Mathematics Standards

GRADE: K

Big Idea 1: BIG IDEA 1

Represent, compare, and order whole numbers and join and separate sets.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.K.A.1.In.a Represent quantities to 5 using sets of objects and number names. *Remarks/Examples*: Student creates, counts, and indicates how many are in each set. Does not require recognition of numerals. *Date Adopted or Revised*: 09/07	MA.K.A.1.Su.a Represent quantities to 3 using sets of objects and number names. *Remarks/Examples*: Student creates, counts, and indicates how many are in each set. Does not require recognition of numerals. *Date Adopted or Revised*: 09/07	MA.K.A.1.Pa.a Indicate desire for more of an action or object. *Remarks/Examples*: Meaning may include additional amount or quantity, or continue an action. *Date Adopted or Revised*: 08/08
MA.K.A.1.In.b Use one-to-one correspondence to count and compare sets of objects to 5. *Remarks/Examples*: Includes concepts of same amount, more than, and less than. *Date Adopted or Revised*: 09/07	MA.K.A.1.Su.b Use one-to-one correspondence to count sets of objects to 3. *Date Adopted or Revised*: 09/07	MA.K.A.1.Pa.b Indicate desire for no more of an action or object. *Remarks/Examples*: Meaning may include enough, stop, finished, or no more. *Date Adopted or Revised*: 08/08
MA.K.A.1.In.c Solve problems with up to 5 objects, involving simple joining (putting together) and separating (taking away) situations. *Remarks/Examples*: Put 2 blocks together with 3 blocks and tell how many there are in all. *Date Adopted or Revised*: 09/07	MA.K.A.1.Su.c Solve problems with up to 3 objects involving simple joining (putting together) situations. *Remarks/Examples*: Put 2 crayons together with 1 crayon and tell how many there are in all. *Date Adopted or Revised*: 09/07	MA.K.A.1.Pa.c Solve problems involving small quantities of objects or actions using language, such as enough, too much, or more. *Date Adopted or Revised*: 08/08

Big Idea 2: BIG IDEA 2

Describe shapes and space.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.K.G.2.In.a Sort objects by single attributes, including shape and size. *Date Adopted or Revised*: 09/07	MA.K.G.2.Su.a Sort common objects by size. *Remarks/Examples*: Put all the big squares together. *Date Adopted or Revised*: 08/08	MA.K.G.2.Pa.a Recognize a common object with a two-dimensional shape. *Remarks/Examples*: May include everyday objects, such as a square mat or round disk. *Date Adopted or Revised*: 08/08
MA.K.G.2.In.b Match and name two-dimensional shapes, including circle and square. *Date Adopted or Revised*: 09/07	MA.K.G.2.Su.b Identify square objects or pictures when given the name. *Remarks/Examples*: Point to the square object. *Date Adopted or Revised*: 08/08	MA.K.G.2.Pa.b Recognize a common three-dimensional object. *Remarks/Examples*: May include common objects, such as a ball or box. *Date Adopted or Revised*: 08/08
MA.K.G.2.In.c Match examples of three-dimensional objects, such as balls (spheres) and blocks (cubes). *Remarks/Examples*: Include objects with different sizes or colors so that student matches by shape. *Date Adopted or Revised*: 08/08	MA.K.G.2.Su.c Identify three-dimensional objects, such as a block (cube) or ball (sphere). *Date Adopted or Revised*: 08/08	MA.K.G.2.Pa.c Recognize a movement that reflects a spatial relationship, such as up and down. *Remarks/Examples*: Include spatial relationships, such as up or down. Student recognizes "up" by holding up hands or looking up. *Date Adopted or Revised*: 08/08
MA.K.G.2.In.d Identify shapes, including circle and square, in the environment. *Remarks/Examples*: Square tiles on floor, circular clocks *Date Adopted or Revised*: 09/07	MA.K.G.2.Su.d Identify square shapes in the environment when given the name. *Remarks/Examples*: Bulletin board, ceiling tiles, sidewalk sections. *Date Adopted or Revised*: 08/08	
MA.K.G.2.In.e Identify spatial relationships, including in, out, up, down, top, bottom, on, and off. *Remarks/Examples*: Book on desk, backpack in cubby. *Date Adopted or Revised*: 09/07	MA.K.G.2.Su.e Identify spatial relationships, including on, off, up, and down. *Remarks/Examples*: Hat on head, hat off head, up the slide, down the slide. *Date Adopted or Revised*: 08/08	

Big Idea 3: BIG IDEA 3

Order objects by measurable attributes.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.K.G.3.In.a Compare overall size and length of objects and describe using terms, such as big, small, long, and short. *Remarks/Examples*: Use objects of very different sizes and lengths for comparison. *Date Adopted or Revised*: 09/07	MA.K.G.3.Su.a Identify size of objects using terms, such as big and little. *Remarks/Examples*: Use objects of very different sizes. *Date Adopted or Revised*: 09/07	MA.K.G.3.Pa.a Recognize differences in size of objects. *Date Adopted or Revised*: 08/08

Supporting Idea 4: Algebra

Algebra

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.K.A.4.In.a Match two-element repeating patterns of sounds, physical movements, and objects. *Date Adopted or Revised*: 09/07	MA.K.A.4.Su.a Match identical sounds, physical movements, and objects. *Date Adopted or Revised*: 09/07	MA.K.A.4.Pa.a Recognize two objects that are identical to each other. *Date Adopted or Revised*: 08/08

Supporting Idea 5: Geometry and Measurement

Geometry and Measurement

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.K.G.5.In.a Identify concepts of time, including day, night, morning, and afternoon, by relating activities to a time period. *Remarks/Examples*: We go to the playground in the afternoon. We put on our pajamas at night. *Date Adopted or Revised*: 09/07	MA.K.G.5.Su.a Identify concepts of time, including day and night, by relating daily events to a time period. *Remarks/Examples*: We go to school in the day. We go to sleep in our bed at night. *Date Adopted or Revised*: 09/07	MA.K.G.5.Pa.a Recognize common activities that occur every day. *Remarks/Examples*: Students recognizes cues such as music for circle time or backpack for going home. *Date Adopted or Revised*: 08/08

GRADE: 1

Big Idea 1: BIG IDEA 1

Develop understandings of addition and subtraction strategies for basic addition facts and related subtraction facts.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.1.A.1.In.a Identify the meaning of addition as adding to and subtraction as taking away from. *Remarks/Examples*: Student may use objects or pictures to demonstrate understanding. *Date Adopted or Revised*: 09/07	MA.1.A.1.Su.a Demonstrate understanding of the meaning of joining (putting together) and separating (taking apart) sets of objects. *Date Adopted or Revised*: 09/07	MA.1.A.1.Pa.a Recognize when an object or person is added to (addition) or is taken away from (subtraction) a situation. *Remarks/Examples*: Student recognizes that someone or something has been added or removed. *Date Adopted or Revised*: 08/08
MA.1.A.1.In.b Use counting and one-to-one correspondence as strategies to solve addition facts with sums to 10 and related subtraction facts represented by numerals with sets of objects and pictures. *Remarks/Examples*: Does not require use of the formal algorithm. *Date Adopted or Revised*: 09/07	MA.1.A.1.Su.b Use one-to-one correspondence as a strategy for solving simple number stories involving joining (putting together) and separating (taking apart) with sets of objects to 5. *Date Adopted or Revised*: 09/07	MA.1.A.1.Pa.b Solve problems involving small quantities of objects or actions using language, such as enough, too much, or more. *Date Adopted or Revised*: 08/08

Big Idea 2: BIG IDEA 2

Develop an understanding of whole number relationships, including grouping by tens and ones.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.1.A.2.In.a Compare and order numbers 1 to 10. *Remarks/Examples*: Student uses sets of objects or pictures and the concepts of same amount, more than, and less than. *Date Adopted or Revised*: 09/07	MA.1.A.2.Su.a Use one-to-one correspondence to compare sets of objects to 5. *Remarks/Examples*: Includes the concepts of same amount and more than. *Date Adopted or Revised*: 09/07	MA.1.A.2.Pa.a Associate quantities with language, such as many, a lot, or a little. *Date Adopted or Revised*: 08/08
MA.1.A.2.In.b Use one-to-one correspondence to count sets of	MA.1.A.2.Su.b Use one-to-one correspondence to count sets of	MA.1.A.2.Pa.b Recognize rote counting 1 to 3. *Remarks/Examples*: Responds to a counting cue, "I, 2, 3," as a signal to begin an action, such as getting up or sitting down.

objects or pictures to 10. *Date Adopted or Revised*: 09/07	objects to 5 arranged in a row. *Date Adopted or Revised*: 09/07	*Date Adopted or Revised*: 08/08
MA.1.A.2.In.c Represent numbers to 10 using sets of objects and pictures, number names, and numerals. *Remarks/Examples*: Student creates sets, counts, and recognizes numerals. *Date Adopted or Revised*: 09/07	MA.1.A.2.Su.c Represent quantities to 5 using sets of objects and number names. *Remarks/Examples*: Student creates and counts sets and indicates how many. *Date Adopted or Revised*: 09/07	

Big Idea 3: BIG IDEA 3

Compose and decompose two-dimensional and three-dimensional geometric shapes.

Access Point for Students with Significant Cognitive Disabilities

Independent	*Supported*	*Participatory*
MA.1.G.3.In.a Sort and describe two-dimensional shapes by single attributes, such as number of sides and straight or round sides. *Remarks/Examples*: Shapes include circle, square, and triangle; attributes include lengths or types of sides, straight or curved. *Date Adopted or Revised*: 09/07	MA.1.G.3.Su.a Match and name common two-dimensional objects by shape, including square and circle. *Remarks/Examples*: Present examples, such as coins, plates, carpet squares, and signs. *Date Adopted or Revised*: 08/08	MA.1.G.3.Pa.a Recognize common objects with two-dimensional shapes, such as circle or square. *Remarks/Examples*: May include everyday objects, such as placemat or plate during lunch. *Date Adopted or Revised*: 08/08
MA.1.G.3.In.b Combine two shapes to make another shape and identify the whole-part relationship. *Remarks/Examples*: Student may use objects or drawings. Put two triangles together to make a square. *Date Adopted or Revised*: 08/08	MA.1.G.3.Su.b Sort common two- and three-dimensional objects by size, including big and little. *Date Adopted or Revised*: 08/08	MA.1.G.3.Pa.b Recognize common three-dimensional objects, such as balls (spheres) or blocks (cubes). *Remarks/Examples*: May include everyday objects, such as ball during physical education or tissue box. *Date Adopted or Revised*: 08/08

Supporting Idea 4: Algebra

Algebra

Access Point for Students with Significant Cognitive Disabilities

Independent	Supported	Participatory
MA.1.A.4.In.a Match a two-element repeating visual pattern. *Remarks/Examples*: Place objects to match this pattern. *Date Adopted or Revised*: 09/07	MA.1.A.4.Su.a Match objects by single attributes, such as color, shape, or size. *Date Adopted or Revised*: 09/07	MA.1.A.4.Pa.a Recognize two objects that are the same size or color. *Date Adopted or Revised*: 08/08

Supporting Idea 5: Geometry and Measurement
Geometry and Measurement

Access Point for Students with Significant Cognitive Disabilities		
Independent	Supported	Participatory
MA.1.G.5.In.a Measure length of objects using nonstandard units of measure and count the units. *Remarks/Examples*: Measurement with nonstandard units uses objects, such as blocks or paper clips to obtain a measure. Student uses up to 10 nonstandard units. Date Adopted or Revised: 09/07 *Date Adopted or Revised*: 09/07	MA.1.G.5.Su.a Measure length of objects using nonstandard units of measure. *Remarks/Examples*: Measurement with nonstandard units uses objects, such as blocks or paperclips to obtain a measure. Student uses up to 5 nonstandard units. *Date Adopted or Revised*: 09/07	MA.1.G.5.Pa.a Recognize similarities and differences in size of common objects. *Date Adopted or Revised*: 08/08
MA.1.G.5.In.b Compare objects by concepts of length—using terms, such as longer, shorter, and same—and capacity, using terms, such as full and empty. *Date Adopted or Revised*: 08/08	MA.1.G.5.Su.b Compare objects by length using terms, such as long and short. *Date Adopted or Revised*: 08/08	

Supporting Idea 6: Number and Operations
Number and Operations

Access Point for Students with Significant Cognitive Disabilities		
Independent	Supported	Participatory

| MA.1.A.6.In.a Solve real-world problems involving addition facts with sums to 10 and related subtraction facts using numerals with sets of objects and pictures.
Remarks/Examples:
Does not require use of formal algorithm.

Date Adopted or Revised:
09/07 | MA.1.A.6.Su.a Solve real-world problems involving simple joining (putting together) and separating (taking apart) situations with sets of objects to 5.
Remarks/Examples:
Put 2 blocks together with 3 blocks and count how many there are in all.

Date Adopted or Revised:
09/07 | MA.1.A.6.Pa.a Solve simple problems involving putting together and taking apart small quantities of objects.
Date Adopted or Revised:
08/08 |

GRADE: 2

Big Idea 1: BIG IDEA 1

Develop an understanding of base-ten numerations system and place-value concepts.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.2.A.1.In.a Apply the concept of grouping to create sets of tens and ones to 20 as a strategy to aid in counting. _Remarks/Examples_: May use objects and coins. _Date Adopted or Revised_: 09/07 MA.2.A.1.In.b Represent numbers to 20 using sets of objects and pictures, number names, and numerals. _Date Adopted or Revised_: 09/07 MA.2.A.1.In.c Identify and use ordinal numbers to fifth. _Remarks/Examples_: May use sets of objects and pictures arranged in a row. _Date Adopted or Revised_: 09/07 MA.2.A.1.In.d Use one-to-one correspondence to count, compare, and order whole numbers 0 to 20. _Remarks/Examples_: May use objects, pictures, and a number line. Includes concepts of same amount,	MA.2.A.1.Su.a Use one-to-one correspondence to count, compare, and order sets of objects to 5 or more. _Date Adopted or Revised_: 08/08 MA.2.A.1.Su.b Represent quantities to 5 or more using sets of objects, number names, and numerals. _Date Adopted or Revised_: 08/08	MA.2.A.1.Pa.a Match one object to a designated space to show one-to-one correspondence. _Date Adopted or Revised_: 08/08 MA.2.A.1.Pa.b Associate quantities 1 and 2 with number names. _Date Adopted or Revised_: 08/08

more than, less than, and none.		
Date Adopted or Revised: 09/07		

Big Idea 2: BIG IDEA 2

Develop quick recall of addition facts and related subtraction facts and fluency with multi-digit addition and subtraction.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.2.A.2.In.a Identify the meaning of the +, -, and = signs in addition and subtraction problems. *Date Adopted or Revised*: 09/07	MA.2.A.2.Su.a Identify the meaning of addition as adding to and subtraction as taking away from, using sets of objects. *Date Adopted or Revised*: 09/07	MA.2.A.2.Pa.a Compare quantities to 3 using language, such as more, less, or the same. *Date Adopted or Revised*: 08/08
MA.2.A.2.In.b Use counting and one-to-one correspondence as strategies to solve problems involving addition facts with sums to 10 and related subtraction facts using numerals with sets of pictures. *Remarks/Examples*: Use pictures in combination with the formal algorithm. *Date Adopted or Revised*: 09/07	MA.2.A.2.Su.b Use counting and one-to-one correspondence as strategies to solve number stories involving addition facts with sums to 5 and related subtraction facts using sets of objects. *Date Adopted or Revised*: 09/07 MA.2.A.2.Su.c Solve real-world problems involving addition facts with sums to 5 and related subtraction facts using sets of objects. *Date Adopted or Revised*: 09/07	MA.2.A.2.Pa.b Solve simple real-world problems involving joining or separating small quantities of objects. *Date Adopted or Revised*: 08/08
MA.2.A.2.In.c Solve real-world problems involving addition facts with sums to 10 and related subtraction facts, including money, measurement, geometry, and other problem situations. *Date Adopted or Revised*: 09/07		

Big Idea 3: BIG IDEA 3

Develop an understanding of linear measurement and facility in measuring lengths.

| Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.2.G.3.In.a Use standard units of whole inches to measure the length of objects.	MA.2.G.3.Su.a Measure the length of objects using nonstandard units of measure and count to 5 or more units.	MA.2.G.3.Pa.a Recognize length of real objects, such as big, little, long, or short.

Remarks/Examples: Measure objects that are whole inches. *Date Adopted or Revised*: 09/07	*Remarks/Examples*: Student uses physical models such as connecting cubes to measure a crayon and counts the number of cubes. *Date Adopted or Revised*: 09/07	*Date Adopted or Revised*: 08/08
MA.2.G.3.In.b Compare and order objects of different lengths. *Remarks/Examples*: Student puts three or more objects side by side and uses longest and shortest for comparison. *Date Adopted or Revised*: 09/07	MA.2.G.3.Su.b Compare lengths of objects to solve real-world problems. *Remarks/Examples*: Find a box for the book that is longer than the book. *Date Adopted or Revised*: 09/07	
MA.2.G.3.In.c Select and use a ruler to measure and compare lengths to solve problems. *Remarks/Examples*: Use rulers with whole inch markings. *Date Adopted or Revised*: 09/07		

Supporting Idea 4: Algebra

Algebra

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.2.A.4.In.a Identify two-element repeating visual patterns and extend with one repetition. *Remarks/Examples*: Complete the pattern: *Date Adopted or Revised*: 09/07 MA.2.A.4.In.b Fill in missing items in two-element repeating visual	MA.2.A.4.Su.a Match two-element repeating patterns of sounds, physical movements, and objects. *Remarks/Examples*: Demonstrate "step, clap" and have the student repeat. Make the same pattern using blocks: *Date Adopted or Revised*: 09/07	MA.2.A.4.Pa.a Recognize a repeated pattern of stimuli, such as sounds or lights. *Date Adopted or Revised*: 08/08 MA.2.A.4.Pa.b Use one-to-one correspondence to identify sets of objects with the same amount to 2. *Date Adopted or Revised*: 08/08

patterns. *Remarks/Examples*: Fill in the missing part of the pattern: 0▽_▽ *Date Adopted or Revised*: 09/07 MA.2.A.4.In.c Identify equal and unequal sets of objects and pictures to 20. *Remarks/Examples*: Is this set (16 pencils) the same amount as this set (9 pencils)? *Date Adopted or Revised*: 09/07 MA.2.A.4.In.d Recognize rules for addition functions, including 1 more and 2 more. *Date Adopted or Revised*: 08/08	MA.2.A.4.Su.b Use the rule, 1 more, to identify the next number with numbers 1 to 5. *Date Adopted or Revised*: 08/08 MA.2.A.4.Su.c Use one-to-one correspondence to identify sets of objects with the same number to 5. *Date Adopted or Revised*: 09/07	

Supporting Idea 5: Geometry and Measurement		
Geometry and Measurement		
Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.2.G.5.In.a Match parts with the whole using geometric shapes. *Remarks/Examples*: Put together two triangles to form a square or two squares to form a rectangle using a template. *Date Adopted or Revised*: 09/07 MA.2.G.5.In.b Identify concepts of time, including before, after, yesterday, today, tomorrow, first, and next, by relating activities with the time period.	MA.2.G.5.Su.a Identify part and whole of geometric shapes. *Remarks/Examples*: Student may describe part and whole as some or all. *Date Adopted or Revised*: 09/07 MA.2.G.5.Su.b Identify the concepts of time, including morning, afternoon, before, after, and next, by relating activities with the time period. *Remarks/Examples*:	MA.2.G.5.Pa.a Recognize parts of common objects. *Date Adopted or Revised*: 08/08 MA.2.G.5.Pa.b Recognize common activities that occur at regular times, such as lunch, bedtime, or going to school. *Date Adopted or Revised*: 08/08

	Use everyday activities, such as a daily classroom schedule.	
Date Adopted or Revised: 08/08	*Date Adopted or Revised*: 08/08	MA.2.G.5.Pa.c Associate giving an action or object with receiving an action or object. *Date Adopted or Revised*: 08/08
MA.2.G.5.In.c Identify the days of the week in relation to the calendar. *Date Adopted or Revised*: 09/07	MA.2.G.5.Su.c Identify coins as money. *Remarks/Examples*: Student associates coins with a purchase. *Date Adopted or Revised*: 08/08	MA.2.G.5.Pa.d Recognize differences in sizes of containers that hold liquids (capacity). *Date Adopted or Revised*: 08/08
MA.2.G.5.In.d Identify analog and digital clocks as tools for telling time. *Remarks/Examples*: Use different types of clocks and watches. *Date Adopted or Revised*: 09/07		
MA.2.G.5.In.e Identify the purpose of coins and bills. *Remarks/Examples*: Student associates coins and bills with making a purchase or paying an entrance fee. *Date Adopted or Revised*: 09/07	MA.2.G.5.Su.d Compare weight of objects using the concepts of heavy and light. *Remarks/Examples*: A box with feathers and a box with sand. Student lifts the boxes and identifies which is heavy and which is light. *Date Adopted or Revised*: 08/08	
MA.2.G.5.In.f Compare objects by weight—using terms including heavy and light—and capacity, using terms including holds more and holds less. *Remarks/Examples*: Use balance scale and examples with obvious differences for comparison of weight. Use container sizes and filling activities with obvious differences for comparison of capacity. *Date Adopted or Revised*: 08/08		

Supporting Idea 6: Number and Operations

Number and Operations

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.2.A.6.In.a Solve problems involving addition of the same number, such as 1+1 or 2+2 with sums to 10.	MA.2.A.6.Su.a Solve problems involving combining sets with the same number of objects with sums to 4 using one-to-one correspondence and counting.	MA.2.A.6.Pa.a Solve simple problems involving joining sets of objects with the same quantity to 2.

Date Adopted or Revised: 09/07	*Date Adopted or Revised*: 09/07	*Date Adopted or Revised*: 08/08

GRADE: 3

Big Idea 1: BIG IDEA 1		
Develop understandings of multiplication and division and strategies for basic multiplication facts and related division facts.		
Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.3.A.1.In.a Solve problems that involve combining (multiplying) equal sets with quantities to 18 using objects and pictures with numerals. *Date Adopted or Revised*: 09/07	MA.3.A.1.Su.a Solve problems that involve combining (multiplying) equal sets with sums to 9 using objects and pictures. *Date Adopted or Revised*: 08/08	MA.3.A.1.Pa.a Solve simple problems involving joining or separating sets of objects to 3. *Date Adopted or Revised*: 08/08
MA.3.A.1.In.b Solve addition facts with sums to 18 and related subtraction one-digit fact families using the formal algorithm with numerals and signs (+, -, =). *Remarks/Examples*: Student may use a number line. *Date Adopted or Revised*: 09/07	MA.3.A.1.Su.b Solve addition facts with sums to 9 and related subtraction facts using numerals with objects and pictures. *Date Adopted or Revised*: 08/08	MA.3.A.1.Pa.b Recognize when 1 or 2 items have been added to or removed from sets of objects to 3. *Date Adopted or Revised*: 08/08
MA.3.A.1.In.c Use one-to-one correspondence, grouping, and counting as strategies to solve real-world problems involving addition facts with sums to 18 and related subtraction facts. *Date Adopted or Revised*: 09/07	MA.3.A.1.Su.c Use one-to-one correspondence and counting as strategies to solve real-world problems with addition facts with sums to 9 and related subtraction facts. *Remarks/Examples*: Numbers may be represented by numerals with sets of objects and pictures. *Date Adopted or Revised*: 08/08	
MA.3.A.1.In.d Use objects and pictures to represent the inverse relationship between addition and subtraction facts. *Remarks/Examples*: Add 3 blocks to 4 blocks to get 7 blocks. Take away 3 blocks from 7 blocks to get 4 blocks. *Date Adopted or Revised*: 09/07		

Big Idea 2: BIG IDEA 2

Develop an understanding of fractions and fraction equivalence.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.3.A.2.In.a Represent half and whole using area and sets of objects. *Date Adopted or Revised*: 08/08 MA.3.A.2.In.b Identify the relationship between half and whole. *Remarks/Examples*: Use everyday experiences, such as folding paper in half. *Date Adopted or Revised*: 08/08	MA.3.A.2.Su.a Recognize part and whole using area and sets of objects. *Remarks/Examples*: A piece of cake is part of a whole cake. A red crayon is part of a whole set of crayons. *Date Adopted or Revised*: 09/07	MA.3.A.2.Pa.a Recognize parts of whole objects and parts of sets of objects. *Date Adopted or Revised*: 08/08

Big Idea 3: BIG IDEA 3

Describe and analyze properties of two-dimensional shapes.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.3.G.3.In.a Identify attributes, including number of sides, curved or straight sides, and number of corners (angles), in two-dimensional shapes. *Remarks/Examples*: Student uses objects and pictures of circles, squares, rectangles, and triangles to identify shapes with the same attribute. *Date Adopted or Revised*: 09/07 MA.3.G.3.In.b Combine (compose) and separate (decompose) two-dimensional shapes to make other shapes. *Remarks/Examples*: Student uses manipulatives, objects, or pictures. Cut or fold a paper square in two parts to form triangles or rectangles. *Date Adopted or Revised*: 09/07	MA.3.G.3.Su.a Sort two-dimensional shapes by single attributes, including numbers of sides and curved or straight sides. *Remarks/Examples*: Student sorts circles, squares, and triangles. *Date Adopted or Revised*: 09/07 MA.3.G.3.Su.b Combine (compose) two shapes to make other shapes. *Remarks/Examples*: Student uses manipulatives or objects. Put two triangles together to make a square using a template. *Date Adopted or Revised*: 09/07	MA.3.G.3.Pa.a Recognize common objects with two-dimensional shapes, such as circle and square. *Date Adopted or Revised*: 08/08 MA.3.G.3.Pa.b Recognize two-dimensional shapes, including circle and square, that are the same shape and size (congruent). *Date Adopted or Revised*: 08/08

Independent	Supported	Participatory
MA.3.G.3.In.c Identify two-dimensional shapes that are the same shape and size (congruent). *Remarks/Examples*: Student uses manipulatives, objects, or pictures. *Date Adopted or Revised*: 09/07	MA.3.G.3.Su.c Match two-dimensional shapes that are the same shape and size (congruent). *Remarks/Examples*: Student uses manipulatives or objects. *Date Adopted or Revised*: 09/07	

Supporting Idea 4: Algebra

Algebra

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.3.A.4.In.a Complete growing visual and number patterns. *Remarks/Examples*: Complete the number pattern: 14, 15, 16, ___, 18 *Date Adopted or Revised*: 09/07	MA.3.A.4.Su.a Match a two-element repeating visual pattern using objects and pictures. *Remarks/Examples*: Choose the two shapes that make this pattern. Match this pattern using the shapes. *Date Adopted or Revised*: 09/07	MA.3.A.4.Pa.a Recognize the next step in a simple pattern or sequence of activities. *Remarks/Examples*: Use everyday examples, such as clapping a rhythm, or steps in a feeding routine. *Date Adopted or Revised*: 08/08

Supporting Idea 5: Geometry and Measurement

Geometry and Measurement

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.3.G.5.In.a Use a ruler to solve problems involving the length of sides of squares and rectangles. *Remarks/Examples*: Measure the length of all sides and add together to solve for perimeter. *Date Adopted or Revised*: 09/07	MA.3.G.5.Su.a Use nonstandard measurement units to solve problems for length of sides of squares. *Remarks/Examples*: Use objects such as paper clips to measure length. Relates to determining perimeter. *Date Adopted or Revised*: 09/07	MA.3.G.5.Pa.a Recognize the sides of a square or rectangle. *Date Adopted or Revised*: 08/08 MA.3.G.5.Pa.b Recognize part of a day, such as morning or afternoon, associated with a common activity. *Date Adopted or Revised*: 08/08
MA.3.G.5.In.b Identify half and whole of the length of objects. *Date Adopted or Revised*: 08/08	MA.3.G.5.Su.b Recognize part and whole of the length of objects. *Date Adopted or Revised*:	

	08/08	
MA.3.G.5.In.c Identify time to hour and half hour using analog and digital clocks. *Date Adopted or Revised*: 08/08	MA.3.G.5.Su.c Identify concepts of time, including yesterday, today, and tomorrow, by relating activities to the time period. *Date Adopted or Revised*: 09/07	
MA.3.G.5.In.d Identify the months of the year in relation to calendars. *Date Adopted or Revised*: 09/07	MA.3.G.5.Su.d Identify the days of the week using a calendar. *Date Adopted or Revised*: 09/07	

Supporting Idea 6: Number and Operations

Number and Operations

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.3.A.6.In.a Express, represent, and solve problems with cardinal numbers 0 to 30 and ordinal numbers to tenth using sets of objects or pictures, number names, and numerals. *Date Adopted or Revised*: 08/08	MA.3.A.6.Su.a Express, represent, and solve problems with numbers to 10 using sets of objects and pictures, number names, and numerals. *Date Adopted or Revised*: 08/08	MA.3.A.6.Pa.a Recognize quantities 1 to 3 using sets of objects, pictures, or number names. *Date Adopted or Revised*: 08/08
MA.3.A.6.In.b Apply the concepts of counting and grouping to create sets of tens and ones to identify the value of whole numbers to 30. *Remarks/Examples*: May use objects and coins. *Date Adopted or Revised*: 08/08	MA.3.A.6.Su.b Use one-to-one correspondence to count sets of objects to 10. *Date Adopted or Revised*: 09/07	MA.3.A.6.Pa.b Match objects to marked spaces to show one-to-one correspondence for quantities 1 to 3. *Date Adopted or Revised*: 08/08

Supporting Idea 7: Data Analysis

Data Analysis

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.3.S.7.In.a Sort and count objects and pictures into three labeled categories and display data in an object graph or	MA.3.S.7.Su.a Sort objects representing data into two labeled categories and count the number in each category. *Remarks/Examples*:	MA.3.S.7.Pa.a Identify items that belong together to form a set (data). *Remarks/Examples*: A group is polled about activity choices.

pictograph. *Remarks/Examples*: Student completes a graph of favorite ice cream flavors using pictures of vanilla, chocolate, or strawberry ice cream cones. *Date Adopted or Revised*: 08/08	Data in each category may have up to 5 objects. Students vote on their favorite color car, red or blue, by placing red or blue paper cars in a container to represent their votes. The student sorts the cars by color and counts the data. *Date Adopted or Revised*: 08/08	Preferences include watching videos represented by a picture of a television, listening to a story represented by a picture of a book, or playing with a ball represented by picture of a ball. The student matches t *Date Adopted or Revised*: 08/08

GRADE: 4

Big Idea 1: BIG IDEA 1

Develop quick recall of multiplication facts and related division facts and fluency with whole number multiplication.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.4.A.1.In.a Solve problems involving combining (multiplying) or separating into (dividing) equal sets with quantities to 30 using objects and pictures with numerals. *Date Adopted or Revised*: 09/07	MA.4.A.1.Su.a Solve problems that involve combining (multiplying) and separating (dividing) equal sets with quantities to 15 using objects and pictures. *Date Adopted or Revised*: 08/08	MA.4.A.1.Pa.a Solve simple problems involving joining or separating sets of objects to 4. *Date Adopted or Revised*: 08/08
MA.4.A.1.In.b Solve real-world addition and subtraction problems with two-digit numbers to 30 without regrouping, and check for accuracy. *Remarks/Examples*: Student may use calculator to check for accuracy. *Date Adopted or Revised*: 08/08	MA.4.A.1.Su.b Solve real-world problems involving addition facts with sums to 15 and related subtraction facts using numerals with sets of pictures and the +, -, and = signs. *Date Adopted or Revised*: 08/08	MA.4.A.1.Pa.b Recognize when items have been added to or removed from sets of objects to 4. *Date Adopted or Revised*: 08/08

Big Idea 2: BIG IDEA 2

Develop an understanding of decimals, including the connection between fractions and decimals.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.4.A.2.In.a Apply the concepts of counting, grouping, and place value with	MA.4.A.2.Su.a Apply the concept of grouping to create sets of tens and	MA.4.A.2.Pa.a Match objects to marked spaces to show

|		
whole numbers to create sets of tens and ones to identify the value of whole numbers to 50. *Date Adopted or Revised*: 09/07	ones to 18 as a strategy for counting objects. *Remarks/Examples*: May use objects and coins. *Date Adopted or Revised*: 09/07	one-to-one correspondence for quantities 1 to 4. *Date Adopted or Revised*: 08/08
MA.4.A.2.In.b Express and represent fractions, including halves and fourths, as parts of a whole and parts of a set using objects, pictures, and number names. *Remarks/Examples*: Does not require recognition of fraction numerals. *Date Adopted or Revised*: 08/08	MA.4.A.2.Su.b Represent half and whole using area and sets of objects. *Date Adopted or Revised*: 08/08	MA.4.A.2.Pa.b Distinguish parts of objects from whole objects. *Date Adopted or Revised*: 08/08 MA.4.A.2.Pa.c Recognize a half of an object as part of the whole object. *Date Adopted or Revised*: 08/08
MA.4.A.2.In.c Identify differences between halves, fourths, and a whole. *Date Adopted or Revised*: 08/08	MA.4.A.2.Su.c Identify half as a part of a whole. *Date Adopted or Revised*: 08/08	

Big Idea 3: BIG IDEA 3

Develop an understanding of area and determine the area of two-dimensional shapes.

Access Point for Students with Significant Cognitive Disabilities

Independent	*Supported*	*Participatory*
MA.4.G.3.In.a Identify examples of the distance around all sides (perimeter) and area of squares and rectangles in the environment. *Remarks/Examples*: Area is the space inside the perimeter of a two-dimensional shape. Book cover, welcome mat *Date Adopted or Revised*: 09/07	MA.4.G.3.Su.a Identify examples of the concept of area in the environment. *Remarks/Examples*: Area is the space inside the perimeter of a two-dimensional shape. Desktop, rectangular rug *Date Adopted or Revised*: 09/07	MA.4.G.3.Pa.a Identify the sides of a square or rectangle. *Date Adopted or Revised*: 08/08 MA.4.G.3.Pa.b Recognize differences in the length of the sides of rectangles. *Date Adopted or Revised*: 08/08
MA.4.G.3.In.b Find the length of the sides and the area of rectangular and square objects using square units. *Remarks/Examples*: Cover a rectangular area with carpet squares and count the number of carpet squares. *Date Adopted or Revised*: 08/08	MA.4.G.3.Su.b Count the number of square units of a rectangle marked with a grid to determine its area. *Date Adopted or Revised*: 08/08 MA.4.G.3.Su.c Measure the length of sides of rectangles using whole inches. *Date Adopted or Revised*: 08/08	

MA.4.G.3.In.c Measure whole inches and feet using a ruler to solve real-world linear measurement problems. *Remarks/Examples*: May use rulers with one-inch markings. *Date Adopted or Revised*: 08/08		

Supporting Idea 4: Algebra

Algebra

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.4.A.4.In.a Identify and extend growing visual and number patterns using strategies, such as skip counting. *Remarks/Examples*: Use the operations of addition and subtraction for number patterns. Complete the pattern: 31, 32, 33, —, —, —— *Date Adopted or Revised*: 08/08	MA.4.A.4.Su.a Identify and copy two-element repeating visual patterns using objects and pictures. *Remarks/Examples*: How many different objects are in this pattern? *Date Adopted or Revised*: 09/07	MA.4.A.4.Pa.a Indicate the next step in a pattern or sequence of activities. *Remarks/Examples*: Use daily events, such as steps in a dressing routine, responding to greetings, and using a feeding routine in settings throughout school. *Date Adopted or Revised*: 08/08
MA.4.A.4.In.b Describe equal and unequal sets using terms including greater than, less than, and equal to. *Remarks/Examples*: Compare the two sets. Are they equal or unequal? Tell or show how you know. *Date Adopted or Revised*: 09/07	MA.4.A.4.Su.b Determine if the number in two sets of objects to 10 are same or different (equal or unequal). *Remarks/Examples*: Terminology may include more, less, same, or different. *Date Adopted or Revised*: 09/07	MA.4.A.4.Pa.b Use one-to-one correspondence to compare sets of objects to 4 and determine if they are the same or different (equal or unequal). *Date Adopted or Revised*: 08/08 MA.4.A.4.Pa.c Recognize the quantity of a set of objects to 3 and add 1 more. *Date Adopted or Revised*: 08/08
MA.4.A.4.In.c Identify the rule, including 1 less, 2 less, and 3 less, represented in number pairs. *Remarks/Examples*: Includes numbers 1 to 50. Look at the pairs of numbers on the chart. Circle the rule: 1 less, 2 less, 3 less *Date Adopted or Revised*: 09/07	MA.4.A.4.Su.c Use the rule, 1 more, to identify the next number with numbers 1 to 20. *Remarks/Examples*: Student may use objects and pictures to count. What is 1 more	

	than 17? *Date Adopted or Revised*: 09/07	

Supporting Idea 5: Geometry and Measurement

Geometry and Measurement

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.4.G.5.In.a Locate angles in two-dimensional shapes, including triangles and rectangles. *Date Adopted or Revised*: 09/07	MA.4.G.5.Su.a Locate angles within a triangle. *Date Adopted or Revised*: 09/07	MA.4.G.5.Pa.a Recognize corners (angles) in common objects with two-dimensional shapes, such as a square or rectangle. *Date Adopted or Revised*: 08/08
MA.4.G.5.In.b Identify examples of two-dimensional figures that are the same shape and size (congruency) and figures that are visually the same on both sides of a central dividing line (symmetry) in the environment. *Date Adopted or Revised*: 09/07	MA.4.G.5.Su.b Identify two-dimensional figures that are visually the same on both sides of a central dividing line (symmetry). *Remarks/Examples*: Fold shape cutouts such as hearts and squares in half to identify symmetry. *Date Adopted or Revised*: 09/07	MA.4.G.5.Pa.b Recognize the two sides of a two-dimensional figure created by a central dividing line (symmetry). *Date Adopted or Revised*: 08/08
MA.4.G.5.In.c Sort three-dimensional objects, such as cubes, cylinders, cones, rectangular prisms, and spheres. *Remarks/Examples*: May include objects of different sizes. *Date Adopted or Revised*: 09/07	MA.4.G.5.Su.c Match three-dimensional objects with models, such as a cube, cylinder, cone, and sphere. *Date Adopted or Revised*: 09/07	MA.4.G.5.Pa.c Recognize three-dimensional objects, such as ball (sphere), block (cube), or tube (cylinder). *Date Adopted or Revised*: 08/08

Supporting Idea 6: Number and Operations

Number and Operations

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.4.A.6.In.a Express, represent, and use whole numbers 0 to 50 in various contexts. *Remarks/Examples*: Use numerals, pictures, objects, and coins. *Date Adopted or Revised*: 08/08	MA.4.A.6.Su.a Express, represent, and use whole numbers to 25 using sets of objects and pictures, number names, and numerals in various contexts. *Date Adopted or Revised*: 08/08	MA.4.A.6.Pa.a Use quantities to 4 represented by objects, pictures, or number names in various contexts. *Date Adopted or Revised*: 08/08

Independent	Supported	Participatory
MA.4.A.6.In.b Use the inverse relationship of addition and subtraction as a strategy to solve problems. *Remarks/Examples*: Does not require use of mathematical terminology. 12 + 7 = 19, 19 - __ = 12 *Date Adopted or Revised*: 08/08 MA.4.A.6.In.c Identify the relationship between halves, fourths, and a whole. *Date Adopted or Revised*: 08/08 MA.4.A.6.In.d Use skip counting by 5s and 10s to determine amounts to 50. *Remarks/Examples*: May use objects and money such as nickels and dimes. *Date Adopted or Revised*: 09/07 MA.4.A.6.In.e Use strategies such as comparing and grouping to estimate quantities to 20. *Remarks/Examples*: Student estimates to 20 using objects or pictures and checks for accuracy by counting. Student compares a set of paper clips with choices given by the teacher, such as "Is this set (9 paper clips) closer to 10 or closer to 3?" Student arranges pennies in *Date Adopted or Revised*: 08/08	MA.4.A.6.Su.b Use ordinal numbers, including first and second, in real-world situations. *Date Adopted or Revised*: 08/08 MA.4.A.6.Su.c Use objects and pictures to represent the relationship between addition with sums to 15 and related subtraction facts. *Remarks/Examples*: Includes addition facts with sums to 10 and related subtraction facts. *Date Adopted or Revised*: 08/08 MA.4.A.6.Su.d Identify the relationship between half and whole. *Date Adopted or Revised*: 08/08 MA.4.A.6.Su.e Separate quantities to 25 into equal sets and identify the total number of sets and the number in each set. *Date Adopted or Revised*: 08/08 MA.4.A.6.Su.f Use strategies such as comparing and grouping to estimate quantities to 10. *Date Adopted or Revised*: 08/08	MA.4.A.6.Pa.b Separate groups of objects to 4 into sets with the same quantity. *Date Adopted or Revised*: 08/08 MA.4.A.6.Pa.c Match parts to whole objects. *Date Adopted or Revised*: 09/07

GRADE: 5

Big Idea 1: BIG IDEA 1		
Develop an understanding of and fluency with division of whole numbers.		
Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.5.A.1.In.a Use a grouping strategy to separate (divide) quantities to 50	MA.5.A.1.Su.a Use counting and grouping to separate (divide) quantities to 25 into	MA.5.A.1.Pa.a Separate groups of objects to 4 into sets

Independent	Supported	Participatory
into equal sets using objects, coins, and pictures with numerals. *Date Adopted or Revised*: 09/07	equal sets using objects and pictures with numerals. *Remarks/Examples*: May use cubes, rods, or coins. *Date Adopted or Revised*: 08/08	with the same quantity and recognize how many are in each set. *Date Adopted or Revised*: 08/08
MA.5.A.1.In.b Solve problems that involve multiplying or dividing equal sets with quantities to 50 using objects and pictures with numerals. *Remarks/Examples*: Student may use skip counting to solve problems. *Date Adopted or Revised*: 08/08	MA.5.A.1.Su.b Solve problems that involve combining (multiplying) or separating (dividing) equal sets with quantities to 25 using objects and pictures with numerals. *Remarks/Examples*: May use cubes, rods, or coins. *Date Adopted or Revised*: 08/08	MA.5.A.1.Pa.b Solve simple problems involving joining or separating sets of objects to 5. *Date Adopted or Revised*: 08/08

Big Idea 2: BIG IDEA 2

Develop an understanding of and fluency with addition and subtraction of fractions and decimals.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.5.A.2.In.a Express, represent, and use fractions—including halves, fourths, and thirds—as parts of a whole and as parts of a set, using number names. *Remarks/Examples*: Student may use objects or pictures. Does not require use of fraction numerals. *Date Adopted or Revised*: 08/08	MA.5.A.2.Su.a Express, represent, and use fractions—including halves and fourths—as parts of a whole and as parts of a set, using number names. *Date Adopted or Revised*: 08/08	MA.5.A.2.Pa.a Identify parts of a whole using a set of objects or whole object. *Date Adopted or Revised*: 08/08
MA.5.A.2.In.b Express, represent, and use whole numbers to 100 in various contexts. *Date Adopted or Revised*: 08/08	MA.5.A.2.Su.b Express, represent, and use whole numbers to 30 and ordinal numbers first to fifth in various contexts. *Date Adopted or Revised*: 08/08	MA.5.A.2.Pa.b Distinguish half from whole using objects or visual models. *Date Adopted or Revised*: 08/08
MA.5.A.2.In.c Compare fractional parts of objects of equal size, including halves, fourths, and thirds. *Date Adopted or Revised*: 09/07	MA.5.A.2.Su.c Compare fractional parts of objects of equal size, including halves and fourths. *Date Adopted or Revised*: 08/08	MA.5.A.2.Pa.c Compare sets of objects to 5 and determine if they have same or different quantities. *Date Adopted or Revised*: 08/08
MA.5.A.2.In.d Identify place value of two-	MA.5.A.2.Su.d Apply the concepts of counting and grouping by tens and	

digit numbers to 99 in terms of tens and ones. *Date Adopted or Revised*: 08/08	ones to identify the value of whole numbers to 30. *Date Adopted or Revised*: 08/08	
MA.5.A.2.In.e Compare fractional parts of objects of equal size, including halves, fourths, and thirds. *Date Adopted or Revised*: 09/07		

Big Idea 3: BIG IDEA 3

Describe three-dimensional shapes and analyze their properties, including volume and surface area.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.5.G.3.In.a Identify properties, including number of edges, curved or straight sides, and faces; and match two-dimensional shapes with three-dimensional solids, including circle with sphere, square with cube, and triangle with cone. *Date Adopted or Revised*: 08/08	MA.5.G.3.Su.a Identify properties, including number of edges, curved or straight sides, and number of corners (angles), in two- and three-dimensional shapes. *Date Adopted or Revised*: 08/08	MA.5.G.3.Pa.a Recognize differences in features related to the shape of two- and three-dimensional objects. *Date Adopted or Revised*: 08/08
MA.5.G.3.In.b Identify the six faces of a three-dimensional rectangular prism or cube using a real object or physical model. *Date Adopted or Revised*: 08/08	MA.5.G.3.Su.b Recognize the faces of a three-dimensional object. *Date Adopted or Revised*: 08/08	MA.5.G.3.Pa.b Recognize differences in size of two- and three-dimensional objects. *Date Adopted or Revised*: 08/08

Supporting Idea 4: Algebra

Algebra

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.5.A.4.In.a Use the concept of equality as a strategy to solve problems. *Remarks/Examples*: May use objects or pictures. Concept of equality: If you add or subtract the same number to each side of an equation, the sides remain equal. If you have a balanced seesaw with one child on each side, you must add equal weights to both sides to	MA.5.A.4.Su.a Identify and compare the relationship between two same or different (equal or unequal) sets to 25 using physical and visual models. *Remarks/Examples*: Relationships include more than, fewer than, and same as.	MA.5.A.4.Pa.a Identify items that belong together to form two or more sets with the same quantity (equal). *Date Adopted or Revised*: 08/08

maintain b		
Date Adopted or Revised: 09/07	*Date Adopted or Revised*: 08/08	MA.5.A.4.Pa.b Recognize an object graph or pictograph. *Date Adopted or Revised*: 08/08
MA.5.A.4.In.b Describe the meaning of information in a pictograph or bar graph that shows change over time. *Remarks/Examples*: Students are preparing for a jump rope contest. They want to jump fast, so they practice each day. The graph shows how many times a student can jump rope in a minute on three consecutive days. *Date Adopted or Revised*: 09/07	MA.5.A.4.Su.b Identify information displayed on an object graph or pictograph. *Remarks/Examples*: Graph may reflect change over time. Find out how tall the bean plant grew each week using the pictograph. *Date Adopted or Revised*: 09/07	

Supporting Idea 5: Geometry and Measurement

Geometry and Measurement

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.5.G.5.In.a Indicate the relative position, before or after, of whole numbers on a 0 to 100 number line. *Remarks/Examples*: Relates to map reading. *Date Adopted or Revised*: 08/08	MA.5.G.5.Su.a Indicate the relative position, before or after, of whole numbers on a 1–10 number line. *Remarks/Examples*: Relates to map reading. *Date Adopted or Revised*: 09/07	MA.5.G.5.Pa.a Count from 1 to 5 using objects or pictures. *Date Adopted or Revised*: 08/08
MA.5.G.5.In.b Solve real-world problems involving length and weight using tools with standard units. *Remarks/Examples*: Units include length: feet, inches; weight: pounds. *Date Adopted or Revised*: 08/08	MA.5.G.5.Su.b Solve real-world problems by using tools and comparing the measurement including length and weight. *Remarks/Examples*: Units include length: inches; weight: pounds.. *Date Adopted or Revised*: 08/08	MA.5.G.5.Pa.b Identify differences in features of objects, such as shape and size, to solve simple problems. *Date Adopted or Revised*: 08/08
MA.5.G.5.In.c Identify time to the minute. *Date Adopted or Revised*: 09/07	MA.5.G.5.Su.c Identify time to the hour and half-hour. *Remarks/Examples*: Clocks may be analog or digital. *Date Adopted or Revised*: 09/07	MA.5.G.5.Pa.c Indicate the next activity in a daily schedule. *Date Adopted or Revised*: 08/08
MA.5.G.5.In.d Find the area of rectangles and squares using a visual model, such as a grid.		MA.5.G.5.Pa.d Recognize differences in size of large and small areas. *Date Adopted or Revised*: 08/08

Date Adopted or Revised: 08/08	MA.5.G.5.Su.d Identify the distance around all sides (perimeter) of squares and rectangles. *Date Adopted or Revised*: 08/08 MA.5.G.5.Su.e Compare the size of two square areas using physical models. *Date Adopted or Revised*: 08/08	

Supporting Idea 6: Number and Operations

Number and Operations

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.5.A.6.In.a Use skip counting to identify multiples of 2, 5, and 10 for numbers to 100. *Remarks/Examples*: May use coins, bills, and objects. *Date Adopted or Revised*: 09/07	MA.5.A.6.Su.a Use skip counting by 5s to 30. *Remarks/Examples*: May use coins and objects. *Date Adopted or Revised*: 09/07	MA.5.A.6.Pa.a Demonstrate one-to-one correspondence to count from 1 to 5 using objects or pictures. *Date Adopted or Revised*: 08/08
MA.5.A.6.In.b Use the associative property as a strategy to solve addition problems with three or more numbers. *Date Adopted or Revised*: 08/08	MA.5.A.6.Su.b Use the commutative property as a strategy to check the accuracy of solutions to addition problems. *Date Adopted or Revised*: 08/08	MA.5.A.6.Pa.b Recognize when items have been added to or taken away from sets of objects to 5. *Date Adopted or Revised*: 08/08
MA.5.A.6.In.c Compare and order numbers to 100 using a number line. *Date Adopted or Revised*: 08/08	MA.5.A.6.Su.c Compare and order whole numbers to 30 using objects, pictures, number names, numerals, and a number line. *Date Adopted or Revised*: 08/08	MA.5.A.6.Pa.c Solve simple problems involving small quantities using language, such as more, less, and same. *Date Adopted or Revised*: 08/08
MA.5.A.6.In.d Solve real-world addition and subtraction problems with one-digit numbers by estimating and checking for accuracy. *Remarks/Examples*: Include problems involving money. Student may use a calculator to check for accuracy. *Date Adopted or Revised*: 09/07	MA.5.A.6.Su.d Solve real-world problems involving addition facts with sums to 25 and related subtraction facts using numerals with pictures. *Remarks/Examples*: May include problems involving money. Use the formal algorithm. *Date Adopted or Revised*:	

	08/08	
MA.5.A.6.In.e Select the operation and solve one-step problems involving addition or subtraction of two-digit numbers without regrouping and check for accuracy. _Remarks/Examples_: Strategies for checking accuracy include using objects or pictures, calculators, and applying inverse relationships listed in a table. _Date Adopted or Revised_: 08/08 MA.5.A.6.In.f Solve for an unknown number in addition and subtraction number sentences with numbers to 18. _Remarks/Examples_: 18 - __ = 10 _Date Adopted or Revised_: 08/08		

Supporting Idea 7: Data Analysis

Data Analysis

Access Point for Students with Significant Cognitive Disabilities		
Independent	_Supported_	_Participatory_
MA.5.S.7.In.a Sort and count data into three designated categories, and display data on a pictograph or bar graph. _Remarks/Examples_: Sort pictures of animals into the three categories labeled by type of animal. Arrange the pictures for each category in rows and count how many in each category. _Date Adopted or Revised_: 08/08	MA.5.S.7.Su.a Sort and count objects or pictures into two designated categories and display data in an object graph or pictograph. _Remarks/Examples_: Given a small group of pennies and dimes, sort the coins by denomination and arrange them in rows to make a concrete graph. Count how many of each type of coin. _Date Adopted or Revised_: 08/08	MA.5.S.7.Pa.a Count up to 5 objects, pictures, or symbols in data sets used in object graphs or pictographs. _Remarks/Examples_: Data is shown in a simple pictograph reflecting student choices for lunch or snack. _Date Adopted or Revised_: 09/07
MA.5.S.7.In.b Describe the meaning of data in a three-category pictograph or bar graph. _Remarks/Examples_: Using a bar graph of favorite movies, the student tells what the labels mean and how many are in each category.	MA.5.S.7.Su.b Identify the meaning of data in a two-category object graph or pictograph. _Remarks/Examples_: Using an object graph of pennies and dimes, answer the question: Do you have more pennies or more dimes?	

Date Adopted or Revised: 08/08	Date Adopted or Revised: 09/07	

GRADE: 6

Big Idea 1: BIG IDEA 1		
Develop an understanding of and fluency with multiplication and division of fractions and decimals.		
Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.6.A.1.In.a Express and represent fractions, including halves, fourths, thirds, and eighths, using number names and numerals. *Remarks/Examples*: Represent fractions as parts of sets and parts of a whole. *Date Adopted or Revised*: 09/07 MA.6.A.1.In.b Identify multiplication as repeated addition of equal groups and multiply one-digit numbers using physical and visual models with numerals. *Date Adopted or Revised*: 08/08 MA.6.A.1.In.c Identify division as repeated subtraction of equal groups and divide one-digit numbers using physical and visual models with numerals. *Date Adopted or Revised*: 08/08 MA.6.A.1.In.d Solve real-world problems involving fractions, including halves, fourths, thirds, and eighths. *Remarks/Examples*: Represent fractions as parts of sets and parts of a whole. Student cuts a pizza into slices for eight people so that each piece is one-eighth. *Date Adopted or Revised*: 08/08	MA.6.A.1.Su.a Express, represent, and use fractions, including halves, fourths, and thirds, as parts of a whole and as parts of a set, using number names. *Date Adopted or Revised*: 08/08 MA.6.A.1.Su.b Combine (multiply) equal sets with quantities to 30 using objects and pictures with numerals. *Date Adopted or Revised*: 08/08 MA.6.A.1.Su.c Use counting and grouping to separate (divide) quantities to 30 into sets with the same number using objects or pictures. *Remarks/Examples*: May use coins and objects. *Date Adopted or Revised*: 08/08 MA.6.A.1.Su.d Solve real-world problems involving fractions, including halves, fourths, and thirds using real objects or physical models. *Remarks/Examples*: May use objects, coins, or manipulatives. *Date Adopted or Revised*: 08/08	MA.6.A.1.Pa.a Recognize part (half) of sets of objects to 4. *Date Adopted or Revised*: 08/08 MA.6.A.1.Pa.b Solve simple problems involving joining and separating parts of a set or parts of a whole. *Date Adopted or Revised*: 08/08

Big Idea 2: BIG IDEA 2

Connect ratio and rates to multiplication and division.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.6.A.2.In.a Identify the meaning of common uses of ratio, such as equivalent fractions and mixtures. *Remarks/Examples*: Use everyday examples to show relationship of one quantity to another, such as players to team, teacher to students, or days to week. *Date Adopted or Revised*: 08/08	MA.6.A.2.Su.a Recognize the meaning of a simple ratio, such as 2 to 1. *Remarks/Examples*: Use everyday examples to show the relationship of one quantity to another, such as cookies to plates, or wheels to bicycle. *Date Adopted or Revised*: 08/08	MA.6.A.2.Pa.a Recognize differences in quantity in two sets of objects to 6. *Date Adopted or Revised*: 08/08 MA.6.A.2.Pa.b Recognize changes in rates of movement (fast and slow). *Date Adopted or Revised*: 08/08
MA.6.A.2.In.b Identify two meanings of rate: a measure of speed, including miles per hour and words per minute; and a measure of cost, including price per gallon and cost per pound. *Date Adopted or Revised*: 09/07	MA.6.A.2.Su.b Identify one meaning of rate, including how fast something moves or happens. *Remarks/Examples*: Which moves faster, a car or a person? Who reads faster, a first grade student or a teacher? *Date Adopted or Revised*: 08/08	

Big Idea 3: BIG IDEA 3

Write, interpret, and use mathematical expressions and equations.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.6.A.3.In.a Write and solve number sentences (equations) that correspond to real-world problem situations involving addition and subtraction with two-digit numbers. *Remarks/Examples*: Student may use a calculator. At the grocery store, you buy two pears at $.59 each and one mango that costs $.89. How much does the fruit cost? Write out the problem in a number sentence and solve using the calculator.	MA.6.A.3.Su.a Write and solve number sentences (equations) that correspond to real-world problem situations involving addition and subtraction with one-digit numbers. *Remarks/Examples*: Student may use a calculator or a number line. James has 7 cousins who are girls and 5 cousins who are boys. How many cousins does he have altogether? 7 + 5 = 12 *Date Adopted or Revised*:	MA.6.A.3.Pa.a Solve simple problems involving small quantities using language, such as more, less, same, and none. *Date Adopted or Revised*: 08/08 MA.6.A.3.Pa.b Identify quantity in sets of objects to 6 and add 1 more. *Date Adopted or Revised*:

Date Adopted or Revised: 09/07	09/07	08/08
MA.6.A.3.In.b Use models and diagrams to solve problems with inequalities, including the > and < signs. *Remarks/Examples*: Number lines may be used to model inequalities. Classify the fossils of sea animals and fossils of plant life. Use > or < to write a number sentence to compare the two groups of fossils. Answer: If there are 4 sea animal fossils and 3 plant life fossils. *Date Adopted or Revised*: 09/07	MA.6.A.3.Su.b Use physical models and diagrams to solve problems with inequalities, including the terms more than and less than. *Remarks/Examples*: Problems involve comparing numbers, not number sentences. Student may use a number line. Compare the number of people in line to see the shark movie with the number of people in line to see the football movie. *Date Adopted or Revised*: 09/07	MA.6.A.3.Pa.c Determine if the quantity in two sets of objects to 6 is the same or different. *Date Adopted or Revised*: 08/08 MA.6.A.3.Pa.d Determine if the quantity in two sets of objects to 6 is the same or different. *Date Adopted or Revised*: 08/08
MA.6.A.3.In.c Identify function rules with addition and subtraction of one-digit numbers represented in number pairs, such as +5, -4 or +3. *Date Adopted or Revised*: 08/08 MA.6.A.3.In.d Use the Commutative and Associative Properties of addition to show that two number sentences (equations) are equal. *Remarks/Examples*: Does not require use of mathematical terminology. Commutative: 2+3 = 5, 3+2 = 5 Associative: 3 + (6+4) = 13, (3+6) + 4 = 13 *Date Adopted or Revised*: 09/07	MA.6.A.3.Su.c Identify function rules of 1 more and 1 less represented in number pairs, such as 5 is 1 more than 4 and 3 is 1 less than 4. *Remarks/Examples*: Use one-digit numbers. Fill in the missing answers. *Date Adopted or Revised*: 08/08 MA.6.A.3.Su.d Use information from physical models, diagrams, tables, and pictographs to solve number sentences (equations) involving addition and subtraction with one-digit numbers. *Date Adopted or Revised*: 09/07	
MA.6.A.3.In.e Solve addition and subtraction number sentences (equations) using information from physical models, diagrams, and tables. *Remarks/Examples*: Team Wins and Losses chart) How many more games did the Cowboys win than the Raiders? Make a number sentence and solve the problem. (37 - 30 = 7) insert original graphic with chart Team Wins Losses Cowboys 37 3 Raiders 30 10	MA.6.A.3.Su.e Use the Commutative Property of addition to show that two number sentences represented by physical and visual models are equal. *Remarks/Examples*: Does not require use of mathematical terminology. Commutative: 2+3 = 5, 3+2 = 5 State if the equation is equal or not equal: 6 + 3 = 3 + 6 Equal 6 + 3 = 2 + 6 Not Equal *Date Adopted or Revised*: 08/08	

Team	Wins	Losses
Cowboys	37	3
Raiders	30	10

Date Adopted or Revised: 09/07		

Supporting Idea 4: Geometry and Measurement

Geometry and Measurement

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.6.G.4.In.a Compare the distance around the outside of circles (circumference) and areas using physical or visual models. *Remarks/Examples*: Student lines up examples of circles and visually determines which circle has the largest circumference. *Date Adopted or Revised*: 08/08 MA.6.G.4.In.b Measure the distance around all sides (perimeter) of polygons, such as squares, triangles, rectangles, and hexagons and compare the areas using physical or visual models. *Remarks/Examples*: Use feet and inches. *Date Adopted or Revised*: 08/08 MA.6.G.4.In.c Measure capacity using cups, pints, quarts, and gallons. *Date Adopted or Revised*: 08/08	MA.6.G.4.Su.a Identify the distance around the outside of circles (circumference) and compare areas of circles using physical models. *Date Adopted or Revised*: 08/08 MA.6.G.4.Su.b Measure the lengths of sides of rectangles and triangles and compare the areas of rectangular and square shapes using physical models. *Remarks/Examples*: Relates to perimeter and area. Measure by whole inches or feet. *Date Adopted or Revised*: 08/08 MA.6.G.4.Su.c Measure capacity using cups. *Date Adopted or Revised*: 08/08	MA.6.G.4.Pa.a Recognize the outside (circumference) and inside (area) of a circle. *Date Adopted or Revised*: 08/08 MA.6.G.4.Pa.b Recognize the outside (perimeter) and inside (area) of rectangles and triangles. *Date Adopted or Revised*: 08/08

Supporting Idea 5: Number and Operations

Number and Operations

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.6.A.5.In.a Express, represent, and use whole numbers to 200 in various contexts. *Remarks/Examples*: Use numerals, pictures, objects, and money	MA.6.A.5.Su.a Express, represent, and use whole numbers to 50 using objects, pictures, number names, and numerals, in various contexts.	MA.6.A.5.Pa.a Match two or more objects to identical objects to 6 using one-to-one correspondence.

including coins and bills. *Date Adopted or Revised*: 08/08 MA.6.A.5.In.b Identify the value of money to $2.00 expressed as a decimal. *Remarks/Examples*: $.75 is 75 cents. $.60 is 60 cents. *Date Adopted or Revised*: 08/08 MA.6.A.5.In.c Compare fractional parts of the same size objects or sets, including halves, fourths, thirds, and eighths. *Date Adopted or Revised*: 08/08 MA.6.A.5.In.d Solve two-step real-world problems involving addition and subtraction of two-digit numbers and check for accuracy using the reverse operation. *Remarks/Examples*: Student may use a calculator. *Date Adopted or Revised*: 08/08 MA.6.A.5.In.e Use a grouping strategy or place value to round to the nearest ten to determine a reasonable estimate in problem situations involving whole numbers to 100, and check for accuracy. *Date Adopted or Revised*: 08/08	*Date Adopted or Revised*: 08/08 MA.6.A.5.Su.b Identify the value of coins to $.50 expressed as a decimal. *Date Adopted or Revised*: 08/08 MA.6.A.5.Su.c Compare and order whole numbers to 50 using objects, pictures, number names, and numerals. *Date Adopted or Revised*: 08/08 MA.6.A.5.Su.d Solve real-world problems involving addition and subtraction with sums to 50 using strategies such as representing and grouping objects or tallies. *Date Adopted or Revised*: 08/08 MA.6.A.5.Su.e Apply the concepts of counting and grouping to identify the value of whole numbers to 50. *Remarks/Examples*: May use objects, coins, manipulatives, or a number line. *Date Adopted or Revised*: 08/08	*Date Adopted or Revised*: 08/08 MA.6.A.5.Pa.b Compare the size of parts of objects to the whole to determine which is the largest or smallest. *Date Adopted or Revised*: 08/08 MA.6.A.5.Pa.c Solve simple problems involving joining or separating sets of objects to 6. *Date Adopted or Revised*: 08/08

Supporting Idea 6: Data Analysis		
Data Analysis		
Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.6.S.6.In.a Identify the categories with the largest and smallest numbers represented on a bar graph. *Remarks/Examples*: Relates to range. *Date Adopted or Revised*:	MA.6.S.6.Su.a Identify the category with the largest number in a pictograph representing real-world situations. *Date Adopted or Revised*: 08/08	MA.6.S.6.Pa.a Identify the largest set of objects, pictures, or symbols to 6 representing data in an object graph or pictograph. *Date Adopted or Revised*: 08/08

08/08		
		MA.6.S.6.Pa.b Identify the largest set of objects, pictures, or symbols to 6 representing data in an object graph or pictograph. *Date Adopted or Revised*: 08/08

GRADE: 7

Big Idea 1: BIG IDEA 1		
Develop an understanding of and apply proportionality, including similarity.		
Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.7.A.1.In.a Solve real-world problems involving simple ratios, such as 2 to 1 or 1 to 3, using physical models, graphic representations, and charts. *Remarks/Examples*: If each guest gets 2 drinks, how many do we need to buy for 6 guests? *Date Adopted or Revised*: 08/08	MA.7.A.1.Su.a Solve real-world problems involving simple ratios, such as 2 to 1, using objects or pictures. *Remarks/Examples*: Simple ratios have one quantity as 1 and the other no more than 10, such as 1:2 or 3:1. If each student gets 2 books, how many books do we need for 4 students? *Date Adopted or Revised*: 08/08	MA.7.A.1.Pa.a Solve a simple problem involving a 2 to 1 ratio using objects. *Date Adopted or Revised*: 08/08
MA.7.A.1.In.b Identify that a higher percent represents a larger quantity or amount in real-world problems. *Remarks/Examples*: Use problems involving money, such as the larger the percent discount, the more money saved. *Date Adopted or Revised*: 09/07	MA.7.A.1.Su.b Identify that percent discounts reduce the price of goods in real-world situations. *Date Adopted or Revised*: 09/07	MA.7.A.1.Pa.b Match objects to a model or picture that is a smaller version. *Date Adopted or Revised*: 08/08
MA.7.A.1.In.c Measure and describe how various kinds of models compare in size to real-life objects. *Remarks/Examples*: Relates to proportionality, but does not require calculations. Student uses observation to compare, such as same size or twice as big. *Date Adopted or Revised*: 08/08	MA.7.A.1.Su.c Compare the size of models to real-life objects using language, such as same, larger, and smaller. *Remarks/Examples*: Relates to proportionality, but does not require calculations. *Date Adopted or Revised*: 09/07	

Big Idea 2: BIG IDEA 2

Develop an understanding of and use formulas to determine surface areas and volumes of three-dimensional shapes.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.7.G.2.In.a Identify properties of three-dimensional figures, including pyramid, prism, or cylinder. *Date Adopted or Revised*: 08/08	MA.7.G.2.Su.a Identify three-dimensional figures, including cone, pyramid, prism, and cylinder. *Date Adopted or Revised*: 08/08	MA.7.G.2.Pa.a Recognize common three-dimensional figures, such as sphere, cube, cylinder, or cone. *Date Adopted or Revised*: 08/08
MA.7.G.2.In.b Use stated formulas to solve for perimeter and area of rectangles. *Remarks/Examples*: 2 x length + 2 x width = perimeter, and length x width = area. Sides should be no longer than 9 units. Student may use a calculator. *Date Adopted or Revised*: 09/07	MA.7.G.2.Su.b Add lengths of sides of rectangles to determine the distance around (perimeter) and find the area using square units. *Remarks/Examples*: Perimeter = length + length + width + width. Sides should be no longer than 9 inches. Student may use a calculator. *Date Adopted or Revised*: 08/08	MA.7.G.2.Pa.b Match common three-dimensional figures that are the same size. *Date Adopted or Revised*: 08/08

Big Idea 3: BIG IDEA 3

Develop an understanding of operations on all rational numbers and solving linear equations.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.7.A.3.In.a Solve number sentences (equations) involving addition and subtraction of numbers to 500 . *Remarks/Examples*: Student may use a calculator. *Date Adopted or Revised*: 09/07	MA.7.A.3.Su.a Add and subtract one-digit and two-digit number sentences (equations). *Remarks/Examples*: Student may use a calculator. *Date Adopted or Revised*: 09/07	MA.7.A.3.Pa.a Solve simple problems involving joining or separating sets of objects to 7. *Date Adopted or Revised*: 08/08 MA.7.A.3.Pa.b Solve simple problems involving small quantities using language, such as more, less, same, larger, smaller, and none. *Date Adopted or Revised*: 08/08
MA.7.A.3.In.b Solve number sentences involving multiplication and division facts. *Date Adopted or Revised*: 08/08	MA.7.A.3.Su.b Solve problems that involve combining (multiplying) or separating (dividing) equal sets with quantities to 50 using objects and pictures with numerals.	

	Remarks/Examples: May use objects, coins, or manipulatives. Date Adopted or Revised: 08/08	
MA.7.A.3.In.c Translate real-world problem situations into number sentences (equations) involving addition and subtraction of two-digit numbers using a problem solving strategy. Remarks/Examples: Student may use a calculator. Problem solving strategies may include locating key information, identifying the facts, and deciding what to find out. Date Adopted or Revised: 08/08	MA.7.A.3.Su.c Write and solve number sentences (equations) that correspond to real-world problem situations involving addition and subtraction with one-digit and two-digit numbers. Remarks/Examples: Student may use a calculator or a number line. Date Adopted or Revised: 08/08	
MA.7.A.3.In.d Use the property of equality as a strategy to solve real-world problems. Remarks/Examples: Property of equality: If you add or subtract the same number to each side of an equation, the sides remain equal. Student may use objects or pictures. The class is decorating the two bulletin boards. They want them to look balanced. They put 14 pictures o Date Adopted or Revised: 09/07	MA.7.A.3.Su.d Use physical models to solve simple problems to demonstrate the concept of equality. Remarks/Examples: Use a balance scale with same amount on both sides. Date Adopted or Revised: 08/08	

Supporting Idea 4: Geometry and Measurement

Geometry and Measurement

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.7.G.4.In.a Identify the effects of changes in the lengths of sides of rectangles on the perimeter and area using physical and visual models. Remarks/Examples: If the length of the sides of a square increases, then the perimeter and the area increase. Date Adopted or Revised: 09/07	MA.7.G.4.Su.a Recognize that changes in the lengths of sides of rectangles will make the figure or object smaller or larger. Date Adopted or Revised: 09/07	MA.7.G.4.Pa.a Match two- and three-dimensional objects with the same shape but different size. Date Adopted or Revised: 08/08
MA.7.G.4.In.b Identify examples of slides (translations), turns (rotations), and flips (reflections) of geometric figures using	MA.7.G.4.Su.b Match identical (congruent) geometric figures in different positions, including flips (reflections) and turns (rotations). Date Adopted or Revised: 08/08	MA.7.G.4.Pa.b Recognize objects that have been turned (rotated). Date Adopted or Revised: 08/08 MA.7.G.4.Pa.c Solve problems

Independent	Supported	Participatory
pictures and objects. *Remarks/Examples*: Does not require use of mathematical terminology. *Date Adopted or Revised*: 08/08	MA.7.G.4.Su.c Recognize a common use of a coordinate plane, such as a map. *Date Adopted or Revised*: 08/08	using directional or positional language, such as up, down, left, right, and next to. *Date Adopted or Revised*: 08/08
MA.7.G.4.In.c Identify common uses of a coordinate plane, such as a map or line graph. *Date Adopted or Revised*: 08/08	MA.7.G.4.Su.d Use tools, such as a chart, to identify the number of cups in a pint and quart to convert measures of capacity. *Remarks/Examples*: Conversion tools may include pocket charts or tables. *Date Adopted or Revised*: 08/08	MA.7.G.4.Pa.d Identify similarities and differences in features of objects, such as shape and size. *Date Adopted or Revised*: 08/08
MA.7.G.4.In.d Use tools, such as charts and technology, to convert measures of capacity including cups, pints, quarts, and gallons. *Remarks/Examples*: Conversion tools may include pocket charts or tables. *Date Adopted or Revised*: 08/08		

Supporting Idea 5: Number and Operations

Number and Operations

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.7.A.5.In.a Express, represent, and use percents, including 50% and 100%, and decimals in the context of money to $5.00 or more. *Date Adopted or Revised*: 08/08	MA.7.A.5.Su.a Identify the value of money to $1.00 written as a decimal. *Remarks/Examples*: A quarter is $.25. A dime is $.10. *Date Adopted or Revised*: 08/08	MA.7.A.5.Pa.a Express and use quantities 1 to 7 using objects, pictures, symbols, or number names. *Date Adopted or Revised*: 08/08
MA.7.A.5.In.b Solve problems using a grouping strategy or place value to round whole numbers to 500 to the nearest ten or hundred to determine a reasonable estimate in problem situations, and check for accuracy. *Remarks/Examples*: Includes rounding up to the next dollar. *Date Adopted or Revised*: 08/08	MA.7.A.5.Su.b Solve problems by counting and grouping to create sets of tens and ones to identify the value of whole numbers to 100. *Remarks/Examples*: Objects may include coins or manipulatives. *Date Adopted or Revised*: 08/08	MA.7.A.5.Pa.b Solve problems by joining or separating sets of objects or pictures with quantities to 7. *Date Adopted or Revised*: 08/08

Supporting Idea 6: Data Analysis

Data Analysis

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.7.S.6.In.a Use data from a part of a group (sample) to make predictions regarding the whole group. <u>*Remarks/Examples*</u>: There are ten students in the class. You ask five students if they like pizza and all five of them do. You predict that most of the students in the class will like pizza. <u>*Date Adopted or Revised*</u>: 08/08 MA.7.S.6.In.b Use bar graphs to display data and describe the meaning of the data. <u>*Date Adopted or Revised*</u>: 08/08	MA.7.S.6.Su.a Compare data shown in a pictograph with three categories and describe which categories have the largest, smallest, or the same amount. <u>*Date Adopted or Revised*</u>: 08/08 MA.7.S.6.Su.b Use pictographs to display data in labeled categories and identify the number in each category. <u>*Date Adopted or Revised*</u>: 08/08	MA.7.S.6.Pa.a Count the objects, pictures, or symbols used in a pictograph or chart and identify total to 7 or more. <u>*Date Adopted or Revised*</u>: 08/08

Supporting Idea 7: Probability

Probability

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.7.P.7.In.a Predict the likely outcome of a simple experiment and conduct the experiment to determine if prediction was correct. <u>*Date Adopted or Revised*</u>: 09/07	MA.7.P.7.Su.a Predict the likely outcome of a simple experiment by selecting from two choices and check to see if the prediction was correct. <u>*Date Adopted or Revised*</u>: 09/07	MA.7.P.7.Pa.a Recognize a common cause-effect relationship. <u>*Date Adopted or Revised*</u>: 08/08

GRADE: 8

Big Idea 1: BIG IDEA 1

Analyze and represent linear functions, and solve linear equations and systems of linear equations.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*

MA.8.A.1.In.a Use information from physical models, diagrams, tables, and graphs to solve addition, subtraction, multiplication, and division number sentences (equations) based on real-world problems. *Remarks/Examples*: Include addition and subtraction of two-digit numbers and multiplication and division facts. Student may use a calculator. *Date Adopted or Revised*: 09/07 MA.8.A.1.In.b Identify the relationship between two sets of related data, such as ordered number pairs in a table. *Remarks/Examples*: Tell how each pair of numbers is related (the second number is 5 less than first). *Date Adopted or Revised*: 09/07 MA.8.A.1.In.c Translate problem situations into number sentences (equations) involving addition and subtraction of two-digit numbers and multiplication and division facts using information from physical and visual models, tables, and pictographs. *Remarks/Examples*: Student may use a calculator. Problem solving strategies may include locating key information, identifying the facts, and determining what to find out. *Date Adopted or Revised*: 08/08	MA.8.A.1.Su.a Use information from physical models, diagrams, tables, and pictographs to solve number sentences (equations) involving addition and subtraction with one-digit and two-digit numbers. *Remarks/Examples*: Using a table showing three types of shoes worn by students (sneakers, flip flops, loafers), the student determines how many more students wear the favorite type by solving a given subtraction number sentence. *Date Adopted or Revised*: 08/08 MA.8.A.1.Su.b Describe the relationship (1 more or 1 less) between two sets of related numbers. *Date Adopted or Revised*: 09/07 MA.8.A.1.Su.c Translate real-world situations into number sentences (equations) involving addition and subtraction using information from physical and visual models, tables, and pictographs. *Remarks/Examples*: Using information from a table of types of pants worn by all students in the class, the student creates a number sentence to determine the total in two categories (jeans + khakis = ?). *Date Adopted or Revised*: 09/07	MA.8.A.1.Pa.a Solve simple real-world problems involving quantities using language, such as number names, more, less, same, larger, smaller, and none. *Date Adopted or Revised*: 08/08 MA.8.A.1.Pa.b Solve simple problems involving joining or separating sets of objects or pictures to 8. *Remarks/Examples*: Use everyday examples, such as items on a food tray (cup, plate, spoon) and actions taken to complete an activity (looking at a book, pointing to a picture, turning to the next page). *Date Adopted or Revised*: 08/08 MA.8.A.1.Pa.c Distinguish between the position of two objects, such as first and next. *Date Adopted or Revised*: 08/08

Big Idea 2: BIG IDEA 2

Analyze two- and three-dimensional figures by using distance and angle.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.8.G.2.In.a Identify triangles that are the same shape but different size (similar) using physical and visual models. *Remarks/Examples*: Relates to use of triangles in	MA.8.G.2.Su.a Match triangles that are the same shape but different size (similar) using physical models. *Remarks/Examples*: Relates to use of triangles in Pythagorean Theorem.	MA.8.G.2.Pa.a Recognize a triangle. *Date Adopted or Revised*: 08/08

Pythagorean Theorem. *Date Adopted or Revised*: 09/07	*Date Adopted or Revised*: 09/07	MA.8.G.2.Pa.b Recognize corners and angles in two-dimensional shapes, including rectangles and triangles. *Date Adopted or Revised*: 08/08
MA.8.G.2.In.b Form intersecting lines and identify the angles as acute, obtuse, or right angles by matching to a model. *Remarks/Examples*: Acute is less than a right angle (90°). Obtuse is more than a right angle. *Date Adopted or Revised*: 08/08	MA.8.G.2.Su.b Identify angles formed by lines that cross (intersecting lines). *Remarks/Examples*: Student points to the angles in a drawing or picture of intersecting lines. *Date Adopted or Revised*: 09/07	MA.8.G.2.Pa.c Recognize the longest side (hypotenuse) of a right triangle. *Date Adopted or Revised*: 08/08
MA.8.G.2.In.c Distinguish angles within triangles as acute, obtuse, or right angles using a right angle as a model. *Date Adopted or Revised*: 08/08	MA.8.G.2.Su.c Identify the angles within a triangle. *Date Adopted or Revised*: 08/08	
MA.8.G.2.In.d Locate the right angle and the side opposite the right angle (hypotenuse) in a right triangle. *Remarks/Examples*: Student may use a protractor to measure the right angle. Find a ramp and a right angle in a building. *Date Adopted or Revised*: 08/08	MA.8.G.2.Su.d Locate the right angle within a right triangle. *Remarks/Examples*: Student may use a physical model to check. *Date Adopted or Revised*: 08/08	

Big Idea 3: BIG IDEA 3

Analyze and summarize data sets.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.8.S.3.In.a Organize data into categories, identify the labels, and display in bar and simple line graphs. *Date Adopted or Revised*: 09/07	MA.8.S.3.Su.a Organize data in pictographs and match the labels for categories. *Date Adopted or Revised*: 09/07	MA.8.S.3.Pa.a Count the objects, pictures, or symbols used in a pictograph or chart and identify a total to 8. *Date Adopted or Revised*: 08/08
MA.8.S.3.In.b Determine the largest and smallest numbers in a set of data, the number that occurs most often (mode), and the number in the middle (median) of a set of data with up to 9 numbers. *Remarks/Examples*:	MA.8.S.3.Su.b Identify the number that occurs most frequently (mode) in a set of data with up to 5 numbers. *Remarks/Examples*: Relates to calculating one	

Relates to calculating the range and measures of central tendency. Does not require use of mathematical terminology. *Date Adopted or Revised*: 09/07	measure of central tendency. Does not require use of mathematical terminology. *Date Adopted or Revised*: 09/07	

Supporting Idea 4: Algebra

Algebra

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.8.A.4.In.a Identify the meaning of the variables in stated formulas (literal equations) to solve problems involving area and perimeter. *Remarks/Examples*: Use the formulas Area = Length x Width, and Perimeter = 2 Length + 2 Width. *Date Adopted or Revised*: 09/07	MA.8.A.4.Su.a Demonstrate how to determine the total length of all the sides (perimeter) of figures, such as rectangles, to solve problems. *Remarks/Examples*: Sides should be no longer than 10 inches. Does not require use of mathematical terminology. *Date Adopted or Revised*: 09/07	MA.8.A.4.Pa.a Identify a given quantity to 7 and add 1 more to solve problems. *Date Adopted or Revised*: 09/07 MA.8.A.4.Pa.b Identify a given quantity to 8 and take away 1 to solve problems. *Date Adopted or Revised*: 09/07
MA.8.A.4.In.b Translate real-world problem situations into number sentences (equations and inequalities) involving addition, subtraction, and multiplication using visual models, tables, and graphs. *Remarks/Examples*: Student may use a calculator. *Date Adopted or Revised*: 09/07	MA.8.A.4.Su.b Translate real-world problem situations into number sentences (equations) involving addition and subtraction of one-digit and two-digit numbers using physical and visual models and tables. *Remarks/Examples*: Student may use a calculator. *Date Adopted or Revised*: 09/07	

Supporting Idea 5: Geometry and Measurement

Geometry and Measurement

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.8.G.5.In.a Use tools, such as charts and technology, to convert measures within the same system, including money, length, time, and capacity. *Remarks/Examples*: Conversion tools may include pocket charts, tables in books, or electronic tools.	MA.8.G.5.Su.a Use tools, such as charts, to identify standard units of measurement for length, weight, capacity, and time. *Remarks/Examples*: Units include length: foot and inch; weight: pounds; capacity: cups.	MA.8.G.5.Pa.a Recognize tools used for measurement, such as clocks, calendars, and rulers. *Date Adopted or Revised*: 08/08

Date Adopted or Revised: 09/07	*Date Adopted or Revised*: 08/08	

Supporting Idea 6: Number and Operations

Number and Operations

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.8.A.6.In.a Express, represent, and use whole numbers to 1000 in various contexts. *Date Adopted or Revised*: 08/08 MA.8.A.6.In.b Use a grouping strategy or place value to round whole numbers to 1000 to the nearest ten or hundred to determine a reasonable estimate in problem situations, and check for accuracy. *Date Adopted or Revised*: 08/08 MA.8.A.6.In.c Express, represent, and use fractions—including halves, fourths, thirds, eighths, and sixths—using whole objects or sets, number names, and numerals in various contexts. *Date Adopted or Revised*: 08/08 MA.8.A.6.In.d Express, represent, and use percents—including 25%, 50%, 75%, and 100%—and decimals in the context of money. *Date Adopted or Revised*: 08/08	MA.8.A.6.Su.a Express, represent, and use whole numbers to 100 in various contexts. *Remarks/Examples*: Use objects, pictures, number names, and numerals. *Date Adopted or Revised*: 08/08 MA.8.A.6.Su.b Use counting, grouping, and place value to identify the value of whole numbers to 100. *Remarks/Examples*: Use objects, coins, or manipulatives. *Date Adopted or Revised*: 08/08 MA.8.A.6.Su.c Express, represent, and use fractions—such as halves, fourths, and thirds—using whole objects or sets, pictures, number names, and numerals in various contexts. *Remarks/Examples*: Include comparing and ordering. *Date Adopted or Revised*: 08/08 MA.8.A.6.Su.d Identify percents including 50% and 100%. *Remarks/Examples*: A quarter is $.25. A dime is $.10. A dollar is $1.00. *Date Adopted or Revised*: 08/08	MA.8.A.6.Pa.a Identify quantity in sets to 8 using objects, pictures, symbols, or number names. *Date Adopted or Revised*: 08/08 MA.8.A.6.Pa.b Demonstrate one-to-one correspondence by counting objects or actions to 8. *Date Adopted or Revised*: 08/08 MA.8.A.6.Pa.c Recognize half and whole sets of objects to 8. *Date Adopted or Revised*: 08/08

GRADE: 912

<table>
<tr><td colspan="3" style="background:blue;color:white">Body of Knowledge: ALGEBRA</td></tr>
<tr><td colspan="3">Standard 1: Real and Complex Number Systems

Expand and deepen understanding of real and complex numbers by comparing expressions and performing arithmetic computations, especially those involving square roots and exponents. Use the properties of real numbers to simplify algebraic expressions and equations, and convert between different measurement units using dimensional analysis.</td></tr>
<tr><td colspan="3" align="center">Access Point for Students with Significant Cognitive Disabilities</td></tr>
<tr><td align="center">Independent</td><td align="center">Supported</td><td align="center">Participatory</td></tr>
</table>

Independent	Supported	Participatory
MA.912.A.1.In.a Identify and use equivalent forms of fractions, such as halves, fourths, thirds, sixths, eighths, tenths, and sixteenths; decimals to the hundredths place; and percents, such as 25%, 50%, 75%, 100%, 33%, and 67%, using visual and numerical representation _Remarks/Examples_: Decimals may include application for money and weight on digital scales. _Date Adopted or Revised_: 09/07	MA.912.A.1.Su.a Identify equivalent forms of fractions, such as halves, thirds, and fourths; percents, such as 50%, 33%, and 25%; and decimals in the context of money, using visual and numerical representation in real-world situations. _Remarks/Examples_: 1/2 dollar is the same as 2 quarters or $.50; 2/4 of a pizza is the same as 1/2. _Date Adopted or Revised_: 09/07	MA.912.A.1.Pa.a Identify and express quantity in sets to 10 using objects, pictures, symbols, or number names. _Date Adopted or Revised_: 08/08 MA.912.A.1.Pa.b Recognize half and whole sets of objects to 10. _Remarks/Examples_: _Date Adopted or Revised_: 08/08
MA.912.A.1.In.b Identify examples of positive and negative whole numbers in real-world situations. _Remarks/Examples_: Temperatures above and below zero, positive and negative balances in checking accounts _Date Adopted or Revised_: 09/07	MA.912.A.1.Su.b Identify the value of numbers to 5 with the exponent 2 using physical and visual models. _Remarks/Examples_: Models may include a grid. 42 = 4 by 4 = 16 _Date Adopted or Revised_: 09/07	MA.912.A.1.Pa.c Demonstrate one-to-one correspondence by counting objects or actions to 10. _Remarks/Examples_: _Date Adopted or Revised_: 08/08
MA.912.A.1.In.c Determine the value of numbers to 10 with the exponents 2 and 3, such as 42 and 33, using physical and visual patterns. _Date Adopted or Revised_: 09/07	MA.912.A.1.Su.c Compare and order whole numbers, fractions, including halves, fourths, thirds, and sixths; and decimals including .25, .50, .75, 1.00, in real-world situations. _Remarks/Examples_: 1/3 is more than 1/4. .50 is less than .75; 3.5 pounds is more than 3 pounds. _Date Adopted or Revised_: 08/08	MA.912.A.1.Pa.d Identify a given quantity to 9 and add 1 more to solve problems. _Date Adopted or Revised_: 08/08
MA.912.A.1.In.d Compare and order numbers, including whole numbers, fractions, decimals, and percents, expressed in the same form to solve problems in real-world situations. _Remarks/Examples_: Order prices of goods, $.50, $.25, $.75,	MA.912.A.1.Su.d Simplify whole numbers to 100 using place value and grouping with visual representation. _Remarks/Examples_:	MA.912.A.1.Pa.e Identify a given quantity to 10 and take away 1 to solve

and $.10 from smallest to largest and select the price nearest $1.00 *Date Adopted or Revised*: 09/07 MA.912.A.1.In.e Simplify fractions and decimals by reducing to lowest terms. *Remarks/Examples*: Fractions include halves, fourths, thirds, sixths, eighths, tenths, and sixteenths. Mixed numbers are not included. Simplify 2/4 to 1/2 and .50 to .5. *Date Adopted or Revised*: 09/07 MA.912.A.1.In.f Simplify fractions greater than 1, such as 8/4, by using division facts. *Remarks/Examples*: Improper fractions are limited to values of whole numbers and do not include mixed numbers. *Date Adopted or Revised*: 08/08 MA.912.A.1.In.g Select the operation and solve two-step mathematical problems involving addition, subtraction, multiplication, and division of two- and three-digit numbers in real-world situations using problem-solving strategies, such as recognizing symbols and key info *Remarks/Examples*: Student may use a calculator. Real-world situations may involve money, time, and measurement. *Date Adopted or Revised*: 09/07 MA.912.A.1.In.h Use tools, including charts and technology, to convert standard units of measurement within the same system, such as money, length, capacity, time, and weight. *Remarks/Examples*: Standard units may include money: coins and bills; time: minutes, hours, days, weeks, and months; length: yards, feet, and inches; capacity: cups, pints, quarts, and gallons; weight: pounds and ounces.	Use a hundreds chart to identify tens and ones. Make tally marks and circle each group of ten to show the amount in the tens place. *Date Adopted or Revised*: 09/07 MA.912.A.1.Su.e Use repeated addition of the same number to solve one-digit multiplication facts and repeated subtraction of the same number to solve one-digit division facts in real-world situations. *Date Adopted or Revised*: 08/08 MA.912.A.1.Su.f Select the operation and solve one-step mathematical problems involving addition and subtraction of one-digit and two-digit numbers in real-world situations using physical and visual representations and problem-solving strategies, such as recognizing key *Remarks/Examples*: Student may use a calculator. Real-world situations may involve money, time, and measurement. *Date Adopted or Revised*: 08/08 MA.912.A.1.Su.g Use tools, such as simple charts and technology, to convert standard units of measurement within the same system, such as money, length, and capacity. *Remarks/Examples*: Standard units may include money: coins and bills; length: yards, feet, and inches; capacity: cups, quarts, and gallons. *Date Adopted or Revised*: 08/08	problems. *Date Adopted or Revised*: 08/08 MA.912.A.1.Pa.f Identify tools used for measurement, such as clocks, calendars, rulers, or gallon containers. *Date Adopted or Revised*: 08/08

Date Adopted or Revised: 09/07		

Standard 2: Relations and Functions		
Draw and interpret graphs of relations. Understand the notation and concept of a function, find domains and ranges, and link equations to functions.		
Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.A.2.In.a Organize data from real-world situations into categories, identify the labels, and display in simple bar, line, and circle graphs. *Date Adopted or Revised*: 08/08	MA.912.A.2.Su.a Organize data from real-world situations into categories, identify the labels, and display in pictographs and bar graphs. *Date Adopted or Revised*: 09/07	MA.912.A.2.Pa.a Count objects, pictures, or symbols used in a pictograph or chart and identify total to 10. *Date Adopted or Revised*: 08/08
MA.912.A.2.In.b Interpret simple bar, line, and circle graphs representing data from real-world situations. *Remarks/Examples*: Use information in a line graph to determine how much the price of movie tickets has increased in the last 20 years. Use information displayed in a circle graph to determine which activity takes the least time: homework, sleeping, school, or recreation. *Date Adopted or Revised*: 09/07	MA.912.A.2.Su.b Identify which categories have the largest, smallest, or the same amount in pictographs and bar graphs representing real-world situations. *Date Adopted or Revised*: 09/07 MA.912.A.2.Su.c Identify number patterns and relationships using physical and visual models representing real-world situations. *Remarks/Examples*: You sell one necklace for $10. What would you get if you sell two necklaces, three necklaces, and four necklaces? Read the price tag for each necklace and count by tens to find the total.	MA.912.A.2.Pa.b Compare sets to 10 of objects, pictures, or symbols using one-to-one correspondence and identify which has more or less. *Date Adopted or Revised*: 08/08
MA.912.A.2.In.c Identify the mathematical relationship (function) and the type of information represented in a function table or simple graph. *Remarks/Examples*: In a function table, the input represents hours worked and the output represents money earned. The function is to multiply the number of hours worked by amount earned per hour to get the output, or total earned (H x $7 = M). *Date Adopted or Revised*: 09/07	*Date Adopted or Revised*: 09/07	
MA.912.A.2.In.d Use function tables and simple graphs to determine the mathematical relationship between two numbers representing real-world situations.		

Remarks/Examples: Joe earns $7 each hour. Use the table to find out how much he earns when he works three hours. *Date Adopted or Revised*: 09/07 MA.912.A.2.In.e Use function tables and simple graphs to determine the mathematical relationship between two numbers representing real-world situations. *Remarks/Examples*: Joe earns $7 each hour. Use the table to find out how much he earns when he works three hours. *Date Adopted or Revised*: 09/07		

Standard 3: Linear Equations and Inequalities
Solve linear equations and inequalities.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.A.3.In.a Solve equations with one unknown (variable) involving addition, multiplication, subtraction, and division of whole numbers representing problems in real-world situations. *Remarks/Examples*: Student may use a calculator. 4 x b = 20; b = ? *Date Adopted or Revised*: 08/08	MA.912.A.3.Su.a Solve number sentences (equations) involving addition and subtraction of one-digit and two-digit whole numbers based on real-world situations using visual models. *Remarks/Examples*: Student may use a calculator. *Date Adopted or Revised*: 09/07	MA.912.A.3.Pa.a Identify quantities to 9 or more and add 1 more in real-world situations. *Date Adopted or Revised*: 08/08 MA.912.A.3.Pa.b Identify quantities to 10 or more and take 1 away in real-world situations. *Date Adopted or Revised*: 08/08
MA.912.A.3.In.b Use the commutative, associative, and equality properties of addition as strategies to solve equations involving real-world situations. *Remarks/Examples*: Commutative: 2 + 3 = 5; 3 + 2 = 5 Associative: (1 + 2) + 5 = 8; 1 + (2 + 5) = 8 Equality: If 24 = 24, then 24 + 6 = 24 + 6 *Date Adopted or Revised*: 09/07	MA.912.A.3.Su.b Use the commutative property and the additive identity property of addition as a strategy to solve number sentences (equations). *Remarks/Examples*: Commutative: 2 + 3 = 5; 3 + 2 = 5 Additive Identity: 43 + 0 = 43 Sandra has 66 CDs and her mom gives her 0. How many does she have? *Date Adopted or Revised*: 09/07	MA.912.A.3.Pa.c Identify quantities to 10 as equal or unequal. *Date Adopted or Revised*: 08/08 MA.912.A.3.Pa.d Sort sets of objects to 10 into groups by quantity. *Date Adopted or Revised*:
MA.912.A.3.In.c Use the commutative	MA.912.A.3.Su.c Solve equations	

and associative property of multiplication and the properties of one and zero for multiplication as strategies to solve equations involving real-world situations.
Remarks/Examples:
Commutative: 2 x 3 = 6; 3 x 2 = 6
Associative: (1 x 2) x 5 = 10; 1 x (2 x 5) = 10 Property of One: Any number multiplied by one is the same number. Property of Zero: Any number multiplied by zero is zero. A taxi costs $3.00 per mile. Al goes one mile in

Date Adopted or Revised:
09/07

MA.912.A.3.In.d Solve equations involving common literal formulas related to real-world situations.
Remarks/Examples:
Literal formulas for perimeter, area, or rate are provided for the student.

Date Adopted or Revised:
08/08

MA.912.A.3.In.e Solve real-world equations and inequalities with one unknown (variable) using visual models to represent the procedure.
Remarks/Examples:
Determine how many square feet of sod to buy to cover a 4 foot x 6 foot area.

Date Adopted or Revised:
08/08

MA.912.A.3.In.f Solve real-world equations and inequalities with one unknown (variable) using visual models to represent the procedure.
Remarks/Examples:
Determine how many square feet of sod to buy to cover a 4 foot x 6 foot area.

Date Adopted or Revised:
08/08

MA.912.A.3.In.g Create function tables and simple graphs that show the mathematical relationship between number pairs.
Date Adopted or Revised:
08/08

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involving addition and subtraction using visual models, such as a number line, in real-world situations.
Date Adopted or Revised:
09/07

MA.912.A.3.Su.d Use the concepts of equality and inequality as strategies to solve problems involving real-world situations.
Remarks/Examples:
Use physical or visual models with numerals Manny is making four stacks of books on the shelf. He has to make sure the stacks are equal. If he starts with three books in each stack, how many will he have to add to have equal stacks with eight books each?

Date Adopted or Revised:
09/07

MA.912.A.3.Su.e Identify the mathematical relationship between number pairs in function tables, such as +2 or -3.
Date Adopted or Revised:
08/08

MA.912.A.3.Su.f Use function tables and simple pictographs or bar graphs representing equations to make predictions for real-world situations.
Remarks/Examples:
Student uses a function table to predict how many cans of tennis balls to buy when each can holds 3 balls and 2 balls are needed.

Date Adopted or Revised:
08/08

MA.912.A.3.Su.g Identify the mathematical relationship between number pairs in function tables, such as +2 or -3.
Date Adopted or Revised:
08/08

08/08

MA.912.A.3.Pa.e Count objects, pictures, or symbols used in a pictograph or chart and identify which category has the largest quantity.
Date Adopted or Revised:
08/08

MA.912.A.3.In.h Use function tables and simple graphs representing equations to make predictions for real-world situations. *Remarks/Examples*: Student uses a function table to predict how many cartons of eggs to buy when 72 eggs are needed. *Date Adopted or Revised*: 08/08		

Standard 4: Polynomials

Perform operations on polynomials. Find factors of polynomials, learning special techniques for factoring quadratics. Understand the relationships among the solutions of polynomial equations, the zeros of a polynomial function, the x-intercepts of a graph, and the factors of a polynomial.

Access Point for Students with Significant Cognitive Disabilities

Independent	*Supported*	*Participatory*
MA.912.A.4.In.a Simplify expressions with one unknown (variable) by identifying like terms. *Remarks/Examples*: 4a + 5a = 9a *Date Adopted or Revised*: 09/07	MA.912.A.4.Su.a Solve number sentences (equations) with one unknown involving addition and subtraction facts using physical and visual models. *Remarks/Examples*: Student may use a calculator. Include real-world problems involving time, money, and measurement. *Date Adopted or Revised*: 09/07	MA.912.A.4.Pa.a Identify a missing item from two or more sets. *Date Adopted or Revised*: 08/08 MA.912.A.4.Pa.b Recognize that joining sets of objects results in a larger quantity and separating sets of objects results in a smaller quantity. *Date Adopted or Revised*: 08/08
MA.912.A.4.In.b Solve equations with one unknown (variable) involving addition, subtraction, and multiplication. *Remarks/Examples*: Student may use a calculator. *Date Adopted or Revised*: 09/07	MA.912.A.4.Su.b Identify like and unlike terms in number sentences representing real-world situations. *Remarks/Examples*: 5 apples + 2 apples + 3 bananas = (5 apples + 2 apples) + 3 bananas *Date Adopted or Revised*: 09/07	MA.912.A.4.Pa.c Separate groups of objects to 10 into sets with the same quantity. *Date Adopted or Revised*: 08/08
MA.912.A.4.In.c Combine like and unlike terms in number sentences representing real-world situations. *Remarks/Examples*: 36 apples + 47 apples + 24 bananas = (36 a + 47a) + 24 b = 83 apples + 24 bananas *Date Adopted or Revised*: 09/07	MA.912.A.4.Su.c Identify factors of whole numbers by using division facts. *Date Adopted or Revised*: 09/07	

MA.912.A.4.In.d Identify factors of expressions with whole numbers by dividing. *Date Adopted or Revised*: 09/07		

Standard 5: Rational Expressions and Equations

Simplify rational expressions and solve rational equations using what has been learned about factoring polynomials.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.A.5.In.a Use numbers to represent ratios in real-world situations. *Remarks/Examples*: Student uses measuring cups to compare the amounts of two ingredients in recipes such as 1 cup of butter for 2 cups of sugar = a ratio of 1/2, 1 to 2, or 1:2. *Date Adopted or Revised*: 09/07 MA.912.A.5.In.b Solve problems involving ratios in real-world situations. *Remarks/Examples*: Student uses ratio of 1:2 to determine how many parts are needed. *Date Adopted or Revised*: 09/07	MA.912.A.5.Su.a Use simple ratios represented by physical and visual models to solve real-world problems. *Remarks/Examples*: Simple ratios have one quantity as 1 and the other no more than 10, such as 1:2 or 3:1. If 1 tray holds 4 plants, how many trays do we need for 12 plants? *Date Adopted or Revised*: 09/07	MA.912.A.5.Pa.a Identify a simple ratio, such as 1 to 2, to solve real-world problems. *Date Adopted or Revised*: 08/08

Standard 6: Radical Expressions and Equations

Simplify and perform operations on radical expressions and equations. Rationalize square root expressions and understand and use the concepts of negative and rational exponents. Add, subtract, multiply, divide, and simplify radical expressions and expressions with rational exponents. Solve radical equations and equations with terms that have rational exponents.
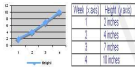
Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.A.6.In.a Identify perfect squares and their factors, including 1, 4, 9, 16, 25, 49, 64, 100, and 144 using visual models. *Remarks/Examples*: Student uses a grid to identify the area of a	MA.912.A.6.Su.a Use physical models of perfect squares, including 1, 4, 9, 16, 25, and 100, to solve problems. *Remarks/Examples*:	MA.912.A.6.Pa.a Use one-to-one correspondence to identify equal sets of objects to solve problems. *Date Adopted or Revised*:

<table>
<tr>
<td>square. The area is 36 square units, a perfect square. How many units on each side? (6x6—factors)

Date Adopted or Revised:
09/07

MA.912.A.6.In.b Use factors of perfect squares to solve problems in real-world situations.
Remarks/Examples:
The landscaper wants to plant 144 plants in a square area in the garden. If he wants the plants spread evenly in the area, how many rows should he have and how many plants should be in each row?

Date Adopted or Revised:
09/07</td>
<td>The teacher arranges nine carpet squares to form a perfect square. One student can sit on each square. How many students can sit in each row?

Date Adopted or Revised:
09/07</td>
<td>08/08</td>
</tr>
</table>

Standard 7: Quadratic Equations

Draw graphs of quadratic functions. Solve quadratic equations and solve these equations by factoring, completing the square, and by using the quadratic formula. Use graphing calculators to find approximate solutions of quadratic equations.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.A.7.In.a Use information from tables and other types of visual models to plot numbers on a line graph representing real-world situations.
Remarks/Examples:

Student uses information from a plant growth chart to plot a line graph. Include original graphic : Table: Week (x axis) Height (y axis) 1 2 inches 2 4 inches 3 7 inches 5 10 inches; also a line graph depicting data in table

Date Adopted or Revised:
08/08

MA.912.A.7.In.b Compare quantities | MA.912.A.7.Su.a Identify information from tables and simple line graphs representing real-world situations.
Date Adopted or Revised:
08/08

MA.912.A.7.Su.b Compare quantities from similar real-world situations represented on a graph.
Remarks/Examples:
Mike is selling peanuts at $3 for a pound. Jorge is selling them at $4 a pound. Who will earn the most money? Include original graphic: a line graph with pounds sold and money earned for Mike and Jorge.

Date Adopted or Revised:
08/08

MA.912.A.7.Su.c Solve number sentences (equations) using visual and physical models representing real-world | MA.912.A.7.Pa.a Compare the number of objects, pictures, or symbols used in a three-category pictograph to identify which groups have more or less.
Date Adopted or Revised:
08/08

MA.912.A.7.Pa.b Solve problems by joining or separating quantities to 10 using objects, pictures, or symbols.
Remarks/Examples:
Sam is responsible for distributing materials to workgroup. The set of materials has one or more items missing. Sam identifies what is missing and requests a replacement.

Date Adopted or Revised:
08/08 |

from real-world situations represented on a graph and explain similarities and differences. _Remarks/Examples_: Joshua earns $6 per hour mowing lawns. He works 5 hours each day. Suzette earns $10 per hour as a cashier. She works 3 hours each day.. Explain how their earnings are similar and how they are different. Include original graphic: 2 line graphs with hours _Date Adopted or Revised_: 08/08 MA.912.A.7.In.c Use equations involving addition, subtraction, multiplication, and division of whole numbers to solve real-world problems. _Date Adopted or Revised_: 08/08	situations. _Remarks/Examples_: Problems may include literal formulas, such as area equals length times width. Student uses a grid representing the garden to add the number of square units to find the area. Student uses a number sentence and calculator to verify. 2 + 2 + 2 = 6 square _Date Adopted or Revised_: 09/07	

Standard 8: Logarithmic and Exponential Functions

Understand the concepts of logarithmic and exponential functions. Graph exponential functions, and solve problems of growth and decay. Understand the inverse relationship between exponents and logarithms, and use it to prove laws of logarithms and to solve equations. Convert logarithms between bases, and simplify logarithmic expressions.

Standard 9: Conic Sections

Write equations and draw graphs of conic sections (circle, ellipse, parabola, and hyperbola), thus relating an algebraic representation to a geometric one.

Standard 10: Mathematical Reasoning and Problem Solving

In a general sense, all of mathematics is problem solving. In all of mathematics, use problem-solving skills, choose how to approach a problem, explain the reasoning, and check the results.

Access Point for Students with Significant Cognitive Disabilities		
Independent	_Supported_	_Participatory_
MA.912.A.10.In.a Use a variety of problem-solving strategies, such as finding key information to determine the correct operation and using graphic representations for numbers, to solve real-world problems. _Date Adopted or Revised_: 09/07	MA.912.A.10.Su.a Use visual and physical models as strategies for solving real-world mathematical problems. _Date Adopted or Revised_: 09/07 MA.912.A.10.Su.b Use	MA.912.A.10.Pa.a Solve real-world problems involving quantities to 10 and match the result to the correct answer to determine accuracy. _Remarks/Examples_: A student's workstation has four bins. One bin is missing. The student follows an established procedure of counting the bins and communicating the need

	resources, such as calculators, to verify accuracy of solutions to problems. *Date Adopted or Revised*: 09/07	for one more. *Date Adopted or Revised*: 08/08
MA.912.A.10.In.b Use estimation strategies, such as rounding, grouping, and comparing, to determine if answers are reasonable. *Date Adopted or Revised*: 09/07		
MA.912.A.10.In.b Use estimation strategies, such as rounding, grouping, and comparing, to determine if answers are reasonable. *Date Adopted or Revised*: 09/07	MA.912.A.10.Su.b Use resources, such as calculators, to verify accuracy of solutions to problems. *Date Adopted or Revised*: 09/07	

Body of Knowledge: CALCULUS

Standard 1: Limits and Continuity

Develop an understanding of the concept of limit by estimating limits graphically and numerically and evaluating limits analytically. Extend the idea of a limit to one-sided limits and limits at infinity. Use limits to define and understand the concept of continuity, decide whether a function is continuous at a point, and find types of discontinuities. Understand and apply continuity theorems.

Standard 2: Differential Calculus

Develop an understanding of the derivative as an instantaneous rate of change, using geometrical, numerical, and analytical methods. Use this definition to find derivatives of algebraic and transcendental functions and combinations of these functions (using, for example, sums, composites, and inverses). Find second and higher order derivatives. Understand and use the relationship between differentiability and continuity. Understand and apply the Mean Value Theorem. Find derivatives of algebraic, trigonometric, logarithmic, and exponential functions. Find derivatives of sums, products, and quotients, and composite and inverse functions. Find derivatives of higher order, and use logarithmic differentiation and the Mean Value Theorem.

Standard 3: Applications of Derivatives

Apply knowledge about derivatives to find slopes of curves and the related tangent lines. Analyze and graph functions, finding where they are increasing or decreasing, their maximum and minimum points, their points of inflection, and their concavity. Solve optimization problems, find average and instantaneous rates of change (including velocities and accelerations), and model rates of change. Find slopes and equations of tangent lines, maximum and minimum points, and points of inflection. Solve optimization problems, and find rates of change.

Standard 4: Integral Calculus

Understand that integration is used to find areas, and evaluate integrals using rectangular approximations. From this, develop the idea that integration is the inverse operation to differentiation — the Fundamental Theorem of Calculus. Use this result to find definite and indefinite integrals, including using the method of integration by substitution. Apply approximate methods, such as the Trapezoidal Rule, to find definite integrals. Define integrals using Riemann sums, use the Fundamental Theorem of Calculus to find integrals using antiderivatives, and use basic properties of integrals. Integrate by substitution, and find approximate integrals.

Standard 5: Applications of Integration

Apply knowledge about integrals to finding velocities from accelerations, solving separable differential equations, and finding areas and volumes. Apply integration to model, and solve problems in physics, biology, economics, etc. Find velocity functions and position functions from their derivatives, solve separable differential equations, and use definite integrals to find areas and volumes.

Body of Knowledge: DISCRETE MATHEMATICS

Standard 1: Recursion

Understand and apply recursive methods to solve problems, including the use of finite differences.

Standard 2: Graph Theory

Understand how graphs of vertices joined by edges can model relationships and can be used to solve various problems with relation to directed graphs, weighted graphs, networks, tournaments, transportation flows, matching, and coverage.

Standard 3: Social Choice

Analyze election data to evaluate different election methods, and use weighted voting techniques to decide voting power within a group. Understand and use fair division techniques to solve apportionment problems.

Standard 4: Linear Programming

Understand how to use linear programming and coordinate geometry to solve simple linear optimization problems.

Standard 5: Game Theory

Understand and use game theory methods to solve strictly determined games and non-strictly determined games.

Standard 6: Logic

Develop an understanding of the fundamentals of propositional logic, arguments, and methods of proof.		
Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.D.6.In.a Determine whether "if, then" statements for common events in real-world situations are true or false. *Remarks/Examples*: If Mary, Suzie, and Isabel are the only ones invited to the party, all guests are girls. *Date Adopted or Revised*: 08/08	MA.912.D.6.Su.a Use pictures and objects to determine whether statements about common events in real-world situations are true or false. *Remarks/Examples*: If goldfish are the only kind of pets allowed in the apartment, Janie will not be allowed to have a dog. *Date Adopted or Revised*: 09/07	MA.912.D.6.Pa.a Recognize whether the solution to a problem involving quantities to 10 in real-world situations is correct or incorrect. *Date Adopted or Revised*: 08/08
MA.912.D.6.In.b Determine whether two statements have the same mathematical meaning. *Remarks/Examples*: A. The book is marked down 50%. The price of the book is half-off. B. The figure has three sides. The figure is a triangle. *Date Adopted or Revised*: 08/08	MA.912.D.6.Su.b Match two statements that have the same mathematical meaning. *Remarks/Examples*: Sammie has 25 new CDs and 5 old ones. Joan has 5 new CDs and 25 old ones. Does Sammie have more CDs than Joan? *Date Adopted or Revised*: 08/08	

Standard 7: Set Theory Operate with sets, and use set theory to solve problems.		
Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.D.7.In.a Identify and sort elements in two sets, combine the sets to identify elements in either set to form a union, and identify the elements that are in both sets (intersection) using physical and visual models. *Remarks/Examples*: Elements may include objects, pictures, shapes, or numbers. *Date Adopted or Revised*: 09/07	MA.912.D.7.Su.a Sort elements into two sets and combine elements in either set to form a union using physical and visual models. *Date Adopted or Revised*: 08/08	MA.912.D.7.Pa.a Sort the common element in two sets of objects. *Date Adopted or Revised*: 08/08
MA.912.D.7.In.b Use Venn diagrams to represent the elements in both sets (intersection) of two sets. *Remarks/Examples*: Student uses a Venn diagram to show how many players on the football team and the	MA.912.D.7.Su.b Use physical models to identify elements from both sets that belong together (intersection). *Remarks/Examples*: One set has fruits: bananas, oranges, and apples. Another set has vegetables: peas, onions, and spinach. Identify fruits and vegetables that are round to form a third set. *Date Adopted or Revised*:	

baseball team play both sports. *Date Adopted or Revised*: 09/07	09/07	

Standard 8: Matrices

Understand how matrices can be used to store and organize data and to solve systems of equations. Use matrices to solve Markov chain problems that link present events to future events using probabilities.

Standard 9: Vectors

Recognize vectors in both two- and three-dimensions. Recognize that vectors are represented geometrically and algebraically. Perform basic operations on vectors, including addition, scalar multiplication, dot product, and cross product. Solve problems using vectors.

Standard 10: Parametric Equations

Use parametric equations in two dimensions to model time dependant situations, and convert parametric equations to rectangular coordinates and vice-versa.

Standard 11: Sequences and Series

Define and use arithmetic and geometric sequences and series.

Body of Knowledge: FINANCIAL LITERACY

Standard 1: Simple and Compound Interest

Simple and Compound Interest

Access Point for Students with Significant Cognitive Disabilities		
Independent	***Supported***	***Participatory***
MA.912.F.1.In.a Identify interest on a loan or credit card as money charged for borrowing money. *Date Adopted or Revised*: 09/07	MA.912.F.1.Su.a Identify interest as extra money charged when borrowing money. *Remarks/Examples*: Use common types of loans including mortgages and car loans. *Date Adopted or Revised*: 09/07	MA.912.F.1.Pa.a Recognize that some items cost more than others. *Date Adopted or Revised*: 08/08
MA.912.F.1.In.b Identify interest on a savings account as money earned by keeping money in the account over time. *Remarks/Examples*: Use simple bank statements and compare the amount of money in a savings account over several months. *Date Adopted or Revised*:	MA.912.F.1.Su.b Identify interest on a savings account as money earned by keeping money in the account. *Date Adopted or Revised*: 09/07	

09/07 MA.912.F.1.In.c Add the amount of a loan and amount of interest charged to determine the total amount of money to be repaid. *Remarks/Examples*: Amounts to $1000.00. *Date Adopted or Revised*: 09/07	MA.912.F.1.Su.c Identify interest rates used in real-world situations. *Remarks/Examples*: Include situations, such as using banks or credit cards in the local community. *Date Adopted or Revised*: 09/07	

Standard 2: Net Present and Net Future Value (NPV and NFV)

Net Present and Net Future Value (NPV and NFV)

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.F.2.In.a Identify situations that affect cost of living, such as inflation, wages, and location. *Remarks/Examples*: Use a simple cost of living chart to determine which location, New York City, NY or Lake City, FL has higher housing costs. Use newspaper advertisements from today and years ago to compare costs of groceries. *Date Adopted or Revised*: 09/07	MA.912.F.2.Su.a Identify examples of costs that have changed over time. *Remarks/Examples*: Student uses newspaper advertisements from today and years ago to compare costs of items or wages to current prices. Coke was 5¢ a bottle in the 1950s and now costs $1.00. *Date Adopted or Revised*: 09/07	MA.912.F.2.Pa.a Recognize that the cost of some items can change. *Date Adopted or Revised*: 08/08

Standard 3: Loans and Financing

Become familiar with and describe the advantages and disadvantages of short-term purchases, long-term purchases, and mortgages.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.F.3.In.a Identify wise consumer strategies for cash purchases, such as counting change, rounding up, and adding the tax. *Remarks/Examples*: Check the accuracy of change received from a cash purchase using a strategy, such as matching the amount received to the amount listed on the receipt.	MA.912.F.3.Su.a Use wise consumer strategies for paying with cash, such as rounding to the next dollar. *Remarks/Examples*: Student uses precautions when carrying money, including keeping it in a wallet or purse. When paying for a gallon of milk with a $5.00 bill, ask the cashier to count the change out to show that it adds up to $5.00. *Date Adopted or Revised*: 08/08	MA.912.F.3.Pa.a Recognize that a predetermined amount of money can be used to pay for an item in common purchasing situations. *Date Adopted or Revised*: 08/08

Date Adopted or Revised: 08/08		
	MA.912.F.3.Su.b Identify examples of alternate forms of payment, including debit cards, checks, gift cards, and credit cards. *Date Adopted or Revised*: 09/07	
MA.912.F.3.In.b Identify advantages and disadvantages of using alternate forms for payment, such as checks, gift cards, debit cards, and credit cards. *Date Adopted or Revised*: 08/08		
	MA.912.F.3.Su.c Identify the effects of not paying bills on time. *Remarks/Examples*: Student identifies late fees or service cancellation when bills are not paid on time. *Date Adopted or Revised*: 09/07	
MA.912.F.3.In.c Identify finance charges as extra amounts added to cost of items that are not paid for on time. *Remarks/Examples*: Student identifies the charges added to a bill for an unpaid balance on a credit card account. *Date Adopted or Revised*: 09/07		
MA.912.F.3.In.d Recognize that deferred payments result in extra charges, such as increased interest rates. *Date Adopted or Revised*: 09/07		
MA.912.F.3.In.e Identify reasons for paying bills on time and the effects of late payments or nonpayment. *Remarks/Examples*: Student identifies late fees or service cancellation when bills are not paid on time. *Date Adopted or Revised*: 09/07		
MA.912.F.3.In.f Identify resources and strategies for purchasing costly items, such as a car and a house. *Remarks/Examples*: May include taking out a mortgage, making a down payment, or rent to own. *Date Adopted or Revised*: 08/08		

Standard 4: Individual Financial Planning		
Individual Financial and Investment Planning		
Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.F.4.In.a Create a personal budget that fits take-home income after taxes. *Date Adopted or Revised*: 09/07	MA.912.F.4.Su.a Distinguish between income and expenses. *Date Adopted or Revised*: 09/07	MA.912.F.4.Pa.a Identify common items or services that have a cost. *Date Adopted or Revised*: 08/08
MA.912.F.4.In.b Use real-world strategies needed to manage personal income. *Remarks/Examples*: Create a budget based on income and expenses and decide how much you can spend on clothing per week. Use recommended guidelines to determine how much income to spend on rent, utilities, savings, etc. Balance your checkbook regularly to know the current ba *Date Adopted or Revised*: 09/07	MA.912.F.4.Su.b Identify a personal budget that fits take-home income after taxes. *Date Adopted or Revised*: 09/07 MA.912.F.4.Su.c Identify a method for saving money, such as a savings account. *Date Adopted or Revised*: 08/08	
MA.912.F.4.In.c Identify differences in methods for saving money, such as a savings account, money market account, or savings bonds. *Date Adopted or Revised*: 08/08	MA.912.F.4.Su.d Identify reliable sources of assistance for personal money management and financial decisions. *Remarks/Examples*: Sources may include a trusted family member, counselor, or employer. *Date Adopted or Revised*: 08/08	
MA.912.F.4.In.d Identify reliable sources to assist with personal money management, tax preparation, and financial decisions. *Remarks/Examples*: Sources may include a trusted family member, counselor, or employer. *Date Adopted or Revised*: 08/08		
MA.912.F.4.In.e Use strategies to determine how much sales and income tax must be paid in real-world situations. *Remarks/Examples*: Strategies for sales tax include rounding and using a calculator to compute the total cost. *Date Adopted or Revised*: 08/08	MA.912.F.4.Su.e Identify additional charges, such as sales tax and service fees, that may change the original cost of an item. *Remarks/Examples*: While making a purchase at a store, student knows that tax is added to the cost of items. *Date Adopted or Revised*: 08/08	
	MA.912.F.4.Su.f Identify different types of insurance, such as	

MA.912.F.4.In.f Identify purposes of different types of insurance, such as health, automobile, tenant, and life insurance. *Date Adopted or Revised*: 08/08	health, automobile, and life insurance. *Date Adopted or Revised*: 08/08	

Standard 5: Economic Concepts

Economic Concepts

Body of Knowledge: GEOMETRY

Standard 1: Points, Lines, Angles, and Planes

Understand geometric concepts, applications, and their representations with coordinate systems. Find lengths and midpoints of line segments, slopes, parallel and perpendicular lines, and equations of lines. Using a compass and straightedge, patty paper, a drawing program or other techniques, construct lines and angles, explaining and justifying the processes used.

Access Point for Students with Significant Cognitive Disabilities

Independent	*Supported*	*Participatory*
MA.912.G.1.In.a Find the length and midpoint of line segments in real-world situations. *Remarks/Examples*: Find the length and the midpoint of a given board. *Date Adopted or Revised*: 09/07	MA.912.G.1.Su.a Determine the midpoint of a line segment. *Remarks/Examples*: Find the middle (midpoint) of a piece of string and cut it in half. *Date Adopted or Revised*: 09/07	MA.912.G.1.Pa.a Recognize the ends and middle of a line segment. *Date Adopted or Revised*: 08/08 MA.912.G.1.Pa.b Recognize angles in two-dimensional shapes. *Date Adopted or Revised*: 08/08
MA.912.G.1.In.b Locate angles formed when a line intersects two parallel lines and classify the angles as obtuse, acute, or right angles. *Remarks/Examples*: Student may use a model of a right angle to classify angles. *Date Adopted or Revised*: 09/07	MA.912.G.1.Su.b Differentiate between intersecting and parallel lines. *Date Adopted or Revised*: 09/07 MA.912.G.1.Su.c Match types of angles, such as obtuse, acute, and right angles, using physical models and drawings. *Date Adopted or Revised*: 09/07	MA.912.G.1.Pa.c Solve real-world problems involving points, lines, angles, and areas (planes) using directional and positional language. *Date Adopted or Revised*: 08/08
MA.912.G.1.In.c Locate and identify points on coordinate planes, such as line graphs or maps, using ordered pairs of numbers. *Remarks/Examples*: Joe walks two blocks to work. According to the grid, his home is at (1,5). At which coordinate is his work located on to the grid? (3,3)	MA.912.G.1.Su.d Locate specified points on a coordinate plane, such as a simple map represented on a grid. *Remarks/Examples*: Locate the icon of a schoolhouse on	

	a map of the neighborhood.	
Date Adopted or Revised: 09/07	*Date Adopted or Revised*: 09/07	

Standard 2: Polygons

Identify and describe polygons (triangles, quadrilaterals, pentagons, hexagons, etc.), using terms such as regular, convex, and concave. Find measures of angles, sides, perimeters, and areas of polygons, justifying the methods used. Apply transformations to polygons. Relate geometry to algebra by using coordinate geometry to determine transformations. Use algebraic reasoning to determine congruence, similarity, and symmetry. Create and verify tessellations of the plane using polygons.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.G.2.In.a Determine if polygons have all sides and angles equal (regular) or have sides or angles that are not equal (irregular) using physical and visual models. *Remarks/Examples*: Regular polygons include square, equilateral triangle, octagon, and pentagon. Irregular polygons include certain parallelograms, such as rectangles, and certain triangles, such as a right triangle. *Date Adopted or Revised*: 09/07	MA.912.G.2.Su.a Identify polygons with all sides and angles equal (regular) in the environment. *Remarks/Examples*: Square tiles and stop signs *Date Adopted or Revised*: 09/07	MA.912.G.2.Pa.a Identify objects or pictures with polygons. *Remarks/Examples*: Shapes may include polygons such as squares, triangles, rectangles, or hexagons. Student recognizes a triangular sign as a warning; student uses shapes to order steps in a process, such as the square is the first step, circle is the second step, and trian *Date Adopted or Revised*: 08/08
MA.912.G.2.In.b Use tools to measure angles including 45° and 90°. *Remarks/Examples*: Tools may include template, protractor, or technology. *Date Adopted or Revised*: 09/07	MA.912.G.2.Su.b Use a model of a right triangle to compare the size of angles, such as acute, obtuse, and right angles. *Remarks/Examples*: Student may identify acute angles and smaller and obtuse angles as larger. *Date Adopted or Revised*: 09/07	MA.912.G.2.Pa.b Match two or more objects with polygons based on a given feature in real-world situations. *Remarks/Examples*: Shapes may include polygons such as squares, triangles, rectangles, or hexagons. *Date Adopted or Revised*: 08/08
MA.912.G.2.In.c Identify triangles and rectangles that are the same shape and size (congruent) and same shape, but not same size (similar) using physical and visual models. *Date Adopted or Revised*: 09/07	MA.912.G.2.Su.c Match triangles and rectangles that are same shape, but different size (similar) using physical and visual models. *Date Adopted or Revised*: 09/07	MA.912.G.2.Pa.c Identify objects, pictures, or signs with polygons in real-world situations. *Date Adopted or Revised*: 08/08
	MA.912.G.2.Su.d Match identical polygons in different positions including turns (rotations), slides (translations), and flips	

Independent	Supported	Participatory
MA.912.G.2.In.d Use physical and visual models to show that a change in orientation, such as turns (rotations), slides (translations), and flips (reflections), does not change the size or shape of a polygon. *Date Adopted or Revised*: 09/07	(reflections), using physical models. *Date Adopted or Revised*: 09/07	
MA.912.G.2.In.e Find the perimeter and area of rectangles to solve real-world problems. *Remarks/Examples*: Student may use a calculator and refer to literal formulas. *Date Adopted or Revised*: 09/07	MA.912.G.2.Su.e Solve real-world problems involving perimeter using visual models. *Remarks/Examples*: Student may use a calculator and a literal formula for perimeter (length + length + width + width). *Date Adopted or Revised*: 09/07	
MA.912.G.2.In.f Identify the effects of changes in the lengths of sides on the perimeter and area of rectangles using visual models to solve real-world problems. *Date Adopted or Revised*: 09/07	MA.912.G.2.Su.f Solve real-world problems to find area of a rectangle to identify total square units using visual models. *Remarks/Examples*: Use areas up to 25 square units. Student may use a calculator. *Date Adopted or Revised*: 09/07	
	MA.912.G.2.Su.g Identify the effect of changes in the lengths of sides of rectangles on perimeter using physical and visual models. *Date Adopted or Revised*: 09/07	

Standard 3: Quadrilaterals

Classify and understand relationships among quadrilaterals (rectangle, parallelogram, kite, etc.). Relate geometry to algebra by using coordinate geometry to determine regularity, congruence, and similarity. Use properties of congruent and similar quadrilaterals to solve problems involving lengths and areas, and prove theorems involving quadrilaterals.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.G.3.In.a Identify four-sided shapes (quadrilaterals), such as square, rectangle, rhombus, and diamond, in the environment using visual models. *Date Adopted or Revised*:	MA.912.G.3.Su.a Identify four-sided shapes (quadrilaterals), such as square, rectangle, and diamond, in the environment using physical and visual models. *Date Adopted or Revised*:	MA.912.G.3.Pa.a Identify objects, pictures, or signs with four-sided shapes (quadrilaterals) in real-world situations. *Remarks/Examples*: Student recognizes a rectangular

09/07	09/07	sign on a restroom door. *Date Adopted or Revised*: 08/08
MA.912.G.3.In.b Use tools to identify shapes as having one set of opposite sides parallel and equal in length (parallelograms). *Remarks/Examples*: Student uses tools, such as templates or rulers, to verify parallelograms. *Date Adopted or Revised*: 09/07	MA.912.G.3.Su.b Determine whether shapes are rectangular or square by measuring the sides. *Remarks/Examples*: Student measures to the whole inch. *Date Adopted or Revised*: 09/07 MA.912.G.3.Su.c Identify shapes with one set of opposite sides parallel and equal in length (parallelograms) in the environment using physical and visual models. *Date Adopted or Revised*: 09/07	MA.912.G.3.Pa.b Match two or more objects with four-sided shapes (quadrilaterals), based on a given feature, such as length of side or size of the area. *Date Adopted or Revised*: 08/08

Standard 4: Triangles

Identify and describe various kinds of triangles (right, acute, scalene, isosceles, etc.). Define and construct altitudes, medians, and bisectors, and triangles congruent to given triangles. Prove that triangles are congruent or similar and use properties of these triangles to solve problems involving lengths and areas. Relate geometry to algebra by using coordinate geometry to determine regularity, congruence, and similarity. Understand and apply the inequality theorems of triangles.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.G.4.In.a Discriminate between triangles that have equal sides and angles (equilateral), triangles that have two equal sides and two equal angles (isosceles), and triangles that have one right angle (right triangle) using visual and physical models. *Remarks/Examples*: Does not require use of mathematical terminology. *Date Adopted or Revised*: 09/07	MA.912.G.4.Su.a Discriminate between triangles that have equal sides and angles (equilateral) and triangles that have two equal sides and two equal angles (isosceles) using physical models. *Remarks/Examples*: Student may use angle templates as tools for identifying same size angles. Does not require use of mathematical terminology. *Date Adopted or Revised*: 09/07	MA.912.G.4.Pa.a Identify objects, pictures, or signs with a triangle in real-world situations. *Remarks/Examples*: Student recognizes a triangular sign with the name of a favorite restaurant. *Date Adopted or Revised*: 08/08
MA.912.G.4.In.b Identify the height (altitude) in equilateral and isosceles triangles using physical and visual models. *Remarks/Examples*: Limit to regular triangles where altitude divides triangle in equal parts (angle	MA.912.G.4.Su.b Measure the length of sides of triangles to verify if two triangles are the same shape and size (congruent). *Remarks/Examples*:	MA.912.G.4.Pa.b Match two or more objects with a triangle based on a given feature, such as the length of the side or size of the angle, in real-world situations. *Date Adopted or Revised*: 08/08

bisector). Student identifies altitude by folding a paper model triangle, drawing bisecting lines, or using a template. *Date Adopted or Revised*: 09/07 MA.912.G.4.In.c Measure sides and angles of triangles to determine whether triangles are the same size and shape (congruent) or the same shape, but different size (similar). *Remarks/Examples*: Relates to using properties of congruent and similar triangles. Student may use measuring tools, such as templates, protractors, and rulers. Student measures length of sides up to 12 inches and angles using 5° increments. *Date Adopted or Revised*: 09/07	Student uses measurement units in whole inches. *Date Adopted or Revised*: 09/07	

Standard 5: Right Triangles

Apply the Pythagorean Theorem to solving problems, including those involving the altitudes of right triangles and triangles with special angle relationships. Use special right triangles to solve problems using the properties of triangles.

Access Point for Students with Significant Cognitive Disabilities		
Independent	**Supported**	**Participatory**
MA.912.G.5.In.a Compare the length of the straight sides in a right triangle with the length of the side opposite the right angle (hypotenuse). *Remarks/Examples*: Measure a ramp (hypotenuse) to determine if it is longer than the base. *Date Adopted or Revised*: 09/07	MA.912.G.5.Su.a Identify right triangles in the environment using physical models. *Remarks/Examples*: Student may use a right angle template as a tool for identifying a right angle. *Date Adopted or Revised*: 09/07	MA.912.G.5.Pa.a Identify objects, pictures, or signs with a right triangle. *Date Adopted or Revised*: 08/08 MA.912.G.5.Pa.b Match objects, pictures, or signs with a right triangle by a given feature, such as length of sides. *Date Adopted or Revised*: 08/08
MA.912.G.5.In.b Identify examples of different kinds of right triangles in the environment using physical models. *Remarks/Examples*: Kinds of right triangles include 30°- 60°- 90°, and 45°- 45°- 90°. Use tools such as protractors, angle templates, or technology. Squares can be constructed from two 45°- 45° - 90° triangles and rectangles can be	MA.912.G.5.Su.b Locate the right angle of right triangles and side opposite the right angle (hypotenuse) in the environment. *Remarks/Examples*: Student locates a roof line, a piece of paper folded on a diagonal, or a ramp in the environment. *Date Adopted or Revised*:	

Date Adopted or Revised: 09/07	09/07	

Standard 6: Circles

Define and understand ideas related to circles (radius, tangent, chord, etc.). Perform constructions, and prove theorems related to circles. Find measures of arcs and angles related to them, as well as measures of circumference and area. Relate geometry to algebra by finding the equation of a circle in the coordinate plane.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.G.6.In.a Identify and describe the circumference, arc, diameter, and radius of circles using physical and visual models. *Date Adopted or Revised*: 09/07	MA.912.G.6.Su.a Identify the circumference, arc, and diameter of circles in real-world situations. *Date Adopted or Revised*: 09/07	MA.912.G.6.Pa.a Identify objects, pictures, or signs with a circle in real-world situations. *Date Adopted or Revised*: 08/08
MA.912.G.6.In.b Measure the diameter and radius of circles to solve real-world problems. *Remarks/Examples*: Student measures the diameter of a trampoline to determine if it will fit into a space. Student measures the diameter and radius of the ground around a flagpole to plant a flower garden. *Date Adopted or Revised*: 09/07	MA.912.G.6.Su.b Compare the circumference and diameter of circles in real-world situations. *Date Adopted or Revised*: 09/07 MA.912.G.6.Su.c Identify examples of semi-circles in the environment. *Date Adopted or Revised*: 09/07	MA.912.G.6.Pa.b Match two or more objects with a circle based on a given feature, such as the distance around the outside (circumference) or inside (area) in real-world situations. *Date Adopted or Revised*: 08/08
MA.912.G.6.In.c Determine the relationship between a semi-circle and a circle. *Date Adopted or Revised*: 09/07		

Standard 7: Polyhedra and Other Solids

Describe and make regular and nonregular polyhedra (cube, pyramid, tetrahedron, octahedron, etc.). Explore relationships among the faces, edges, and vertices of polyhedra. Describe sets of points on spheres, using terms such as great circle. Describe symmetries of solids, and understand the properties of congruent and similar solids.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.G.7.In.a Identify and	MA.912.G.7.Su.a Identify properties	MA.912.G.7.Pa.a Identify objects or

describe three-dimensional solids, including sphere, cylinder, rectangular prism, and cone in the environment using mathematical names.
Remarks/Examples:
Student states that soda cans are cylinders, snow cone holders are cones, globes of the world are spheres, and a box is a rectangular prism.

Date Adopted or Revised:
09/07

MA.912.G.7.In.b Identify a plane that divides a sphere in half.
Remarks/Examples:
Relates to a great circle, the line that passes through the center of a sphere, such as the equator or the midline on a basketball.

Date Adopted or Revised:
09/07

MA.912.G.7.In.c Measure rectangular prisms to find the volume using the literal formula: length x width x height.
Remarks/Examples:
Student uses tools for measuring in inches and feet. Student may use a calculator.

Date Adopted or Revised:
09/07

MA.912.G.7.In.d Compare volumes of three-dimensional solids using physical and visual models.
Remarks/Examples:
Use solid figures, such as a can (cylinder), square box (cube), rectangular box (rectangular prism), and cone. Student compares how many books can be put in two different-sized crates.

Date Adopted or Revised:
09/07

MA.912.G.7.In.e Identify the effect of changes in the lengths of the sides of cubes or rectangular

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of three-dimensional solids, such as sphere, cylinder, cube, and cone in the environment, when given the common name.
Date Adopted or Revised:
08/08

MA.912.G.7.Su.b Compare volumes of three-dimensional solids in real-world situations.
Remarks/Examples:
Use solid figures, such as a can (cylinder), square box (cube), and rectangular box (rectangular prism). Student compares volume of boxes using trial and error to determine the right-sized box for a gift.

Date Adopted or Revised:
09/07

MA.912.G.7.Su.c Identify that changes in the lengths of sides of cubes or rectangular prisms will make the volume smaller or larger using physical models.
Remarks/Examples:
Student determines how many tennis balls an 8-inch box will hold and compares to how many tennis balls a 16-inch box will hold.

Date Adopted or Revised:
09/07

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pictures with three-dimensional solids in real-world situations.
Remarks/Examples:
Solids include shapes, such as sphere, cube, or cone. The particular solids will depend on the use of the object or the context of the activity. Student may learn to identify a ball used for bowling or a globe that is a light fixture.

Date Adopted or Revised:
08/08

MA.912.G.7.Pa.b Match two or more objects with three-dimensional solids based on a given feature, such as the number of faces or overall size, in real-world situations.
Date Adopted or Revised:
08/08

MA.912.G.7.Pa.c Match two or more objects with three-dimensional solids based on a given feature, such as the number of faces or overall size, in real-world situations.
Date Adopted or Revised:
08/08

prisms on the volume using physical and visual models. *Remarks/Examples*: Student measures two different-sized boxes and explains which one will hold more. *Date Adopted or Revised*: 09/07		

Standard 8: Mathematical Reasoning and Problem Solving
In a general sense, mathematics is problem solving. In all mathematics, use problem-solving skills, choose how to approach a problem, explain the reasoning, and check the results. At this level, apply these skills to making conjectures, using axioms and theorems, constructing logical arguments, and writing geometric proofs. Learn about inductive and deductive reasoning and how to use counterexamples to show that a general statement is false.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.G.8.In.b Use problem-solving strategies, including visual and physical models and tools, for solving real-world problems involving geometry concepts and skills. *Date Adopted or Revised*: 09/07	MA.912.G.8.Su.b Use given problem-strategies, including using visual or physical models, for solving real-world problems involving geometry concepts and skills. *Date Adopted or Revised*: 09/07	MA.912.G.8.Pa.b Solve real-world problems involving objects with two- and three-dimensional shapes and match the result to the correct answer to determine accuracy. *Date Adopted or Revised*: 08/08
MA.912.G.8.In.c Use estimation and resources to determine if solutions to problems involving geometry concepts and skills are reasonable. *Date Adopted or Revised*: 09/07	MA.912.G.8.Su.c Use resources, such as calculators and conversion charts to verify accuracy of solutions to problems involving geometry concepts. *Date Adopted or Revised*: 09/07	

Body of Knowledge: PROBABILITY
Standard 1: Counting Principles
Understand the counting principle, permutations, and combinations, and use them to solve problems.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.P.1.In.a Use visual representations, such as drawings or charts, to show possible combinations with three elements.	MA.912.P.1.Su.a Use physical representations to show possible combinations with two elements.	MA.912.P.1.Pa.a Recognize the probability of an event as certain or

Remarks/Examples: Janell, Teresa, and Holly want to sit next to each other in the movies. Use a chart with each possible arrangement of girls' initials: JTH, THJ, HJT, JHT, TJH, HTJ to show how many different ways they can sit together. *Date Adopted or Revised*: 09/07	*Remarks/Examples*: Student manipulates objects to show how many ways two students can sit together in two chairs: Annie and Sam; Sam and Annie. *Date Adopted or Revised*: 09/07	impossible. *Date Adopted or Revised*: 08/08

Standard 2: Determine Probabilities

Develop rules for finding probabilities of combined and complementary events. Understand and use conditional probability and the related Bayes' Theorem.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.P.2.In.a Identify if given outcomes for events in real-world situations are certain, likely, or impossible based on data in a graph or chart. *Date Adopted or Revised*: 09/07	MA.912.P.2.Su.a Predict the likely outcome of a simple experiment or event by selecting from three choices of outcomes. *Date Adopted or Revised*: 09/07	MA.912.P.2.Pa.a Predict the next activity in common real-world situations. *Date Adopted or Revised*: 08/08

Standard 3: Probability Distributions

Investigate probability distributions, and calculate and interpret their means and variances. Use and apply the normal distribution, including using the central limit theorem.

Body of Knowledge: STATISTICS

Standard 1: Formulating Questions

Learn to define appropriate questions for research and to pose questions in a form that can be answered by collecting and analyzing data.

Standard 2: Data Collection

Learn key methods for collecting data and basic sampling principles.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.S.2.In.a Identify when data from part of a group (sample) should not be used to make predictions regarding the whole group. *Remarks/Examples*: Sammy wants to predict the outcome of student council election. If Sammy only asks one friend	MA.912.S.2.Su.a Identify problems with inaccurate counting when collecting data and use strategies to correct mistakes. *Remarks/Examples*: Problems may include incorrect	MA.912.S.2.Pa.a Identify a missing part of objects, pictures, or symbols in real-world situations. *Date Adopted or Revised*: 08/08

who he or she will vote for in the student council elections, can he make a good prediction about who will be elected? *Date Adopted or Revised*: 09/07	results and strategies may include counting data twice or having another person check by counting. *Date Adopted or Revised*: 09/07	

Standard 3: Summarizing Data (Descriptive Statistics)

Learn to work with summary measures of sets of data, including measures of the center, spread, and strength of relationship between variables. Learn to distinguish between different types of data and to select the appropriate visual form to present different types of data.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.S.3.In.a Describe information in bar graphs, circle graphs, and single-line graphs representing data from real-world situations. *Date Adopted or Revised*: 09/07	MA.912.S.3.Su.a Identify information in simple pictographs and bar graphs that represent data from real-world situations. *Remarks/Examples*: Student identifies the amount of time spent sleeping, eating, or playing in a typical day, based on data displayed on a bar graph. *Date Adopted or Revised*: 09/07	MA.912.S.3.Pa.a Identify quantity in data sets of 10 by counting objects, pictures, or symbols and identify which category has more, less, or none. *Date Adopted or Revised*: 08/08
MA.912.S.3.In.b Collect data and display in single-line graphs, circle graphs, and bar graphs. *Remarks/Examples*: Data may be based on actual classroom activities, real-world experiences, or other sources. *Date Adopted or Revised*: 09/07	MA.912.S.3.Su.b Organize data in pictographs and bar graphs and identify the labels for categories. *Remarks/Examples*: Data may be based on actual classroom activities, community experiences, or other sources. *Date Adopted or Revised*: 09/07	
MA.912.S.3.In.c Determine the mode by identifying the number that occurs most often and the mean by finding the average. *Remarks/Examples*: Data may be based on actual classroom activities, real-world experiences, or other source. Students may use calculators. *Date Adopted or Revised*: 09/07	MA.912.S.3.Su.c Identify the number that occurs most frequently (mode) in a set of data with up to nine numbers. *Remarks/Examples*: Does not require use of mathematical terminology. *Date Adopted or Revised*: 09/07	
MA.912.S.3.In.d Calculate the range and median for data from real-world situations. *Remarks/Examples*:	MA.912.S.3.Su.d Find the difference between the largest and smallest numbers in a set of data (range) and the median in a real-world situation.	

Range is calculated by finding the difference between the highest and the lowest values in a set of data. Student may use a calculator. *Date Adopted or Revised*: 09/07	*Remarks/Examples*: Student subtracts the largest number in the set from the smallest number in the set using a calculator. Use sets with 10 items or less and problems dealing with numbers smaller than 100. Student determines the range of ages and the median age of ten stud *Date Adopted or Revised*: 09/07	

Standard 4: Analyzing Data

Learn to use simulations of standard sampling distributions to determine confidence levels and margins of error. Develop measures of association between two numerical or categorical variables. Use technological tools to find equations of regression lines and correlation coefficients.

Standard 5: Interpreting Results

Gather data and determine confidence intervals to make inferences about means, and use hypothesis tests to make decisions. Learn to use data to approximate p-values and to determine whether correlations between variables are significant.

Body of Knowledge: TRIGONOMETRY

Standard 1: Trigonometric Functions

Extend the definitions of the trigonometric functions beyond right triangles using the unit circle, and measure angles in radians as well as degrees. Draw and analyze graphs of trigonometric functions (including finding period, amplitude, and phase shift), and use them to solve word problems. Define and graph inverse trigonometric functions, and determine values of both trigonometric and inverse trigonometric functions.

Standard 2: Trigonometry in Triangles

Understand how the trigonometric functions relate to right triangles, and solve word problems involving right and oblique triangles. Understand and apply the laws of sines and cosines. Use trigonometry to find the area of triangles.

Access Point for Students with Significant Cognitive Disabilities		
Independent	*Supported*	*Participatory*
MA.912.T.2.In.a Compare the length of the straight sides in a right triangle with the length of the side opposite the right angle (hypotenuse) by measuring the sides. *Date Adopted or Revised*: 09/07	MA.912.T.2.Su.a Measure the sides of a right triangle to determine which side is the longest. *Date Adopted or Revised*: 09/07	MA.912.T.2.Pa.a Recognize a right triangle in objects, pictures, or signs in real-world situations. *Date Adopted or Revised*: 08/08

MA.912.T.2.In.b Identify and construct right triangles to solve real-world problems. _Remarks/Examples_: The student draws a model for a ramp to move a wheelbarrow from the street onto a truck. The student identifies the outline of the ramp as a right triangle. _Date Adopted or Revised_: 09/07	MA.912.T.2.Su.b Use right triangles to solve real-world problems. _Remarks/Examples_: The student identifies situations in which ramps (right triangles) may be used, such as a skate board park, an entrance to a building for wheelchairs, or a job site for moving equipment. _Date Adopted or Revised_: 09/07	

Standard 3: Trigonometric Identities and Equations

Know basic trigonometric identities derived from definitions, and use them to prove other identities. Use the sum, difference, double-angle, and half-angle formulas. Solve trigonometric equations and word problems using trigonometry.

Standard 4: Polar Coordinates and Trigonometric Form of Complex Numbers

Define, use polar coordinates, and relate them to Cartesian coordinates. Translate equations in terms of Cartesian coordinates into polar coordinates, and graph the resulting equations in the polar coordinate plane. Convert complex numbers from standard to trigonometric form, and vice-versa. Multiply complex numbers in trigonometric form, and use De Moivre's Theorem.

Standard 5: Mathematical Reasoning and Problem Solving

Use a variety of strategies to solve problems. Develop and evaluate mathematical arguments and proofs.