

COURSE: 12:1:1 MS Math
GRADE LEVEL: Multi-grade

07/2012

DOMAIN:	SUB-TOPIC :	DOMAIN(S) & STANDARDS(S)	ESSENTIAL QUESTION(S)	SKILLS:	WHEN STUDENT DOES IT:	ASSESSMENTS:
OPERATIONS & ALGEBRAIC THINKING	Represent & solve problems involving addition & subtraction	1.OA.1-2 2.OA.1	<ul style="list-style-type: none"> • How do I add and subtract? • Why do I need to be able to add and subtract? • How will solving addition and subtraction word problems help me in everyday life? • What are some strategies to help me add and subtract independently? 	1.OA.1: <ul style="list-style-type: none"> • Add & subtract within 20 to solve word problems • Solve word problems within 20 with 3 addends 2.OA.1: <ul style="list-style-type: none"> • Add and subtract within 100 to solve 1 & 2 step word problems • 	Nov.	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests
OPERATIONS & ALGEBRAIC THINKING	Understand & apply properties of operations and the relationship between addition & subtraction	1.OA.3-4	<ul style="list-style-type: none"> • What are the properties of addition and subtraction? 	1.OA.3: <ul style="list-style-type: none"> • Apply properties of operations as strategies to add & subtract 1.OA.4: <ul style="list-style-type: none"> • Understand subtraction as an unknown-addend problem 	Nov.	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests
OPERATIONS & ALGEBRAIC THINKING	Add & subtract within 20	1.OA.5-6 2.OA.2	<ul style="list-style-type: none"> • How do I add? • Why do I need to learn how to add? • How do I subtract? • Why do I need to learn how to subtract? • What are some mental strategies to help me add and subtract? • What are some strategies to help me add and subtract 	1.OA.5-6: <ul style="list-style-type: none"> • Relate counting to addition & subtraction • Add & subtract within 20 • Use the relationship between addition & subtraction 2.OA.2: <ul style="list-style-type: none"> • Add & subtract within 20 using mental strategies 	Nov.	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests

			independently?			
OPERATIONS & ALGEBRAIC THINKING	Work with addition & and subtraction equations	1.OA.7-8	<ul style="list-style-type: none"> • What does an = sign mean? • How do I find the unknown number in an addition and subtraction problem? 	1.OA.7-8: <ul style="list-style-type: none"> • Understand the meaning of the = sign • Determine if equations involving addition & subtraction are T/F • Determine the unknown whole # in an addition and subtraction equation 	Nov.	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests
OPERATIONS & ALGEBRAIC THINKING	Work with equal groups of objects to gain foundations for multiplication	2.OA.3-4	<ul style="list-style-type: none"> • What are even/odd #s? • How are even/odd #s used in everyday life? 	2.OA.3: <ul style="list-style-type: none"> • Work with even/odd #s • Express an even # as a sum of 2 equal addends • Use addition to find the total # of objects in rectangular arrays 	Sept.-Oct.	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests
OPERATIONS & ALGEBRAIC THINKING	Represent & solve problems involving multiplication & division	3.OA.1-4	<ul style="list-style-type: none"> • How will solving multiplication and division word problems help me in everyday life? 	3.OA.1-4: <ul style="list-style-type: none"> • Interpret products & quotients of whole #s • Use multiplication & division within 100 to solve word problems • Determine the unknown whole # in a multiplication & division equation 	Nov.	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests
OPERATIONS & ALGEBRAIC THINKING	Understand properties of multiplication and the relationship between multiplication & division	3.OA.5-6	<ul style="list-style-type: none"> • How will understanding multiplication and division help me in everyday life? • What are the properties of multiplication & division? 	3.OA.5-6: <ul style="list-style-type: none"> • Apply properties of multiplication & division • Understand division as an unknown-factor problem 	Nov.	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests

OPERATIONS & ALGEBRAIC THINKING	Multiply & divide within 100	3.OA.7	<ul style="list-style-type: none"> • What are some strategies to help me multiply and divide independently? 	3.OA.7: <ul style="list-style-type: none"> • Fluently multiply & divide within 100 	Nov.	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests
OPERATIONS & ALGEBRAIC THINKING	Solve problems involving the four operations, & identify and explain patterns in arithmetic	3.OA.8-9	<ul style="list-style-type: none"> • How will solving addition, subtraction, multiplication and division word problems help me in everyday life? • Why do I need to be able to solve 2 step problems? • How do I solve 2 step word problems? 	3.OA.8-9: <ul style="list-style-type: none"> • Solve 2 step word problems • Assess the reasonableness of answers to 2 step word problems • Identify & explain arithmetic patterns 	Nov.	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests
NUMBER & OPERATIONS IN BASE TEN	Extend the counting sequence	1.NBT.1	<ul style="list-style-type: none"> • What are numbers? • How do I count numbers? • How do I write numbers? • Why do I need to be able to count? • Why do I need to be able to read and write numbers? 	1.NBT.1: <ul style="list-style-type: none"> • Count to 120 from a given number • Read & write #s to 120 • Represent up to 120 objects with a written # 	Sept.-Oct.	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests
NUMBER & OPERATIONS IN BASE TEN	Understand place value	1.NBT. 2-3 2.NBT.1-4	<ul style="list-style-type: none"> • How will place value help me to read and write numbers? • How will comparing numbers help me in everyday life? • How will skip counting help me in everyday life? • Why do I need to be able to read and write numbers? 	1.NBT.2a-c: <ul style="list-style-type: none"> • Understand that #s 11-99 are composed of one to nine tens and one to nine ones 1.NBT.3: <ul style="list-style-type: none"> • Compare 2 two-digit #s using symbols (<, >, =) 2.NBT.1-4: <ul style="list-style-type: none"> • Understand ones, tens, hundreds • Understand that #s 100, 200...900 refer to one to nine hundreds • Count within 1000 • Skip count by 5s, 10s, and 100s • Read & write base-10 numerals to 1000 • Read & write # names to 1000 	Sept.-Oct.	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests

				<ul style="list-style-type: none"> • Use expanded form for #s to 100 • Compare 2 three-digit #s & use the symbols <, >, = 		
NUMBER & OPERATIONS IN BASE TEN	Use place value understanding & properties of operations to add & subtract	1.NBT. 4-6 2.NBT.5-9	<ul style="list-style-type: none"> • How do I add and subtract? • Why do we add and subtract? • How does place value help me read numbers? • How does place value help me add and subtract? • How do you mentally add/subtract 10 and 100? • How do you subtract multiples of 10? • What are some strategies to help me add and subtract independently? 	1.NBT.4-1.NBT.6: <ul style="list-style-type: none"> • Add a 2-digit # and a 1-digit # • Add a 2-digit # and a multiple of 10 • Understand place value concepts involved in adding 2-digit #s • Mentally add 10 more and subtract 10 less to/from a given number • Subtract multiples of 10 2.NBT.5-9 <ul style="list-style-type: none"> • Fluently add & subtract within 100 • Add up to 4 two-digit #s • Understand written methods & place value concepts for adding within 1000 • Subtract within 1000 • Understand place-value concepts for subtraction within 1000 • Mentally add/subtract 10 or 100 • Explain addition/subtraction strategies 	Nov.	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests
NUMBER & OPERATIONS IN BASE TEN	Use place value understanding & properties of operations to perform multi-digit arithmetic	3.NBT.1-3	<ul style="list-style-type: none"> • How do you round to the nearest 10? • How do you round to the nearest 100? • What is the easiest way multiply 1 digit whole #s by 10? • How will rounding make my life easier? 	3.NBT.1-3: <ul style="list-style-type: none"> • Round whole #s to the nearest 10 & 100 • Fluently add/subtract within 1000 • Multiply 1-digit whole #s by multiples of 10 	Nov.	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests

NUMBER & OPERATIONS IN BASE TEN	Develop understanding of fractions as numbers	3.NF.1-3	<ul style="list-style-type: none"> • What are proper fractions? • How do I order fractions on a number line? • What are equivalent fractions? • How do I compare fractions by their size? • How will I use fractions in everyday life? 	3.NF.1-3: <ul style="list-style-type: none"> • Interpret proper fractions • Relate & interpret fractions to #s on number line • Explain equivalent fractions • Compare fraction by reasoning about their size • Relate fractions equivalence to size and number line • Show equivalent fractions • Relate whole numbers & fractions • Compare 2 fractions w/same numerator or denominator using $<$, $>$, $=$ 	March	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests
MEASUREMENT & DATA	Measure lengths indirectly & by iterating length units	1.MD. 1-2	<ul style="list-style-type: none"> • What is length? • How do I order objects by lengths? 	1.MD.1-2: <ul style="list-style-type: none"> • Order 3 objects by length • Compare the lengths of 2 objects indirectly by using a 3rd object • Understand & use lengths 	April	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests • Life skills measurement project
MEASUREMENT & DATA	Measure & estimate lengths in standard units	2MD.1-4	<ul style="list-style-type: none"> • What are the various forms of measurement and how can they be applied in daily life? • How do you measure an object? • What is the difference between inches and feet? 	2.MD.1-4: <ul style="list-style-type: none"> • Use rulers, yardsticks, & measuring tapes • Use & analyze different length units for the same object • Estimate length in inches or feet • Find how much longer one object is than another 	April	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests • Life skills measurement unit project

MEASUREMENT & DATA	Relate addition & subtraction to length	2.MD.5-6	<ul style="list-style-type: none"> • How do I solve addition and subtraction problems involving lengths? 	2.MD.5-6: <ul style="list-style-type: none"> • Use addition to solve word problems involving lengths • Represent whole #s as lengths on a number line • Show sums & differences within 100 on a number line 	April	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests
MEASUREMENT & DATA	Tell & write time and money	1.MD. 3	<ul style="list-style-type: none"> • Why is telling time important? • How do I tell time in hours? • How do I tell time in half-hours? • How does telling time relate to my everyday life? 	1.MD.3: <ul style="list-style-type: none"> • Tell and write time in hours and half-hours 	Jan.-Feb.	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests • Life skills time project
MEASUREMENT & DATA	Work with time & money	2.MD.7-8	<ul style="list-style-type: none"> • Why is telling time important? • How do I tell time to the nearest 5 minutes? • How does telling time relate to my everyday life? • What do a.m. & p.m. mean? • What importance do a.m. & p.m. have in my life? 	2.MD.7-8: <ul style="list-style-type: none"> • Tell & write time to the nearest 5 minutes • Use a.m. & p.m. • Solve word problems involving dollars & cents • Use \$ and cent symbols 	Jan.-Feb. Money: Dec.-Jan.	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests • Life skills time project
MEASUREMENT & DATA	Solve problems involving measurement & estimation of intervals of time, liquid volumes, an masses of objects	3.MD.1-2	<ul style="list-style-type: none"> • Why is telling and writing time important? • How do I tell time to the minute? • How does telling time relate to everyday life and me? • How do I measure liquid volumes? • What are liters? 	3.MD.1-2: <ul style="list-style-type: none"> • Tell & write time to the nearest minute • Measure time intervals in minutes • Solve word problems involving addition & subtraction of time intervals (in min.) • Represent a time problem on a # line • Measure & estimate liquid volumes using liters • Solve 1-step word problems involving liquids volumes 	Time: Jan.-Feb. Liquid volume: April	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests • Life skills time project

MEASUREMENT & DATA	Geometric measurement: understand concepts of area and relate area to multiplication and addition	3.MD.5-7	<ul style="list-style-type: none"> • What is area and how does it relate to everyday life? • What is/are: <ul style="list-style-type: none"> • a square unit? • square inches? • square feet? • How do I find the area of a rectangle? 	3.MD.5-7: <ul style="list-style-type: none"> • Recognize area as an attribute of plane figures • Understand area measurement & concept of square unit • Relate n unit squares to an area of n square units • Measure areas by counting in square inches & feet • Measure areas by counting unit squares in improvised units • Relate area to addition and multiplication • Find the area of a rectangle by tilting it • Show that the area of a rectangle can be found by multiplying the side lengths • Multiply side lengths of rectangles to find area • Represent whole-number products as rectangular areas in mathematical reasoning • Use tiling to show that the area of a rectangle with side lengths a and $b+c$ is the sum of axb and axc • Use area models to represent the distributive property • Find areas of rectilinear figures by decomposing them into non-overlapping rectangles. 	April	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests • Life skills project on measurement and area
MEASUREMENT & DATA	Geometric measurement: recognize perimeter as an attribute of plane figures & distinguish between linear & area measures	3.MD.8	<ul style="list-style-type: none"> • What is perimeter? • How do I find the perimeter? • How is perimeter used in everyday life? 	3.MD.8: <ul style="list-style-type: none"> • Solve perimeter problems • Solve perimeter problems (find unknown side) • Exhibit rectangles with the same perimeter and different areas • Exhibit rectangles with the same area and different 	April	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests • Life skills perimeter mini-project

				perimeters		
MEASUREMENT & DATA	Represent & interpret data	1.MD.4 2.MD.9-10 3.MD.3-4	<ul style="list-style-type: none"> • What are the different ways to represent data? • What are charts, tables and graphs? • What are the benefits of charts, tables, and graphs in our daily lives and how are they used? • How do we choose which graph to use? • What vocabulary do I need to know in order to read, create and use charts, tables and graphs? 	<p>1.MD.4:</p> <ul style="list-style-type: none"> • Organize, represent, interpret & compare data with up to 3 categories <p>2.MD.9-10:</p> <ul style="list-style-type: none"> • Measure objects to generate whole-number length data • Make repeated measurements of the same object to generate length data • Draw a picture graph to represent a data set with up to 4 categories • Draw a bar graph with up to 4 categories • Solve problems using data presented in a bar graph <p>3.MD.3-4:</p> <ul style="list-style-type: none"> • Draw a scaled picture graph & bar graph to represent a data set with several categories • Solve problems using information presented in scaled bar graphs • Find lengths involving halves & fourths of a unit and display them in a line plot 	May	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests • Life skills unit project
GEOMETRY	Reason with shapes and their attributes	1.G.1-3 2.G.1-3 3.G.1-2	<ul style="list-style-type: none"> • What shapes are in our environment? • What is geometry? • How does geometry relate to everyday life? 	<p>1.G.1-3:</p> <ul style="list-style-type: none"> • Distinguish between defining attributes vs non-defining attributes • Build & draw shapes with defining attributes • Compose 2-D and 3-D shapes • Compose new shapes from 	June	<ul style="list-style-type: none"> • Observation checklists • Teacher generated quizzes & tests • Life skills geometry unit project

				<ul style="list-style-type: none"> composite shapes • Partition circles & rectangles into 2 & 4 equal shares and use related vocab • Recognize that decomposing shapes into more equal shares creates smaller shares <p>2.G.1-3:</p> <ul style="list-style-type: none"> • Recognize and draw 2-D & 3-D shapes having specified attributes • ID triangles, quadrilaterals, pentagons, hexagons and cubes • Partition a rectangle into rows, and columns of same-size squares and count the squares • Partition circles and rectangles into 2, 3, or 4 equal shares and use related vocab. • Recognize that equal shares of identical wholes need not have the same shape <p>3.G.1-2:</p> <ul style="list-style-type: none"> • Understand that shapes in different categories may share attributes • Understand that shared attributes of shapes can define a larger category • Recognize rhombuses, rectangles, and squares as examples of quadrilaterals and draw quadrilaterals that are non-examples • Partition shapes into parts with equal areas • Express the area of each equal part of a shape as a unit fraction of the whole 		
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