

Grades 6-8 Mathematics Curriculum

RATIONALE

All students, regardless of different abilities, needs and interests, must be able to use mathematics in their personal life. Mathematics is used in daily life as well as in the workplace. All students deserve to understand the power of mathematics. Students need to solve problems encountered in daily life and to predict future needs or outcomes.

DESCRIPTION/PURPOSE

The mathematics curriculum requires participation in learning, connection to other curriculum areas, using technology, and generalization into the community. Mathematics enables students to fulfill personal ambitions and career goals in an ever-changing world.

Students with severe disabilities are able to build on the following outcomes through the mathematics:

- Learning concepts and skills in order to apply them to problem solving in and outside school
- Use comparison, sequencing, counting, and classifying to solve problems in daily life and in the work force
- Predict future needs through mathematics
- Follow a routine to participate in daily life
- Participate in daily life through the use of technology
- Learn and use signs, symbols and specialized terms of mathematics in communication

Content Description by Grade Level Span

Grade levels are divided into four segments; kindergarten-second grade; third-fifth grade; sixth-eighth grades; and, ninth-twelfth grades. Grade twelve can last up to four years. The curriculum is cumulative in that skills learned during the elementary years are expanded during the middle school grades and so forth. The goals and benchmarks for the student must be selected from the student's curricular grade span. We recognize that each student will accomplish the graduate goals by different means (goals mastered).

Mathematics Grades 6-8

| | |
|------------------------|--|
| Graduate Goal 1 | Graduates will communicate. |
| Graduate Goal 4 | Graduates will solve problems or complete tasks. |
| Graduate Goal 5 | Graduates will follow routines. |
| GLE: | Not Available |
| STRAND: | Not Available |

| |
|--|
| Show-Me Standard M-4 Patterns and relationships within and among functions and algebraic, geometric, and trigonometric concepts. |
| Alternate Framework Standard AltM-4 Recognizing shapes and patterns in the environment using visual models. |
| Alternate Process Standard: (What All Students Should Do) Goal 1 Alt-5, Goal 1 Alt-6, Goal 1 Alt-8 |

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|---|----------|----------|--|
| Complete the steps of a visual schedule. | 5017020 | | Follow examples on how to complete a task by following pictorial cues—hand washing picture sequence on the wall, picture cue on making Kool-Aid. Use an individualized daily schedule which is developed with the assistance of the student. |
| Follow a daily schedule by carrying the object/representation to the activity site. | 7300055 | | |
| Match activity to line drawing on visual schedule. | 7300003 | | |
| Complete activity as indicated on visual schedule. | 7800001 | | Follow (time and sequence) to complete activities that are found in the daily visual schedule. |
| Point to the picture of activity just completed. | 7300067 | | |

VISUAL SCHEDULES

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 4 Graduates will solve problems or complete tasks.

Graduate Goal 5 Graduates will follow routines.

GLE: Students will perform counting skills.

STRAND: Number and Operations

Show-Me Standard M-1
Addition, subtraction, multiplication, and division; other number sense, including numeration and estimation and application of these operations and concepts in the workplace and other situations.

Alternate Framework Standard AltM-1
Counting and grouping strategies used to solve problems encountered in the activities of daily living.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-6, Goal 3 Alt-2, Goal 3 Alt-3

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|--|----------|----------|---|
| Reach for and touch objects to explore quantity. | 7810154 | | Push/slide off a table/surface into a container a card/item for each student and count the cards/items, with assistance if needed, to determine number of students present or number of items needed for specific activities. |
| Represent and number small collections. | 7810155 | NO1.1 | Setup up situations so students can take a specific number of items to a different location in the school. |
| Start counting sequence with one. | 7810158 | NO1.2a | Use a counting jig. |
| Use the counting sequence to enumerate (count one by one) a collection and to identify "how many" items in a collection. | 7810160 | NO1.3 | |
| Demonstrate one-to-one correspondence between objects and counting words. | 7810161 | NO1.3a | Play a game, counting and moving a marker/playing piece. Count dots on dice, move number of spaces. Play Yhatzee, counting dots on dice. |
| Count with a 1 to 1 correspondence from 1 through 25. | 5906010 | | Focusing on a specific number for the day, have students gather number of items and put in learning centers. |
| Represent and number collections of items. | 7810163 | NO1.4 | Hand out/release/touch items for different activities, as the items are counted, during the daily routine – lunch tickets, snack items, lunch items, art materials, etc. |
| Select 1 to 20 objects from a group of more than 20. | 5906014 | | |
| Demonstrate that the final number said when counting the objects is the quantity of the set. | 7810164 | NO1.4b | |
| Use numbers in daily activities. | 7810165 | | |

READ, WRITE AND COMPARE NUMBERS

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 4 Graduates will solve problems or complete tasks.

GLE: Students will perform counting skills.

STRAND: Number and Operations

Show-Me Standard M-1
Addition, subtraction, multiplication, and division; other number sense, including numeration and estimation and application of these operations and concepts in the workplace and other situations.

Alternate Framework Standard AltM-1
Counting and grouping strategies used to solve problems encountered in the activities of daily living.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-4, Goal 1 Alt-6, Goal 3 Alt-2, Goal 3 Alt-3

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|---|----------|----------|--|
| Discriminate between numerals and other printed symbols. | 7810168 | NO1.7 | Recognize the product name (match to grocery list) and locate price. |
| Select from a group the numerals 1 through 15. | 5906021 | | |
| Select from a group the numerals 1 through 20. | 5906022 | | |
| Point to the numerals 1 through 31. | 7300066 | | |
| Identify the numerals 1 through 31 on a calendar page. | 5918001 | | |
| Identify the numerals 1 through 15 in random order. | 5906033 | | |
| Identify the numerals 1 through 20 in random order. | 5906034 | | |
| Communicate 1-9 numerals by writing, using number cards, using a communication board. | 7810169 | NO1.9 | Show picture of number on card and student finds number of vending machine, candy machine, etc. Student is told (shown) number of students here today and finds that number to place in the attendance folder. |
| Print numerals. | 7810170 | | Write address on return envelope; develop number of items needed at store; write down attendance. |

READ, WRITE AND COMPARE NUMBERS

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 4 Graduates will solve problems or complete tasks.

GLE: Students will read, write, and compare whole numbers.

STRAND: Number and Operations

Show-Me Standard M-1
Addition, subtraction, multiplication, and division; other number sense, including numeration and estimation and application of these operations and concepts in the workplace and other situations.

Alternate Framework Standard AltM-1
Counting and grouping strategies used to solve problems encountered in the activities of daily living.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-6

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|---|-----------------|-----------------|--|
| Match the numerals 1 through 15 to corresponding sets of objects. | 5906025 | | |
| Match the numerals 1 through 20 to corresponding sets of objects. | 5906026 | | |
| Appropriately label the quantity of an empty set using the terms "0", "nothing", or "none". | 7810182 | NO1.11 | Identify items that need to be replaced because they are empty, no more, all gone - detergent, paper towels, soap. |
| Identify a 2 digit number. | 7810183 | NO1.12 | A timer for cooking. Setting the cooking time on a microwave. A timer for how long the activity is going to last. Telling time with digital clock. Using a remote control to select favorite TV program. |
| Communicate 2 digit numbers. | 7810184 | NO1.13 | Tell you the amount of time, from a recipe, that an item needs to be in the oven or the microwave. |
| <p>Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.</p> | | | |

READ, WRITE AND COMPARE NUMBERS

Mathematics Grades 6-8

Graduate Goal 2 Graduates will make choices.

Graduate Goal 4 Graduates will solve problems or complete tasks.

GLE: Students will compare whole numbers.

STRAND: Number and Operations

Show-Me Standard M-6
Discrete mathematics (such as graph theory, counting techniques, matrices).

Alternate Framework Standard AltM-6
Using comparison, sequencing, counting and classifying to solve problems related to daily living.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-7, Goal 3 Alt-10, Goal 3 Alt-2

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|--|----------|----------|--|
| Recognize or request more and less of something. | 7810187 | NO1.18 | Missing element – need more of something to complete a task or activity. |
| Use counting to compare two quantities, up to four items, as same or more. | 7810189 | NO1.20 | Put items in groups that have the same number or amount for students. Student places specific amount of reinforcement in a baggie, such as 3 cheerios per bag for a total of 8 bags, etc. |
| Select which is more using numbers 1-20. | 7300019 | | |
| Associate the number 0 with empty sets. | 7810191 | NO1.26 | Identify items that need to be replaced because they are empty, no more, all gone (detergent, paper towels, soap) using an inventory list made up of specific items needed for each class. |
| Select from a group of containers the one that is full/empty. | 5930008 | | |

READ, WRITE AND COMPARE NUMBERS

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 1 Graduates will communicate.

Graduate Goal 4 Graduates will solve problems or complete tasks.

Graduate Goal 5 Graduates will follow routines.

GLE: Students will represent commonly used fractions.

STRAND: Number and Operations

Show-Me Standard M-5
 Mathematical systems (including real numbers, whole numbers, integers, fractions) geometry, and number theory (including primes, factors, multiples).

Alternate Framework Standard AltM-5
 Using the relationships between whole numbers, fractions, and shapes to understand real-life concepts.

Alternate Process Standard: (What All Students Should Do)
 Goal 1 Alt-6

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|--|----------|----------|--|
| Demonstrate an understanding of a whole unit. | 7810192 | NO2.1 | Get "all" of something (all of the dirty towels, all of the cups on the table, all of the dishes out of the dishwasher). |
| Show that fractional parts are equal shares or equal-sized portions of a whole unit. | 7810193 | NO2.2 | Half a cookie, cut pizza in fourths, divide the class in half for two jobs to do. Using visuals or circles, lay them on the floor to represent the two sections and have the class go and stand on the circle. May want to put name and/or picture on circles. |
| Explore fractions using manipulatives. | 7810194 | NO2.2a | Folding paper – letters, cards, napkins and art projects. Folding clothing and linens--may need to use folding jig or provide hand over hand assistance in folding clothing/linens. |
| Recognize everyday uses of fractional parts. | 7810195 | NO2.3 | Have the student cut a sandwich in half, tape two half circles together in an art project. |

REPRESENT AND USE RATIONAL NUMBERS

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 1 Graduates will communicate.

Graduate Goal 4 Graduates will solve problems or complete tasks.

GLE: Students will connect number words (orally) and quantities they represent.

STRAND: Number and Operations

Show-Me Standard M-1
Addition, subtraction, multiplication, and division; other number sense, including numeration and estimation and application of these operations and concepts in the workplace and other situations.

Alternate Framework Standard AltM-1
Counting and grouping strategies used to solve problems encountered in the activities of daily living.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-4, Goal 1 Alt-6, Goal 3 Alt-2, Goal 3 Alt-3

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|--|-----------------|-----------------|--|
| Demonstrate that one symbol can represent the whole amount. | 7810196 | NO3.1 | Attendance, lunch count, inventory list, number of each specific item to be purchased at a grocery store or Wal-Mart. Amount or number of items needed for a recipe. |
| | | | |

COMPOSE AND DECOMPOSE NUMBERS

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 1 Graduates will communicate.

Graduate Goal 4 Graduates will solve problems or complete tasks.

GLE: Students will compose or decompose numbers using known facts.

STRAND: Number and Operations

Show-Me Standard M-1
Addition, subtraction, multiplication, and division; other number sense, including numeration and estimation and application of these operations and concepts in the workplace and other situations.

Alternate Framework Standard AltM-1
Counting and grouping strategies used to solve problems encountered in the activities of daily living.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-4, Goal 1 Alt-6, Goal 3 Alt-2, Goal 3 Alt-3

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|--|----------|----------|--|
| Nonverbally demonstrate combining and separating problems. | 7810197 | NO3.2 | |
| Add one item to another item (combine items). | 7810198 | NO3.2a | When paying for items use the "one more" technique. Use dots on the dice to determine number of moves. |
| Subtract one item from two items (remove items). | 7810200 | NO3.2b | Use of calculator; give the student too many plates to set the table and then take one away and have student count dishes. |
| Use concrete materials or pictures to solve addition and subtraction situation problems. | 7810201 | NO3.3 | Use social stories. Use the missing element strategy. Follow the recipes on boxes, cake mix, Jell-O, brownies, pancakes, Jiffy mix, and oatmeal box. |

COMPOSE AND DECOMPOSE NUMBERS

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 1 Graduates will communicate.

Graduate Goal 4 Graduates will solve problems or complete tasks.

GLE: Students will represent a given situation involving addition.

STRAND: Number and Operations

Show-Me Standard M-1
Addition, subtraction, multiplication, and division; other number sense, including numeration and estimation and application of these operations and concepts in the workplace and other situations.

Alternate Framework Standard AltM-1
Counting and grouping strategies used to solve problems encountered in the activities of daily living.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-4, Goal 1 Alt-6, Goal 3 Alt-2, Goal 3 Alt-3

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|--|----------|----------|--|
| Nonverbally demonstrate combining problems. | 7810204 | NO5.1 | Create a social story by sequencing actions to represent a concept (riding bus, waiting turn). |
| Add one set to another set (combine sets). | 7810205 | NO5.1a | Make mixed nuts by pouring a can of nuts into one bowl and another kind in another, and have student pour bowls into one large bowl to combine the nuts. |
| Put objects in a container to combine sets of objects. | 7810206 | | Make cereal; pour pudding mix in carton of milk and shake until pudding. |
| Subtract some items from a larger set (remove items). | 7810208 | NO5.1b | Separate cards into two decks (cards are the same size, but different colored backs). |

REPRESENT OPERATIONS

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 1 Graduates will communicate.

Graduate Goal 4 Graduates will solve problems or complete tasks.

Graduate Goal 5 Graduates will follow routines.

GLE: Student will develop and demonstrate fluency with basic number combinations (addition, subtraction and multiplication).

STRAND: Number and Operations

Show-Me Standard M-1
Addition, subtraction, multiplication, and division; other number sense, including numeration and estimation and application of these operations and concepts in the workplace and other situations.

Alternate Framework Standard AltM-1
Counting and grouping strategies used to solve problems encountered in the activities of daily living.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-4, Goal 1 Alt-6, Goal 3 Alt-2, Goal 3 Alt-3

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|--|----------|----------|---|
| Use concrete materials to show one or two more or less than the original number. | 7810213 | NO9.1 | Use "one more" technique. |
| Show/give one more item. | 7810214 | | As a reward for a correct response, do a "high five" with the student and then say "Give me one more". |
| Show/give two more items. | 7810215 | | |
| Take away/remove one item. | 7810216 | | During morning activity of developing the work sequence for the student's object/picture schedule, student gets to remove one work activity. |
| Take away/remove two items. | 7810217 | | During morning activity of developing the work sequence for the student's object/picture schedule, student gets to remove two work activities (one in the morning, one in the afternoon). |

DEVELOP AND DEMONSTRATE FLUENCY WITH BASIC NUMBERS

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 1 Graduates will communicate.

Graduate Goal 4 Graduates will solve problems or complete tasks.

Graduate Goal 5 Graduates will follow routines.

GLE: Student will apply strategies to compute (addition, subtraction and multiplication).

STRAND: Number and Operations

Show-Me Standard M-1
Addition, subtraction, multiplication, and division; other number sense, including numeration and estimation and application of these operations and concepts in the workplace and other situations.

Alternate Framework Standard AltM-1
Counting and grouping strategies used to solve problems encountered in the activities of daily living.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-4, Goal 3 Alt-2, Goal 3 Alt-3

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|---|----------|----------|--|
| Recognize grouping situations. | 7810242 | NO10.6 | Recognize lunch table sitting at; recognize the longest line to avoid standing in long lines in the community. |
| Group a small collection. | 7810243 | NO10.7 | Sort coins to fill coin rolls. |
| | | | |

APPLY STRATEGIES TO COMPUTE

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 3 Graduates will express personal feelings and self-advocate for needs.

Graduate Goal 4 Graduates will solve problems or complete tasks.

GLE: Student will estimate a solution to a problem (addition and subtraction).

STRAND: Number and Operations

Show-Me Standard M-3
Data analysis, probability, and statistics

Alternate Framework Standard AltM-3
Gathering and using quantitative information to predict future need or outcomes.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-6, Goal 1 Alt-8, Goal 3 Alt-4, Goal 3 Alt-7

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|---|----------|----------|---|
| Use comparisons to estimate size. | 7810219 | NO11.1 | Determine the right size container to hold all of an item (cereal, pasta, candy, cookies, etc). Choose correct clothing size. |
| Select the larger size of an item. | 7300018 | | To assist in teaching the concept of environmental control, ask the student if he/she wants more work—provide signal for no and remove activity. Do the same, in reverse order, for a reinforcing sensory activity. Stop and ask if he/she wants “more” --signal yes and continue sensory activity. |
| | | | |

ESTIMATE AND JUSTIFY SOLUTIONS

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 4 Graduates will solve problems or complete tasks.

Graduate Goal 5 Graduates will follow routines.

GLE: Students will recognize patterns of sounds or shapes.

STRAND: Algebraic Relationships

Show-Me Standard M-4
Patterns and relationships within and among functions and algebraic, geometric, and trigonometric concepts.

Alternate Framework Standard AltM-4
Recognizing shapes and patterns in the environment using visual models.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-5, Goal 1 Alt-6, Goal 1 Alt-8

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|--|----------|----------|---|
| Engage in pattern-related activities in the every day environment. | 7810171 | AR1.1a | Set table by design placemat. Perform music/dance with motions, pictures, objects. |
| Recognize the pattern of a pattern-related activity. | 7810173 | AR1.1b | Follow the pattern of which activity is next. Follow a pictorial sequence to complete an activity or task (cleaning up a room). |
| Explore simple repeating patterns with concrete materials. | 7810172 | AR1.1c | Art activity; build a design from a model--object or pictorial (pumpkin face, tree decorations). |
| Reproduce sequenced pattern of objects. | 5762011 | | Set out materials for lunch table according to a list/pattern, etc. |
| Reproduce sequenced pattern of objects in left to right progression. | 5762012 | | Teach beginning literacy of left to right progression through various activities in which students repeat patterns of objects/shapes when participating in a variety of art activities/math activities. |
| Extend a repeating pattern of sound, shapes, and numbers. | 7810175 | AR1.1g | Use in a PE class--simple dance steps, basketball drills, Follow the Leader. |

RECOGNIZE AND EXTEND PATTERNS

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 4 Graduates will solve problems or complete tasks.

Graduate Goal 5 Graduates will follow routines.

GLE: Students will recognize patterns of sounds or shapes.

STRAND: Algebraic Relationships

Show-Me Standard M-4
Patterns and relationships within and among functions and algebraic, geometric, and trigonometric concepts.

Alternate Framework Standard AltM-4
Recognizing shapes and patterns in the environment using visual models.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-5, Goal 1 Alt-6, Goal 1 Alt-8

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities | CREATE AND ANALYZE PATTERNS | | | |
|--|-----------------|-----------------|---|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Create patterns. | 7810221 | AR2.1 | Through art activities, develop objects/animals with repeating patterns (caterpillars, trains, petals of flowers, etc). With students' assistance, develop game boards following a set pattern of pictures (colors, shapes, animals, objects, etc). Use student's primary mode of communication in developing the game boards (eye gaze, touching, pointing, verbalization, communication device, etc). | | CREATE AND ANALYZE PATTERNS | | |
| Create a simple repeating pattern with concrete materials. | 7810222 | AR2.1a | Give shape/patterns needed to create an art project, and the student creates the design. | | | CREATE AND ANALYZE PATTERNS | |
| Describe a simple repeating pattern. | 7810224 | AR2.2a | Follow simple daily routines (opening activity, lunch routine, group activity). | | | | CREATE AND ANALYZE PATTERNS |
| Predict "what comes next" for a repeating pattern. | 7810225 | AR2.2b | Sequence of completing activity, following a visual schedule. | | | | |
| | | | | CREATE AND ANALYZE PATTERNS | | | |

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 1 Graduates will communicate.

Graduate Goal 4 Graduates will solve problems or complete tasks.

Graduate Goal 5 Graduates will follow routines.

GLE: Students will sort objects by attributes.

STRAND: Algebraic Relationships

Show-Me Standard M-2
Geometric and spatial sense involving measurement (including length, area, volume), trigonometry, and similarity and transformations of shapes.

Alternate Framework Standard AltM-2
Applying basic concepts related to size, shape, and amount (including measurement skills) to the activities of daily living.

Alternate Process Standard: (What All Students Should Do)
Goal 3 Alt-2, Goal 3 Alt-6, Goal 3 Alt-7, Goal 3 Alt-8

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|---|----------|----------|--|
| Match like objects. | 7810226 | | Provide a picture of items needed for cooking, washing hands, etc., and have student locate the items. |
| Sort, classify and order objects. | 7810227 | AR3.1 | Stack canned goods on a shelf, placing largest ones in the back and smaller ones in front. |
| Given a class of objects, engage with informal sorting experiences. | 7810229 | AR3.1a | Putting groceries away in appropriate places (freezer items, canned goods, refrigerator items). |
| Classify objects. | 7810230 | AR3.1d | Find the location of an item, grocery store, looking for can of green beans (so he/she won't look in the freezer). Finding items in the classroom. |

CLASSIFY OBJECTS AND REPRESENTATIONS

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 1 Graduates will communicate.

Graduate Goal 4 Graduates will solve problems or complete tasks.

GLE: Students will represent a mathematical situation as an expression or number sentence.

STRAND: Algebraic Relationships

Show-Me Standard M-1
Addition, subtraction, multiplication, and division; other number sense, including numeration and estimation and application of these operations and concepts in the workplace and other situations.

Alternate Framework Standard AltM-1
Counting and grouping strategies used to solve problems encountered in the activities of daily living.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-6, Goal 3 Alt-3

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|--|-----------------|-----------------|--|
| Represent mathematical situations. | 7810022 | AR4.1 | Keeping score in a game or keeping tally of votes. |
| Use objects, pictures, words or numbers to represent a mathematical situation. | 7810021 | AR4.1a | Taking attendance--place pictures of students absent in one column, and those present in another column. |
| | | | |

REPRESENT MATHEMATICAL SITUATIONS

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 2 Graduates will make choices.

Graduate Goal 4 Graduates will solve problems or complete tasks.

GLE: Students will model situations that involve whole numbers, using pictures, objects or symbols.

STRAND: Algebraic Relationships

Show-Me Standard M-6
Discrete mathematics (such as graph theory, counting techniques, matrices).

Alternate Framework Standard AltM-6
Using comparison, sequencing, counting and classifying to solve problems related to daily living.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-7, Goal 1 Alt-10, Goal 3 Alt-2

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|--|-----------------|-----------------|---|
| Use models to represent quantitative relationships. | 7810176 | AR6.1 | Using measuring cups for cooking. Using spinners and dice in a game. |
| Use pictures, objects or symbols to enact stories or model situations involving whole numbers. | 7810177 | AR6.1a | Develop social stories that relate to each student and/or seasons/holidays that include numbers. |
| Use pictures, objects or symbols to enact stories or model situations involving addition and subtraction of whole numbers. | 7810231 | AR6.1b | Develop social stories that relate to each student and/or seasons/holidays that include numbers – adding and subtracting numbers. (Have students assist you in developing these stories.) |

USE MATHEMATICAL MODELS

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 3 Graduates will express personal feelings and self-advocate for needs.

Graduate Goal 4 Graduates will solve problems or complete tasks.

GLE: Students will determine qualitative change such as students growing taller.

STRAND: Algebraic Relationships

Show-Me Standard M-3
Data analysis, probability, and statistics

Alternate Framework Standard AltM-3
Gathering and using quantitative information to predict future need or outcomes.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-6, Goal 1 Alt-8, Goal 3 Alt-4, Goal 3 Alt-7

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|---|----------|----------|--|
| Analyze change in a variety of situations. | 7810232 | AR7.1 | When PE/speech services are not possible due to an absence, place a picture of "No PE/Speech" on the schedule. At the time for PE/Speech, have student remove the picture and replace with the replacement activity photo. |
| Recognize change in the environment. | 7810233 | AR7.1a | In a small group activity, have a student take attendance by placing picture of student here in one column and those absent in another. Then take attendance to the office. |
| Engage in activities to keep track of change. | 7810234 | AR7.1b | When PE/speech services are not possible due to an absence, place a picture of "No PE/Speech" on the schedule. At the time for PE/Speech, have student remove the picture and replace with the replacement activity photo. |
| Describe change in qualitative terms. | 7810235 | AR7.1c | Emotion training—student places smile or frown on a face for situations or what pictures describe (boy eating ice cream, girl fell down, boy playing with a dog, etc.). |

ANALYZE CHANGE

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 4 Graduates will solve problems or complete tasks.

Graduate Goal 5 Graduates will follow routines.

GLE: Students will sort 2 dimensional shapes using physical models (circle, rectangle, triangle).

STRAND: Geometric and Spatial Relationships

Show-Me Standard M-2
Geometric and spatial sense involving measurement (including length, area, volume), trigonometry, and similarity and transformations of shapes.

Alternate Framework Standard AltM-2
Applying basic concepts related to size, shape, and amount (including measurement skills) to the activities of daily living.

Alternate Process Standard: (What All Students Should Do)
Goal 3 Alt-2, Goal 3 Alt-6, Goal 3 Alt-7, Goal 3 Alt-8

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|--|----------|----------|---|
| Identify, name, compare and/or sort 2-D shapes (pictures). | 7810178 | GS1.1 | Develop a game board and dice/spinner that consists of basic shapes and shapes of common items. |
| Identify shapes by pointing or other appropriate gesture. | 5603039 | | |
| Use 2-D shapes for informal play. | 7810179 | GS1.1a | Memory type games. |
| Release a two-dimensional object. | 7600133 | | Model an art project. |
| Match common shapes. | 7400232 | | Model an art object, combining shapes; mosaic projects with either paper or tile. |
| Match 2 dimensional items to identical 2 dimensional items. | 5756040 | GS1.1b | |
| Match 2 dimensional items to similar 2 dimensional items based on common factors. | 5756041 | | |
| Recognize and name circle, square, triangle, rectangle in any size or orientation. | 7810244 | GS1.1f | Play a game of Twister or any other game involving shapes and/or safety signs with specific shapes. Have students take turns spinning (can use the All-Turn It Spinner with adapted board) and calling out the shape and color. |
| Use shape class names, such as rectangle/triangles, to classify and sort. | 7810063 | GS1.1g | |

DESCRIBE AND USE GEOMETRIC RELATIONSHIPS

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 4 Graduates will solve problems or complete tasks.

Graduate Goal 5 Graduates will follow routines.

GLE: Students will sort 2 dimensional shapes using physical models (circle, rectangle, triangle).

STRAND: Geometric and Spatial Relationships

Show-Me Standard M-2
Geometric and spatial sense involving measurement (including length, area, volume), trigonometry, and similarity and transformations of shapes.

Alternate Framework Standard AltM-2
Applying basic concepts related to size, shape, and amount (including measurement skills) to the activities of daily living.

Alternate Process Standard: (What All Students Should Do)
Goal 3 Alt-2, Goal 3 Alt-6, Goal 3 Alt-7, Goal 3 Alt-8

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|---|-----------------|-----------------|---|
| Put together 2-D shapes to make new shapes. | 7810180 | GS2.1 | Participate in various art activities using clay, paper mache, play dough, plaster of paris, etc. |
| Use shapes in isolation, concrete or semi-concrete, to make a picture. | 7810181 | GS2.1a | |
| Use shapes (concrete or semi-concrete) by combining the shapes to make a picture or design. | 7810237 | GS2.1b | Participate in art activities to make a pumpkin face; glue shapes/objects to decorate a clay pot for planting; make collages of favorite things and people. |
| | | | |
| <p>Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.</p> | | | |

COMPOSE AND DECOMPOSE SHAPES

Mathematics Grades 6-8

Graduate Goal 1 Graduates will communicate.

Graduate Goal 4 Graduates will solve problems or complete tasks.

Graduate Goal 5 Graduates will follow routines.

GLE: Students will recognize or demonstrate relative positions in space (above, below, front, behind).

STRAND: Geometric and Spatial Relationships

Show-Me Standard M-4
Patterns and relationships within and among functions and algebraic, geometric, and trigonometric concepts.

Alternate Framework Standard AltM-4
Recognizing shapes and patterns in the environment using visual models.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-5, Goal 1 Alt-6

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|--|----------|----------|--|
| Recognize or demonstrate relative positions in space. | 7810238 | GS3.1 | Throughout the students' daily routine, provide opportunities for students to place objects in a variety of positional locations – "Place the bowls on the plates. Put the napkins beside the paper plates." |
| Place an item above/below another item. | 5756018 | | |
| Place an item on/off another item. | 5756016 | | |
| Place item in/out of another item. | 5756020 | | |
| Place an item under/over another item. | 5756017 | | |
| Use everyday positional descriptions such as over, under, near, far, between, left, right, above, below, on, beside, next to, to recognize relative positions of objects in space. | 7810239 | GS3.1a | Participate in PE activities using these positional terms (obstacle courses, relay races, etc.). |
| Use directions with positional descriptions to identify location of objects in space. | 7810240 | GS3.1b | Do a treasure hunt to find objects in the room by giving students direction to the object (on the left, above you, behind the door, etc.). |
| Carry out 2 requests using prepositions. | 5603028 | | |
| Plan route to familiar destinations. | 6408007 | | |
| Walk following a set route. | 5295005 | GS3.2a | |

USE COORDINATE SYSTEMS

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 1 Graduates will communicate.

Graduate Goal 4 Graduates will solve problems or complete tasks.

GLE: Students will develop procedures to address a given question.

STRAND: Data and Probability

Show-Me Standard M-3
Data analysis, probability, and statistics

Alternate Framework Standard AltM-3
Gathering and using quantitative information to predict future need or outcomes.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-6, Goal 1 Alt-8, Goal 3 Alt-4

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|--|-----------------|-----------------|--|
| Pose questions to answer/find information. | 7810248 | DP1.1b | Develop questions by using pictures to represent questions. Allow students to select from a set of two questions/pictures. Send questions home to parents and/or ask other classrooms to participate. (Examples: what he/she had for dinner, favorite foods, sports, relatives, etc.) Then take this information and develop a language story, or turn it into a survey, such as, the favorite drink in the class was..... |
| | | | |

FORMULATE QUESTIONS

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 1 Graduates will communicate.

Graduate Goal 4 Graduates will solve problems or complete tasks.

Graduate Goal 5 Graduates will follow routines.

GLE: Students will sort items according to their attributes.

STRAND: Data and Probability

Show-Me Standard M-6
Discrete mathematics (such as graph theory, counting techniques, matrices).

Alternate Framework Standard AltM-6
Using comparison, sequencing, counting and classifying to solve problems related to daily living.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-4, Goal 1 Alt-6, Goal 3 Alt-2, Goal 3 Alt-3

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|---|-----------------|-----------------|---|
| Given a class of objects, engage with sorting experiences. | 7810249 | DP2.1a | Stack canned goods on a shelf, placing largest ones in the back and smaller ones in front. When sorting dishes, put all glasses together, with taller ones in the back; stack all plates together, with the larger plates on the bottom, etc. |
| Engage in sorting activities with identified attributes of objects. | 7810228 | DP2.1b | Sort recycling material--sort clothing by color, bedding vs. what to wear, food storage. |
| | | | |

CLASSIFY AND ORGANIZE DATA

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 1 Graduates will communicate.

Graduate Goal 4 Graduates will solve problems or complete tasks.

GLE: Students will represent data using pictures and bar graphs.

STRAND: Data and Probability

Show-Me Standard M-6
Discrete mathematics (such as graph theory, counting techniques, matrices).

Alternate Framework Standard AltM-6
Using comparison, sequencing, counting and classifying to solve problems related to daily living.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-4, Goal 1 Alt-6, Goal 3 Alt-2, Goal 3 Alt-3

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|---|-----------------|-----------------|--|
| Demonstrate awareness that symbols may be used to represent objects and events. | 7810251 | DP3.1c | Anticipate calendar events with pictures/symbols placed on calendar to represent the event. For example, when going to grandma's house (picture of grandma or house); holidays, weekends, any changes in schedule. |
| | | | |

REPRESENT AND INTERPRET DATA

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 1 Graduates will communicate.

Graduate Goal 4 Graduates will solve problems or complete tasks.

GLE: Students will analyze data for patterns and describe important features of the data.

STRAND: Data and Probability

Show-Me Standard M-6
Discrete mathematics (such as graph theory, counting techniques, matrices).

Alternate Framework Standard AltM-6
Using comparison, sequencing, counting and classifying to solve problems related to daily living.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-4, Goal 1 Alt-6, Goal 3 Alt-2, Goal 3 Alt-3

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities |
|--|-----------------|-----------------|--------------------------------------|
| Select from a group of containers the one that will hold the most/least. | 5930006 | | |
| Select from a group of containers the one that has many/few items. | 5930007 | | |
| Select the largest/smallest object from a group of objects of various sizes. | 5930001 | | |
| | | | |

DESCRIBE AND ANALYZE DATA

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 1 Graduates will communicate.

Graduate Goal 3 Graduates will express personal feelings and self-advocate for needs.

Graduate Goal 4 Graduates will solve problems or complete tasks.

GLE: Given a set of data, students will propose and justify a conclusion that is based on data.

STRAND: Data and Probability

Show-Me Standard M-3
Data analysis, probability, and statistics

Alternate Framework Standard AltM-3
Gathering and using quantitative information to predict future need or outcomes.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-6, Goal 1 Alt-8, Goal 3 Alt-4, Goal 3 Alt-7

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities | DEVELOP AND EVALUATE INFERENCES | |
|--|-----------------|-----------------|--|--|--|
| Discuss and make predictions. | 7810253 | DP6.1 | What do you need to do next? What materials do you need to do the job? | | DEVELOP AND EVALUATE INFERENCES |
| Attend to discussions using prediction language, such as “likely” and “unlikely” (if-then situations). | 7810254 | DP6.1a | Apply to if-then situations – When you complete the task, then you get the, etc. | | |
| | | | | DEVELOP AND EVALUATE INFERENCES | |

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.

Mathematics Grades 6-8

Graduate Goal 1 Graduates will communicate.

Graduate Goal 4 Graduates will solve problems or complete tasks.

Graduate Goal 6 Graduates will participate in cause and effect activities.

GLE: Students will describe the degree of likelihood of events using words/symbols (i.e., certain, equally likely, impossible).

STRAND: Data and Probability

Show-Me Standard M-3
Data analysis, probability, and statistics

Alternate Framework Standard AltM-3
Gathering and using quantitative information to predict future need or outcomes.

Alternate Process Standard: (What All Students Should Do)
Goal 1 Alt-6, Goal 3 Alt-4, Goal 3 Alt-7

| Authentic Life Skills (What All Students Should Know) | IEP Code | API Code | Authentic Learning Activities | APPLY BASIC CONCEPTS OF PROBABILITY | |
|--|-----------------|-----------------|---|--|--|
| Attend to another person using a chance device. | 7810256 | DP7.1a | Students will take turns and watch others while playing games, using dice (adapt dice by using a large foam or cardboard cube with pictures, colors, dots, etc.) or a spinner to move playing pieces around a game board. | | APPLY BASIC CONCEPTS OF PROBABILITY |
| Participate in activities involving chance. | 7810258 | DP7.1d | Play a variety of games (Yhatzee, card games, lotto game, bingo). | | |
| | | | | APPLY BASIC CONCEPTS OF PROBABILITY | |

Assessment of Student Performance: Performance tasks, student performance data, authentic assessment.