

Dexter



Student Work Record

☐ Actual student product is attached.

Student Name: Dexter Phillips	**Grade:** 10	**Date:** 1/24/2007
Content Area: Mathematics		**Strand:** (NO)
API: NO10.5	**Description:** Compute with the operations of addition and/or subtraction.	

Task/Activity Description: (Write a brief description of the task/activity, its connection to the API, and how it demonstrates application.)

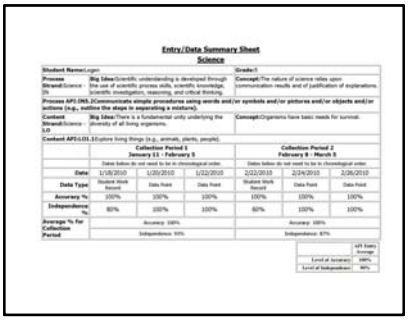
Dexter was given 5 deposit slips, each containing 3 checks. He had to correctly add the amount to complete the deposit slips. He used a calculator to complete the task.

Evaluation of Studen't Performance:

Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for Level of Accuracy.	Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for Level of Independence.
Dexter was provided with examples on the overhead prior to the activity. Of the 5 deposit slips, Dexter had 2 correct. His score today was 2 out of 5.	Dexter required continuous prompting from his para-professional. Dexter did use a calculator.
Level of Accuracy 40 %	**Level of Independence** 0 %

2006-2007 MAP-A Profile **MA Page:** 4

Logan



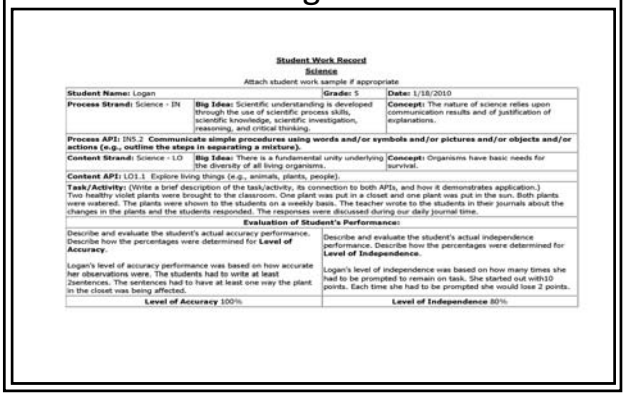
Entry/Data Summary Sheet

Science

Student Name: Logan				**Grade:** 5		
Process Strand: Science - IN	**Big Idea:** Scientific understanding is developed through the use of scientific process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.			**Concept:** The nature of science relies upon communication results and of justification of explanations.		
Process API: IN5.2 Communicate simple procedures using words and/or symbols and/or pictures and/or objects and/or actions (e.g., outline the steps in separating a mixture).						
Content Strand: Science - LO	**Big Idea:** There is a fundamental unity underlying the diversity of all living organisms.			**Concept:** Organisms have basic needs for survival.		
Content API: LO1.1 Explore living things (e.g., animals, plants, people).						
	Collection Period 1 January 11 - February 5			**Collection Period 2 February 8 - March 5**		
	Dates below do not need to be in chronological order.			Dates below do not need to be in chronological order.		
Date:	1/18/2010	1/20/2010	1/22/2010	2/22/2010	2/24/2010	2/26/2010
Data Type	Student Work Record	Data Point	Data Point	Student Work Record	Data Point	Data Point
Accuracy %	100%	100%	100%	100%	100%	100%
Independence %	80%	100%	100%	80%	100%	100%
Average % for Collection Period	Accuracy: 100% Independence: 93%			Accuracy: 100% Independence: 87%		

	+2% Rubric leverage
Level of Accuracy	100%
Level of Independence	90%

Logan



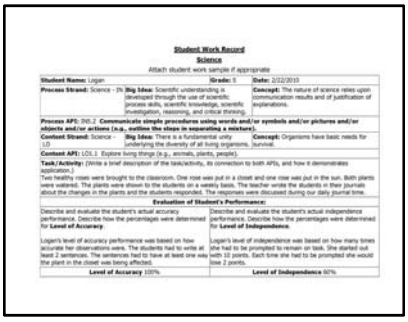
Student Work Record

Science

Attach student work sample if appropriate

Student Name: Logan		**Grade:** 5	**Date:** 1/18/2010
Process Strand: Science - IN	**Big Idea:** Scientific understanding is developed through the use of scientific process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.		**Concept:** The nature of science relies upon communication results and of justification of explanations.
Process API: IN5.2 Communicate simple procedures using words and/or symbols and/or pictures and/or objects and/or actions (e.g., outline the steps in separating a mixture).			
Content Strand: Science - LO	**Big Idea:** There is a fundamental unity underlying the diversity of all living organisms.		**Concept:** Organisms have basic needs for survival.
Content API: LO1.1 Explore living things (e.g., animals, plants, people).			
Task/Activity: (Write a brief description of the task/activity, its connection to both APIs, and how it demonstrates application.) Two healthy violet plants were brought to the classroom. One plant was put in a closet and one plant was put in the sun. Both plants were watered. The plants were shown to the students on a weekly basis. The teacher wrote to the students in their journals about the changes in the plants and the students responded. The responses were discussed during our daily journal time.			
Evaluation of Student's Performance:			
Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for **Level of Accuracy**. Logan's level of accuracy performance was based on how accurate her observations were. The students had to write at least 2sentences. The sentences had to have at least one way the plant in the closet was being affected.		Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for **Level of Independence**. Logan's level of independence was based on how many times she had to be prompted to remain on task. She started out with10 points. Each time she had to be prompted she would lose 2 points.	
Level of Accuracy 100%		**Level of Independence** 80%	

Logan



Student Work Record

Science

Attach student work sample if appropriate

Student Name: Logan		**Grade:** 5	**Date:** 2/22/2010
Process Strand: Science - IN	**Big Idea:** Scientific understanding is developed through the use of scientific process skills, scientific knowledge, scientific investigation, reasoning, and critical thinking.		**Concept:** The nature of science relies upon communication results and of justification of explanations.
Process API: IN5.2 Communicate simple procedures using words and/or symbols and/or pictures and/or objects and/or actions (e.g., outline the steps in separating a mixture).			
Content Strand: Science - LO	**Big Idea:** There is a fundamental unity underlying the diversity of all living organisms.		**Concept:** Organisms have basic needs for survival.
Content API: LO1.1 Explore living things (e.g., animals, plants, people).			
Task/Activity: (Write a brief description of the task/activity, its connection to both APIs, and how it demonstrates application.) Two healthy roses were brought to the classroom. One rose was put in a closet and one rose was put in the sun. Both plants were watered. The plants were shown to the students on a weekly basis. The teacher wrote the students in their journals about the changes in the plants and the students responded. The responses were discussed during our daily journal time.			
Evaluation of Student's Performance:			
Describe and evaluate the student's actual accuracy performance. Describe how the percentages were determined for **Level of Accuracy**. Logan's level of accuracy performance was based on how accurate her observations were. The students had to write at least 2 sentences. The sentences had to have at least one way the plant in the closet was being affected.		Describe and evaluate the student's actual independence performance. Describe how the percentages were determined for **Level of Independence**. Logan's level of independence was based on how many times she had to be prompted to remain on task. She started out with 10 points. Each time she had to be prompted she would lose 2 points.	
Level of Accuracy 100%		**Level of Independence** 80%	

Remember

- Mathematics and Communication Arts entries have activities that must connect to 1 API.
- Science entries have activities that must connect to 2 APIs.
- Always record number of data points in both collection periods.
- Enter comment codes.
- Activities that include leisure time, recess, free time, games, and journal writing are almost always application.

Questions

???

Appendix I: Sample Reports

2010 MAP-A Paper Reporting

Report packages sent to districts included the mathematics and communication arts reports for students who reside and/or attend in the district. Each packet contained the following items:

Letter to District Testing Coordinator	
District Report	2 copies per district
(For the Missouri Schools for Severely Disabled, the State Schools Building Report, the State Schools Report, and the State Schools District Report were included in lieu of a District Report.)	
Mathematics Reports	
Individual Student Report-Parent	2 copies per student
Individual Student Report-Teacher	2 copies per student
Student Record Label	1 copy per student
Communication Arts Reports	
Individual Student Report-Parent	2 copies per student
Individual Student Report-Teacher	2 copies per student
Student Record Label	1 copy per student
Science Reports	
Individual Student Report-Parent	2 copies per student
Individual Student Report-Teacher	2 copies per student
Student Record Label	1 copy per student
Packing Slip	
Roster	

MAP-A 2010

Missouri Assessment Program - Alternate

Student Report
Mathematics
(Parent Copy)

Name: John Smith
MOSIS: 1234567890 Grade: 8
Birthdate: 1/29/1996

School of Residence:
Jr. High School
Fake District
123456

School of Attendance:
Jr. High School
Fake District
123456

MAP-A Mathematics Achievement Level: **Proficient**

Advanced: Student has a strong understanding of the concepts contained in the grade-appropriate APIs within the strands of Numbers and Operations and Data and Probability. Student work may be closely connected to the strands and demonstrate strong application. Student likely requires minimal verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

Proficient: Student has a sound understanding of the concepts contained in the grade-appropriate APIs within the strands of Numbers and Operations and Data and Probability. Student work may be connected to the strands and demonstrate application. Student likely requires some verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

Basic: Student has a fundamental understanding of the concepts contained in the grade-appropriate APIs within the strands of Numbers and Operations and Data and Probability. Student work may be somewhat connected to the strands. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.

Below Basic: Student has a minimal understanding of the concepts contained in the grade-appropriate APIs within the strands of Numbers and Operations and Data and Probability. Student work may be loosely connected to the strands. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.

Level not Determined (LND): Insufficient evidence was reported to assign raw scores to this student's MAP-A; therefore, no achievement level may be assigned.

	API description		
Strand 1	**NO1.1.:** Represent and number small collections (1 to 4 items).	Level of Accuracy	4
		Level of Independence	4
		Connection to Standards	3
	NO1.8.: Identify/recognize numerals 1 through 10 (e.g., point out a 5, given choice of numerals).	Level of Accuracy	4
		Level of Independence	4
		Connection to Standards	3
Strand 2	**DP2.1.b.:** Make decisions on how to classify data. Engage in sorting activities that focus on identified attributes of objects (e.g., sorting by color, play sorting games).	Level of Accuracy	0
		Level of Independence	0
		Connection to Standards	0
	DP3.1.d.: Represent data. Display data using a variety of representations (e.g., pictures and bar graphs).	Level of Accuracy	4
		Level of Independence	4
		Connection to Standards	3

This is a parent's copy of a MAP-A Individual Student Report of achievement in a single content area or subject. The following information may be found on this report.

- Content area assessed (Mathematics, Communication Arts, or Science)
- Student's MAP-A achievement level
- Achievement level descriptors (Advanced, Proficient, Basic, Below Basic, and Level Not Determined)
- Descriptions of the APIs (Alternate Performance Indicators) or API pairs assessed
- Level of Accuracy, Level of Independence, and Connection to Standards scores for each entry

MAP-A Background

The Individuals with Disabilities Education Improvement Act (IDEA) of 2004 requires that students with disabilities participate in the general education curriculum with supplementary aides and supports when necessary. IDEA 2004 further requires that students with disabilities be included in all state- and district-wide assessment programs with appropriate accommodations or alternate assessments when necessary, as determined by their Individualized Education Program (IEP) team. In addition, the No Child Left Behind Act (NCLB) of 2001 requires that all students participate in state assessments in English language arts, mathematics, and science and that DESE report student performance to the public.

In Missouri, students with significant cognitive disabilities participate in the MAP-Alternate (MAP-A), ensuring that each student has the opportunity to acquire the knowledge and skills in the Missouri Show-Me Standards.

The MAP-A is a performance-based assessment in which teachers collect data and student work. The collected evidence provides documentation of the student's accuracy and independence and ensures that there is a connection between the Show-Me Standards and instruction.

The MAP-A is

- required by federal law;
- designed only for students with significant cognitive disabilities who meet grade-level and participation criteria;
- reflective of input from an IEP team, which may include teachers, physical therapists, speech therapists, occupational therapists, paraprofessionals, job coaches, parents or guardians, and the student, if appropriate;
- administered at the same grade levels as students participating in Missouri's general assessment; and
- scored using the MAP-A Scoring Rubric; raw scores are then converted to reported achievement levels.

Assessment Blueprint

The MAP-A assesses student learning directly connected to the Show-Me Standards, through the Alternate Grade-Level Expectations (AGLEs) for students who are MAP-A eligible. The MAP-A assesses student work in each of two strands in Communication Arts and Mathematics and four strands in Science, as shown in the table below.

Content Area	Required Grades	Strand
Mathematics	3-8, & 10	Numbers and Operations
	3-5	Algebraic Relationships and/or Geometric and Spatial Relationships
	6-8	Data and Probability
	10	Measurement
Communication Arts	3-8, & 11	Reading
	3-5	Writing Composition
	6-8, & 11	Writing Process
Science	5, 8, & 11	Scientific Inquiry
	5, 8, & 11	Impact of Science, Technology, and Human Activity
	5	Characteristics and Interactions of Living Organisms
	5	Changes in Ecosystems and Interactions of Organisms with Their Environments
	8	Properties and Principles of Matter and Energy
	8	Properties and Principles of Force and Motion
	11	Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
	11	Composition and Structure of the Universe and the Motion of the Objects Within It

Alternate Performance Indicators (APIs), component concepts of the strands outlined in the table above, are assessed for each strand. The four specific APIs assessed in this student's MAP-A are listed on the reverse side of this report.

Scoring

The MAP-A is assessed over three criteria, or scoring dimensions:

- Level of Accuracy – 4 points possible per entry
- Level of Independence – 4 points possible per entry
- Connection to the Standards – 3 points possible per entry

The entries that make up the MAP-A are assigned a raw score for each of the scoring dimensions. Eleven points are possible for each entry. The raw scores for each API or API pair assessed are reported on the reverse side of this report. Raw scores are totaled and then converted to the overall achievement level reported for the subject area. For more information, see the *Guide to Interpreting MAP-A Results*.

MAP-A 2010

Missouri Assessment Program - Alternate

Student Report
Communication Arts
(Teacher Copy)

Name: John Smith
MOSIS: 1234567890 Grade: 8
Birthdate: 1/29/1996

School of Residence:
Jr. High School
Fake District
123456

School of Attendance:
Jr. High School
Fake District
123456

MAP-A Communication Arts Achievement Level: **Advanced**

Advanced: Student has a high level of understanding of the concepts contained in the grade-appropriate APIs within the standards of Reading and Writing Development and Processes. Student work may be closely connected to the standards and demonstrate strong application. Student likely requires minimal verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

Proficient: Student has some understanding of the concepts contained in the grade-appropriate APIs within the standards of Reading and Writing Development and Processes. Student work may be connected to the standards and demonstrate application. Student likely requires some verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

Basic: Student has a limited understanding of the concepts contained in the grade-appropriate APIs within the standards of Reading and Writing Development and Processes. Student work may be somewhat connected to the standards. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.

Below Basic: Student has a minimal understanding of the concepts contained in the grade-appropriate APIs within the standards of Reading and Writing Development and Processes. Student work may be loosely connected to the standards. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.

Level not Determined (LND): Insufficient evidence was reported to assign raw scores to this student's MAP-A; therefore, no achievement level may be assigned.

	API description		
Strand 1	**RD1.8.:** Match letter to letter.	Level of Accuracy	4
		Level of Independence	4
		Connection to Standards	3
		Comments	
	RD1.9.: Match word to word.	Level of Accuracy	4
		Level of Independence	4
		Connection to Standards	3
		Comments	
Strand 2	**WP1.4.:** Use spelling approximations.	Level of Accuracy	4
		Level of Independence	4
		Connection to Standards	3
		Comments	
	WP2.3.: Relate a series of events in chronological order, including beginning and end.	Level of Accuracy	4
		Level of Independence	4
		Connection to Standards	3
		Comments	

See comment definitions on reverse side.

This is a teacher's copy of a MAP-A Individual Student Report of achievement in a single content area or subject. The following information may be found on this report.

- Content area assessed (Mathematics, Communication Arts, or Science)
- Student's MAP-A achievement level
- Achievement level descriptors (Advanced, Proficient, Basic, Below Basic, and Level Not Determined)
- Descriptions of the Alternate Performance Indicators (APIs) or API pairs assessed
- Level of Accuracy, Level of Independence, and Connection to Standards scores for each entry
- Scoring comment codes, if reported, for each entry

Background

The Individuals with Disabilities Education Improvement Act (IDEA) of 2004 requires that students with disabilities participate in the general education curriculum with supplementary aides and supports when necessary. IDEA 2004 further requires that students with disabilities be included in all state- and district-wide assessment programs with appropriate accommodations or alternate assessments when necessary, as determined by their Individualized Education Program (IEP) team. In addition, the No Child Left Behind Act (NCLB) of 2001 requires that all students participate in state assessments in English language arts, mathematics, and science and that DESE report student performance to the public. In Missouri, students with significant cognitive disabilities participate in the MAP-Alternate (MAP-A), ensuring that each student has the opportunity to acquire the knowledge and skills in the Missouri Show-Me Standards.

The MAP-A is a performance-based assessment in which teachers collect data and student work. The collected evidence provides documentation of the student's accuracy and independence and ensures that there is a connection between the Show-Me Standards and instruction.

The MAP-A is

- required by federal law;
- designed only for students with significant cognitive disabilities who meet grade-level and participation criteria;
- reflective of input from an IEP team, which may include teachers, physical therapists, speech therapists, occupational therapists, paraprofessionals, job coaches, parents or guardians, and the student, if appropriate;
- administered at the same grade levels as students participating in Missouri's general assessment; and
- scored using the MAP-A Scoring Rubric; raw scores are then converted to reported achievement levels.

Content Area	Required Grades	Strand
Mathematics	3-8, & 10	Numbers and Operations
	3-5	Algebraic Relationships and/or Geometric and Spatial Relationships
	6-8	Data and Probability
	10	Measurement
Communication Arts	3-8, & 11	Reading
	3-5	Writing Composition
	6-8, & 11	Writing Process
Science	5, 8, & 11	Scientific Inquiry
	5, 8, & 11	Impact of Science, Technology, and Human Activity
	5	Characteristics and Interactions of Living Organisms
	5	Changes in Ecosystems and Interactions of Organisms with Their Environments
	8	Properties and Principles of Matter and Energy
	8	Properties and Principles of Force and Motion
	11	Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
	11	Composition and Structure of the Universe and the Motion of the Objects Within It

Assessment Blueprint

The MAP-A assesses student learning directly connected to the Show-Me Standards, through the Alternate Grade-Level Expectations (AGLEs) for students who are MAP-A eligible. The MAP-A assesses student work in each of two strands in Communication Arts and Mathematics and four strands in Science, as shown in the table above.

Alternate Performance Indicators (APIs), component concepts of the strands outlined in the table above, are assessed for each strand. The four specific APIs assessed in this student's MAP-A are listed on the reverse side of this report.

Scoring

The MAP-A is assessed over three criteria, or scoring dimensions:

- Level of Accuracy – 4 points possible per entry
- Level of Independence – 4 points possible per entry
- Connection to the Standards – 3 points possible per entry

The four entries that make up the MAP-A are assigned a score for each of the scoring dimensions. Eleven points are possible for each entry. The raw scores for each API or API pair assessed are reported on the reverse side of this report. Raw scores are totaled and then converted to the overall achievement level reported for the subject area.

Scoring Comment Codes

Irregularities encountered in MAP-A entries during scoring are noted with the codes in the table below. Up to three codes per entry may be reported.

Comment Code	Scoring Irregularity
01	No dates given on Entry/Data Summary Sheet and on Student Work Records.
02	Missing Entry/Data Summary Sheet.
03	A collection period does not have a minimum of three data points.
04	An entry does not include at least one Student Work Record per collection period.
05	A submitted Student Work Record for an entry does not connect to the API(s).
06	One out of two collection periods is incomplete.
07	No API(s) identified.
08	API(s) is/are not grade span appropriate.
09	A single API is used in more than one entry.
10	A single science content strand is used in more than one entry.
11	Missing entry.
12	API(s) is/are not consistent across the two collection periods.
13	Dates on the Entry/Data Summary Sheet and Student Work Records are not within the timeframes of the collection periods.
14	One or more Student Work Records shows acquisition rather than application of the API(s).
15	Tangible student work submitted without a Student Work Record.
16	Student Work Record missing task/activity description.
17	Submitted percentages are miscalculated.
18	Calculations for Accuracy or Independence cannot be verified for a Student Work Record.

MAP-A 2010

Missouri Assessment Program - Alternate

Student Report
Science
(Parent Copy)

Name: John Smith
MOSIS: 1234567890 Grade: 8
Birthdate: 1/29/1996

School of Residence:
Jr. High School
Fake District
123456

School of Attendance:
Jr. High School
Fake District
123456

MAP-A Science Achievement Level: **Advanced**

Advanced: Student has a strong understanding of the concepts contained in the grade-appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Properties and Principles of Matter and Energy, and Properties and Principles of Force and Motion. Student work evidence is strongly connected to the strands and demonstrates strong application. Student likely requires minimal verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

Proficient: Student has a sound understanding of the concepts contained in the grade-appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Properties and Principles of Matter and Energy, and Properties and Principles of Force and Motion. Student work evidence is connected to the strands and demonstrates application. Student likely requires some verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.

Basic: Student has a fundamental understanding of the concepts contained in the grade-appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Properties and Principles of Matter and Energy, and Properties and Principles of Force and Motion. Student work evidence is somewhat connected to the strands. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.

Below Basic: Student has a minimal understanding of the concepts contained in the grade-appropriate APIs within the strands of Scientific Inquiry, Impact of Science, Technology, and Human Activity, Properties and Principles of Matter and Energy, and Properties and Principles of Force and Motion. Student work evidence may be loosely connected to the strands. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge and/or application of these concepts.

Level not Determined (LND): Insufficient evidence was reported to assign raw scores to this student's MAP-A; therefore, no achievement level may be assigned.

	API description	
Entry 1	**Content ST1.1.:** Explore objects that occur in nature in their natural environment (e.g., soil, rock, trees, water).	
	Process FM1.1.c.: Identify the position of an object relative to another object. Identify that an object is above or below another object (e.g., the airplane is above the building).	Level of Accuracy: 4 Level of Independence: 4 Connection to Standards: 3
Entry 2	**Content IN5.1.:** Communicate observations and/or events using words, symbols, pictures, objects, and/or actions (e.g., to describe the weather as sunny, cloudy, rainy, windy; to draw a landscape - mountain, river, trees, rocks, soil, water).	
	Process ME1.1.: Explore physical properties of objects.	Level of Accuracy: 4 Level of Independence: 4 Connection to Standards: 3

This is a parent's copy of a MAP-A Individual Student Report of achievement in a single content area or subject. The following information may be found on this report.

- Content area assessed (Mathematics, Communication Arts, or Science)
- Student's MAP-A achievement level
- Achievement level descriptors (Advanced, Proficient, Basic, Below Basic, and Level Not Determined)
- Descriptions of the APIs (Alternate Performance Indicators) or API pairs assessed
- Level of Accuracy, Level of Independence, and Connection to Standards scores for each entry

MAP-A Background

The Individuals with Disabilities Education Improvement Act (IDEA) of 2004 requires that students with disabilities participate in the general education curriculum with supplementary aides and supports when necessary. IDEA 2004 further requires that students with disabilities be included in all state- and district-wide assessment programs with appropriate accommodations or alternate assessments when necessary, as determined by their Individualized Education Program (IEP) team. In addition, the No Child Left Behind Act (NCLB) of 2001 requires that all students participate in state assessments in English language arts, mathematics, and science and that DESE report student performance to the public.

In Missouri, students with significant cognitive disabilities participate in the MAP-Alternate (MAP-A), ensuring that each student has the opportunity to acquire the knowledge and skills in the Missouri Show-Me Standards.

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The MAP-A is

- required by federal law;
- designed only for students with significant cognitive disabilities who meet grade-level and participation criteria;
- reflective of input from an IEP team, which may include teachers, physical therapists, speech therapists, occupational therapists, paraprofessionals, job coaches, parents or guardians, and the student, if appropriate;
- administered at the same grade levels as students participating in Missouri's general assessment; and
- scored using the MAP-A Scoring Rubric; raw scores are then converted to reported achievement levels.

Assessment Blueprint

The MAP-A assesses student learning directly connected to the Show-Me Standards, through the Alternate Grade-Level Expectations (AGLEs) for students who are MAP-A eligible. The MAP-A assesses student work in each of two strands in Communication Arts and Mathematics and four strands in Science, as shown in the table below.

Content Area	Required Grades	Strand
Mathematics	3-8, & 10	Numbers and Operations
	3-5	Algebraic Relationships and/or Geometric and Spatial Relationships
	6-8	Data and Probability
	10	Measurement
Communication Arts	3-8, & 11	Reading
	3-5	Writing Composition
	6-8, & 11	Writing Process
Science	5, 8, & 11	Scientific Inquiry
	5, 8, & 11	Impact of Science, Technology, and Human Activity
	5	Characteristics and Interactions of Living Organisms
	5	Changes in Ecosystems and Interactions of Organisms with Their Environments
	8	Properties and Principles of Matter and Energy
	8	Properties and Principles of Force and Motion
	11	Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
	11	Composition and Structure of the Universe and the Motion of the Objects Within It

Alternate Performance Indicators (APIs), component concepts of the strands outlined in the table above, are assessed for each strand. The four specific APIs assessed in this student's MAP-A are listed on the reverse side of this report.

Scoring

The MAP-A is assessed over three criteria, or scoring dimensions:

- Level of Accuracy – 4 points possible per entry
- Level of Independence – 4 points possible per entry
- Connection to the Standards – 3 points possible per entry

The entries that make up the MAP-A are assigned a raw score for each of the scoring dimensions. Eleven points are possible for each entry. The raw scores for each API or API pair assessed are reported on the reverse side of this report. Raw scores are totaled and then converted to the overall achievement level reported for the subject area. For more information, see the *Guide to Interpreting MAP-A Results*.

MAP-A 2010
Missouri Assessment Program - Alternate

Individual Student Mathematics API History

John Smith	MOSIS: 1234567890 MAP-A #: 1989 Date of Birth: 1/29/1996 Grade: 8
School of Residence: Jr. High School Fake District 123456	School of Attendance: Jr. High School Fake District 123456

	Math			
	Strand 1		Strand 2	
	Entry 1	Entry 2	Entry 1	Entry 2
Year: 2009-2010 Grade: 8	***NOI.1.:** Represent and number small collections (1 to 4 items).	***NOI.8.:** Identify/recognize numerals 1 through 10 (e.g., point out a 5, given choice of numerals).	***DP2.1.b.:** Make decisions on how to classify data. Engage in sorting activities that focus on identified attributes of objects (e.g., sorting by color, play sorting games).	**DP3.1.d.:** Represent data. Display data using a variety of representations (e.g., pictures and bar graphs).
Year: 2008-2009 Grade:	No Data Available	No Data Available	No Data Available	No Data Available
Year: 2007-2008 Grade: 6	***NOI.8.:** Identify/recognize numerals 1 through 10 (e.g., point out a 5, given choice of numerals).	**NOI.6.:** Represent a number or quantity (e.g., tap, draw objects, or tallies, etc.)	***DP2.1.b.:** Make decisions on how to classify data. Engage in sorting activities that focus on identified attributes of objects (e.g., sorting by color, play sorting games).	**DP1.2.a.:** Collect data. Attend to another person collecting and recording data.
Year: 2006-2007 Grade: 5	***NOI.0.:** Explore quantity using manipulatives.	**NOI.3.:** Use the counting sequence to enumerate (count 1 by 1) a collection and to identify %%how many%% items in a collection.	***AR2.1.:** Create patterns.	***AR3.1.:** Sort, classify and order objects.
Year: 2005-2006 Grade: 4	***NOI.0.:** Explore quantity using manipulatives.	***NOI.1.:** Represent and number small collections (1 to 4 items).	***AR2.1.:** Create patterns.	***AR3.1.:** Sort, classify and order objects.

* This is a duplicate API

This is a MAP-A Individual Student API History Report for a single content area or subject. The following information may be found on this report.

- Content area (Mathematics, Communication Arts, or Science)
- Student's grade level each year reported
- Descriptions of the Alternate Performance Indicators (APIs) assessed each year

If an API has been assessed in multiple years, an asterisk appears with the API description in the years in which it recurs. The information provided by this report is for informational purposes only. It is not used in MAP-A scoring and has no impact on the student's achievement level.

Background
To meet the requirements of NCLB, the Missouri Assessment Program, including the MAP-A, is evaluated through a Peer Review process. In order to demonstrate that students are progressing through the curriculum, coverage of the depth and breadth of the APIs should be documented over a student's educational span. Best practice encourages assessment of APIs from two different Big Ideas, pre-defined subsets of the content in each strand, each assessment year to represent breadth.

To cover the depth of APIs, teachers are encouraged to choose APIs that align to a student's highest academic functioning level. When an API has been assessed with the MAP-A in a prior year, documentation is provided to justify the current API selection. This documentation is included with the MAP-A submission.

These practices provide for depth and breadth of content coverage in the MAP-A, offer teachers maximum flexibility for assessment, and effectively address opportunities for learning across a student's educational career.

Assessment Blueprint
The MAP-A assesses student learning directly connected to the Show-Me Standards, through the Alternate Grade-Level Expectations (AGLEs) for students who are MAP-A eligible. The MAP-A assesses student work in each of two strands in Communication Arts and Mathematics and four strands in Science, as shown in the following table.

Content Area	Required Grades	Strand
Mathematics	3-8, & 10	Numbers and Operations
	3-5	Algebraic Relationships and/or Geometric and Spatial Relationships
	6-8	Data and Probability
	10	Measurement
Communication Arts	3-8, & 11	Reading
	3-5	Writing Composition
	6-8, & 11	Writing Process
Science	5, 8, & 11	Scientific Inquiry
	5, 8, & 11	Impact of Science, Technology, and Human Activity
	5	Characteristics and Interactions of Living Organisms
	5	Changes in Ecosystems and Interactions of Organisms with Their Environments
	8	Properties and Principles of Matter and Energy
	8	Properties and Principles of Force and Motion
	11	Processes and Interactions of the Earth's Systems (Geosphere, Atmosphere, and Hydrosphere)
	11	Composition and Structure of the Universe and the Motion of the Objects Within It

Alternate Performance Indicators (APIs), component concepts of the strands outlined in the table above, are assessed in MAP-A activities designed by the student's instructional team. The four specific APIs assessed in this student's MAP-A each year are listed on the reverse side of this report.

Scoring
The MAP-A is assessed over three criteria, or scoring dimensions:
- Level of Accuracy – 4 points possible per entry
- Level of Independence – 4 points possible per entry
- Connection to the Standards – 3 points possible per entry

The four APIs that make up the MAP-A are assigned a raw score for each of the scoring dimensions. Eleven points are possible for each API. Raw scores are totaled and then converted to the overall achievement level reported for the subject area. The achievement level for the content area assessed is reported on the Student's Individual Report the year the API or API pair was assessed. For more information, see the *Guide to Interpreting MAP-A Results.*

MAP-A 2010

Missouri Assessment Program - Alternate

District Report

Fake District

CITY

COUNTY

123456

Mathematics

	Elementary School Grade 3, 4, 5				Middle School Grade 6, 7, 8				High School Grade 10			
	District		State		District		State		District		State	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Advanced	0		1855	68.25	0		1470	59.78	0		468	64.20
Proficient	0		714	26.27	1	100.00	776	31.56	0		208	28.53
Basic	0		105	3.86	0		126	5.12	0		35	4.80
Below Basic	0		28	1.03	0		66	2.68	0		9	1.23
LND	0		16	0.59	0		21	0.85	0		9	1.23
Total Count	0		2718		1		2459		0		729	

Communication Arts

	Elementary School Grade 3, 4, 5				Middle School Grade 6, 7, 8				High School Grade 11			
	District		State		District		State		District		State	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Advanced	0		1831	67.37	1	100.00	1377	56.00	0		408	59.65
Proficient	0		737	27.12	0		792	32.21	0		185	27.05
Basic	0		103	3.79	0		210	8.54	0		66	9.65
Below Basic	0		31	1.14	0		61	2.48	0		20	2.92
LND	0		16	0.59	0		19	0.77	0		5	0.73
Total Count	0		2718		1		2459		0		684	

Science

	Elementary School Grade 5				Middle School Grade 8				High School Grade 11			
	District		State		District		State		District		State	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Advanced	0		441	49.27	1	100.00	322	41.98	0		347	50.73
Proficient	0		142	15.87	0		177	23.08	0		112	16.37
Basic	0		172	19.22	0		146	19.04	0		109	15.94
Below Basic	0		129	14.41	0		116	15.12	0		109	15.94
LND	0		11	1.23	0		6	0.78	0		7	1.02
Total Count	0		895		1		767		0		684	