

2nd Grade Math

Numbers		
Power Standard: Students will read, write, order, compare and estimate numbers with a variety of strategies and properties using whole numbers to 1,000.		
M.O.2.1.1	Read, write, order, and compare numbers to 1,000 using multiple strategies (e.g. symbols, manipulatives, number line).	
	• Read numbers to 1,000 using multiple strategies	Knowledge
	• Write numbers to 1,000 using multiple strategies	Knowledge
	• Order numbers to 1,000 using multiple strategies	Performance
	• Compare numbers to 1,000 using multiple strategies	Reasoning
M.O.2.1.2	Justify any number as odd or even and determine if a set has an odd or even number of elements.	
	• justify any number as odd or even	Reasoning
	• determine if a set has an odd or even number of elements.	Knowledge
M.O.2.1.4	Model and identify place value of each digit utilizing standard and expanded form through 1000.	
	• model place value of each digit utilizing standard form through 1000.	Knowledge
	• model place value of each digit utilizing expanded form through 1000.	Knowledge
	• identify place value of each digit utilizing standard form through 1000.	Knowledge
	• identify place value of each digit utilizing expanded form through 1000.	Knowledge
M.O.2.1.5	Identify and read any ordinal number to identify position in a sequence.	
	• identify any ordinal number to identify position in a sequence.	Performance
	• read any ordinal number to identify position in a sequence.	Knowledge
M.O.2.1.6	Round any 3-digit number to both the nearer 10 and 100.	
	• round any 3-digit number to both the nearer 10	Performance
	• round any 3-digit number to both the nearer 100	Performance
M.O.2.1.7	Identify and explain fractions as part of a whole and as part of a set/group using models.	
	• Identify fractions as part of a whole using models.	Knowledge
	• Identify fractions as part of a set/group using models.	Knowledge

	<ul style="list-style-type: none"> • Explain fractions as part of a whole using models. 	Performance/Reasoning
	<ul style="list-style-type: none"> • Explain fractions as part of a set/group using models. 	Performance/Reasoning
Operations		
Power Standard: Students will develop fluency with addition and subtraction of whole numbers and recognize the relationship between these operations.		
M.O.2.1.3	count and group concrete manipulatives by ones, tens, and hundreds to 1,000.	
	<ul style="list-style-type: none"> • count concrete manipulatives by one to 1,000 	
	<ul style="list-style-type: none"> • count concrete manipulatives by tens to 1,000 	
	<ul style="list-style-type: none"> • count concrete manipulatives by hundreds to 1,000 	
	<ul style="list-style-type: none"> • group concrete manipulatives by one to 1,000 	
	<ul style="list-style-type: none"> • group concrete manipulatives by tens to 1,000 	
	<ul style="list-style-type: none"> • group concrete manipulatives by hundreds to 1,000 	
M.O.2.1.8	model and justify the relationship between addition and subtraction (e.g., identity element of addition, associative property, commutative property, inverse operations, fact families).	
	<ul style="list-style-type: none"> • model the relationship between addition and subtraction 	Product
	<ul style="list-style-type: none"> • justify the relationship between addition and subtraction 	Reasoning
M.O.2.1.9	demonstrate quick recall of basic addition facts with sums to 18 and corresponding subtraction facts.	
	demonstrate quick recall of basic addition facts with sums to 18	Knowledge
	demonstrate quick recall of basic subtraction facts with sums to 18	Knowledge
M.O.2.1.10	model 2- and 3-digit addition and subtraction with regrouping using multiple strategies.	
	<ul style="list-style-type: none"> • model 3-digit addition with regrouping using multiple strategies. 	Reasoning
	<ul style="list-style-type: none"> • model 2 digit subtraction with regrouping using multiple strategies. 	Reasoning
	<ul style="list-style-type: none"> • model 3-digit subtraction with regrouping using multiple strategies. 	Reasoning
	<ul style="list-style-type: none"> • model 2 digit addition with regrouping using multiple strategies. 	Reasoning
M.O.2.1.11	add and subtract 2- and 3-digit numbers without regrouping.	
	subtract 2-digit numbers without regrouping	Performance
	subtract 3-digit numbers without regrouping	Performance
	add 2-digit numbers without regrouping	Performance
	add 3-digit numbers without regrouping	Performance
M.O.2.1.12	use rounding to analyze the reasonableness of a sum or a difference.	

	<ul style="list-style-type: none"> • use rounding to analyze the reasonableness of a sum 	Reasoning
	<ul style="list-style-type: none"> • use rounding to analyze the reasonableness of a difference 	Reasoning
M.O.2.1.13	create story problems that require one or two-step procedures, using a variety of strategies explain the reasoning used , justify the procedures selected and present the results.	
	<ul style="list-style-type: none"> • create story problems that require one step procedures 	Product
	<ul style="list-style-type: none"> • create story problems that require two-step procedures 	Product
	<ul style="list-style-type: none"> • using a variety of strategies explain the reasoning used 	Reasoning
	<ul style="list-style-type: none"> • justify the procedures selected in creating story problems 	Reasoning
	<ul style="list-style-type: none"> • present the results of the created story problem 	Product
M.O.2.2.4	create physical models to demonstrate equivalency of two numerical expressions written as a grade-appropriate number sentence.	
		Product
Power Standard: Students will analyze, describe, and extend growing numerical and non-numerical patterns to describe, write, and justify a rule with symbols and numbers.		
Algebra		
M.O.2.2.1	analyze, describe, extend and create a growing pattern using objects or numbers.	
	<ul style="list-style-type: none"> • analyze a growing pattern using objects or numbers. 	Reasoning
	<ul style="list-style-type: none"> • describe a growing pattern using objects or numbers. 	Performance
	<ul style="list-style-type: none"> • extend a growing pattern using objects or numbers. 	Reasoning
	<ul style="list-style-type: none"> • create a growing pattern using objects or numbers. 	Product
M.O.2.2.2	explain how one variable produces a change in another variable	
		Reasoning
M.O.2.2.3	describe, complete and extend a variety of counting patterns, according to a given rule.	
	<ul style="list-style-type: none"> • Describe a variety of counting patterns, according to a given rule. 	Knowledge
	<ul style="list-style-type: none"> • Complete a variety of counting patterns, according to a given rule. 	Product
	<ul style="list-style-type: none"> • Extend a variety of counting patterns, according to a given rule. 	Performance
Geometry		
Power Standard: Students will identify, describe, and analyze two-dimensional and three-dimensional solid geometric figures in the real world. The student will be able to model, draw, and identify line segments and angles. Using real world geometric shapes the student will draw an example of rotation and reflection of geometric shapes. They will be able to plot, create, and describe the path between locations on a grid.		

M.O.2.3.1	identify and describe the following geometric solids according to the number of faces and edges: <ul style="list-style-type: none"> • rectangular solid • cube • cylinder • cone • pyramid 	
	<ul style="list-style-type: none"> • identify the following geometric solids according to the number of faces and edges 	Knowledge
	<ul style="list-style-type: none"> • describe the following geometric solids according to the number of faces and edges 	Knowledge
	<ul style="list-style-type: none"> • identify a cube according to the number of faces and edges 	Knowledge
	<ul style="list-style-type: none"> • identify a cylinder according to the number of faces and edges 	Knowledge
	<ul style="list-style-type: none"> • identify a cone according to the number of faces and edges 	Knowledge
	<ul style="list-style-type: none"> • identify a pyramid according to the number of faces and edges 	Knowledge
	<ul style="list-style-type: none"> • describe a cube according to the number of faces and edges 	Knowledge
	<ul style="list-style-type: none"> • describe a cylinder according to the number of faces and edges 	Knowledge
	<ul style="list-style-type: none"> • describe a cone according to the number of faces and edges 	Knowledge
M.O.2.3.2	compare and contrast plane and solid geometric shapes.	
	<ul style="list-style-type: none"> • Compare plane shapes 	Reasoning
	<ul style="list-style-type: none"> • Contrast plane shapes 	Reasoning
	<ul style="list-style-type: none"> • Compare solid shapes 	Reasoning
	<ul style="list-style-type: none"> • Contrast solid shapes 	Reasoning
	<ul style="list-style-type: none"> • Compare plane and solid geometric shapes 	Reasoning
	<ul style="list-style-type: none"> • Contrast plane and solid geometric shapes 	Reasoning
M.O.2.3.3	identify and draw congruent shapes that have been rotated or reflected	
	<ul style="list-style-type: none"> • Identify congruent shapes that have been rotated 	Knowledge
	<ul style="list-style-type: none"> • Draw congruent shapes that have been rotated 	Performance
	<ul style="list-style-type: none"> • Identify congruent shapes that have been reflected 	Knowledge
	<ul style="list-style-type: none"> • Draw congruent shapes that have been reflected 	Performance
M.O.2.3.4	model and draw line segments and angles.	

	<ul style="list-style-type: none"> • Model line segments 	Knowledge
	<ul style="list-style-type: none"> • Draw line segments 	Knowledge
	<ul style="list-style-type: none"> • Model angles 	Knowledge
	<ul style="list-style-type: none"> • Draw angles 	Knowledge
M.O.2.3.5	plot and describe the path between locations on a grid.	
	plot the path between locations on a grid.	Performance
	describe the path between locations on a grid.	Performance
M.O.2.3.6	identify similar shapes.	
		Knowledge
Measurement		
Power Standard: Students will estimate, develop, and justify the formula for perimeter and area utilizing square units. They will also use appropriate tools to measure and determine reasonableness for length, temperature, and weight/ mass and justify estimations.		
M.O.2.4.1	<ul style="list-style-type: none"> • identify a real life situation to use appropriate measurement tools; over time make a hypothesis as to the change overtime using whole units: • length in centimeters and inches, • temperature in Celsius and Fahrenheit, weight/mass in pounds and kilograms, and design and implement a method to collect, organize, and analyze data; analyze the results to make a conclusion evaluate the validity of the hypothesis based upon collected data; design a mode of presentation (with and without technology). 	
	<ul style="list-style-type: none"> • Collect data 	Knowledge
	<ul style="list-style-type: none"> • Organize data 	Performance
	<ul style="list-style-type: none"> • Analyze data 	Reasoning
	<ul style="list-style-type: none"> • Analyze the results to make a conclusion 	Reasoning
	<ul style="list-style-type: none"> • Evaluate the validity of the hypothesis based upon collected data 	Reasoning
	<ul style="list-style-type: none"> • Design a mode of presentation with technology 	Product
	<ul style="list-style-type: none"> • Design a mode of presentation without technology 	Product
	<ul style="list-style-type: none"> • Identify a real life situation to use appropriate measurement tools 	Performance
	<ul style="list-style-type: none"> • Using appropriate measurement tools, make a hypothesis as to the change over time using length in centimeters and inches 	Reasoning
	<ul style="list-style-type: none"> • Using appropriate measurement tools, make a hypothesis as to the 	Reasoning

	change over time using temperature (Celsius/Fahrenheit)	
	<ul style="list-style-type: none"> Using appropriate measurement tools, make a hypothesis as to the change over time using weight/mass in pounds and kilograms 	Reasoning
M.O.2.4.2	estimate and determine the perimeter of squares, rectangles and triangles.	
	<ul style="list-style-type: none"> Estimate the perimeter of squares 	Reasoning
	<ul style="list-style-type: none"> Estimate the perimeter of rectangles 	Reasoning
	<ul style="list-style-type: none"> Estimate the perimeter of triangles. 	Reasoning
	<ul style="list-style-type: none"> Determine the perimeter of squares. 	Performance
	<ul style="list-style-type: none"> Determine the perimeter of rectangles. 	Performance
	<ul style="list-style-type: none"> Determine the perimeter of triangles. 	Performance
M.O.2.4.3	estimate and count the number of square units needed to cover a given area using manipulatives.	
	<ul style="list-style-type: none"> estimate the number of square units needed to cover a given area using manipulatives. 	Reasoning
	<ul style="list-style-type: none"> count the number of square units needed to cover a given area using manipulatives. 	Knowledge
M.O.2.4.4	order events in relation to time.	
		Reasoning
M.O.2.4.5	determine past and future days of the week and identify specific dates, given a calendar.	
	<ul style="list-style-type: none"> given a calendar, determine past days of the week 	Performance
	<ul style="list-style-type: none"> given a calendar, determine future days of the week 	Reasoning
	<ul style="list-style-type: none"> given a calendar, identify specific dates 	Performance
M.O.2.4.6	read time to the quarter hour using an analog and digital clock.	
	<ul style="list-style-type: none"> read time to the quarter hour using an analog clock. 	Performance
	<ul style="list-style-type: none"> read time to the quarter hour using a digital clock. 	Performance
M.O.2.4.7	Identify, count, and organize coins and bills to display a variety of place values from real-life examples with a total value of one dollar or less and model making change using manipulatives.	
	<ul style="list-style-type: none"> Identify coins to display a variety of place values from real-life examples with a total value of one dollar or less 	Performance
	<ul style="list-style-type: none"> Identify bills to display a variety of place values from real-life examples with a total value of one dollar or less 	Performance

	<ul style="list-style-type: none"> Count coins to display a variety of place values from real-life examples with a total value of one dollar or less 	Performance
	<ul style="list-style-type: none"> Count bills to display a variety of place values from real-life examples with a total value of one dollar or less 	Performance
	<ul style="list-style-type: none"> Organize coins to display a variety of place values from real-life examples with a total value of one dollar or less 	Performance
	<ul style="list-style-type: none"> Organize bills to display a variety of place values from real-life examples with a total value of one dollar or less 	Performance
	<ul style="list-style-type: none"> Model making change using manipulatives 	Reasoning
Data Analysis & Probability		
Power Standard: Students will collect, organize, and display data in a pictorial graph with probability experiments with two outcomes and justify their responses. They will predict possible outcomes and formulate questions from the probability experiments.		
M.O.2.5.1	create, read, and interpret a pictograph with each picture representing greater than or equal to a single unit.	
	<ul style="list-style-type: none"> Create a pictograph with each picture representing greater than or equal to a single unit. 	Product
	<ul style="list-style-type: none"> Read a pictograph with each picture representing greater than or equal to a single unit. 	Knowledge
	<ul style="list-style-type: none"> Interpret a pictograph with each picture representing greater than or equal to a single unit. 	Reasoning
M.O.2.5.2	conduct simple experiments with more than two outcomes and use the data to predict which event is more, less, or equally likely to occur if the experiment is repeated.	
	<ul style="list-style-type: none"> conduct simple experiments with more than two outcomes 	Product
	<ul style="list-style-type: none"> use the data to predict which event is more, less, or equally likely to occur if the experiment is repeated. 	Reasoning
M.O.2.5.3	analyze data represented on a graph using grade-appropriate questions.	
		Reasoning
M.O.2.5.4	formulate questions, collect data, organize and display as a chart, table or bar graph.	
	<ul style="list-style-type: none"> Formulate questions in chart 	Reasoning
	<ul style="list-style-type: none"> Collect data on a chart 	Knowledge

	<ul style="list-style-type: none"> • Collect data on a table 	Knowledge
	<ul style="list-style-type: none"> • Collect data on bar graph 	Knowledge
	<ul style="list-style-type: none"> • Organize data on table 	Performance
	<ul style="list-style-type: none"> • Organize data on bar graph 	Performance
	<ul style="list-style-type: none"> • Organize data on chart 	Performance
	<ul style="list-style-type: none"> • Display data on chart 	Product
	<ul style="list-style-type: none"> • Display data on table 	Product
	<ul style="list-style-type: none"> • Display data on a bar graph 	Product