

Third Grade Mathematics

The Learning Institute Module	# of Times Tested	AR Department of Education CONTENT STANDARD/ Student Learning Expectations (SLE)	Objective	Task Analysis	Essential Vocabulary	Materials/ Resources
<i>Ongoing Student Learning Expectation to be Addressed Each Nine Weeks</i>						
Enduring Understanding - Successful problem solvers possess a set of core beliefs that support their work: problem solving is important, takes significant time and repeated efforts, and requires reflection.						
Essential Question - What are the specific strategies that have wide application in attacking problems and can help in problem solving?						
Module 1	0	NO.3.3.4 Solve simple problems using one operation involving addition and subtraction using a variety of methods and tools ON GOING	A. Solve simple problems using one operation involving addition using a variety of methods and tools B. Solve simple problems using one operation involving subtraction using a variety of methods and tools Bloom's- Application	*use objects, mental computation, paper and pencil, and appropriate technology to solve simple addition and subtraction problems in different ways	addition subtraction operation tools expanded notation	HC 1.6, 4.5, 5.5
FIRST NINE WEEKS						
1. Enduring Understanding - The base 10 number system is based on groups of 10.						
1a. Essential Question - What strategies can be used to read and compare large numbers?						
Module 1	4 MC 1 OR	NO.1.3.2 Use the place value structure of the base ten number system and be able to represent and compare whole numbers including thousands (using models, illustrations, symbols, expanded notation and problem solving)	A. Represent whole numbers including thousands using the place value structure of the base ten number system B. Compare whole numbers including thousands using the place value structure of the base ten number system Bloom's - Application	*use manipulatives to show whole numbers up to and including thousands *use manipulatives to compare numbers up to and including thousands *illustrate to show whole numbers up to and including thousands	compare represent place value thousands expanded notation models base ten period comma	HC 3.2 Manipulatives place value chart XXVIF XXVIG
Module 1	1 MC 1 OR	NO.1.3.3 Use mathematical language and symbols to compare and order four-digit numbers with and without appropriate technology (<, >, =)	A. Compare 4-digit numbers with and without appropriate technology B. Order 4-digit numbers with and without appropriate technology Bloom's-Application	*identify the thousands place *introduce the comma in a number *identify the value of the digits to compare and order 4-digit numbers *use <, >, = when comparing two 4-digit numbers *sequence multiple 4-digit numbers from greatest to least	less than greater than equal to order compare	HC 3.2, 3.3

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		CONTENT STANDARD/ Student Learning Expectations (SLE)					
2. Enduring Understanding - Flexible methods of computation involve grouping numbers in a variety of ways.							
2a. Essential Question - What strategies can be used for finding sums and differences?							
Module 1	3 MC	NO.3.3.1 Develop, with and without appropriate technology, computational fluency in multi-digit addition and subtraction through 999	A. Discover efficient and accurate methods of computing in multi-digit addition through 999, using contextual problems: strategies for adding, estimation of sums, in order to develop computational fluency B. Discover efficient and accurate methods of computing in multi-digit subtraction through 999, using contextual problems: strategies for subtracting, estimation of differences in appropriate situations, in order to develop computational fluency C. Show relationships between multi-digit addition and subtraction Bloom's-Synthesis	*use addition strategies to solve contextual problems through 999 (strategies may include mental math, composing and decomposing, finding benchmark numbers, compatible numbers, rounding, inverse operation) *use subtraction strategies to solve contextual problems through 999 (strategies may include mental math, composing and decomposing, finding benchmark numbers, compatible numbers, rounding, inverse operations) *illustrate that addition and subtraction are inverse (opposite) operations *use technology to solve contextual problems using addition and subtraction	sum difference estimation multi-digit addends compatible number inverse compensatory numbers	HC 1.1, 1.2, 1.4, 1.5 Resource XXVID 4.1, 4.2, 5.1, 5.2, 5.3, 5.4, 5.6 & Resource 66A	
3. Enduring Understanding - Place value patterns are repeated in large numbers.							
3a. Essential Question - How are place value patterns repeated in large numbers?							
Module 1	1 MC	NO.1.3.1 Recognize equivalent representations for the same whole number and generate them by composing and decomposing numbers (larger numbers)	A. Identify equivalent representations for the same whole numbers B. Generate equivalent representations for the same whole number using composing and decomposing numbers Bloom's-Comprehension	*break apart whole numbers into smaller units *put a set of numbers together to form a whole number *show whole numbers in expanded form, standard form, and written form, and recognize that they are equivalent	equivalent whole number place value digit expanded form standard form written form ones tens hundreds thousands compose decompose	HC 2.2, 2.3, 2.4, XXVIF Manipulatives connecting cubes base ten blocks place value chart Technology- Mega Math	
Module 1	3 MC	A.4.3.1 Count forward and backward when given a number less than or equal to 1000 _____, 399, _____, _____	Count forward and backward when given a number less than or equal to 1000 Bloom's-Knowledge	*count forward and backward by any given number to 1000 in written or oral form	forward backward	HC 3.3	

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4. Enduring Understanding - Multiplication and division can be accomplished through addition and subtraction of partial products.						
4a. Essential Question - How can multiples be used to solve problems?						
Module 1	1 MC	A.4.3.3 Identify a number that is more or less than any whole number up to 1000 using multiples of ten and/or 100	Identify a number that is more or less than any whole number up to 1000 using multiples of ten and/or 100 Bloom's-Comprehension	*skip count by multiples of ten from any number forward and backward (Ex. 23, 33, 43, 53, etc.) with objects such as 100s charts *skip count by multiples of one hundred from any number forward and backward (Ex. 114, 214, 314, 414, etc.) with objects	more less multiple whole number	AR-1 & AR- 2
5. Enduring Understanding - Elapsed time is the measure of the duration of an event.						
5a. Essential Understanding - What is the difference between length of time and time of day?						
Module 1	1 MC	M.12.3.1 Determine the number of days in a month, days in a year , and identify the number of weeks in a year	Identify the number of days in a month, days in a year and identify the number of weeks in a year Bloom's-Evaluation	*use strategies to determine the number of days in a month *identify the days in a year and a leap year *identify the number of weeks in a year	day week month year leap year	HC 7.5
Module 1	1 MC	M.12.3.2 Recognize that 60 minutes equals 1 hour and that a day is divided into A.M. and P.M.	Identify that 60 minutes equals 1 hour and that a day is divided into A.M. and P.M. Bloom's-Comprehension	*recognize that 60 minutes equals one hour *recognize that a day is divided into A.M. and P.M.	A.M. (Ante-Meridian) P.M. (Post-Meridian)	HC 7.1, 7.2
Module 1	0	M.13.3.2 Tell time to the nearest 1-minute intervals.	Tell time to the nearest 1-minute intervals Bloom's-Knowledge	*identify that each mark on a clock represents one minute according to the minute hand *count by ones and fives to determine time *identify that there are sixty minutes in one hour *read a clock to the nearest one-minute interval	minute hand hour hand second hand	HC 7.1, 7.2
Module 1	1 MC	M.13.3.3 Express time to the half hour and quarter hour using the terms half-past, quarter after, quarter until	Express time to the half hour and quarter hour using the terms half-past, quarter after, quarter until Bloom's-Comprehension	*define quarter as related to time, not money *identify that four quarters equals one whole (as related to fractions) *use quarter after, quarter until, and half past when expressing time	quarter hour half hour quarter until quarter of quarter after	HC 7.1 class set of clock manipulatives 66A

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		CONTENT STANDARD/ Student Learning Expectations (SLE)					
6a. Essential Understanding - What is the difference between length of time and time of day?							
Module 2	3 MC	G.8.3.3 Identify and draw line, line segment and ray using appropriate labels	A. Identify line, line segment and ray using appropriate labels B. Draw line, line segment and ray using appropriate labels Bloom's - Comprehension, Application	*identify the definition of a line, a line segment, and a ray by using examples *identify a line, a line segment, and a ray using appropriate labels *compare/contrast a line, a line segment, and a ray using appropriate labels	line line segment ray	HC 19.1 Pg. 382 H - K	
Module 2	4 MC	G.8.3.4 Identify and draw intersecting and parallel lines	A. Identify intersecting and parallel lines B. Draw intersecting and parallel lines Bloom's - Comprehension, Application	*identify the definition of intersecting and parallel lines by using examples *identify intersecting and parallel lines by using examples of real-world objects (shapes, pictures, letters) *draw intersecting and parallel lines	intersecting lines parallel lines	HC 19.2 Pg. 382 H - K	
7. Enduring Understanding - Ordered pairs show an exact location on a coordinate plane.							
7a. Essential Question - How is the location of a point on a grid described?							
Module 2	2 MC 1 OR	G.10.3.1 Locate and identify points on a coordinate grid and name the ordered pair (quadrant one only) using common language and geometric vocabulary (horizontal and vertical)	A. Locate and identify points on a coordinate grid using common language and geometric vocabulary B. Name the ordered pair using common language and geometric vocabulary Bloom's - Comprehension	*demonstrate how to locate a point on a grid by moving horizontally on the grid then vertically on the grid (which direction to move first) *name a point on a grid *identify a point on a grid	point coordinate grid ordered pair horizontal vertical column row x and y axis	HC 16.4, Unit 5 pg 300a	
8. Enduring Understanding - Organization of information shows relationships.							
8a. Essential Question - How can the next step in a pattern be found?							
Module 2	5 MC 1 OR	A.4.3.4 Use repeating and growing numeric or geometric patterns to solve problems	A. Use repeating numeric or geometric patterns to solve problems B. Use growing numeric or geometric patterns to solve problems Bloom's - Application	*extend a variety of numeric and geometric patterns *differentiate between a repeating and a growing pattern	repeating patterns growing patterns extend	HC 2.5 Ref XXVI h- k	

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Enduring Understanding - Successful problem solvers possess a set of core beliefs that support their work: problem solving is important, takes significant time and repeated efforts, and requires reflection.						
Essential Question - What are the specific strategies that have wide application in attacking problems and can help in problem solving?						
	0	NO.3.3.4 Solve simple problems using one operation involving addition and subtraction using a variety of methods and tools ON GOING	A. Solve simple problems using one operation involving addition using a variety of methods and tools B. Solve simple problems using one operation involving subtraction using a variety of methods and tools Bloom's - Application	*use objects, mental computation, paper and pencil, and appropriate technology to solve simple addition and subtraction problems in different ways	addition subtraction operation tools expanded notation	HC 1.6, 4.5, 5.5
SECOND NINE WEEKS						
1. Enduring Question - Multiplication and division are inverse operations.						
1a. Essential Question - How can models for multiplication be used to divide?						
Module 1	2 MC 1 OR	A.4.3.2 Relate skip-counting patterns to multiplication	Use skip-counting patterns to multiply NOTE: INCLUDE REPEATED ADDITION Bloom's - Knowledge	*practice skip counting by any given number up to ten *relate skip counting to repeated addition *use skip counting as a strategy for multiplication	multiples of numbers skip counting	HC 8.1, 8.4

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		CONTENT STANDARD/ Student Learning Expectations (SLE)					
2. Enduring Understanding - Symbolic notation is used to represent mathematical relationships.							
2a. Essential Question - How are symbols used to represent mathematical relationships including operations, equality, and inequality?							
Module 2	1 MC	NO.2.3.3 Use conventional mathematical symbols to write equations for contextual problems involving multiplication	Write equations for contextual problems involving multiplication using conventional mathematical symbols Bloom's - Application	*identify vital information from a story problem *use strategies to solve a story problem by writing an equation that represents a multiplication story	symbols equations contextual problems	HC 8.1, 8.3, 11.5 13.5	
3. Enduring Question - Multiplication and division are inverse operations.							
3a. Essential Question - What is the relationship among factors, products, and quotients?							
Module 1	0	NO.2.3.1 Develop an understanding of the commutative and identity properties of multiplication using objects	A. Show the commutative property of multiplication using objects B. Show the identity properties of multiplication using objects Bloom's-Synthesis	*use arrays, groups and area models to show the commutative property of multiplication *make arrays and groups to show the identity property of multiplication *commutative property of multiplication - Ex. $2 \times 4 = 4 \times 2$ *identity property of multiplication - Ex. $2 \times 1 = 2$	commutative property of multiplication identity property of multiplication array	HC 8.3, 9.1, 11.4	
4. Enduring Question - Multiplication and division are inverse operations.							
4a. Essential Question - How can models for multiplication be used to divide?							
Module 1	2 MC	NO.3.3.2 Develop with and without appropriate technology, fluency with basic number combinations for multiplication and division facts (10 x 10)	A. Discover efficient and accurate methods of computing basic number combinations for multiplication facts (10 x 10) in order to develop computational fluency B. Discover efficient and accurate methods of computing basic division facts (100 / 10) in order to develop computational fluency Bloom's-Synthesis	*develop multiplication strategies (strategies may include arrays, skip counting, repeated addition, derived facts (using a fact you know, figure out a fact you don't know), doubles, patterns) with and without appropriate technology *develop division strategies (strategies may include using repeated subtraction, multiplication (inverse operation)), knowing multiplication facts, arrays, fact family) with and without appropriate technology	product factor divisor dividend quotient doubles multiple fact family	HC 8.2, 9.4, 10.5, 11.1, 13.1, 13.2, 13.3, 14.1, 14.2, 14.3, 156A, 236A	

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6. Enduring Understanding - Symbolic notation is used to represent mathematical relationships.							
6a. Essential Question - How are symbols used to represent mathematical relationships including operations, equality, and inequality?							
Module 2	5 MC	A.5.3.2 Express mathematical relationships using equalities and inequalities Ex. $4 \times 9 \text{ ___ } 36 - 3$	Express mathematical relationships using equalities and inequalities Bloom's - Comprehension	*explain and understand the symbols (<, >, =, ≠) *evaluate expressions on both sides *use symbols to compare the expressions *decide whether an equality or inequality is true or false *compare numbers in expressions using symbols *supply numbers that make given equalities or inequalities true or false	greater than less than equal to not equal to true false expression equality inequality	HC 4.6, 11.1 66A & 156A AR-6 & AR-3	
7. Enduring Understanding - Relationships between numbers can be described by generalizations.							
7a. Essential Question - How can a pattern be generalized?							
Module 2	4 MC	A.4.3.5 Determine the relationship between sets of numbers by selecting the rule (1 step rule in words)	Evaluate the relationship between sets of numbers, and use that to select the rule Bloom's- Evaluation	*find one-step rules involving sets of numbers in various forms (charts, lists) *apply the rule to the set of numbers	rule	HC 11.2, 23.3 156A & 468A	
8. Enduring Understanding - Symbolic notation is used to represent mathematical relationships.							
8a. Essential Question - How are symbols used to represent mathematical relationships including							
Module 2	4 MC 1 OR	A.5.3.3 Use a symbol to represent an unknown quantity in a number sentence involving contextual situations and find the value Ex. $2 \times \Delta = 16$	Use a symbol to represent an unknown quantity in a number sentence involving contextual situations and find the value Bloom's-Application	*use a symbol to represent an unknown number *identify the unknown *solve for the unknown using a mathematical strategy	symbol strategy unknown value number sentence	HC 12.3, 13.4, 236A	

Module 2	3 MC 1 OR	A.5.3.1 Select and/or write number sentences (equalities) to find the unknown in problem-solving contexts involving two-digit times one-digit multiplication using appropriate labels	Select and/or write number sentences (equalities) to find the unknown in problem-solving contexts involving two-digit times one-digit multiplication using appropriate labels Bloom's- Knowledge	*define the equal sign to mean that the equation is balanced ("same as") *write number sentences that can be used to solve a word problem *use appropriate labels	equation balance equal sign label place value	HC 29.3, 29.4, 598A AR-9 & AR-18
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		CONTENT STANDARD/ Student Learning Expectations (SLE)				
9. Enduring Understanding - Currency amounts can be grouped and exchanged to solve problems.						
9a. Essential Question - Why is it important to represent currency amounts in different ways?						
Module 2	0	M.13.3.5 Determine the value of money up to \$10	Identify the value of money up to \$10 Bloom's - Comprehension, Evaluation	*state the value of bills (\$1, \$5, \$10) *state the value of coins *count coins (count by 50's, 25's, 10's, 5's, 1's) *sort money to prepare to count *count money, begin with the largest value	dollar bill dime nickel penny quarter half dollar value	HC 6.1, 6.3 p.108 A-D play money
Module 2	1 MC 1 OR	M.13.3.6 Apply money concepts in contextual situations up to \$10.00	A. Identify change with the least amount of currency in contextual situations up to \$10.00 B. Compare money up to \$10.00 in contextual situations Bloom's - Application	*recognize the relationship between cost and change *determine change with the least amount of currency *compare values of money up to \$10 *develop strategies for solving money problems in context	decimal point dollar sign cost change	HC 6.2, 6.3, 6.4, AR-2 & AR-3 Pg. 108 A-D
10. Enduring Understanding - Both common and decimal fractions can represent fractional parts.						
10a. Essential Question - How are numbers that represent fractional parts compared?						
Module 2	0	NO.1.3.6 Use the place value structure of the base ten number system and be able to represent and compare decimals to hundredths in money (using models, illustrations, symbols, expanded notation and problem solving) Ex: \$193.76 ____ \$139.67	A. Represent (using the place value structure of the base ten number system) decimals to hundredths in money B. Compare (using the place value structure of the base ten number system) decimals to hundredths in money Bloom's - Application	*recognize that \$1 is a whole *recognize that the coins are parts of a whole *recognize that the decimal point means "and" (separating the whole from the parts) *recognize that the numbers after the decimal represent the parts of a whole ("change") *compare two money amounts using <, >, = *write a money amount in expanded notation	decimal point dollar sign base ten place value tens tenths hundreds hundredths ones expanded notation numeral value	HC 28.2 Unit 8 pg 514a

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11. Enduring Question - Multiplication and division are inverse operations.							
11a. Essential Question - How can models for multiplication be used to divide?							
Module 3	2 MC	NO.2.3.2 Apply number theory *determine if a 3-digit number is even or odd *use the terms multiple, factor, product and quotient in an appropriate context (Since $3 \times 4 = 12$, 3 and 4 are factors; 12 is the product, 3, 6, 9, 12 are multiples of 4; $12 \div 4 = 3$, the quotient)	Determine if a 3-digit number is even or odd Bloom's-Application, Evaluation	*identify the digit in the one's place and determine if the 3-digit number is even or odd based on the digit in the one's place (no matter the other digits) *identify the patterns for even (0,2,4,6,8) *identify the patterns for odd (1,3,5,7,9)	even odd number theory multiple factor product quotient	HC 2.1, 8.2, 9.2, 12.3 156A, 236A, XXVID	
12. Enduring Understanding - Strategies for multiplication and division are based on place value concepts.							
12a. Essential Question - How can knowledge of place value help with multiplication and division of large							
Module 3	2 MC 1 OR	NO.3.3.3 Develop with and without appropriate technology, computational fluency in multiplication and division up to two-digit by one-digit numbers using two-digit by one-digit contextual problems	A. Discover efficient and accurate methods of computing in two-digit by one-digit multiplication, using contextual problems: strategies for multiplying, estimation of products, in order to develop computational fluency B. Discover efficient and accurate methods of computing in two-digit by one-digit division, using contextual problems: strategies for division, estimation of quotients in appropriate situations, in order to develop computational fluency C. Show relationships between two-digit by one-digit multiplication and division Bloom's - Synthesis	*develop and use strategies for multiplying and dividing numbers *perform operations in more than one way *estimate products and quotients in appropriate situations *show the relationship between multiplication and division *solve contextual problems involving multiplication and division of two-digit numbers by one-digit numbers with and without appropriate technology	product factor divisor dividend quotient doubles multiple	HC 8.1, 12.2, 14.3, 29.2, 29.3, 29.4, 30.2, 30.5 AR-10 Unit 9 pg 29-30 Unit 3 pg 8 & 156a Unit 4 pg 121 & 236a Unit 4, 12 pg 236a	
Module 3	2 MC	NO.3.3.5 Use estimation strategies to solve problems and judge the reasonableness of the answer	A. Solve problems using estimation strategies B. Judge the reasonableness of the answer Bloom's - Application	*use front-end estimation, rounding, under-estimation, over-estimation to solve problems *judge the reasonableness of the answer	estimate reasonable	HC 3.1, 3.5, 3.6, 4.1, 5.1, 5.3, 5.4	

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13. Enduring Question - Multiplication and division are inverse operations.							
13a. Essential Question - How can models for multiplication be used to divide?							
Module 3	3 MC	NO.2.3.4 Model, represent and explain division as measurement and partitive division including equal groups, related rates, price, rectangular arrays (area model), combinations and multiplicative comparison	<p>A. Model, represent and explain division as measurement</p> <p>B. Model, represent and explain division as partitive division</p> <p>NOTE: INCLUDE REPEATED SUBTRACTION</p> <p>Bloom's -Comprehension, Application</p> <p>MEASUREMENT:</p> <p>*Apply to price (Ex. Pies cost \$4 each. How many pies can you buy for \$28?)</p> <p>*Apply to rate (Ex. Ellen walks 3 miles an hour. How many hours will it take her to walk 15 miles?)</p> <p>*Apply to multiplicative comparison (Ex. The giraffe is 18 feet tall. The kangaroo is 6 feet tall. The giraffe is how many times taller than the kangaroo?)</p> <p>PARTITIVE:</p> <p>*Apply to rate (Ex. Ellen walked 15 miles. It took her 5 hours. If she walked the same speed the whole way, how far did she walk in one hour?)</p> <p>*Apply to price (Ex. Jan bought 7 pies. She spent a total of \$28. If each pie cost the same amount, how much did one pie cost?)</p> <p>*Apply to multiplicative comparison (Ex. The giraffe is 18 feet tall. She is 3 times as tall as the kangaroo. How tall is the kangaroo?)</p>	<p>*identify/describe when you know the number in each set and the total but not how many sets, that is division as measurement</p> <p>*identify/describe when you know how many sets and the total but not how many in each set, that is partitive division</p> <p>*apply to price, rate, and multiplicative comparison (see last column)</p> <p>*use rectangular arrays and combinations to show division in these two forms</p> <p>*explain how a remainder may impact an answer in a real-world situation</p>	<p>division</p> <p>partitive division</p> <p>measurement</p> <p>division</p> <p>remainder</p> <p>inverse operation</p> <p>rate</p> <p>fact family</p>	HC 12.1, 12.2, 12.5, 13.4, 14.4, 30.1,30.2,30.3	

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14. Enduring Understanding - Organization of information shows relationships.							
14a. Essential Question - What are some ways to organize data?							
Module 3	0	A.6.3.1 Complete a chart or table to organize given information and to understand relationships and explain the results	Complete a chart or table to organize given information and use the chart to identify relationships and explain the results Bloom's - Application, Analysis	*using the information given, identify the rule to complete the chart or table *explain how you arrived at your result using words and/or pictures *use a chart or table to describe relationships (change from January to July in a given chart, etc.)	chart table	HC 11.2 Pg. 156 A - E	
14b. Essential Question - How can the elements of a graph help people to understand and to interpret the							
Module 3	4 MC 1 OR	DAP.14.3.1 Design a survey question after being given a topic and collect, organize, display and describe simple data using frequency tables or line plots, pictographs and bar graphs	A. Design a survey question after being given a topic B. Collect, organize, display and describe simple data using frequency tables or line plots, pictographs and bar graphs Bloom's - Synthesis	*describe a frequency table, line plot, bar graph, and pictograph *identify what a survey is *design a question from the given topic *collect and sort data *decide how to display data *organize and display data using a frequency table, line plot, pictograph, and bar graph *label and title graph or table correctly (vertical and horizontal labels, values, key) *apply data procedure with frequency tables, line plots, pictographs, and bar graphs	survey data frequency table line plot pictograph key (on a pictograph) bar graph organize display tally mark	HC 15.2, 15.5, 16.1, 16.3 Pg. 300 A-C	
Module 3	2 MC 1 OR	DAP.15.3.2 Match a set of data with a graphical representation of the data	Match a set of data with a graphical representation of the data Bloom's - Knowledge	*compare data with a graphical representation (Does the graph represent the data?) *choose the appropriate graph to represent a given set of data	graphical representation data	AR - 4	

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15. Enduring Understanding - Organization of information shows relationships.						
15a. Essential Question - How does changing the scale affect how data is communicated?						
Module 3	9 MC	DAP.15.3.1 Read and interpret pictographs and bar graphs in which symbols or intervals are greater than one	Read and interpret pictographs and bar graphs in which symbols or intervals are greater than one Bloom's- Analysis	*identify and count symbols on a pictograph in intervals greater than one using the key *find information on a bar graph by counting in intervals greater than one (2's, 5's, 10's, etc.) *identify that a half symbol represents half of the value on a pictograph *read and interpret pictographs and bar graphs in which symbols or intervals are greater than one	key (on a pictograph) symbol vertical label horizontal label pictograph bar graph	HC 3.4, 10.3 Ref. XXIV h-k HC 16.2
16. Enduring Understanding - Probability can be represented numerically and graphically.						
16a. Essential Question - How is the likelihood of an event determined and communicated?						
Module 3	1 MC	DAP.17.3.3 Use physical models, pictures and organized lists to find combinations of two sets of objects	Use physical models, pictures and organized lists to find combinations of two sets of objects Bloom's - Application	*manipulate objects to find combinations of two sets of objects *develop a strategy for organizing and finding combinations (organized list, pictures, web, table, objects)	physical model organized list	HC 24.5 Pg. 486 A - D

17. Enduring Understanding - Standard units provide common language for communicating measurements.						
17a. Essential Question - How are units of measure related?						
Module 3	3 MC 1 OR	M.13.3.4 Determine elapsed time in contextual situations to five-minute intervals	Identify elapsed time in contextual situations to five-minute intervals Bloom's - Evaluation	*determine what the unknown is *determine the amount of time that has passed between a starting time and an ending time to the nearest five minutes *determine how to figure out the ending time when given the starting time to the nearest five minutes *develop strategies for finding various unknowns (counting by 5s, counting to the next hour, adding an hour)	elapsed starting time ending time analog clock digital clock	HC 7.3, 7.4, pg. 108 A-D Literature:_Grouchy Ladybug
Module 3	3 MC	M.13.3.1 Use a calendar to determine elapsed time from month to month	Use a calendar to determine elapsed time from month to month Bloom's Application	*read a calendar from month to month (forward and backward) *develop the strategy that every time you move up or down a square you move a week or seven days *determine elapsed time by reading a calendar	week month year leap year calendar elapsed	HC 7.5 Calendar

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Enduring Understanding - Successful problem solvers possess a set of core beliefs that support their work: problem solving is important, takes significant time and repeated efforts, and requires reflection.						
Essential Question - What are the specific strategies that have wide application in attacking problems and						
Module 3	0	NO.3.3.4 Solve simple problems using one operation involving addition and subtraction using a variety of methods and tools ON GOING	A. Solve simple problems using one operation involving addition using a variety of methods and tools B. Solve simple problems using one operation involving subtraction using a variety of methods and tools Bloom's - Application	*use objects, mental computation, paper and pencil, and appropriate technology to solve simple addition and subtraction problems in different ways	addition subtraction operation tools expanded notation	HC 1.6, 4.5, 5.5

THIRD NINE WEEKS						
		1. Enduring Understanding - Standard units provide common language for communicating measurements.				
		1a. Essential Question - How are units of measure related?				
Module 4	5 MC	M.12.3.4 Demonstrate the relationship among different standard units	A. Show the relationship between linear measurement B. Show the relationship between units of capacity C. Show the relationship between units of weight Bloom's - Application	*identify how many inches are in a foot and in a yard, feet in a yard using tools (rulers, etc.) *identify how many cups are in a pint, how many pints in a quart, and how many quarts in a gallon using materials *identify how many ounces are in a pound using materials *identify the abbreviations for the standard units or measurement *apply measurement relationships in context	foot inch yard cup pint quart ounce pound length capacity weight/mass standard units of measurement linear measurement (measuring a straight line)	HC 17.2, 17.5 Pg. 300A-G various measurement tools
The Learning Institute Module	# of Times Tested	AR Department of Education	Objective	Task Analysis	Essential Vocabulary	Materials/ Resources
		CONTENT STANDARD/ Student Learning Expectations (SLE)				

<p>Module 5</p>	<p>2 MC</p>	<p>M.12.3.5 Create and complete a conversion table (from larger unit to smaller unit) to show relationships between units of measurement in the same system Ex. Change feet to inches using multiplication</p>	<p>Create and complete a conversion table to show relationships between units of measurement in the same system (LARGER UNIT TO SMALLER UNIT) Bloom's - Synthesis</p>	<ul style="list-style-type: none"> *create a conversion table *use a conversion table *change feet to inches using multiplication *change yards to feet using multiplication *change yards to inches using multiplication *change pints to cups using multiplication *change quarts to pints using multiplication *change gallons to quarts using multiplication *change pounds to ounces using multiplication *read and use the mathematics references sheet in Benchmark released items 	<p>convert conversion table</p>	<p>HC 17.5 pg. 300 A-C</p>
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2. Enduring Understanding - The choice of measurement tools depends on the measurable attribute and the degree of precision required.						
2a. Essential Question - What estimation strategies are used in measurement?						
Module 4	6 MC	M.13.3.9 Estimate and measure length, capacity/volume and mass using appropriate customary units	A. Estimate length, capacity/volume and mass using appropriate customary units B. Measure length, capacity/volume and mass using appropriate customary units Bloom's - Evaluation	*describe the order of the measurement tools (largest to smallest, smallest to largest) *relate a measurement tool to a non-standard tool (fingertip, paper clip, arm span) in order to estimate *measure length, capacity, and mass with a measurement tool	estimate pound ounce customary units	HC 17.1, 17.3 Pg. 300 A-G
The Learning Institute Module	# of Times Tested	AR Department of Education	Objective	Task Analysis	Essential Vocabulary	Materials/ Resources
		CONTENT STANDARD/ Student Learning Expectations (SLE)				
2b. Essential Question - What determines the choice of a measurement tool?						
Module 4	4 MC	M.13.3.8 Use appropriate customary measurement tools for length, capacity and mass	A. Use appropriate customary measurement tools for length B. Use appropriate customary measurement tools for capacity C. Use appropriate customary measurement tools for mass Bloom's - Application	*identify which measurement tool applies to various situations (ruler, yard stick, measuring tape, thermometer, scale, balance scale, teaspoons, cups, gallons, pints, quarts) *use the appropriate tool to measure length, capacity, and mass	length capacity mass measurement tool ruler yard stick measuring tape thermometer scale balance scale teaspoon cup gallon pint	HC 17.1, 17.3 Pg. 300 A-G measurement tools

3. Enduring Understanding - A three-dimensional figure can be analyzed in terms of its two-dimensional						
3a. How are one-, two-, or three-dimensional shapes described and classified?						
Module 4	4 MC 1 OR	G.8.3.1 Compare, contrast and build 3-D solids by investigating the number of faces, edges, and vertices on models	A. Compare and contrast 3-D solids by investigating the number of faces, edges, and vertices on models B. Build 3-D solids by investigating the number of faces, edges and vertices on models Bloom's - Analysis	*identify 3-D solids (G.8.2.1) *use 3-D models to show faces, edges, and vertices *count the faces, edges, and vertices on each 3-D model *compare/contrast the faces, edges, and vertices of all 3-D models *build a 3-D solid using the number of faces, edges, and vertices given	faces edges vertices solids three-dimensional (3-D) rectangular prism cone sphere cube cylinder properties	HC 21.1 PG. 422 A-D
Module 4	4 MC	G.8.3.2 Identify regular polygons with at least 4 sides (square, pentagon, hexagon and octagon)	Identify regular polygons with at least 4 sides Bloom's - Comprehension	*identify a polygon *know the definition of a regular polygon (equal sides, equal angles) *identify square, regular pentagon, regular hexagon, and regular octagon	regular polygon square regular pentagon regular hexagon regular octagon properties	HC 19.3, 19.5 Pg. 382 H - K

The Learning Institute Module	# of Times Tested	AR Department of Education	Objective	Task Analysis	Essential Vocabulary	Materials/ Resources
Module 4	1 MC	G.11.3.1 Replicate a three-dimensional model composed of cubes when given a physical model	Replicate a three-dimensional model composed of cubes when given a physical model Bloom's - Synthesis	*provide a model built from cubes for students to replicate	3-D model replicate sides vertices faces visualization	HC 11.3.1 & AR-7
4. Enduring Understanding - Changing the position of an object does not affect its attributes.						
4a. Essential Question - What strategies can be used to check for symmetry?						
Module 4	3 MC 1 OR	G.9.3.1 Draw one or more lines of symmetry in a polygon	Draw one or more lines of symmetry in a polygon Bloom's - Application	*apply congruency and symmetry (G.9.2.1) *identify one of more lines of symmetry in a polygon *draw one or more lines of symmetry in a polygon	congruent symmetry lines of symmetry	HC 20.2 Pg. 422 A - D
5. Enduring Understanding - A transformation is a specific movement of an object.						
5a. Essential Question - What are translations, rotations, and reflections?						
Module 4	2 MC	G.9.3.2 Describe the motion (transformation) of a two-dimensional figure as a flip (reflection), slide (translation) or turn (rotation)	Describe the motion of a two-dimensional figure as a flip, slide or turn Bloom's - Comprehension	*recognize the motion of a figure (G.9.22) *model and explain flip, slide and turn with objects *describe how a figure was moved using flip, slide or turn	slide (translation) flip (reflection) turn (rotation) motion	HC 20.4 Pg. 422 A - D

6. Enduring Understanding - Perimeter is a one-dimensional measure (perimeter surrounds); area is a two-						
6a. Essential Question - What strategies can be used to find area, perimeter, and volume of a shape or						
The Learning Institute Module	# of Times Tested	AR Department of Education CONTENT STANDARD/ Student Learning Expectations (SLE)	Objective	Task Analysis	Essential Vocabulary	Materials/ Resources
Module 4	2 MC 1 OR	M.13.3.10 Find the perimeter of a figure by measuring the length of the sides	Find the perimeter of a figure by measuring the length of the sides Bloom's - Comprehension	*identify that perimeter is the distance around a figure *measure a side and label the side with that measurement *find perimeter by adding the length of ALL the sides (even if there is an unknown side)	perimeter length side	HC 22.1 Pg.442 A - D Grid paper
Module 4	2 MC	M.13.3.11 Find the area of any region counting squares and half-squares	Find the area of any region counting squares and half-squares Bloom's - Comprehension	*identify that area is the measurement of the interior of a figure *contrast square units with units. *recognize that each square represents one square unit *combine half square units into whole square units using grid paper, square tiles, pictures to find the area of any region	area square square unit grid array	HC 22.2, 22.3, Pg. 442 A - D Grid paper
Module 4	1 MC	M.13.3.12 Develop strategies for finding the volume (cubic units) of rectangular prisms and cubes using models	Discover strategies for finding the volume of rectangular prisms and cubes using models Bloom's - Synthesis	*recognize a rectangular prism and a cube using models *contrast units, square units, and cubic units *use models and pictorial representations of models *develop strategies to find volume by counting cubes that may or may not be seen	rectangular prism cube cubic unit volume	HC 22.4 Pg. 442 A - D

7. Enduring Question - Multiplication and division are inverse operations.						
7a. Essential Question - What is the relationship among factors, products, and quotients?						
Module 4	2 MC	NO.2.3.2 Apply number theory *determine if a 3-digit number is even or odd *use the terms multiple, factor, product and quotient in an appropriate context (Since $3 \times 4 = 12$, 3 and 4 are factors; 12 is the product, 3, 6, 9, 12 are multiples of 4; $12 \div 4 = 3$, the quotient)	Determine if a 3-digit number is even or odd Bloom's-Application, Evaluation	*identify the digit in the one's place and determine if the 3-digit number is even or odd based on the digit in the one's place (no matter the other digits) *identify the patterns for even (0,2,4,6,8) *identify the patterns for odd (1,3,5,7,9)	even odd number theory multiple factor product quotient	HC 2.1, 8.2, 9.2, 12.3 156A, 236A, XXVID
The Learning Institute Module	# of Times Tested	AR Department of Education	Objective	Task Analysis	Essential Vocabulary	Materials/ Resources
		CONTENT STANDARD/ Student Learning Expectations (SLE)				
8. Enduring Question - Multiplication and division are inverse operations.						
8a. Essential Question - How can models for multiplication be used to divide?						
Module 5	2 MC	NO.3.3.2 Develop with and without appropriate technology, fluency with basic number combinations for multiplication and division facts (10 x 10)	A. Discover efficient and accurate methods of computing basic number combinations for multiplication facts (10×10) in order to develop computational fluency B. Discover efficient and accurate methods of computing basic division facts ($100 \div 10$) in order to develop computational fluency Bloom's-Synthesis	*develop multiplication strategies (strategies may include arrays, skip counting, repeated addition, derived facts (using a fact you know, figure out a fact you don't know), doubles, patterns) with and without appropriate technology *develop division strategies (strategies may include using repeated subtraction, multiplication (inverse operation)), knowing multiplication facts, arrays, fact family) with and without appropriate technology	product factor divisor dividend quotient doubles multiple fact family	HC 8.2, 9.4, 10.5, 11.1, 13.1, 13.2, 13.3, 14.1, 14.2, 14.3, 156A, 236A

9. Enduring Understanding - Standard units provide common language for communicating measurements.						
9a. Essential Question - How are units of measure related?						
Module 5	2 MC	<p>M.12.3.5 Create and complete a conversion table (from larger unit to smaller unit) to show relationships between units of measurement in the same system Ex. Change feet to inches using multiplication</p>	<p>Create and complete a conversion table to show relationships between units of measurement in the same system (LARGER UNIT TO SMALLER UNIT) Bloom's - Synthesis</p>	<p>*create a conversion table *use a conversion table *change feet to inches using multiplication *change yards to feet using multiplication *change yards to inches using multiplication *change pints to cups using multiplication *change quarts to pints using multiplication *change gallons to quarts using multiplication *change pounds to ounces using multiplication *read and use the mathematics references sheet in Benchmark released items</p>	<p>convert conversion table</p>	<p>HC 17.5 pg. 300 A-C</p>

The Learning Institute Module	# of Times Tested	AR Department of Education		Objective	Task Analysis	Essential Vocabulary	Materials/ Resources
		CONTENT STANDARD/ Student Learning Expectations (SLE)					
10. Enduring Understanding - Organization of information shows relationships.							
10a. Essential Question - How can the elements of a graph help people to understand and to interpret the data?							
Module 5	4 MC 1 OR	DAP.14.3.1 Design a survey question after being given a topic and collect, organize, display and describe simple data using frequency tables or line plots, pictographs and bar graphs	A. Design a survey question after being given a topic B. Collect, organize, display and describe simple data using frequency tables or line plots, pictographs and bar graphs Bloom's - Synthesis	*describe a frequency table, line plot, bar graph, and pictograph *identify what a survey is *design a question from the given topic *collect and sort data *decide how to display data *organize and display data using a frequency table, line plot, pictograph, and bar graph *label and title graph or table correctly (vertical and horizontal labels, values, key) *apply data procedure with frequency tables, line plots, pictographs, and bar graphs	survey data frequency table line plot pictograph key (on a pictograph) bar graph organize display tally mark	HC 15.2, 15.5, 16.1, 16.3 Pg. 300 A-G	
Module 5	2 MC	DAP.16.3.1 Make predictions for a given set of data	Make predictions for a given set of data Bloom's - Synthesis	*make predictions for a particular set of data by extending charts and graphs	prediction certain impossible possible	HC 4.4, 24.4 Pg. 468 A-C	
Module 5	1 MC	A.7.3.1 Identify the change over time	Identify the change over time Bloom's - Comprehension	*identify change as related to time vs. money *use given information to identify the distinction between two or more events over a longer period of time	difference compare	HC 16.5, 28.3, PG. 300 A-G	

The Learning Institute Module	# of Times Tested	AR Department of Education	Objective	Task Analysis	Essential Vocabulary	Materials/ Resources
		CONTENT STANDARD/ Student Learning Expectations (SLE)				
11. Enduring Understanding - The choice of measurement tools depends on the measurable attribute and the degree of precision required.						
11b. Essential Question - What determines the choice of a measurement tool?						
Module 5	2 MC	M.12.3.3 Distinguish the temperature to contextual problems using the Fahrenheit scale on a thermometer Ex. If I need to wear mittens and a scarf, what temperature would it be? 35°F or 70°F?	Distinguish the temperature to contextual problems using the Fahrenheit scale on a thermometer Bloom's - Analysis	*identify that the higher you go on the Fahrenheit scale the hotter it gets and the lower you go the colder it gets *identify that water freezes at 32 degrees Fahrenheit *apply temperatures to contextual problems	Fahrenheit vertical number line	HC AR - 5 Thermometer
Module 5	1 OR	M.13.3.7 Read temperatures on Fahrenheit and Celsius scales in intervals of two and five	A. Read temperatures on Fahrenheit scale in intervals of two B. Read temperatures on Celsius scale in intervals of five Bloom's - Knowledge	*recognize whether it is a Fahrenheit or Celsius thermometer by looking at the label *count by 2's and 5's *read temperature on Fahrenheit and Celsius	temperature Fahrenheit Celsius degree	HC 18.5 Pg. 356 A-D
12. Enduring Understanding - Objects can be described and compared using geometric attributes.						
12a. Essential Question - How can objects be represented and compared using geometric attributes?						
Module 5	5 MC	G.11.3.2 Determine which new figure will be formed by combining and subdividing models of existing figures (Based on the example, decomposing 3-D figures leading to nets)	Identify which new figure will be formed by combining and subdividing models of existing figures Bloom's - Evaluation	*identify figures by name *combine figures to make new figures *take apart an existing whole figure into its parts	combining subdividing visualization properties	AR - 6
13. Enduring Understanding - Probability can be represented numerically and graphically.						
13a. How is probability represented numerically?						
Module 5	1 MC 1 OR	DAP.17.3.1 Use fractions to predict probability of an event	Use fractions to predict probability of an event Bloom's - Application	*identify what probability is *relate fractions to probability as parts of a set *express probability in fraction form and word form *relate part to whole	probability fraction event outcome numerator denominator	HC 17.31 AR - 8

The Learning Institute Module	# of Times Tested	AR Department of Education		Objective	Task Analysis	Essential Vocabulary	Materials/ Resources
		CONTENT STANDARD/ Student Learning Expectations (SLE)					
13b. Essential Question - How is the likelihood of an event determined and communicated?							
Module 5	9 MC 1 OR	DAP.17.3.2 Conduct simple probability experiments, record the data and draw conclusions about the likelihood of possible outcomes (roll number cubes, pull tiles from a bag, spin a spinner, or determine the fairness of games)	A. Conduct simple probability experiments and record the data B. Draw conclusions about the likelihood of possible outcomes Bloom's - Evaluation	*conduct many various simple probability experiments (spinners, tiles, number cubes) and record the data *use strategy to choose how to record data *determine the fairness of a game by playing fair and unfair games *use tally marks to record data during experiment *use data to conclude the likelihood of a possible outcome	probability fair unfair tally marks experiment data conclusion outcome possible outcome chance most likely less likely equally likely	HC 24.1, 24.2, 24.3 Pg. 486 A - D	
14. Enduring Understanding - Both common and decimal fractions can represent fractional parts.							
14a. Essential Question - How are numbers that represent fractional parts compared?							
Module 5	2 MC 1 OR	NO.1.3.4 Represent fractions (halves, thirds, fourths, sixths and eighths) using words, numerals and physical models Ex. Identify and illustrate parts of a whole and parts of sets of objects Ex. Recognize that a fractional part of a rectangle does not have to be shaded with contiguous parts	Express fractions (halves, thirds, fourths, sixths and eighths) using words, numerals and physical models Bloom's - Comprehension	*use objects to model halves, thirds, fourths, sixths, and eighths as they relate to parts of a set and parts of a whole *understand the meaning of the numbers in a fraction *write the fraction in words *recognize that a fractional part of a model does not have to be shaded in contiguous (touching) parts	fraction halves thirds fourths sixths eighths numerator denominator contiguous (touching) parts whole set	HC 25.1, 25.2, Unit 8 pg 514 a	

The Learning Institute Module	# of Times Tested	AR Department of Education		Objective	Task Analysis	Essential Vocabulary	Materials/ Resources
		CONTENT STANDARD/ Student Learning Expectations (SLE)					
Module 5	2 MC	NO.1.3.7 Write a fraction that is equivalent to a given fraction with the use of models Ex. $1/2 = 4/8 = 8/16$		Write a fraction that is equivalent to a given fraction with the use of models Bloom's - Application	*use models (to ensure conceptual understanding) to show equivalent fractions (fraction circles, fraction kits, fraction towers, fraction steps, fraction bars, student-created fraction strips, etc.) *recognize and write equivalent fractions using various models	equivalent fraction	HC 25.3 Unit 8 pg 514A
Module 5	0	NO.1.3.5 Utilize models to recognize that the size of the whole determines the size of the fraction depending on the original quantity		Recognize that the size of the whole determines the size of the fraction depending on the original quantity using models Bloom's - Comprehension	*use different size models to represent a whole to show, for example, half of a larger shape is different than half of a smaller shape (large pizza vs. small pizza)	quantity whole fractions	HC 25.1, 25.2, 25.4 Pg. 514A

Third Grade Mathematics

The Learning Institute Module	# of Times Tested	AR Department of Education	Objective	Task Analysis	Essential Vocabulary	Materials/ Resources
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Ongoing Student Learning Expectation to be Addressed Each Nine Weeks

Enduring Understanding - Successful problem solvers possess a set of core beliefs that support their work: problem solving is important, takes significant time and repeated efforts, and requires reflection.

Essential Question - What are the specific strategies that have wide application in attacking problems and

	0	NO.3.3.4 Solve simple problems using one operation involving addition and subtraction using a variety of methods and tools ON GOING	A. Solve simple problems using one operation involving addition using a variety of methods and tools B. Solve simple problems using one operation involving subtraction using a variety of methods and tools Bloom's - Application	*use objects, mental computation, paper and pencil, and appropriate technology to solve simple addition and subtraction problems in different ways	addition subtraction operation tools expanded notation	HC 1.6, 4.5, 5.5
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FOURTH NINE WEEKS

1. Enduring Understanding - Organization of information shows relationships.

1a. Essential Question - How can the next step in a pattern be found?

Module 6	5 MC 1 OR	A.4.3.4 Use repeating and growing numeric or geometric patterns to solve problems	A. Use repeating numeric or geometric patterns to solve problems B. Use growing numeric or geometric patterns to solve problems Bloom's - Application	*extend a variety of numeric and geometric patterns *differentiate between a repeating and a growing pattern	repeating patterns growing patterns extend	HC 2.5 Ref XXVI h- k
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2. Enduring Understanding - Symbolic notation is used to represent mathematical relationships.

2a. Essential Question - How are symbols used to represent mathematical relationships including operations, equality, and inequality?

Module 6	4 MC 1 OR	A.5.3.3 Use a symbol to represent an unknown quantity in a number sentence involving contextual situations and find the value Ex. $2 \times \Delta = 16$	Use a symbol to represent an unknown quantity in a number sentence involving contextual situations and find the value Bloom's-Application	*use a symbol to represent an unknown number *identify the unknown *solve for the unknown using a mathematical strategy	symbol strategy unknown value number sentence	HC 12.3, 13.4, 236A
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The Learning Institute Module	# of Times Tested	AR Department of Education	Objective	Task Analysis	Essential Vocabulary	Materials/ Resources
		CONTENT STANDARD/ Student Learning Expectations (SLE)				
3. Enduring Question - Multiplication and division are inverse operations.						
3a. Essential Question - How can models for multiplication be used to divide?						
Module 6	3 MC	NO.2.3.4 Model, represent and explain division as measurement and partitive division including equal groups, related rates, price, rectangular arrays (area model), combinations and multiplicative comparison	A. Model, represent and explain division as measurement B. Model, represent and explain division as partitive division NOTE: INCLUDE REPEATED SUBTRACTION Bloom's -Application, Comprehension MEASUREMENT: *Apply to price (Ex. Pies cost \$4 each. How many pies can you buy for \$28?) *Apply to rate (Ex. Ellen walks 3 miles an hour. How many hours will it take her to walk 15 miles?) *Apply to multiplicative comparison (Ex. The giraffe is 18 feet tall. The kangaroo is 6 feet tall. The giraffe is how many times taller than the kangaroo?) PARTITIVE: *Apply to rate (Ex. Ellen walked 15 miles. It took her 5 hours. If she walked the same speed the whole way, how far did she walk in one hour?) *Apply to price (Ex. Jan bought 7 pies. She spent a total of \$28. If each pie cost the same amount, how much did one pie cost?) *Apply to multiplicative comparison (Ex. The giraffe is 18 feet tall. She is 3 times as tall as the kangaroo. How tall is the kangaroo?)	*identify/describe when you know the number in each set and the total but not how many sets, that is division as measurement *identify/describe when you know how many sets and the total but not how many in each set, that is partitive division *apply to price, rate, and multiplicative comparison (see last column) *use rectangular arrays and combinations to show division in these two forms *explain how a remainder may impact an answer in a real-world situation	division partitive division measurement division remainder inverse operation rate fact family	HC 12.1, 12.2, 12.5, 13.4, 14.4, 30.1, 30.2, 30.3

The Learning Institute Module	# of Times Tested	AR Department of Education		Objective	Task Analysis	Essential Vocabulary	Materials/ Resources
		CONTENT STANDARD/ Student Learning Expectations (SLE)					
4. Enduring Understanding - The base 10 number system is based on groups of 10.							
4a. Essential Question - What strategies can be used to read and compare large numbers?							
	0	NO.1.3.2 Use the place value structure of the base ten number system and be able to represent and compare whole numbers including thousands (using models, illustrations, symbols, expanded notation and problem solving)	A. Represent whole numbers including thousands using the place value structure of the base ten number system B. Compare whole numbers including thousands using the place value structure of the base ten number system Bloom's-Application	*use manipulatives to show whole numbers up to and including thousands *use manipulatives to compare numbers up to and including thousands *illustrate to show whole numbers up to and including thousands *illustrate to compare whole numbers up to and including thousands *use symbols to compare whole numbers up to and including thousands *use expanded form to write and to compare whole numbers up to and including thousands *solve real-world problems by applying their knowledge of showing and comparing whole numbers up to and including thousands	compare represent place value thousands expanded notation models base ten period comma	HC 3.2 Manipulatives place value chart XXVIF XXVIG	
5. Enduring Understanding - Symbolic notation is used to represent mathematical relationships.							
5a. Essential Question - How are symbols used to represent mathematical relationships including							
Module 6	5 MC	A.5.3.2 Express mathematical relationships using equalities and inequalities Ex. $4 \times 9 \underline{\quad} 36 - 3$	Express mathematical relationships using equalities and inequalities Bloom's - Comprehension	*explain and understand the symbols (<, >, =, ≠) *evaluate expressions on both sides *use symbols to compare the expressions *decide whether an equality or inequality is true or false *compare numbers in expressions using symbols *supply numbers that make given equalities or inequalities true or false	greater than less than equal to not equal to true false expression equality inequality	HC 4.6, 11.1 66A & 156A AR-6 & AR-3	

The Learning Institute Module	# of Times Tested	AR Department of Education	Objective	Task Analysis	Essential Vocabulary	Materials/ Resources
		CONTENT STANDARD/ Student Learning Expectations (SLE)				
		6. Enduring Understanding - A three-dimensional figure can be analyzed in terms of its two-dimensional parts.				
		6a. How are one-, two-, or three-dimensional shapes described and classified?				
Module 6	4 MC 1 OR	G.8.3.1 Compare, contrast and build 3-D solids by investigating the number of faces, edges, and vertices on models	A. Compare and contrast 3-D solids by investigating the number of faces, edges, and vertices on models B. Build 3-D solids by investigating the number of faces, edges and vertices on models Bloom's - Analysis	*identify 3-D solids (G.8.2.1) *use 3-D models to show faces, edges, and vertices *count the faces, edges, and vertices on each 3-D model *compare/contrast the faces, edges, and vertices of all 3-D models *build a 3-D solid using the number of faces, edges, and vertices given	faces edges vertices solids three-dimensional (3-D) rectangular prism cone sphere cube cylinder properties	HC 21.1 PG. 422 A-D
		7. Enduring Understanding - Standard units provide common language for communicating measurements.				
		7a. Essential Question - How are units of measure related?				
Module 6	5 MC	M.12.3.4 Demonstrate the relationship among different standard units	A. Show the relationship between linear measurement B. Show the relationship between units of capacity C. Show the relationship between units of weight Bloom's - Application	*identify how many inches are in a foot and in a yard, feet in a yard using tools (rulers, etc.) *identify how many cups are in a pint, how many pints in a quart, and how many quarts in a gallon using materials *identify how many ounces are in a pound using materials *identify the abbreviations for the standard units or measurement *apply measurement relationships in context	foot inch yard cup pint quart ounce pound length capacity weight/mass standard units of measurement linear measurement (measuring a straight line)	HC 17.2, 17.5 Pg. 300A-G various measurement tools

The Learning Institute Module	# of Times Tested	AR Department of Education		Objective	Task Analysis	Essential Vocabulary	Materials/ Resources
		CONTENT STANDARD/ Student Learning Expectations (SLE)					
8. Enduring Understanding - The choice of measurement tools depends on the measurable attribute and the degree of precision required.							
8a. Essential Question - What estimation strategies are used in measurement?							
Module 6	6 MC	M.13.3.9 Estimate and measure length, capacity/volume and mass using appropriate customary units	A. Estimate length, capacity/volume and mass using appropriate customary units B. Measure length, capacity/volume and mass using appropriate customary units Bloom's - Evaluation	*describe the order of the measurement tools (largest to smallest, smallest to largest) *relate a measurement tool to a non-standard tool (fingertip, paper clip, arm span) in order to estimate *measure length, capacity, and mass with a measurement tool	estimate pound ounce customary units	HC 17.1, 17.3 Pg. 300 A-G	
9. Enduring Understanding - Organization of information shows relationships.							
Module 6	4 MC 1 OR	DAP.14.3.1 Design a survey question after being given a topic and collect, organize, display and describe simple data using frequency tables or line plots, pictographs and bar graphs	A. Design a survey question after being given a topic B. Collect, organize, display and describe simple data using frequency tables or line plots, pictographs and bar graphs Bloom's - Synthesis	*describe a frequency table, line plot, bar graph, and pictograph *identify what a survey is *design a question from the given topic *collect and sort data *decide how to display data *organize and display data using a frequency table, line plot, pictograph, and bar graph *label and title graph or table correctly (vertical and horizontal labels, values, key) *apply data procedure with frequency tables, line plots, pictographs, and bar graphs	survey data frequency table line plot pictograph key (on a pictograph) bar graph organize display tally mark	HC 15.2, 15.5, 16.1, 16.3 Pg. 300 A-C	

The Learning Institute Module	# of Times Tested	AR Department of Education		Objective	Task Analysis	Essential Vocabulary	Materials/ Resources
		CONTENT STANDARD/ Student Learning Expectations (SLE)					
10. Enduring Understanding - Organization of information shows relationships.							
10a. Essential Question - How does changing the scale affect how data is communicated?							
Module 6	9 MC	DAP.15.3.1 Read and interpret pictographs and bar graphs in which symbols or intervals are greater than one	Read and interpret pictographs and bar graphs in which symbols or intervals are greater than one Bloom's- Analysis	*identify and count symbols on a pictograph in intervals greater than one using the key *find information on a bar graph by counting in intervals greater than one (2's, 5's, 10's, etc.) *identify that a half symbol represents half of the value on a pictograph *read and interpret pictographs and bar graphs in which symbols or intervals are greater than one	key (on a pictograph) symbol vertical label horizontal label pictograph bar graph	HC 3.4, 10.3 Ref. XXIV h-k HC 16.2	
11. Enduring Understanding - Probability can be represented numerically and graphically.							
Module 6	9 MC 1 OR	DAP.17.3.2 Conduct simple probability experiments, record the data and draw conclusions about the likelihood of possible outcomes (roll number cubes, pull tiles from a bag, spin a spinner, or determine the fairness of games)	A. Conduct simple probability experiments and record the data B. Draw conclusions about the likelihood of possible outcomes Bloom's - Evaluation	*conduct many various simple probability experiments (spinners, tiles, number cubes) and record the data *use strategy to choose how to record data *determine the fairness of a game by playing fair and unfair games *use tally marks to record data during experiment *use data to conclude the likelihood of a possible outcome	probability fair unfair tally marks experiment data conclusion outcome possible outcome chance most likely less likely equally likely	HC 24.1, 24.2, 24.3 Pg. 486 A - D	