

**2011–2012
Missouri Assessment Program-Alternate
(MAP-A)**

**Science Achievement Level Setting Report
June 19 & 20, 2012
Columbia, Missouri**

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Introduction

The Missouri Department of Elementary and Secondary Education (DESE) convened three achievement level setting committees in June 2012 to recommend three cutpoints that would define four achievement levels—*Advanced*, *Proficient*, *Basic*, and *Below Basic*—for the MAP-A Science assessments at grades 5, 8, and 11. The two-day achievement level setting meetings included sessions in which panelists (1) received training on the assessment and the achievement level setting process, (2) reviewed and revised the science achievement level descriptors (ALDs) that had been in place since the first MAP-A Science administrations in 2008, (3) reviewed collections of evidence (COE) submitted for the assessment in 2012, and (4) applied the Reasoned Judgment and Modified Body of Work method (Kingston, Kahl, Sweeney, & Bay, 2001) to set the recommended cutpoints defining the four achievement levels. During the process of setting achievement level cutpoints, panelists reviewed the content measured by submitted COE, engaged in table and whole group discussions, and considered the impact on students when making cutpoint recommendations.

After the achievement level setting meetings were completed, a cross-grade articulation procedure was conducted. In cross-grade articulation, all panelists who participated in the grade-level meetings convened to form one large committee to make cross-grade comparisons of the cutpoint recommendations. This process allowed the committee members to review the cutpoints set by each grade-level meeting and make adjustments.

The final cutpoint recommendations for the MAP-A Science assessments are listed below in Table 1.

Table 1. MAP-A Science Raw Score Cutpoints Across Grades

	Grade 5	Grade 8	Grade 11
Basic	14	16	12
Proficient	25	28	23
Advanced	35	37	34
Total Points	44	44	44

This report presents the following information:

- an overview of the MAP-A science assessments
- details on the structure of the achievement level setting meetings, including the panelists attending the meetings, the number of standards to be set, and the achievement level setting approach used;
- the achievement level setting activities conducted including the online webinar training sessions, the review and revision of the science ALDs, and the achievement level setting process;
- the achievement level setting and articulation results;
- the impact data based on the final cutpoints;
- the results of the process evaluation; and
- the results of the articulation evaluation.

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MAP-A Overview

Participation in the Missouri Assessment Program (MAP) is an important means of ensuring that each student has the opportunity to acquire the knowledge and skills addressed in the Missouri Show-Me Standards, the state's approved content standards. The majority of students with disabilities will learn in general education classrooms, participate in the general education curriculum, and participate in the subject-area assessments of the MAP. However, some students require an alternate method of assessment. For the small percentage of students with significant cognitive disabilities who cannot participate in the large-scale assessments even with accommodations, the MAP-A is provided.

The MAP-A is a portfolio-based assessment that measures student performance based on alternate achievement standards. The MAP-A documents student learning directly connected to the Show-Me Standards through the Alternate Grade-Level Expectations (AGLEs) for students with significant cognitive disabilities who meet grade level and eligibility criteria. The decision as to how students with disabilities will participate in the state's accountability system is made by the student's Individualized Education Program team using the DESE-established criteria.

MAP-A assessments are administered in three subject areas: mathematics, communication arts, and science. The mathematics and communications arts assessments have been operational since 2006, and the science assessments have been operational since 2008. During the 2011–2012 school year, revised science test blueprints were implemented for the MAP-A Science assessments (see Appendix A). The new science blueprints allowed teachers the opportunity to select tasks that covered a broader range of content and increased the number of raw score points available. Consequently, it was necessary to revisit previously determined achievement level cutpoints and descriptors for the MAP-A Science tests.

MAP-A Science Assessments

The MAP-A Science assessments are designed to provide evidence of student knowledge of science content as described in the AGLEs. The science tests are available for MAP-A eligible students in grades 5, 8, and 11. For each grade level, the AGLEs are distributed among eight content strands. Within each of the content strands, Alternate Performance Indicators (APIs) provide information about the ways in which students might demonstrate content knowledge. Each grade-level assessment assesses accuracy, independence, and connection to the content standards on four Alternate Performance Indicators (APIs).

The blueprint for MAP-A Science assessments requires assessment on four of the eight content strands at each grade level. For the MAP-A Science assessments, teachers choose four APIs (one API from each required content strand) to assess. Teachers design an activity for each API which is uniquely suited to measure a student's level of content knowledge on the API. Thus, each science assessment requires a submission of four entries (one entry for each API).

During the two collection periods, teachers present the selected activities to the student and document evidence of student performance on each activity. Teachers record data for an API three times on an Entry/Data Summary Sheet during each of two collection periods during the administration window. This produces six data points and two Student Work Records for that entry. The Student Work Record provides documentation of student work for each API assessed in both collection periods (see Appendix B for an example summary sheet and student work records). All data points are averaged on an Entry/Data Summary Sheet to create that entry's Accuracy and Independence percentages. All submissions for a student's MAP-A Science assessment are combined in a portfolio, or binder, and forwarded for processing and scoring.

MAP-A Scoring

MAP-A binder submissions are hand scored using the MAP-A Scoring Rubric. The MAP-A Scoring Rubric, which can be found in Appendix C, is used to determine the student's Level of Accuracy and Level of Independence, and the task's Connection to the Standards. The rubric is applied to each API addressed in each MAP-A entry. The three rubric scoring dimensions and the number of score points available for each dimension are:

1. Level of Accuracy – score points 0–4 (where 4 indicates an accuracy rate of at least 76% or greater).
2. Level of Independence – score points 0–4 (where 4 indicates the least amount of support needed at least 76% or more of the time);
3. Connections to Standards – score points 0–3 (where 3 indicates application of the API in both data collection periods).

Scorers review submitted binders and assign rubric scores to each entry (four entries per submission). 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 final raw score for the binder which can range from 0–44 points.

Structure of the Achievement Level Setting Meetings

Three achievement level setting meetings were convened during June 19-20, 2012, for the following MAP-A Science assessments:

- grade 5 science
- grade 8 science
- grade 11 science

Panelists

The Department solicited nominations from districts throughout the state to create a pool from which MAP-A Science Achievement Level Setting panelists were selected. In

April, information about the achievement level setting was distributed by email to building administrators, special education administrators, Special Education Improvement Consultants in each of the state’s Regional Professional Development Centers, and professional educator organizations for special education teachers and science content specialists. In addition, information was distributed to district administrators via the Department’s electronic mailbag for superintendents. An example panelist nomination letter can be found in Appendix D. Individuals interested in submitting nominations were directed to a survey link which allowed them to provide demographic information and to describe potential panelists’ experience and expertise (see Appendix E for the nomination survey questions).

Through this process, the Department received 97 nominations. From the pool of potential panelists, Department staff selected 15 panelists per grade range based on demographic distribution and specific areas of expertise. Within each panel, selected panelists represented a wide range of rural, suburban, and urban school districts with diverse student populations. Additionally, panelists were selected to represent various regions of the state, and a wide range of expertise in either special education or science content. Each panel included panelists that had participated in previous MAP-A achievement level setting events, as well as panelists who were new to the achievement level setting process. Tables 2–5 contain the number of panelists in each meeting, the gender of the panelists in each meeting, the teaching experience of the panelists in each meeting, and the number of years in the current position.

Table 2. Number of MAP-A Science Panelists

Grade-Level Meeting	Number of Panelists
Grade 5	14
Grade 8	15
Grade 11	15
Total Panelists	44

Table 3. Gender of the MAP-A Science Panelists

Grade-Level Meeting	N	Male	Female
Grade 5	14	7%	93%
Grade 8	15	20%	80%
Grade 11	15	20%	80%
Total Panelists	44	16%	84%

Table 4. Teaching Experience of the MAP-A Science Panelists

Grade-Level Meeting	N	General Education	Special Education
Grade 5	14	36%	64%
Grade 8	15	40%	60%
Grade 11	15	27%	73%
Total Panelists	44	34%	66%

Table 5. Number of Years in Current Position of the MAP-A Science Panelists

Grade-Level Meeting	N	0–5	6–10	11–15	15+	No Response
Grade 5	14	36%	29%	21%	14%	0%
Grade 8	15	27%	53%	0%	7%	13%
Grade 11	15	40%	20%	20%	13%	7%
Total Panelists	44	34%	34%	14%	11%	7%

The Achievement Level Setting Approach

The overall approach for setting standards on the MAP-A Science assessments was a combination of two approaches: Reasoned Judgment and Modified Body of Work (Kingston, Kahl, Sweeney, & Bay, 2001). In this combined approach, panelists began the formal achievement level setting with a Reasoned Judgment task that developed their familiarity with the scoring rubric and the various permutations of work sample scores within a portfolio that can result in a given overall score. From there, panelists employed the Modified Body of Work approach to arrive at achievement level recommendations. Panelists examined collections of student responses from the spring 2012 administration of the MAP-A Science assessments and matched the collections to achievement level categories.

To guide them in this process, the panelists also used the science ALDs. The science ALDs describe what students at different achievement level categories should know and be able to do. During the meetings, panelists reviewed and revised the previous ALDs which were based on the previous test blueprint. These previous ALDs were developed during the 2007–2008 MAP-A science achievement level setting. To ensure the ALDs address the current science assessments, panelists worked together in each grade-level meeting to revise the previous ALDs to develop a new set of descriptors that they used to make judgments throughout the achievement level setting process. This new framework provided a common understanding of the knowledge, skills, and abilities possessed by a student in each achievement level. After being trained in the achievement level setting process, panelists completed several rounds of judgments. They were asked to make all judgments independently and use their expertise about what students should know and be able to make recommendations on appropriate achievement level standards.

Achievement Level Setting Meeting Activities

Overview of the MAP-A Science Assessments and the Achievement Level Setting Procedure

The achievement level setting meetings began with all panelists attending a general session where the Department welcomed the panelists to the meetings and provided background information regarding the MAP-A program. This included a history of the program, a description of the environment that led to the development of the alternate

assessments, and a review and description of the program contents and goals. Next, the general session facilitator provided an overview of MAP-A Science assessments and the achievement level setting process. This information helped the panelists understand what achievement level setting is and the reason they have been asked to be part of an achievement level setting panel. Appendix F contains the documents presented to the panelists during the general session. In addition, panelists were provided with information about the specific achievement level setting procedure being used during the meeting. A high-level specific agenda of the achievement level setting meetings and slides are provided in Appendix G.

The overview provided to the panelists during the general session was a recap of the training that was previously conducted via an online training webinar. Therefore, this overview served to re-establish and reinforce the earlier training for most participants. The online webinar, which was available one week prior to the achievement level setting meetings, provided the initial training to panelists in the procedures employed in the achievement level setting meetings. Panelists had two opportunities, June 12 and June 14, to attend a live one-hour webinar training session. For those panelists who could not attend one of the live webinars, a recorded webinar session was also made available. The webinar slides can be found in Appendix H. At the conclusion of the webinar training sessions, panelists were asked to complete a survey. The webinar survey results can be found in Appendix I.

Purpose of Achievement Level Setting – Achievement level setting is based on judgments. Panelists used their experience and knowledge to make expert judgments. These judgments helped establish criteria for interpreting test scores using a specific achievement level setting method.

Modified Body of Work – Panelists reviewed COE and made judgments about the achievement levels represented by the “bodies of work” using the ALDs as a guide. A complete COE consisted of four entries, that is, the complete set of responses by one student to the assessment. Each complete COE included all information for all entries completed by a student. For each science assessment, this would include the Table of Contents Checklist (the document which acts as a guide for organization of the completed MAP-A), Validation Form (documentation of the individuals who have reviewed and/or contributed to the MAP-A), Entry/Data Summary Sheets, API Duplication/Justification Form (supplies evidence to support the duplicate use of an API), and Student Work Records (may also include additional documentation such as student work samples).

Review and Revision of ALDs and Discussion of Threshold Students

At the conclusion of the general session, the panelists went into breakout rooms based on the grade level for which they would be setting the cutpoints. In their breakout rooms, facilitators instructed the panelists to review and revise the currently existing science ALDs corresponding to each achievement level (Advanced, Proficient, Basic, and Below Basic). ALDs are a framework for a common understanding of the knowledge, skills, and

abilities possessed by a student in each achievement level. Panelists were asked to focus on what students know and should be able to do for a specific grade while taking into account that students with significant cognitive disabilities are a uniquely varied population of students. As part of this process, the panelists also reviewed the new science test blueprints, the science APIs, and collections of student work.

In their discussions, panelists focused on differences between adjacent definitions until the ALD can be clearly distinguished from adjacent ALDs. Facilitators guided discussion within each achievement level setting meeting to help the panelists revise the ALDs to make them specific in terms of the skills and knowledge required to define membership in each of the four achievement levels for that group. The revised science ALDs for grades 5, 8, and 11 can be found in Appendix J.

Panelists also discussed the borderline, or threshold, students (i.e., students who are minimally proficient for a given achievement level). The focus of the achievement level setting activities was on these students at the border of the achievement levels because it is these students that the panelists must focus on when setting the cutpoints. The difference between threshold students and those in the middle of an achievement level were discussed at this point in the meeting. To get everyone in the meeting thinking about the capabilities of these students in a similar way, there were table-group discussions regarding what skills/competencies would define a student at the threshold of each achievement level given the ALDs. At each table, the panelists wrote down the skills/competencies they thought best characterize students at the border of each achievement level. At the end of the table discussions, each table shared their thoughts and their borderline descriptors with the larger group.

After all groups shared their descriptions, the facilitator guided the panelists in a discussion about all the borderline descriptors and consolidated all their descriptors into one document, a Threshold Student Worksheet. The panelists then reviewed the descriptors and revised the list to come to a common understanding of the descriptors they believe characterized the threshold students. The facilitator then printed the worksheet and distributed one to every panelist. These worksheets were later used as a reference by the panelists when determining into which achievement level category a COE should be placed.

Reasoned Judgment Warm-Up Task

The reasoned judgment warm-up task had two goals:

1. Help panelists become familiar with the three scored dimensions in the scoring rubric, and
2. Encourage panelists to think about how the three scored dimensions can be combined into total scores.

A sample of dimension score combinations was provided to the panelists, and they recommended what combinations of scores should be categorized as Advanced,

Proficient, Basic, and Below Basic. Panelists were provided with several sets of materials during the warm-up activity to help them make reasoned judgments:

- The scoring rubric
- The ALDs
- The Threshold Student Worksheet

Panelists recorded their ratings on a rating sheet (see Appendix K) and were instructed to keep their rating sheets and refer to them during the next stage. After the panelists individually rated their score combinations, the facilitator asked panelists to discuss as a whole group what rating they gave certain score combinations and why. The results of the reasoned judgment step were then used by the panelists as a reference point to consider in the Modified Body of Work method.

Training

Panelists practiced using the Modified Body of Work achievement level setting method with a set of training materials. During training, panelists were asked to independently rank five sets of student work from the training folder. The training folder had COE from the lower, middle, and upper portion of the raw score range. Panelists ranked the sets of student work on overall quality, keeping in mind the ALDs, the scoring rubric, and the threshold student descriptors. Panelists recorded their rankings on a rating form. The facilitator then shared with the whole group the actual rankings of the training COE and led a discussion regarding areas where ratings of the COE differed considerably across panelists. The facilitator also led a discussion on characteristics of the student work that contributed to differences in rank order.

Following this discussion, the facilitator asked the panelists to categorize each of the training folders into one of the achievement levels and record their classifications on another rating sheet. Panelists were again asked to consider the ALDs, the scoring rubric, and the threshold descriptors as they made their classifications. The facilitator tallied the results and pointed out the extent of agreement across panelists (i.e., the portfolio with the most agreement and the portfolio with the least agreement). The facilitator then led a guided discussion among panelists regarding the characteristics that contributed to the differential classifications.

Round 1

Range Finding – The facilitator distributed to the panelists the range finding list containing additional sets of student work along with a round readiness form and range finding rating sheets. There were approximately 60 COE in range finding that were ordered from low-scoring COE to high-scoring COE. The quality of portfolios, the content assessed, the overall total scores, and the entry-level scores were considered when choosing COE. Panelists reviewed as many COE as they could and categorized them into one of the four achievement levels and recorded the results on a rating sheet.

Note that five COE in range finding were used earlier in the training set, so panelists had a baseline upon which they could build to classify the remaining COE. Before reviewing the first COE in Round 1, the facilitator guided panelists to take the categorizations of the five COE used in the previous training session and record those ratings on a rating sheet. Panelists were then reminded to consider the ALDs, the threshold student descriptors, and the rubric as well as the training and familiarization exercises in which they previously engaged as they worked through the range finding portfolios.

Ratings – COE reviewed were rated on Round 1 Rating Slips (see Appendix L). The panelist wrote his/her panelist number, the COE ID number, and placed an “X” in the appropriate column to indicate a judgment of Advanced, Proficient, Basic, or Below Basic. As panelists finished their ratings, they returned the rating slip to the facilitator for data entry and analysis. Once all panelists had turned in their Round 1 rating slips, the data were analyzed and feedback materials were created for Round 1.

Data Entry and Analysis – Panelist classifications were summarized to identify which COE were being classified into each achievement level and which COE had classifications that overlapped adjacent achievement levels. If COE for a specific raw score point were in agreement at least 67% of the time it would be noted that those COE were classified mainly into one achievement level. As a result, those COE were removed from review at later rounds. However, COE at specific score points with less than 67% agreement would be noted as COE with significantly overlapping ratings and were reviewed in Round 2. Thus, COE were separated into four groups: COE with overlap between Advanced and Proficient, COE with overlap between Proficient and Basic, COE with overlap between Basic and Below Basic, and COE without overlap.

Round 2

Discussion of Round 1 Results – Panelists were presented with both individual and whole group results of the Round 1 ratings. Discussion covered which COE resulted in disagreement in terms of how panelists rated them and which resulted in agreement. For those COE with the greatest amount of disagreement, panelists were asked to determine the characteristics of the student work that were most likely the sources of the disagreement in classification.

Round 2 Pinpointing – This is the process of refining the cutpoints based on the results of Round 1 and group discussion. During the pinpointing process, panelists reviewed COE which received a certain amount of overlapping ratings in Round 1 (i.e., there is less than 67 percent agreement regarding the achievement level classification for a given set of student work). Panelists were divided into subgroups. Each subgroup received a different set of pinpointing folders (i.e., COE with overlap between Advanced and Proficient, COE with overlap between Proficient and Basic, and COE with overlap between Basic and Below Basic). The pinpointing folders were rotated among the subgroups. Panelists were able to discuss issues with their table group, but panelists were instructed to rate the COE independently.

Ratings – COE were rated on Round 2 Rating Slips (see Appendix L). Panelists determined if COE in the pinpointing set belonged in one of two adjacent achievement level categories (Advanced/Proficient, Proficient/Basic, and Basic/Below Basic). The panelist recorded his/her panelist number, the COE ID number, and the classification of the COE on the Round 2 rating slip.

Data Entry and Analysis – Panelist classifications were summarized to identify which COE were being classified and which had overlapping ratings. Recommended cutpoints were computed based on the average scores of portfolios placed into each of the four achievement levels by each panelist; the midpoint between the average scores of adjoining achievement levels constituted the cutpoints for each panelist.

Round 3

Discussion of Round 2 Results – Panelists were presented with both individual and whole group results for Round 2 ratings. Discussion again focused on disagreements in how COE were rated and possible reasons for differences in ratings. Panelists were asked to consider the impact data when making their Round 3 ratings.

Impact Data – Panelists were shown estimated impact data for students if the final cutpoints were based on the Round 2 ratings.

Round 3 Pinpointing – Refined the cut scores based on the results of Round 2, impact data, and group discussion. Facilitators led a discussion of areas of disagreement among judges and work with panelists to identify characteristics of work samples that appeared to be relevant to those disagreements. After discussion, panelists were allowed to change their ratings.

Ratings – COE were rated on Round 3 Rating Slips (see Appendix L). Panelists determined if a COE should be rated as Advanced, Proficient, Basic, or Below Basic. The panelist recorded their panelist number, the COE ID number, and their classification of the COE.

Data Entry and Analysis – Recommended cutpoints were then computed again based on the average scores of portfolios placed into each of the four achievement levels by each panelist; the midpoint between the average scores of adjoining achievement levels constituted the cutpoints for each panelist.

Final Recommendation of Cutpoints

Discussion of Round 3 Results – Panelists were presented with both individual and whole group results for Round 3 ratings.

Impact Data – Panelists were shown estimated impact data for students if the final cut scores were based on the Round 3 ratings.

Ratings – Panelists were allowed to make overall recommendations on moving the cutpoints higher or lower than the cutpoints recommended in the previous round. Panelists recorded their recommended cutpoint for the Advanced achievement level, the Proficient achievement level, and the Basic achievement level on a rating sheet (see Appendix L).

Achievement Level Setting Committee Meeting Evaluation

At the conclusion of the achievement level setting meeting, each panelist completed a survey indicating how useful and successful each of the activities had been. Panelists had an opportunity to provide feedback about the training, time allowed, number of rounds, their confidence in the final cutpoint judgments, and various other aspects of the meeting. The results of the committee meeting survey are shown in Appendix M.

Cross-Grade Articulation

Once achievement level cutpoints were recommended for all grades, all committee members across the three grade-level meetings convened on the last day of the achievement level setting meetings to make cross-grade comparisons. The cross-grade articulation committee determined whether the recommended cutpoints for grades 5, 8, and 11 science were reasonable. MAP-A science impact data were presented at each grade-level. The panelists also reviewed the revisions they made to the science ALDs to help them determine if the cutpoints were reasonable.

Based on their evaluation of the COE in the achievement level setting meetings, the ALDs, and the threshold descriptors; the committee determined that no adjustments were needed to the cutpoints. During the articulation meeting, panelists referred to the confidence they felt in their final cutpoint recommendations in their grade-level meetings decisions; and thus, the cutpoints, because they took time and were careful in their review of the COE, revised ALDs, and the threshold descriptors. The panelists also stated that the cutpoints across the grade-levels do not need to be the same. They noted that the students are being instructed on different science content across the grade levels, and it is reasonable that the cuts should differ across the grades.

Cross-Grade Articulation Evaluation

At the end of cross-grade articulation, panelists were asked to complete a survey about the cross-grade articulation process. The cross-grade articulation survey results are shown in Appendix N.

Achievement Level Setting Results

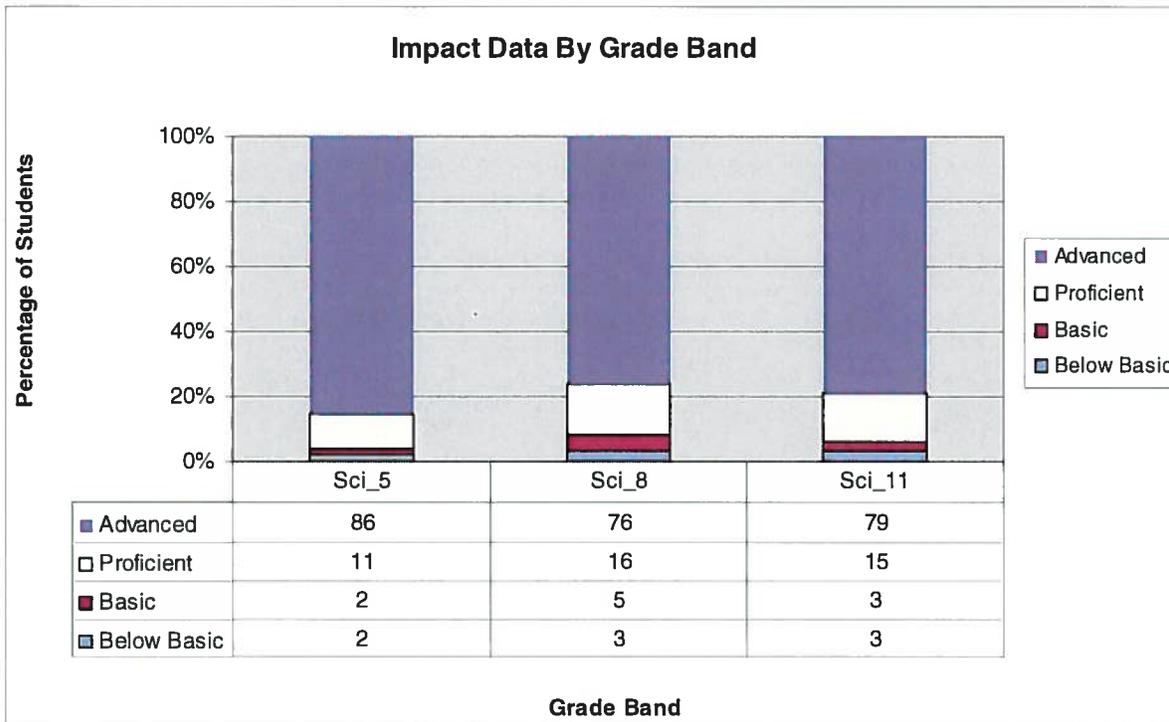
The final cutpoint recommendations for the MAP-A Science assessments are listed below in Table 1.

Table 1. MAP-A Science Raw Score Cutpoints Across Grades

	Grade 5	Grade 8	Grade 11
Basic	14	16	12
Proficient	25	28	23
Advanced	35	37	34
Total Points	44	44	44

MAP-A science impact data for the final recommended cutpoints are presented below in Table 6. The impact data were calculated using data from the 2012 MAP-A Science administration.

Table 6. MAP-A Science Impact Data Across Grades



References

Kingston, N.M., Kahl, S.R., Sweeney, K.P. & Bay, L. (2001). Setting performance standards using the Body of Work method. In G. Cizek (Ed.), *Setting performance standards: Concepts, methods and perspectives*. Mahwah, NJ: Erlbaum

Appendix A
MAP-A Science Assessment Blueprint

Content Area	Grade Focus	Title of Strand
Science	Required for Elementary School Grade 5	<ul style="list-style-type: none"> • Strand 5: Processes and Interactions of the Earth's Systems (ES)
		<ul style="list-style-type: none"> • Strand 6: Composition and Structure of the Universe and the Motion of the Objects within it (UN)
		<ul style="list-style-type: none"> • Strand 7: Scientific Inquiry (IN) <u>or</u> Strand 8: Impact of Science, Technology, and Human Activity (ST)
		<ul style="list-style-type: none"> • Strand 3: Characteristics and Interactions of Living Organisms (LO) <u>or</u> Strand 4: Changes in Ecosystems and Interactions of Organisms with Their Environment (EC)
	Required for Middle School Grade 8	<ul style="list-style-type: none"> • Strand 1: Properties and Principles of Matter and Energy (ME)
		<ul style="list-style-type: none"> • Strand 2: Properties and Principles of Force and Motion (FM)
		<ul style="list-style-type: none"> • Strand 7: Scientific Inquiry (IN) <u>or</u> Strand 8: Impact of Science, Technology, and Human Activity (ST)
		<ul style="list-style-type: none"> • Strand 5: Processes and Interactions of the Earth's Systems (ES) <u>or</u> Strand 6: Composition and Structure of the Universe and the Motion of the Objects within It (UN)
	Required for High School Grade 11	<ul style="list-style-type: none"> • Strand 3: Characteristics and Interactions of Living Organisms (LO)
		<ul style="list-style-type: none"> • Strand 4: Changes in Ecosystems and interactions of Organisms with Their Environment (EC)
		<ul style="list-style-type: none"> • Strand 7: Scientific Inquiry (IN) <u>or</u> Strand 8: Impact of Science, Technology, and Human Activity (ST)
		<ul style="list-style-type: none"> • Strand 1: Properties and Principals of Matter and Energy (ME) <u>or</u> Strand 2: Properties and Principals of Force and Motion (FM)

Appendix B
Entry/Data Summary Sheet and Student Work Records

Entry/Data Summary Sheet	
Mathematics/Communication Arts/Science	
Student Name: Andi	Grade: 5
Strand: Science - IN	Concept: The nature of science relies upon communication of results and justification of explanations.
API: Communicate observations and/or events.	
Has this student been assessed on this API in previous years? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Collection Period 1 January 9 – February 3	
Dates below do not need to be in chronological order.	
Date	2/01/2012 1/25/2012 2/3/2012 2/22/2012 2/15/2012 2/24/2012
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

Student Work Record
Mathematics/Communication Arts/Science

Attach student work sample if appropriate.

Student Name: Andi		Date: 2/01/2012
Strand: Science - IN		Grade: 5
Big Idea: Scientific understanding is developed through the use of scientific process skills, scientific knowledge, scientific investigating, reasoning, and critical thinking.		Concept: The nature of science relies upon communication of results and justification of explanations.
API: IN5.1 Communicate observations and/or events.		
Task/Activity: (Write a brief description of the task/activity, its connection to the API, 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 whether the gerbils were able to walk. 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 that the gerbil was able to walk 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%	

Student Work Record
Mathematics/Communication Arts/Science

Attach student work sample if appropriate.

Student Name: Andi		Grade: 5	Date: 2/22/2012
Strand: Science - IN	Big Idea: Scientific understanding is developed through the use of scientific process skills, scientific knowledge, scientific investigating, reasoning, and critical thinking.		Concept: The nature of science relies upon communication of results and justification of explanations.
API: IN 5.1 Communicate observations and/or events.			
Task/Activity: (Write a brief description of the task/activity, its connection to the API, 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 whether the gerbils were able to walk. 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 that the gerbil was able to walk, correctly recorded color, length, and whether the gerbils' eyes were opened or closed. 4/5		Andi independently completed each portion of the data chart.	
Level of Accuracy 80%		Level of Independence 100%	

Appendix C
Missouri Assessment Program-Alternate (MAP-A) Rubric

Missouri Assessment Program-Alternate (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.

Appendix D
An Example Panelist Nomination Letter

DATE: March 30, 2012
TO: RPDC Special Education Staff
FROM: Susan Newbold, Assistant Director of Assessment

This spring, schools administered the revised Science Missouri Assessment Program-Alternate (MAP-A) assessment to eligible students in grades 5, 8, and 11. The Science MAP-A has been refined to provide a more effective assessment of science content for students with severe cognitive disabilities. The revision includes both a redefinition of test content (the Science Alternate Grade-Level Expectations) and a redesign of the test itself. Because the structure and content of the test have changed, it is necessary for us to revisit our definitions of the achievement levels that describe student performance from Below Basic to Advanced.

From June 19-21, 2012, at the Assessment Resource Center in Columbia, MO, we will be convening expert panels to determine new achievement level cutpoints for the Science MAP-A assessment. We plan to identify a total of 45 panelists (15 per grade level for grades 5, 8, and 11) to participate in the achievement level-setting conference. Panels will include classroom teachers with science content expertise, classroom teachers who are experienced in working with the MAP-A population, science curriculum specialists, other educators with expertise in working with students with severe cognitive disabilities, and non-educators who are familiar with the MAP-A student population (e.g., parents of MAP-A students and professionals who work with children with severe cognitive disabilities). Our contractor for Science MAP-A achievement level-setting, Pearson Assessment, will facilitate the achievement level-setting process.

You have the opportunity to nominate individuals to participate in the achievement level-setting conference. Please consider nominating school district employees, as well as non-educators who could contribute their expertise to the panels. All nominations will be placed into a pool from which we will select final panelists for each grade level. Panels will include a range of content area and special education expertise, and will be representative of the state's demographic characteristics. To submit a nomination, go to <http://surveys.mo.gov/>, click on the link for MAP-A Science Achievement Level-Setting Nominations, and complete the nomination form. **Nominations must be submitted by April 13, 2012, in order to be considered for panel selection.**

Prior to submitting nominations, please contact any individual you wish to nominate to ensure his/her interest and availability for all three meeting days if selected to participate as a panelist. All participants will be reimbursed for travel expenses and meals not provided during the conference. Additionally, panelists that are not otherwise being compensated (by their employer, school district, etc.) will receive a stipend of \$150 for each full day of work. We will notify all potential panelists of the status of their nomination in early May. Those nominees selected to participate will receive further information about the conference at that time. Please contact the Assessment Section at 573-751-3545 if you have questions or need further information

Appendix E

Nomination Survey Questions

First Section:

Title: Information about Individual Submitting Nomination

Name:

Title/Position:

District: County/District Code:

Telephone Number:

Email Address:

I have confirmed that the individual I am nominating is interested in participating in Science MAP-A Achievement Level-Setting and is available for all three meeting days, June 19-21, 2012.

Second Section:

Title: Information about the Nominee

Grade Level Panel for which the individual is being nominated: Drop down 5, 8, 11 and no preference

Name:

Title/Position: "Classroom Teacher - General Education," "Classroom Teacher - Special Education," "Science Curriculum Specialist," "Administrator," "Administrator - Special Education," "Other Educator (please specify)," and "Non-Educator" (please specify)

Is nominee a school district employee? If YES, please provide the following information:

District:

Building:

County/District Code:

School Address:

District's RPDC Region: Is your district considered to be: Rural, Suburban, Urban

If NO, please provide the following information:

Employer:

Employer Address:

For ALL nominees, please provide the following information:

Work Address:

Work Telephone Number:

Work Email:

Home Address:

Telephone Numbers: (Home) (Cell)

Home Email:

Gender:

Race/Ethnicity: Dropdown with same subgroups as are listed on the vendor information form we use for contracts

Third Section:

Title: Nominee Qualifications

Number of years the nominee has been in current position: 0-5, 6-10, 11-15, and more than 15.

Indicate if the nominee has been involved in any MAP-A activities (e.g., AGLE development or review, MAP-A scoring, MAP-A Advisory Committee, previous MAP-A achievement level setting, MAP-A alignment studies).

If yes, please list the activities.

Describe the nominee's experience/expertise related to science content and/or working with children with severe cognitive disabilities.

List the nominee's advanced degrees or special certifications (if any) related to science content and/or special education.

Please provide any additional information or special qualifications that you feel should be considered in determining the nominee's participation as an achievement level-setting panelist.

Appendix F
General Session Documents

General Agenda

**Achievement Level Setting Meeting
Grades 5, 8, and 11 Science**

June 19–20, 2012
Columbia, Missouri

DAY 1 AGENDA

- Welcome
- MAP-A Overview
- Achievement Level Setting Methodology
- Achievement Level Descriptors and Threshold Student Descriptors
- Reasoned Judgment Task
- Training
- Round 1 Judgments
- Achievement Level Descriptors

DAY 2 AGENDA

- Feedback, Round 1 Ratings
- Round 2 Judgments
- Feedback, Round 2 Ratings
- Round 3 Judgments
- Feedback, Round 3 Ratings
- Achievement Level Setting Evaluation
- Cross-Grade Articulation
- Articulation Evaluation

**Missouri MAP-A Science Achievement Level Setting
Achievement Level Setting
June 19-20, 2012**

COMMITTEE MEETING EVALUATION

Please help us by evaluating your experience as a member of the MAP-A Achievement Level Setting Committee. Your responses will be used to evaluate these meetings and to implement appropriate changes. We appreciate you taking the time to complete this form. Please rate your experience by circling the appropriate response on this page and providing comments on the reverse side of this page.

(circle one committee group below)			Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Grade 5 Science	Grade 8 Science	Grade 11 Science					
Training and Materials Provided							
The pre-meeting online webinar training presentation provided a clear overview of the process.			5	4	3	2	1
The in-person group training presentation provided a clear overview of the committee's responsibilities.			5	4	3	2	1
The information contained in the Achievement Level Descriptors (ALDs) was helpful.			5	4	3	2	1
The Achievement Level Setting sample portfolios provided sufficient information to make informed decisions.			5	4	3	2	1
Achievement Level Setting Process							
The Pearson facilitator was well prepared.			5	4	3	2	1
The Pearson facilitator was responsive to the committee's questions and recommendations during the process.			5	4	3	2	1
The DESE representatives were responsive to the committee's questions and recommendations during the review process.			5	4	3	2	1
The amount of time provided for Achievement Level Setting was adequate.			5	4	3	2	1
Overall Effectiveness							
The committee worked through materials effectively and efficiently.			5	4	3	2	1
This committee meeting was worthwhile.			5	4	3	2	1
You would like to participate in another committee meeting similar to this one.			5	4	3	2	1
Necessary supplies were provided and/or available for use by the committee.			5	4	3	2	1

Comments
What was your knowledge of, or experience with, Achievement Level Setting prior to this committee meeting? What knowledge have you gained?
Please provide any suggestions for improving the Achievement Level Setting process.
Please comment on your level of satisfaction with the hotel's meals, guest rooms, and meeting rooms.
Additional comments or suggestions.

Thank you for your participation and feedback!

Appendix G
Specific Agenda and General and Breakout Session Slides

Missouri Assessment Program -Alternate (MAP-A)
Achievement Level Setting Meeting
Grades 5, 8, and 11 Science
June 19–20, 2012

Specific Agenda

Day 1: Tuesday June 19, 2012

General Session

9:00-9:30	Welcome and Introductions–DESE
9:30-9:45	History and Review of the Current Program–DESE
9:45-10:00	Overview of Achievement Level Setting
10:00-10:15	Break

Breakout Sessions

10:15-10:30	Introductions and Q&A
10:30-12:00	Achievement Level Descriptors and Threshold Student Descriptors
12:00-12:45	Lunch
12:45-1:15	Achievement Level Descriptors and Threshold Student Descriptors
1:15-1:30	Reasoned Judgment Warm-Up Task
1:30-2:00	Training
2:00-4:00	Round 1 Ratings
4:00-5:00	Achievement Level Descriptors

Day 2: Wednesday June 20, 2012

8:30-8:45	Review and Discussion of Round 1 Results
8:45-10:15	Discuss the Overlapping Student Work at BB/B, B/P, and P/A Make Round 2 Ratings
10:15-10:45	Break
10:45-11:00	Review and Discussion of Round 2 Results and Impact Data
11:00-12:00	Discuss any Remaining Overlapping Student Work at BB/B, B/P, and P/A Make Round 3 Ratings
12:00-12:45	Lunch
12:45-1:00	Review and Discussion of Round 3 Results and Impact Data
1:00-1:15	Final Recommendation of Cuts
1:15-1:30	Achievement Level Setting Evaluation

Convene Cross-Grade Articulation Committee

2:00-2:15	Review of the Articulation Process
2:15-3:15	Review and Discussion of the Achievement Level Descriptors and the Impact Data Across Grades
3:15-3:30	Articulation Evaluation and End of Day Check-In of Materials

Missouri Assessment Program- Alternate (MAP-A) Science Achievement Level Setting

June 19-20, 2012
Columbia, Missouri

1

Agenda–Day 1

General Session

- Welcome
- MAP-A overview
- Overview of achievement level setting

Breakout Sessions

- Achievement Level Descriptors and Threshold Student Descriptors
- Reasoned judgment warm-up task
- Achievement level setting training
- Round 1: judgment
- Achievement Level Descriptors

2

Agenda–Day 2

Breakout Sessions (continued)

- Round 1: feedback
- Round 2: judgment and feedback
- Round 3: judgment and feedback
- Final recommendation of cuts
- Achievement level setting evaluation

Cross-Grade Articulation

Articulation evaluation and closing remarks

3

Purpose of the Meeting

- The MAP-A Science assessments will have four achievement levels:
 - Advanced
 - Proficient
 - Basic
 - Below Basic
- Achievement level setting committees will make recommendations about where the Advanced, Proficient, and Basic performance standards, or cutpoints, should be set on each MAP-A Science assessment.

4

Purpose of the Meeting

- As panelists, you will be provided
 - Student portfolios also called collections of evidence
 - MAP-A Science Achievement Level Descriptors

5

Purpose of the Meeting

- To make recommendations, you will use
 - information presented during the achievement level setting meeting
 - content expertise
 - experience in the classroom
 - experience working with children with significant cognitive disabilities

6

Administrative Tasks

- Non-disclosure Agreement
- Breakfast and lunch will be provided
 - Breakfast – 8:00am
 - Lunch – around noon
- Breaks

7

Any questions about
the logistics of the meeting?

On to the fun part!

8

The MAP-A Assessment Program

Program Overview and Highlights

9

The MAP-A Assessment Program

- The MAP-A is a portfolio-based assessment that measures student performance based on alternate achievement standards.
- The assessment is designed for students with significant cognitive disabilities who meet grade-level and eligibility criteria.

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The MAP-A Assessment Program

- MAP-A documents student learning directly connected to the Show-Me Standards through the Alternate Grade-Level Expectations (AGLEs).
- MAP-A assessments are available to eligible students in:
 - Mathematics grades 3-8 and 10
 - Communication Arts grades 3-8 and 11
 - Science grades 5, 8, and 11

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MAP-A Administration

- Each MAP-A science assessment consists of four activities.
- Teachers develop the four activities and administer them during the administration window.
 - The four activities comprise four content strands.
 - One unique content strand for each activity.
 - Students are assessed on four Alternate Performance Indicators (APIs) selected from content strands in the subject.

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The Science Blueprints

Expected to demonstrate (Grade 8)	<ul style="list-style-type: none"> Result 1: Describe all molecules, or the basic structure. Result 2: Distinguish the structure of the elements on the basis of the typical valence 1 & 8. Result 3: Identify, name, and draw the Lewis structure of the molecules. Result 4: Understand the formation of ionic and covalent bonds. Result 5: Understand the structure of the atoms and molecules.
Expected to understand (Grade 9)	<ul style="list-style-type: none"> Result 1: Describe the structure of the atoms and molecules. Result 2: Understand the formation of ionic and covalent bonds. Result 3: Understand the structure of the atoms and molecules. Result 4: Understand the structure of the atoms and molecules. Result 5: Understand the structure of the atoms and molecules.
Expected to know (Grade 10)	<ul style="list-style-type: none"> Result 1: Understand the structure of the atoms and molecules. Result 2: Understand the formation of ionic and covalent bonds. Result 3: Understand the structure of the atoms and molecules. Result 4: Understand the structure of the atoms and molecules. Result 5: Understand the structure of the atoms and molecules.

Documentation of Student Performance and Student Work

- Teachers document evidence of student performance on each activity in a standardized format.
- Teachers record data for each activity three times on an **Entry/Data Summary Sheet** during each of two collection periods during the administration window.
- This produces six data points and two **Student Work Records** for that entry. The **Student Work Record** provides documentation of student work for the activity for both collection periods.

An Example Science Entry: Entry/Data Summary Sheet

Entry/Data Summary Sheet		Mathematics/Communication Arts/Science	
Student Name: Anil	Grade: 8	Collection Period 1	Collection Period 2
Expected Behavior: 8B	8B.1: Apply scientific understanding to describe, explain, predict, and communicate about natural phenomena, scientific investigations, and scientific technology.	8B.2: Apply scientific understanding to describe, explain, predict, and communicate about natural phenomena, scientific investigations, and scientific technology.	8B.3: Apply scientific understanding to describe, explain, predict, and communicate about natural phenomena, scientific investigations, and scientific technology.
Students Performance How well did student learn about the topic? (Use the following scale: 100 = Excellent, 50 = Average, 0 = Poor)			
Date: 08/14/12		Date: 08/14/12	Date: 08/14/12
Data Type: Student Work		Data Type: Student Work	Data Type: Student Work
Assessory %: 80	80	80	80
Independence %: 100	100	100	100
Average % for Collection Period: 80	80	80	80
Level of Assessory: 80	80	80	80
Level of Independence: 100	100	100	100

An Example Science Entry: Entry/Data Summary Sheet

Entry/Data Summary Sheet		Mathematics/Communication Arts/Science	
Student Name: Anil	Grade: 8	Collection Period 1	Collection Period 2
Expected Behavior: 8B	8B.1: Apply scientific understanding to describe, explain, predict, and communicate about natural phenomena, scientific investigations, and scientific technology.	8B.2: Apply scientific understanding to describe, explain, predict, and communicate about natural phenomena, scientific investigations, and scientific technology.	8B.3: Apply scientific understanding to describe, explain, predict, and communicate about natural phenomena, scientific investigations, and scientific technology.
Students Performance How well did student learn about the topic? (Use the following scale: 100 = Excellent, 50 = Average, 0 = Poor)			
Date: 08/14/12		Date: 08/14/12	Date: 08/14/12
Data Type: Student Work		Data Type: Student Work	Data Type: Student Work
Assessory %: 80	80	80	80
Independence %: 100	100	100	100
Average % for Collection Period: 80	80	80	80
Level of Assessory: 80	80	80	80
Level of Independence: 100	100	100	100

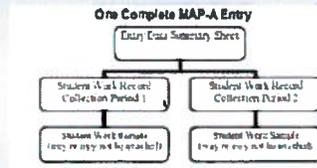
An Example Science Entry: Student Work Record (Collection Period 1)

Student Work Record		Mathematics/Communication Arts/Science	
Student Name: Anil	Grade: 8	Collection Period 1	Collection Period 2
Expected Behavior: 8B	8B.1: Apply scientific understanding to describe, explain, predict, and communicate about natural phenomena, scientific investigations, and scientific technology.	8B.2: Apply scientific understanding to describe, explain, predict, and communicate about natural phenomena, scientific investigations, and scientific technology.	8B.3: Apply scientific understanding to describe, explain, predict, and communicate about natural phenomena, scientific investigations, and scientific technology.
Students Performance How well did student learn about the topic? (Use the following scale: 100 = Excellent, 50 = Average, 0 = Poor)			
Date: 08/14/12		Date: 08/14/12	Date: 08/14/12
Data Type: Student Work		Data Type: Student Work	Data Type: Student Work
Assessory %: 80	80	80	80
Independence %: 100	100	100	100
Average % for Collection Period: 80	80	80	80
Level of Assessory: 80	80	80	80
Level of Independence: 100	100	100	100

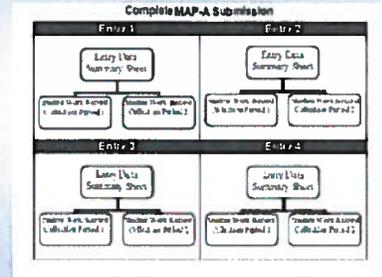
An Example Science Entry: Student Work Record (Collection Period 2)

Student Work Record		Mathematics/Communication Arts/Science	
Student Name: Anil	Grade: 8	Collection Period 1	Collection Period 2
Expected Behavior: 8B	8B.1: Apply scientific understanding to describe, explain, predict, and communicate about natural phenomena, scientific investigations, and scientific technology.	8B.2: Apply scientific understanding to describe, explain, predict, and communicate about natural phenomena, scientific investigations, and scientific technology.	8B.3: Apply scientific understanding to describe, explain, predict, and communicate about natural phenomena, scientific investigations, and scientific technology.
Students Performance How well did student learn about the topic? (Use the following scale: 100 = Excellent, 50 = Average, 0 = Poor)			
Date: 08/14/12		Date: 08/14/12	Date: 08/14/12
Data Type: Student Work		Data Type: Student Work	Data Type: Student Work
Assessory %: 80	80	80	80
Independence %: 100	100	100	100
Average % for Collection Period: 80	80	80	80
Level of Assessory: 80	80	80	80
Level of Independence: 100	100	100	100

One Complete MAP-A Science Entry



A Complete MAP-A Science Submission



The MAP-A Scoring Rubric

- All four entries for a student's MAP-A Science assessment are combined in a portfolio and scored using a rubric.
- Each entry is scored on three dimensions:
 - Level of Accuracy – score points 0–4 (where 4 indicates an accuracy rate of at least 76% or greater).
 - Level of Independence – score points 0–4 (where 4 indicates the least amount of support needed at least 76% or more of the time)
 - Connection to the Standards– score points 0–3 (where 3 indicates application in both data collection periods).

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The MAP-A Scoring Rubric

Midpoint Assessment Program—Alabama (MAP-A) Rubric

Level of Accuracy	Level of Independence	Connection to the Standards
<p>Student performance of skills "based on Alabama Performance Indicators" demonstrates a high level of understanding of concepts in terms of Accuracy.</p>	<p>Student requires minimal verbal, visual, and/or physical assistance to demonstrate skills and concepts in 76% Independence.</p>	<p>There is evidence of applying the Alabama Performance Indicators in two interconnected and authentic problem situations.</p>
<p>Student performance of skills "based on Alabama Performance Indicators" demonstrates a limited understanding of concepts in terms of Accuracy.</p>	<p>Student requires frequent verbal, visual, and/or physical assistance to demonstrate skills and concepts in 51-75% Independence.</p>	<p>There is evidence of applying the Alabama Performance Indicators in one authentic and/or problem situation.</p>
<p>Student performance of skills "based on Alabama Performance Indicators" demonstrates a limited understanding of concepts in terms of Accuracy.</p>	<p>Student requires frequent verbal, visual, and/or physical assistance to demonstrate skills and concepts in 26-50% Independence.</p>	<p>There is evidence of a student's application of the Alabama Performance Indicators.</p>
<p>Student performance of skills "based on Alabama Performance Indicators" demonstrates a limited understanding of concepts in terms of Accuracy.</p>	<p>Student requires frequent verbal, visual, and/or physical assistance to demonstrate skills and concepts in 0-25% Independence.</p>	<p>There is evidence of a student's application of the Alabama Performance Indicators.</p>

The MAP-A Scoring Rubric

- Each entry has 11 possible points which are summed to create the final raw score total for the assessment. Thus, each grade-level assessment has 44 possible points.

Questions

Now for the tasks of the next two days...

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The Achievement Level Setting Meeting

What is an Achievement Level Setting?

- The process used to determine what level of performance on a test is required for a test taker to be classified in a given achievement level.
- Establishment of criteria for interpreting test scores using specific methods - "Body of Work" will be the method used for the MAP-A science assessments.

What is "Body of Work"?

- **Body of Work** is a method used to set standards that relies on evidence of learning based on materials other than multiple-choice test scores.
 - Evidence can include: essays, videotape of activities, audiotape of reading, artwork, teacher descriptions of student interactions, et cetera.
- You will review the evidence in each collection of evidence (student portfolio) and then make a judgment about the achievement level represented by this "body of work" using the MAP-A science Achievement Level Descriptors as a guide.

Why Conduct An Achievement Level Setting?

- Implementation of a new assessment
- To address changes or improvements to a current assessment
- For the MAP-A Science assessments,
 - new science test blueprints were implemented in 2012 which allowed teachers the opportunity to select tasks that covered a broader range of content and increased the number of raw score points available

Who Is Involved in an Achievement Level Setting?

- **Panelists** – render judgments about where cut points should be placed, share opinions about student performance and reasons for cut point placements
- **Psychometricians** – measurement specialists who organize & lead the meeting, train panelists, and answer questions about the process

How Were Panelists Selected?

- Experience
- Geographic Representation
- Demographics
- Stakeholders with an interest in the population

Your Task as a Panelist

- Your task is to provide **recommendations** to DESE about the performance standards, or **cutpoints**, for the MAP-A Science assessments.
- Why you?
 - You are the **experts**.
 - You **represent** various groups.
 - You are **judges**, not psychometricians.
 - You are **advisers**, not policymakers.

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Achievement Level Descriptors (ALDs)

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What are Achievement Level Descriptors?

- ALDs are:
 - a framework for a common understanding of the knowledge, skills and abilities possessed by a minimally qualified student in the each achievement level.
- Four ALDs for MAP-A Science:
 - Advanced
 - Proficient
 - Basic
 - Below Basic

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Previous MAP-A Science ALDs

- Advanced**
 - Student has a strong understanding of the concepts
 - Student likely requires minimal verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts
 - Student work evidence is strongly connected to the strands and demonstrate strong application
- Proficient**
 - Student has a sound understanding of the concepts
 - Student likely requires some verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts
 - Student work evidence is connected to the strands and demonstrate application
- Basic**
 - Student has a fundamental understanding of the concepts
 - Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts
 - Student work evidence is somewhat connected to the strands
- Below Basic**
 - Student has a minimal understanding of the concepts
 - Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts
 - Student work evidence may be loosely connected to the strands

34

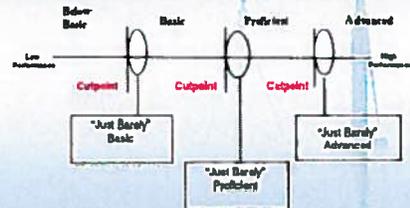
Basics of the Body of Work Method

- Step 1:
- Review and revise the previous science ALDs
 - You will review the previous science ALDs, the new science test blueprint, and collections of student work to create revised ALDs
 - The revised science ALDs will be used during the body of work method
- Step 2:
- Review each COE
 - You will have a list of COE to review
 - Become familiar with the contents of each portfolio
 - Think about what student performance looks like in each portfolio
 - Keep the revised ALDs in mind
- Step 3:
- Make judgments
 - Iterative process of assigning each COE to a single achievement level.
 - Will have **THREE ROUNDS** of review and rating.

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Focus on the "JUST BARELY"...

- You are trying to draw a line between Below Basic/Basic, Basic/Proficient, and Proficient/Advanced...



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What Are Your Tasks?

Round 1: Review of Student Portfolios

- You will review as many COE as possible and you will ask yourself the following question:

"Given the knowledge, skills, and abilities that are evidenced in this student portfolio, should this 'body of work' be classified as Below Basic, Basic, Proficient, or Advanced?"

- You are **NOT** here to rescore these COE. The scores have been verified by professional scorers. Simply judge which achievement level the evidence supports.

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Round 1: Review of Student Portfolios

- The COE will be separated into three groups in your meeting room.
- You **MUST** read from all three groups.
 - Read a COE from group 1 and return it to the appropriate group, then move to group 2, then group 3. Then start over at group 1...
 - Spend only a few minutes per COE. If in doubt, go with your gut - you have two more rounds to refine your judgment.
 - After determining an achievement level for the COE, you will take the RATING SLIP and assign a rating to each COE.
 - Turn in your rating slip and return the COE to its appropriate group.

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Results From Round 1

- You will see...
 - your Round 1 ratings for each COE and what the cutpoints would be if only YOUR data were used;
 - the frequency of the achievement level assigned to each COE by the GROUP (the number of times a COE was assigned to "Below Basic" versus "Basic" versus "Proficient" versus "Advanced"); and
 - the GROUP cutpoints from Round 1.

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Discussion

- Will focus on COE in the score point ranges with significant overlapping ratings
 - i.e., the green rows highlight instances where the COE were split between "Below Basic" and "Basic".

COE	Below Basic	Basic	Proficient	Advanced	Score
08491	18				0
09328	18				5
18017	18				6
03784	6	9			8
06688	7	8			9
06647	7	8			10
08688	3	12			12
10028	1	14			13
07247		18			14

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Discussion

- Only those collections with overlapping ratings will be available for review in Round 2.
 - These are called pinpointing sets.
 - One set will focus on the overlap between Below Basic and Basic, Basic and Proficient, and Proficient and Advanced.
- Panelists will be divided into subgroups and each subgroup will review and discuss each COE in the three pinpointing sets.
 - Table leaders will assist in facilitating the discussion.

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Round 2: Pinpointing

- As the discussion of each COE in a pinpointing set comes to an end, you will fill out your Round 2 RATING SLIP.
- You do **NOT** have to reach consensus on the round 2 ratings.
- You will turn in your rating slips after completing discussion of each pinpointing set.

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Round 2 Discussion

- Using Round 2 results, you will see the same feedback as Round 1, but you will also be shown impact data based on the GROUP cutpoints from Round 2.
 - Impact data-the percent of students in each achievement level based on the suggested cutpoints

42

Round 3

- If necessary, you will once again review and discuss any COE overlapping at the BB/B, B/P, and P/A achievement levels as a group.
- As the discussion of each COE comes to an end, you will fill out your Round 3 RATING SLIP.
- Following discussion of the Round 3 results, you will make a final recommendation as to what the cutpoints should be.
 - You do NOT have to reach consensus on what the cutpoints should be.
 - You will NOT rate individual COE at this time.

43

Cross-Grade Articulation

- Occurs once cutpoints have been recommended for all grades in a subject area.
- The articulation committee makes cross-grade comparisons of the standards
- Are recommended cutpoints reasonable given the cutpoints set in other grades for the same subject area?

44

15-Minute Break

Meeting will reconvene
in separate grade-level rooms

45

Panelist Introductions

- How long have you been in your current field?
- What educational positions have you filled?
- What school and part of the state do you represent?
- Experience with MAP or MAP-A committee work?

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Review and Revision of the ALDs

- ALDs are a framework for a common understanding of the knowledge, skills, and abilities possessed by a minimally qualified student in the each achievement level.
- With changes to the test blueprint, the current ALDs will need to describe the knowledge, skills, and abilities that characterize students at each achievement level.
- The goal is to get everyone thinking about the capabilities of these students in a similar way.

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Table Discussion

- Start with the **Proficient** achievement level
 - Discuss as a table what skills/competencies would define a student at this achievement level
 - What differentiates a student at this level from a student in Basic or Advanced?
- As a table, come up with a few descriptors that characterize what a Proficient student should be able to do.
 - What should they *do*?
 - What *skills* should they possess?
 - What should they *know*?
 - What *academic behaviors* demonstrate that they are "Proficient"?

Group Discussion: Revised ALDs

Proficient

- Does anyone have any questions or concerns about the descriptors?
- Do you agree that they are representative of a student for Proficient?
- Does anyone have anything to add to the descriptors?

Table Discussion

- Then go to the **Basic** achievement level
 - Discuss as a table what skills/competencies would define a student at this achievement level
 - What differentiates a student at this level from a student in Below Basic or Proficient?
- As a table, come up with a few descriptors that characterize what a Basic student should be able to do.
 - What should they *do*? Focus on what they do, not what they don't do.
 - What *skills* should/do they possess?
 - What should they *know*?
 - What *academic behaviors* demonstrate that they are "Basic"?

Table Discussion

- Then the **Below Basic** achievement level
 - Discuss as a table what skills/competencies would define a student at this achievement level
 - What differentiates a student at this level from a student in Basic?
- As a table, come up with a few descriptors that characterize what a Below Basic student should be able to do.
 - What should they *do*? Focus on what they do, not what they don't do.
 - What *skills* should/do they possess?
 - What should they *know*?
 - What *academic behaviors* demonstrate that they are "Below Basic"?

Table Discussion

- End with the **Advanced** achievement level
 - Discuss as a table what skills/competencies would define a student at this achievement level
 - What differentiates a student at this level from a student in Proficient?
- As a table, come up with a few descriptors that characterize what an Advanced student should be able to do.
 - What should they *do*?
 - What *skills* should/do they possess?
 - What should they *know*?
 - What *academic behaviors* demonstrate that they are "Advanced"?

Group Discussion: Revised ALDs

Basic

- Does anyone have any questions or concerns about the descriptors?
- Do you agree that they are representative of a student for Basic?
- Does anyone have anything to add to the descriptors?

Group Discussion: Revised ALDs

Below Basic

- Does anyone have any questions or concerns about the descriptors?
- Do you agree that they are representative of a student for Below Basic?
- Does anyone have anything to add to the descriptors?

Group Discussion: Revised ALDs

Advanced

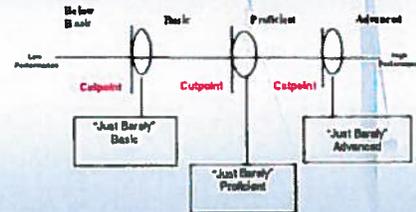
- Does anyone have any questions or concerns about the descriptors?
- Do you agree that they are representative of a student for Advanced?
- Does anyone have anything to add to the descriptors?

The Threshold Student

- The focus of our achievement level setting activities will be on students at the threshold, or border, of each achievement level.
- These **threshold students** are minimally proficient for a given achievement level.
- They possess just enough knowledge and skills to make it into a given achievement level.

Focus on the "JUST BARELY"...

- You are trying to draw a line between Below Basic/Basic, Basic/Proficient, and Proficient/Advanced...



Defining Threshold Students

- To recommend performance standards, or **cutpoints**, we need to define the skills/competencies that best characterize students at the **threshold**, or border of each level.
 - Think about the range of skills represented at a given achievement level.
 - What can a student who just barely made it into that achievement level do with respect to those skills?

Table Discussion: Threshold Students

- Start with **Proficient**
 - Discuss as a table what skills/competencies would define a student at the border of this level given the Proficient ALDs.
 - What differentiates a student at the border from a student at the middle or upper end of Proficient?
 - Are there skills listed in the ALDs that are directly indicative of these students?
 - As a table, come up with a few descriptors that characterize what a Proficient borderline student should be able to do.

Table Discussion: Threshold Students

- Then go to **Basic**
 - Discuss as a table what skills/competencies would define a student at the border of this level given the Basic ALDs.
 - What differentiates a student at the border from a student at the middle or upper end of Basic?
 - Are there skills listed in the ALDs that are directly indicative of these students?
- As a table, come up with a few descriptors that characterize what a Basic borderline student should be able to do.

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Table Discussion: Threshold Students

- Move to **Advanced**
 - Discuss as a table what skills/competencies would define a student at the border of this level given the Advanced ALDs.
 - What differentiates a student at the border from a student at the middle or upper end of Advanced?
 - Are there skills listed in the ALDs that are directly indicative of these students?
- As a table, come up with a few descriptors that characterize what a Advanced borderline student should be able to do.

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Group Discussion: Threshold Students

Threshold Descriptors

Proficient

- Does anyone have any questions or concerns about the borderline descriptors?
- Do you agree that they are representative of a borderline student for Proficient?
- Does anyone have anything to add to the descriptors?

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Group Discussion: Threshold Students

Threshold Descriptors

Basic

- Does anyone have any questions or concerns about the borderline descriptors?
- Do you agree that they are representative of a borderline student for Basic?
- Does anyone have anything to add to the descriptors?

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Group Discussion: Threshold Students

Threshold Descriptors

Advanced

- Does anyone have any questions or concerns about the borderline descriptors?
- Do you agree that they are representative of a borderline student for Advanced?
- Does anyone have anything to add to the descriptors?

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Reasoned Judgment Warm-Up Task

- Help you become familiar with the three scored dimensions in the scoring rubric, and
- Encourage you to think about how the three scored dimensions can be combined into total scores.
- What combinations of scores would be categorized as Advanced, Proficient, Basic, and Below Basic?
 - Use your rating sheet to indicate the achievement level

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Reasoned Judgment Warm-Up Task

ACHIEVEMENT LEVEL	DISAGREEMENT	CONNECTION	YOUR ACHIEVEMENT LEVEL RATING	
			1	2
1	1	1		
2	1	1		
2	2	1		
3	1	1		
3	2	2		
2	4	1		
4	3	2		
4	4	3		

Round 1 Training

- Independently rank five "Training" portfolios (1=low, 5=high)
- Rank the portfolios based on overall quality
- Keep in mind the description of the scoring process and the achievement level descriptions
- Record your results on the "Training Rankings" sheet

Round 1 Training Discussion

- Tally the rankings
- Note the following:
 - The extent of disagreement across panelists
 - The portfolio with the greatest disagreement
 - The portfolio with the least disagreement
- Why did you rank where you did the portfolio with the greatest disagreement?
- The portfolio with the next greatest degree of disagreement?

Round 2 Training

- Independently assign each of the five "Training" portfolios to an achievement level
- Keep in mind the description of the scoring process and the achievement level descriptions
- Record your results on the "Training Achievement Levels" sheet

Round 2 Training Discussion

- Tally the achievement levels
- Note the following:
 - The extent of disagreement across panelists
 - The portfolio with the greatest disagreement
 - The portfolio with the least disagreement
- Why did you rank where you did the portfolio with the greatest disagreement?
- The portfolio with the next greatest degree of disagreement?

Round 1: Review of Student Portfolios

Logistics for Round 1

- The COE will be separated into three groups in your meeting room.
- You **MUST** read from all three groups.
 - Read a COE from group 1 and return it to the appropriate group, then move to group 2, then group 3. Then start over at group 1...
 - Spend only a few minutes per COE...if in doubt, go with your gut – you have two more rounds to refine your judgment.
 - After determining an achievement level for the COE, you will take the **RATING SLIP** and assign a rating to each COE.
 - Turn in your rating slip and return the COE to its appropriate group.

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Materials You Should Have

- The revised ALDs
- Threshold Student Descriptors
- Scoring rubric
- Round Readiness Form
- Round 1 Rating Slips
- List of COE being reviewed
 - This list has space for your comments on each COE. Write notes to yourself about why this COE falls within an achievement level – you will need this information in group discussion.

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Before we begin Round 1...

Are there any questions about
the Achievement Level Setting Process
or Materials?

**Fill out your Readiness Survey
and show to me!**

75

Let the
Rating **FUN** Begin!

76

Review of the Revised ALDs

- With the review of student performance and student work in the collections of evidence, are there any additional changes to be made to the revised ALDs?
- As a table, discuss the revised ALDs and the student work you have seen during the review of portfolios in Round 1 and determine if there are additional changes you would like to make to the revised ALDs.
- As a group, let's discuss any additional suggested revisions.

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For Tomorrow: Review Results from Round 1

- Individual results
- Group results
- Overlapping achievement levels at score point level

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Congratulations!
End of Day 1

Day 2

Results from Round 1

- Individual results
- Group results
- Overlapping achievement levels at score point level

Before we begin
Group Discussion and Round 2 Ratings...

Are there any questions about
the Round 1 Results?

Fill out your Readiness Survey
and show to me!

Discussion Ground Rules

- Please share your perspective.
- We all bring different perspectives to this meeting.
- Reasonable people can reasonably disagree.
- Documenting these perspectives helps us understand the process and outcomes of the meeting better.

Discussion

- Only those collections with overlapping ratings will be available for review in Round 2.
 - These are called pinpointing sets.
 - One set will focus on the overlap between Below Basic and Basic, Basic and Proficient, and Proficient and Advanced.
- Panelists will be divided into subgroups and each subgroup will review and discuss each COE in the three pinpointing sets.
 - Table leaders will assist in facilitating the discussion.

Round 2: Pinpointing

- As the discussion of each COE in a pinpointing set comes to an end, fill out your Round 2 RATING SLIP.
- You do NOT have to reach consensus on the round 2 ratings.
- You will turn in your rating slips after completing discussion of each pinpointing set.

Results from Round 2

- Individual results
- Group results
- Overlapping achievement levels at score point level
- Impact data

Before we begin
Group Discussion and Round 3
Recommendations...

Are there any questions about
the Round 2 Results?

Fill out your Readiness Survey and show to
me!

Round 3: Pinpointing

- Only those collections with overlapping ratings will be available for review in Round 3.
- As the discussion of each COE comes to an end, fill out your Round 3 RATING SLIP.
- You will turn in your rating slips after completing discussion of each pinpointing set.

Results from Round 3

- Individual results
- Group results
- Overlapping achievement levels at score point level
- Impact data

Final Recommendation of Cuts

- Make a final recommendation as to what the cutpoints should be for Basic, Proficient, and Advanced.
 - You do NOT have to reach consensus on what the cutpoints should be.
 - You will NOT rate Individual COE at this time.
- You will turn in your rating slips after providing your final recommendation.

*Please complete the
Committee Meeting Evaluation
form.*

*Thank you for all your work over the
past day and a half!*

*The Cross-Grade Articulation meeting
should start at 3:00pm.*

Cross-Grade Articulation

Cross-Grade Articulation

- Occurs once cutpoints have been recommended for all grades in a subject area.
- The articulation committee makes cross-grade comparisons of the standards
- Are recommended cutpoints reasonable given the cutpoints set in other grades for the same subject area?

Cross-Grade Articulation

- Three cutpoints (Basic, Proficient, and Advanced) have been recommended for each grade-level science test
- Your task is to make sure the different cutpoints make sense when looked at across grade levels

Review the ALDs

- Review the ALDs for the grade levels that were developed during the achievement level setting portion of the meeting
- Think about what the ALDs look like across the grade levels for Science

Cut Scores Across Grade Levels

Cut Scores Across Grade Levels

- Do the cutpoints across grade levels make sense for MAP-A Science students?
 - What are your group's thoughts on the grade level you've been focusing on?
 - Do the cut scores make sense given the rubric and the ALDs?
 - Once all groups have shared their thoughts, discuss the cutpoints across all grades.

Impact Data Across Grade Levels

Impact Data Across Grade Levels

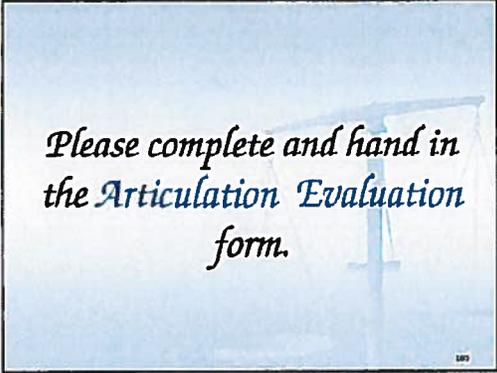
- Does the impact data across grade levels make sense for MAP-A Science students?
 - What are your group's thoughts on the grade level you've been focusing on?
 - Once all groups have shared their thoughts, discuss the impact data across all grades.

Articulation Recommendations

- Should some of the recommended grade level cuts be shifted?
- If yes, in which direction?

What Happens After You Go Home?

- Your group recommendations will be provided to DESE.
- DESE will present the findings to the State Board of Education
- The State Board will use your work to set the cutpoints for the MAP-A Science assessments.



Appendix H Webinar Slides

**Missouri Assessment Program-
Alternate (MAP-A)**

**Science Achievement Level Setting
Introduction and Overview**

June 2012

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Agenda

- Welcome
- What is an Achievement Level Setting?
- MAP-A Science Achievement Level Setting Methodology: the Body of Work Method
- Who is Involved?
- MAP-A Overview
- Achievement Level Descriptors
- Basics of the Body of Work Method



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**The Achievement Level
Setting Meeting**

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Outline

- **WHAT** is an achievement level setting?
- **WHY** conduct an achievement level setting?
- **WHO** is involved?
- **HOW** were panelists selected?

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What is an Achievement Level Setting?

- The process used to determine what level of performance on a test is required for a test taker to be classified in a given achievement level.
- Establishment of criteria for interpreting test scores using specific methods - "**Body of Work**" will be the method used for the MAP-A science assessments.

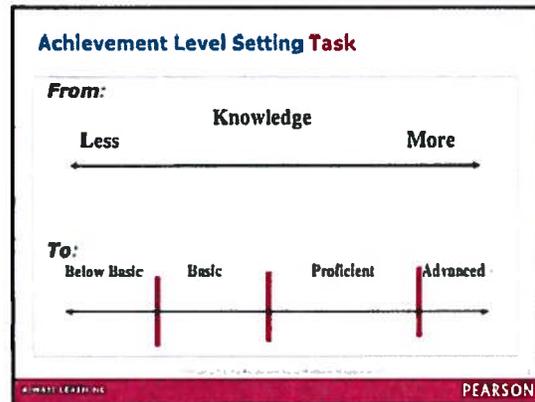
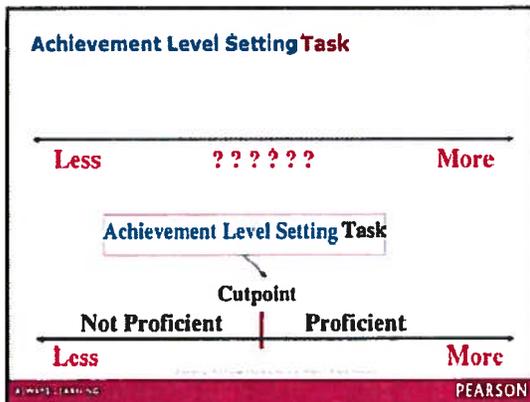
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Knowledge

Less ————— More

Less ————— **?????** ————— More

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The "Body of Work" Method

- Body of Work is a method used to set standards that relies on evidence of learning based on materials other than multiple-choice test scores.
 - Evidence can include: essays, videotape of activities, audiotape of reading, artwork, teacher descriptions of student interactions, etc.
- You will review the evidence in each collection of evidence (student portfolio) and then make a judgment about the achievement level represented by this "body of work" using the MAP-A science Achievement Level Descriptors as a guide.

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Why Conduct An Achievement Level Setting?

- Implementation of a new assessment
- To address changes or improvements to a current assessment

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Why Conduct An Achievement Level Setting?

- For the MAP-A Science assessments,
 - new science test blueprints were implemented in 2012 which allowed teachers the opportunity to select tasks that covered a broader range of content and increased the number of raw score points available

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Who Is Involved in an Achievement Level Setting?

- **Panelists** - render judgments about where cut points should be placed, share opinions about student performance and reasons for cut point placements
- **Psychometricians** - measurement specialists who organize & lead the meeting, train panelists, and answer questions about the process

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How Were Panelists Selected?

- Experience
- Geographic Representation
- Demographics
- Stakeholders with an interest in the population

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Your Task as a Panelist

- Your task is to provide recommendations to DESE about the performance standards, or cutpoints, for the MAP-A Science assessments.
- Why you?
 - You are the **experts**.
 - You **represent** various groups.
 - You are **judges**, not psychometricians.
 - You are **advisers**, not policymakers.

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Your Task as a Panelist

- As panelists, you will be provided
 - Collections of Evidence (COE)
 - MAP-A Science Achievement Level Descriptors



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Your Task as a Panelist

- To make recommendations, you will use
 - Information presented during the achievement level setting meeting
 - content expertise
 - experience in the classroom
 - experience working with children with significant cognitive disabilities

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The MAP-A Assessment Program

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The MAP-A Assessment Program

- The MAP-A is a portfolio-based assessment that measures student performance based on alternate achievement standards.
- The assessment is designed for students with significant cognitive disabilities who meet grade-level and eligibility criteria.
 - The decision as to how a student with disabilities is chosen to be eligible for the MAP-A assessment is determined by the student's Individualized Education Program (IEP) team using DESE-established criteria.

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The MAP-A Assessment Program

- MAP-A documents student learning directly connected to the Show-Me Standards through the Alternate Grade-Level Expectations (AGLEs).
- MAP-A assessments are available to eligible students in:
 - Mathematics grades 3-8 and 10
 - Communication Arts grades 3-8 and 11
 - Science grades 5, 8, and 11

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MAP-A Administration

- Each MAP-A science assessment consists of four activities.
- Teachers develop the four activities and administer them during the administration window.
 - The four activities comprise four content strands.
 - One unique content strand for each activity.
 - Students are assessed on four Alternate Performance Indicators (APIs) selected from content strands in the subject.

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The Science Blueprints

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Documentation of Student Performance and Student Work

- Teachers document evidence of student performance on each activity in a standardized format.
 - Teachers record data for each activity three times on an Entry/Data Summary Sheet during each of two collection periods during the administration window.
 - This produces six data points and two Student Work Records for that entry. The Student Work Record provides documentation of student work for the activity for both collection periods.

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An Example Science Entry: Entry/Data Summary Sheet

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An Example Science Entry: Student Work Record (Collection Period 1)

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An Example Science Entry: Student Work Record (Collection Period 2)

Student Work Record
Mythology: Creation of the Universe
 Address student work samples 1 and 2 (Collection Period 2)

Grade 5 Science

Student Name: Leah
Entry Title: IV
 Did the universe come from a bang? The universe of stars and planets are made of matter. The universe of stars and planets are made of matter. The universe of stars and planets are made of matter.

AP 5-4-1: Communicate observations and/or events
 The student will be able to communicate the observations and/or events that occurred during the investigation. The student will be able to communicate the observations and/or events that occurred during the investigation. The student will be able to communicate the observations and/or events that occurred during the investigation.

Evaluation of Student's Performance

Level of Accuracy: 3
Level of Independence: 3

One Complete MAP-A Science Entry

One Complete MAP-A Entry

Entry Data Summary Sheet

Student Work Record
Collection Period 1

Student Work Sample
(copy to be attached)

Student Work Record
Collection Period 2

Student Work Sample
(copy to be attached)

A Complete MAP-A Science Submission

Complete MAP-A Submission

Entry 1

Entry Data Summary Sheet

Student Work Record (Collection Period 1)

Student Work Sample (Collection Period 1)

Entry 2

Entry Data Summary Sheet

Student Work Record (Collection Period 1)

Student Work Sample (Collection Period 1)

Entry 3

Entry Data Summary Sheet

Student Work Record (Collection Period 2)

Student Work Sample (Collection Period 2)

Entry 4

Entry Data Summary Sheet

Student Work Record (Collection Period 2)

Student Work Sample (Collection Period 2)

The MAP-A Scoring Rubric

- All four entries for a student's MAP-A Science assessment are combined in a portfolio and scored using a rubric.
- Each entry is scored on three dimensions:
 - Level of Accuracy – score points 0-4 (where 4 indicates an accuracy rate of at least 76% or greater).
 - Level of Independence – score points 0-4 (where 4 indicates the least amount of support needed at least 76% or more of the time)
 - Connection to the Standards – score points 0-3 (where 3 indicates application in both data collection periods).

The MAP-A Scoring Rubric

Level of Accuracy	Level of Independence	Connection to the Standards
4 Student communicates observations and/or events with 100% accuracy.	4 Student communicates observations and/or events with 100% independence.	3 Student communicates observations and/or events with 100% connection to the standards.
3 Student communicates observations and/or events with 76% accuracy.	3 Student communicates observations and/or events with 76% independence.	2 Student communicates observations and/or events with 76% connection to the standards.
2 Student communicates observations and/or events with 52% accuracy.	2 Student communicates observations and/or events with 52% independence.	1 Student communicates observations and/or events with 52% connection to the standards.
1 Student communicates observations and/or events with 28% accuracy.	1 Student communicates observations and/or events with 28% independence.	0 Student communicates observations and/or events with 28% connection to the standards.
0 Student does not communicate observations and/or events.	0 Student does not communicate observations and/or events.	0 Student does not communicate observations and/or events.

The MAP-A Scoring Rubric

- Each entry has 11 possible points which are summed to create the final raw score total for the assessment. Thus, each grade-level assessment has 44 possible points.
- Here is an example of a scored MAP-A Science assessment

PERIOD 1	PERIOD 2
Score of 11	Score of 10
PERIOD 3	PERIOD 4
Score of 10	Score of 10

= 41 total points

What are Achievement Level Descriptors (ALDs)?

- ALDs are:
 - a framework for a common understanding of the knowledge, skills, and abilities possessed by a minimally qualified student in the each achievement level.
- Four ALDs for MAP-A Science:
 - Advanced
 - Proficient
 - Basic
 - Below Basic

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Previous MAP-A Science ALDs

- Advanced**
 - Student has a strong understanding of the concepts
 - Student likely requires minimal verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts
 - Student work evidence is strongly connected to the strands and demonstrate strong application
- Proficient**
 - Student has a sound understanding of the concepts
 - Student likely requires some verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts
 - Student work evidence is connected to the strands and demonstrate application
- Basic**
 - Student has a fundamental understanding of the concepts
 - Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts
 - Student work evidence is somewhat connected to the strands
- Below Basic**
 - Student has a minimal understanding of the concepts
 - Student likely requires extensive verbal, visual and/or physical task specific assistance in order to demonstrate knowledge of these concepts
 - Student work evidence may be loosely connected to the strands

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Basics of the Body of Work Method

- Review and revise the previous science ALDs
 - You will review the previous science ALDs, the new science test blueprint, and collections of student work to create revised ALDs
 - The revised science ALDs will be used during the body of work method
- Review each COE
 - You will have a List of COE to review
 - Become familiar with the contents of each portfolio
 - Think about what student performance looks like in each portfolio
 - Keep the revised ALDs in mind
- Make judgments
 - Iterative process of assigning each COE to a single achievement level
 - Will have THREE ROUNDS of review and rating

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Focus on the "JUST BARELY"...

- You are trying to draw a line between Below Basic/Basic, Basic/Proficient, and Proficient/Advanced

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What Are Your Tasks?

Round 1: Review of Student Portfolios

- You will review as many COE as possible and you will ask yourself the following question:

"Given the knowledge, skills, and abilities that are evidenced in this student portfolio, should this 'body of work' be classified as Below Basic, Basic, Proficient, or Advanced?"

 - You are **NOT** here to rescore these COE. The scores have been verified by professional scorers. Simply judge which achievement level the evidence supports.

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Round 1: Review of Student Portfolios

- The COE will be separated into three groups in your meeting room.
- You **MUST** read from all three groups.
 - Read a COE from group 1 and return it to the appropriate group, then move to group 2, then group 3. Then start over at group 1.
 - Spend only a few minutes per COE. If in doubt, go with your gut – you have two more rounds to refine your judgment.
 - After determining an achievement level for the COE, you will take the RATING SLIP and assign a rating to each COE.
 - Turn in your rating slip and return the COE to its appropriate group.

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Results From Round 1

- You will see...
 - your Round 1 ratings for each COE and what the cutpoints would be if only YOUR data were used;
 - the frequency of the achievement level assigned to each COE by the GROUP (the number of times a COE was assigned to "Below Basic" versus "Basic" versus "Proficient" versus "Advanced"); and
 - the GROUP cutpoints from Round 1.

Discussion

- Will focus on COE in the score point ranges with significant overlapping ratings
 - i.e., the green rows highlight instances where the COE were split between "Below Basic" and "Basic".

COE	Below Basic	Basic	Proficient	Advanced	Score
05407	18				0
09310	18				2
15017	18				4
00390	8	8			6
00008	7	8			8
00007	7	8			10
00324	5	13			13
10018	1	14			15
01007		18			18

Discussion

- Only those collections with overlapping ratings will be available for review in Round 2.
 - These are called pinpointing sets.
 - One set will focus on the overlap between Below Basic and Basic, Basic and Proficient, and Proficient and Advanced.
- Panelists will be divided into subgroups and each subgroup will review and discuss each COE in the three pinpointing sets.
 - Table leaders will assist in facilitating the discussion.
 - Move the group discussion along
 - Keep the group on task
 - Make sure that each person's opinion is expressed and respected

Round 2: Pinpointing

- As the discussion of each COE in a pinpointing set comes to an end, you will fill out your Round 2 RATING SLIP.
- You do NOT have to reach consensus on the round 2 ratings.
- You will turn in your rating slips after completing discussion of each pinpointing set.

Round 2 Discussion

- Using Round 2 results, you will see the same feedback as Round 1, but you will also be shown impact data based on the GROUP cutpoints from Round 2.
 - Impact Data-the percent of students in each achievement level based on the current recommended cutpoints
- Based on the 2012 administration

Round 3

- If necessary, you will once again review and discuss any COE overlapping at the BB/B, B/P, and P/A achievement levels.
- As the discussion of each COE comes to an end, you will fill out and turn in your rating slips your Round 3 RATING SLIP.
- Using Round 3 results, you will see the same feedback as Round 2
- Following Round 3 discussion, you will make a final recommendation as to what the cutpoints should be.
 - You do NOT have to reach consensus on what the cutpoints should be.
 - You will NOT rate individual COE at this time.

Cross-Grade Articulation

- Occurs once cutpoints have been recommended for all grades in a subject area.
- The articulation committee makes cross-grade comparisons of the standards
- Are recommended cutpoints reasonable given the cutpoints set in other grades for the same subject area?



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What Happens After You Go Home?

- Your group recommendations will be provided to DESE.
- DESE will present the findings to the State Board of Education
- The State Board will use your work to set the cutpoints for the MAP-A Science assessments.

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PEARSON

Questions?



ALWAYS LEARNING

PEARSON

Thank You!



ALWAYS LEARNING

PEARSON

Appendix I
Webinar Survey Results

2012 MAP-A Science Webinar Survey Results				
31 Respondents				
Grade 5: 23% (7) Grade 8: 39% (12) Grade 11: 39% (12)				
	Very Successful	Successful	Partially Successful	Not Successful
1. Which rating best reflects your opinion about the level of success of the introduction to the Process of Setting Achievement Level Cutpoints?	20%	67%	13%	0%
2. Which rating best reflects your opinion about the level of success of the Description of the Panelist Tasks?	35%	61%	3%	0%
3. Which rating best reflects your opinion about the level of success of the MAP-A overview?	29%	61%	10%	0%
4. Which rating best reflects your opinion about the level of success of the Discussion of the Achievement Level Descriptors?	29%	71%	0%	0%
5. Which rating best reflects your opinion about the level of success of the Review of the Body of Work methodology?	26%	68%	6%	0%
	Very Confident	Confident	Somewhat Confident	Not Confident
6. After attending the online training session, how confident do you feel that you understand the process that will be used to recommend cutpoints for the MAP-A Science assessments?	32%	52%	16%	0%

Appendix J
Revised MAP-A Science ALDs

Grade 5	Science
Below Basic	<p>Student has a minimal understanding of the concepts contained in the grade-appropriate APIs within the strands of:</p> <ul style="list-style-type: none"> • Processes and Interactions of the Earth’s Systems; • Composition and Structure of the Universe and the Motion of the Objects within it; • Characteristics and Interactions of Living Organisms <u>or</u> Changes in Ecosystems and Interactions of Organisms with Their Environment; • Scientific Inquiry <u>or</u> Impact of Science, Technology and Human Activity <p>Student work evidence may be weakly connected to the strands and/or demonstrates limited application to real-world situations. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.</p>
Basic	<p>Student has a fundamental understanding of the concepts contained in the grade-appropriate APIs within the strands of:</p> <ul style="list-style-type: none"> • Processes and Interactions of the Earth’s Systems; • Composition and Structure of the Universe and the Motion of the Objects within it; • Characteristics and Interactions of Living Organisms; <u>or</u> Changes in Ecosystems and Interactions of Organisms with Their Environment; • Scientific Inquiry <u>or</u> Impact of Science, Technology and Human Activity <p>Student work evidence is partially connected to the strands and fundamentally demonstrates application to real-world situations. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.</p>
Proficient	<p>Student has a sound understanding of the concepts contained in the grade-appropriate APIs within the strands of:</p> <ul style="list-style-type: none"> • Processes and Interactions of the Earth’s Systems; • Composition and Structure of the Universe and the Motion of the Objects within it; • Characteristics and Interactions of Living Organisms; <u>or</u> Changes in Ecosystems and Interactions of Organisms with Their Environment; • Scientific Inquiry <u>or</u> Impact of Science, Technology and Human Activity <p>Student work evidence is connected to the strands and directly demonstrates application to real-world situations. Student likely requires occasional verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.</p>
Advanced	<p>Student has a strong of understanding of the concepts contained in the grade-appropriate APIs within the strands of:</p> <ul style="list-style-type: none"> • Processes and Interactions of the Earth’s Systems; • Composition and Structure of the Universe and the Motion of the Objects within it; • Characteristics and Interactions of Living Organisms; <u>or</u> Changes in Ecosystems and Interactions of Organisms with Their Environment; • Scientific Inquiry <u>or</u> Impact of Science, Technology and Human Activity <p>Student work evidence is connected to the strands and demonstrates strong application to real-world situations. Student rarely requires verbal, visual, and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.</p>

Grade 8	Science
Below Basic	<p>Student has a minimal understanding of the concepts contained in the grade-appropriate APIs within the strands of:</p> <ul style="list-style-type: none"> • Properties and Principles of Matter and Energy; • Properties and Principles of Force and Motion; • Processes and Interactions of the Earth’s Systems <u>or</u> Composition and Structure of the Universe and the Motion of the Objects Within It; • Scientific Inquiry <u>or</u> Impact of Science, Technology, and Human Activity <p>Student work evidence may be weakly connected to the strands and/or demonstrates limited application to real-world situations. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.</p>
Basic	<p>Student has a fundamental understanding of the concepts contained in the grade-appropriate APIs within the strands of:</p> <ul style="list-style-type: none"> • Properties and Principles of Matter and Energy; • Properties and Principles of Force and Motion; • Processes and Interactions of the Earth’s Systems <u>or</u> Composition and Structure of the Universe and the Motion of the Objects Within It; • Scientific Inquiry <u>or</u> Impact of Science, Technology, and Human Activity <p>Student work evidence is partially connected to the strands and fundamentally demonstrates application to real-world situations. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.</p>
Proficient	<p>Student has a sound understanding of the concepts contained in the grade-appropriate APIs within the strands of:</p> <ul style="list-style-type: none"> • Properties and Principles of Matter and Energy; • Properties and Principles of Force and Motion; • Processes and Interactions of the Earth’s Systems <u>or</u> Composition and Structure of the Universe and the Motion of the Objects Within It; • Scientific Inquiry <u>or</u> Impact of Science, Technology, and Human Activity <p>Student work evidence is connected to the strands and directly demonstrates application to real-world situations. Student likely requires occasional verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.</p>
Advanced	<p>Student has a strong understanding of the concepts contained in the grade-appropriate APIs within the strands of:</p> <ul style="list-style-type: none"> • Properties and Principles of Matter and Energy; • Properties and Principles of Force and Motion; • Processes and Interactions of the Earth’s Systems <u>or</u> Composition and Structure of the Universe and the Motion of the Objects Within It; • Scientific Inquiry <u>or</u> Impact of Science, Technology, and Human Activity <p>Student work evidence is connected to the strands and demonstrates strong application to real-world situations. Student rarely requires verbal, visual, and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.</p>

Grade 11	Science
Below Basic	<p>Student has a minimal understanding of the concepts contained in the grade-appropriate APIs within the strands of:</p> <ul style="list-style-type: none"> • Characteristics and Interactions of Living Organisms; • Changes in Ecosystems and Interactions of Organisms with Their Environments; • Properties and Principles of Matter and Energy <u>or</u> Properties and Principles of Force and Motion; • Scientific Inquiry <u>or</u> Impacts of Science, Technology, and Human Activity <p>Student work evidence may be weakly connected to the strands and/or demonstrates limited application to real-world situations. Student likely requires extensive verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.</p>
Basic	<p>Student has a fundamental understanding of the concepts contained in the grade-appropriate APIs within the strands of:</p> <ul style="list-style-type: none"> • Characteristics and Interactions of Living Organisms; • Changes in Ecosystems and Interactions of Organisms with Their Environments; • Properties and Principles of Matter and Energy <u>or</u> Properties and Principles of Force and Motion; • Scientific Inquiry <u>or</u> Impacts of Science, Technology, and Human Activity <p>Student work evidence is partially connected to the strands and fundamentally demonstrates application to real-world situations. Student likely requires frequent verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.</p>
Proficient	<p>Student has a sound understanding of the concepts contained in the grade-appropriate APIs within the strands of:</p> <ul style="list-style-type: none"> • Characteristics and Interactions of Living Organisms; • Changes in Ecosystems and Interactions of Organisms with Their Environments; • Properties and Principles of Matter and Energy <u>or</u> Properties and Principles of Force and Motion; • Scientific Inquiry <u>or</u> Impacts of Science, Technology, and Human Activity <p>Student work evidence is connected to the strands and directly demonstrates application to real-world situations. Student likely requires occasional verbal, visual and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.</p>
Advanced	<p>Student has a strong understanding of the concepts contained in the grade-appropriate APIs within the strands of:</p> <ul style="list-style-type: none"> • Characteristics and Interactions of Living Organisms; • Changes in Ecosystems and Interactions of Organisms with Their Environments; • Properties and Principles of Matter and Energy <u>or</u> Properties and Principles of Force and Motion; • Scientific Inquiry <u>or</u> Impacts of Science, Technology, and Human Activity <p>Student work evidence is connected to the strands and demonstrates strong application to real-world situations. Student rarely requires verbal, visual, and/or physical task-specific assistance in order to demonstrate knowledge of these concepts.</p>

Appendix K
Reasoned Judgment Warm-Up Task Rating Sheet

**Missouri Assessment Program -Alternate (MAP-A) Science
Achievement Level Setting Meeting**

Reasoned Judgment Warm-Up Task Ratings Sheet

Panelist ID _____

Assessment: _____

Consider the sample of score combinations presented below. For each combination of scores, determine if performance on the three dimensions should be considered advanced, proficient, basic, or below basic. Record your ratings below.

A C C U R A C Y	I N D E P E N D E N C E	C O N N E C T I O N	YOUR ACHIEVEMENT LEVEL RATING
1	1	1	
2	1	1	
2	2	1	
3	1	1	
3	2	2	
2	4	1	
4	3	2	
4	4	3	

Appendix L
Round Rating Slips

Panelist ID _____

**Missouri Assessment Program-Alternate (MAP-A) Science
Achievement Level Setting – Rating Form**

COE #	Rating (Place an "X" in the appropriate column)			
	Below Basic	Basic	Proficient	Advanced

Panelist ID _____

**Missouri Assessment Program-Alternate (MAP-A) Science
Achievement Level Setting – Rating Form**

COE #	Rating (Place an "X" in the appropriate column)	
	Proficient	Advanced

Panelist ID _____

**Missouri Assessment Program-Alternate (MAP-A) Science
Achievement Level Setting – Rating Form**

COE #	Rating (Place an "X" in the appropriate column)	
	Basic	Proficient

Panelist ID _____

**Missouri Assessment Program-Alternate (MAP-A) Science
Achievement Level Setting – Rating Form**

COE #	Rating (Place an "X" in the appropriate column)	
	Below Basic	Basic

Panelist ID _____

**Missouri Assessment Program-Alternate (MAP-A) Science
Achievement Level Setting – Rating Form**

<i>My Recommended Cutpoint (2-digits)</i>		
Basic	Proficient	Advanced
_____	_____	_____

Appendix M
Committee Meeting Survey Results

2012 MAP-A Science Achievement Level Setting Committee Meeting Survey Results					
43 Respondents	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Training and Materials Provided					
1. The pre-meeting online webinar training presentation provided a clear overview of the process.	26%	50%	19%	5%	0%
2. The in-person group training presentation provided a clear overview of the committee's responsibilities	31%	43%	26%	0%	0%
3. The information contained in the Achievement Level Descriptors (ALDs) was helpful.	36%	45%	19%	0%	0%
4. The Achievement Level Setting sample portfolios provided sufficient information to make informed decisions.	23%	46%	15%	10%	5%
Achievement Level Setting Process					
5. The Pearson facilitator was well prepared.	42%	40%	16%	2%	0%
6. The Pearson facilitator was responsive to the committee's questions and recommendations during the process.	53%	44%	2%	0%	0%
7. The DESE representatives were responsive to the committee's questions and recommendations during the review process.	42%	37%	19%	2%	0%
8. The amount of time provided for Achievement Level Setting was adequate.	33%	33%	14%	14%	7%
Overall Effectiveness					

9. The committee worked through materials effectively and efficiently.	37%	42%	14%	7%	0%
10. This committee meeting was worthwhile.	40%	49%	9%	2%	0%

Appendix N
Cross-Grade Articulation Survey Results

2012 MAP-A Science Achievement Level Setting Cross-Grade Articulation Survey Results					
41 Respondents	Totally Agree	Agree	Neutral	Disagree	Totally Disagree
1. The method for reviewing achievement level descriptors across grades was conceptually clear.	24%	46%	22%	7%	0%
2. The method for reviewing cutpoints across grades was conceptually clear.	29%	39%	29%	2%	0%
3. I felt comfortable with the procedure for reviewing achievement level descriptors across grades.	33%	38%	28%	3%	0%
4. I felt comfortable with the procedure for reviewing cutpoints across grades.	29%	41%	24%	5%	0%
5. The final cut score recommendations across grade levels are reasonable for MAP-A Science.	54%	39%	7%	0%	0%
6. The percentage of students within each achievement level across grades is reasonable for MAP-A Science.	44%	39%	15%	2%	0%