

3rd Grade Math

Benchmark 1		
Power Standard: Students will use the four operations to create real world problems with explanations and justifications and input/output models, apply estimation skills and identify place value utilizing standard and expanded form to 10,000.		
M.O.3.1.14 DOK 3	create grade-appropriate real-world problems involving any of the four operations using multiple strategies, explain the reasoning used, and justify the procedures selected when presenting solutions.	
	<ul style="list-style-type: none"> • create grade-appropriate real-world problems using multiple strategies <ul style="list-style-type: none"> ○ in addition ○ in subtraction ○ in multiplication ○ in division 	Performance
	<ul style="list-style-type: none"> • explain the reasoning used <ul style="list-style-type: none"> ○ in addition ○ in subtraction ○ in multiplication ○ in division 	Performance
	<ul style="list-style-type: none"> • justify the procedures selected when presenting solutions <ul style="list-style-type: none"> ○ in addition ○ in subtraction ○ in multiplication ○ in division 	Performance
M.O.3.1.4 DOK 2	apply estimation skills (rounding, benchmarks, compatible numbers) to solve and evaluate reasonableness of an answer.	
		Reasoning
M.O.3.1.3 DOK 1	identify place value of each digit utilizing standard and expanded form to 10,000.	
	<ul style="list-style-type: none"> • identify place value of each digit utilizing standard form to 10,000. 	Reasoning
	<ul style="list-style-type: none"> • identify place value of each digit utilizing expanded form to 10,000. 	Reasoning
M.O.3.2.2 DOK 2	create an input/output model using addition, subtraction, multiplication or division.	
		Performance
Power Standard: Students will add and subtract 2 and 3 digit whole numbers and money with and without regrouping and demonstrate and model multiplication and division.		
M.O.3.1.8 DOK 1	add and subtract 2- and 3-digit whole numbers and money with and without regrouping.	

	<ul style="list-style-type: none"> Add 2- and 3- digit whole numbers with regrouping 	Reasoning
	<ul style="list-style-type: none"> Add 2- and 3- digit whole numbers without regrouping 	Reasoning
	<ul style="list-style-type: none"> Subtract 2- and 3- digit whole numbers with regrouping 	Reasoning
	<ul style="list-style-type: none"> Subtract 2- and 3- digit whole numbers without regrouping 	Reasoning
	<ul style="list-style-type: none"> Add money with regrouping 	Reasoning
	<ul style="list-style-type: none"> Add money without regrouping 	Reasoning
	<ul style="list-style-type: none"> Subtract money with regrouping 	Reasoning
	<ul style="list-style-type: none"> Subtract money without regrouping 	Reasoning
M.O.3.1.9 DOK 2	Demonstrate and model multiplication (repeated addition, arrays) and division (repeated subtraction, partitioning).	
	<ul style="list-style-type: none"> Demonstrate multiplication 	Reasoning
	<ul style="list-style-type: none"> Demonstrate division 	Reasoning
	<ul style="list-style-type: none"> Model multiplication 	Reasoning
	<ul style="list-style-type: none"> Model division 	Reasoning
Power Standard: Students will analyze and extend patterns, identify, describe and classify geometric solids and lines of symmetry.		
M.O.3.2.1 DOK 2	Analyze and extend geometric and numeric patterns.	
	<ul style="list-style-type: none"> Analyze geometric and numeric patterns 	Performance
	<ul style="list-style-type: none"> Extend geometric and numeric patterns 	Performance
M.O.3.2.3 DOK 3	Analyze a given pattern and write the rule.	
		Performance
M.O.3.4.2 DOK 2	estimate and find the perimeter and area of familiar geometric shapes, using manipulatives, grids, or appropriate measuring tools.	
	<ul style="list-style-type: none"> Estimate the perimeter of geometric shapes using manipulatives, grids, or appropriate measuring tools. 	Reasoning
	<ul style="list-style-type: none"> Find the perimeter of geometric shapes using manipulatives, grids, or appropriate 	Reasoning

	measuring tools.	
	<ul style="list-style-type: none"> Estimate the area of geometric shapes using manipulatives, grids, or appropriate measuring tools. 	Reasoning
	<ul style="list-style-type: none"> Find the area of geometric shapes using manipulatives, grids, or appropriate measuring tools. 	Reasoning
M.O.3.3.2 DOK 1	<p>identify, describe, and classify the following geometric solids according to the number of faces, edges, and vertices:</p> <ul style="list-style-type: none"> cube rectangular solid cylinder cone pyramid 	
	<p>Identify the following geometric solids according to the number of faces, edges, and vertices:</p> <ul style="list-style-type: none"> cube rectangular solid cylinder cone pyramid 	Reasoning
	<p>Describe the following geometric solids according to the number of faces, edges, and vertices:</p> <ul style="list-style-type: none"> cube rectangular solid cylinder cone pyramid 	Reasoning
	<p>Classify the following geometric solids according to the number of faces, edges, and vertices:</p> <ul style="list-style-type: none"> cube rectangular solid cylinder cone pyramid 	Reasoning
M.O.3.3.4 DOK 2	<p>identify, describe and draw lines of symmetry in two-dimensional shapes.</p>	
	<ul style="list-style-type: none"> Identify lines of symmetry in two-dimensional shapes. 	Reasoning
	<ul style="list-style-type: none"> Describe lines of symmetry in two-dimensional shapes. 	Reasoning
	<ul style="list-style-type: none"> Draw lines of symmetry in two-dimensional shapes. 	Reasoning
	<ul style="list-style-type: none"> Construct a solid figure from a plane drawing 	Performance

	<ul style="list-style-type: none"> Identify a solid figure from a plane drawing 	Performance
Power Standard: Students will read time to 5 minute intervals using analog and digital clocks, compute elapsed time, identify count and organize coins and bills, and model making change.		
M.O.3.4.4 DOK 2	read time to 5-minute intervals using (am and pm) analog and digital clocks, compute elapsed time to the quarter-hour using a clock.	
	<ul style="list-style-type: none"> read time to 5-minute intervals using (am and pm) analog clock 	Knowledge
	<ul style="list-style-type: none"> read time to 5-minute intervals using (am and pm) digital clock 	Knowledge
	<ul style="list-style-type: none"> compute elapsed time to the quarter-hour using a clock. 	Reasoning
M.O.3.4.5 DOK 1	Identify, count and organize coins and bills to display a variety of price values from real-life examples with a total value of \$100 or less and model making change using manipulatives.	
	<ul style="list-style-type: none"> Identify coins and bills to display a variety of price values 	Knowledge
	<ul style="list-style-type: none"> Count and organize coins and bills to display a variety of price values from real-life examples with a total value of \$100 or less 	Reasoning
	<ul style="list-style-type: none"> Count and organize money (\$100 or less total value) from real-life examples and model making change 	Reasoning
	<ul style="list-style-type: none"> Do all of the above with manipulatives 	Performance
M.O.3.5.3 DOK 3	analyze real-world data represented on a graph using grade-appropriate questions.	
Benchmark 2		
Power Standard: Students will model, describe, and draw lines and rays, use and explain the operations of multiplication and division facts, determine the value of unknown quantities.		
M.O.3.3.5 DOK 1	model, describe, and draw <ul style="list-style-type: none"> lines rays angles including right, obtuse, and acute angles.	
	Model <ul style="list-style-type: none"> lines rays angles including right, obtuse, and acute angles 	Performance

	Describe <ul style="list-style-type: none"> • lines • rays • angles including right, obtuse, and acute angles 	Reasoning
	Draw <ul style="list-style-type: none"> • lines • rays • angles including right, obtuse, and acute angles 	Reasoning
M.O.3.1.10 DOK 2	use and explain the operations of multiplication and division including the properties (e.g., identity element of multiplication, commutative property, property of zero, associative property, inverse operations).	
	<ul style="list-style-type: none"> • Use the operations of multiplication including the properties 	Reasoning
	<ul style="list-style-type: none"> • Explain the operations of multiplication including the properties 	Reasoning
	<ul style="list-style-type: none"> • Use the operations of division including the properties 	Reasoning
	<ul style="list-style-type: none"> • Explain the operations of division including the properties 	Reasoning
M.O.3.1.11 DOK 1	recall basic multiplication facts and the corresponding division facts.	
		Knowledge
M.O.3.2.5 DOK 1	use symbol and letter variables to represent an unknown quantity and determine the value of the variable.	
	<ul style="list-style-type: none"> • Use symbol variables to represent an unknown quantity 	Reasoning
	<ul style="list-style-type: none"> • Use letter variables to represent an unknown quantity 	Reasoning
	<ul style="list-style-type: none"> • Use symbol variables to determine the value of the variable. 	Reasoning
	<ul style="list-style-type: none"> • Use letter variables to determine the value of the variable. 	Reasoning
Power Standard: Students will read, write, order, and compare decimals to hundredths, model the distributive property in multiplication, name and locate grid points, determine area, identify, and create new polygons.		
M.O.3.1.2 DOK 1	read, write, order, and compare decimals to hundredths, with manipulatives.	

	<ul style="list-style-type: none"> Read decimals to hundredths, with manipulatives. 	Knowledge
	<ul style="list-style-type: none"> Write decimals to hundredths, with manipulatives. 	Knowledge
	<ul style="list-style-type: none"> Order decimals to hundredths, with manipulatives. 	Reasoning
	<ul style="list-style-type: none"> Compare decimals to hundredths, with manipulatives. 	Reasoning
M.O.3.1.12 DOK 1	model the distributive property in multiplication of 2- and 3-digit numbers by a 1-digit number.	
	model the distributive property in multiplication of 2-digit numbers by a 1-digit number.	Performance
	model the distributive property in multiplication of 3-digit numbers by a 1-digit number.	Performance
M.O.3.3.7 DOK 1	name the location of a point on a first-quadrant grid, represent using ordered pairs.	
	<ul style="list-style-type: none"> Name the location of a point on a first-quadrant grid 	Knowledge
	<ul style="list-style-type: none"> Represent the location of a point using ordered pairs 	Reasoning
M.O.3.4.3 DOK 3	determine the formula the area of a rectangle and explain reasoning through modeling.	
	<ul style="list-style-type: none"> determine the formula the area of a rectangle 	Reasoning
	<ul style="list-style-type: none"> explain reasoning through modeling 	Reasoning
M.O.3.3.1 DOK 2	identify and create new polygons by transforming, combining and decomposing polygons.	
	<ul style="list-style-type: none"> Identify new polygons by transforming polygons 	Knowledge
	<ul style="list-style-type: none"> Identify new polygons by combining polygons 	Knowledge
	<ul style="list-style-type: none"> Identify new polygons by decomposing polygons 	Knowledge
	<ul style="list-style-type: none"> Create new polygons by transforming polygons 	Reasoning
	<ul style="list-style-type: none"> Create new polygons by combining polygons 	Reasoning
	<ul style="list-style-type: none"> Create new polygons by decomposing polygons 	Reasoning
Benchmark 3/4		

Power Standard: Students will demonstrate an understanding of fractions, collect and organize real world data and determine probability of developed and conducted experiments.		
M.O.3.1.5 DOK 1	demonstrate an understanding of fractions as part of a whole/one and as part of a set/group using models and pictorial representations.	
	demonstrate an understanding of fractions as part of a whole/one using models	Reasoning
	demonstrate an understanding of fractions as part of a whole/one using pictorial representations	Reasoning
	demonstrate an understanding of fractions as part of a set/group using models	Reasoning
	demonstrate an understanding of fractions as part of a set/group using pictorial representations	Reasoning
M.O.3.1.13 DOK 2	use models to demonstrate division of 2- and 3-digit numbers by a 1-digit number.	
	<ul style="list-style-type: none"> use models to demonstrate division of 2-digit numbers by a 1-digit number. 	Reasoning
	<ul style="list-style-type: none"> use models to demonstrate division of 3-digit numbers by a 1-digit number. 	Reasoning
M.O.3.3.6 DOK 2	draw an example of a flip, slide and turn (reflection, translation, and rotation) given a model.	
	<ul style="list-style-type: none"> draw an example of a slide and turn (translation) given a model. 	Reasoning
	<ul style="list-style-type: none"> draw an example of a turn (rotation) given a model. 	Reasoning
	<ul style="list-style-type: none"> draw an example of a flip (reflection) given a model. 	Reasoning
M.O.3.5.1 DOK 2	collect and organize grade-appropriate real-world data from observation, surveys, and experiments, and identify and construct appropriate ways to display data.	
	<ul style="list-style-type: none"> collect grade-appropriate real-world data from observation 	Reasoning
	<ul style="list-style-type: none"> organize grade-appropriate real-world data from observation 	Reasoning
	<ul style="list-style-type: none"> collect grade-appropriate real-world data from surveys 	Reasoning
	<ul style="list-style-type: none"> organize grade-appropriate real-world data from surveys 	Reasoning
	<ul style="list-style-type: none"> collect grade-appropriate real-world data from experiments 	Reasoning
	<ul style="list-style-type: none"> organize grade-appropriate real-world data from experiments 	Reasoning

	<ul style="list-style-type: none"> Identify appropriate ways to display data from observation 	Reasoning
	<ul style="list-style-type: none"> Construct appropriate ways to display data from observation 	Reasoning
	<ul style="list-style-type: none"> Identify appropriate ways to display data from surveys 	Reasoning
	<ul style="list-style-type: none"> Construct appropriate ways to display data from surveys 	Reasoning
	<ul style="list-style-type: none"> Identify appropriate ways to display data from experiments 	Reasoning
	<ul style="list-style-type: none"> Construct appropriate ways to display data from experiments 	Reasoning
M.O.3.5.2 DOK 2	develop and conduct grade-appropriate experiments using concrete objects (e.g. counters, number cubes, spinners) to determine the likelihood of events and list all outcomes.	
	<ul style="list-style-type: none"> Develop grade-appropriate experiments using concrete objects (e.g. counters, number cubes, spinners) to determine the likelihood of events 	Product
	<ul style="list-style-type: none"> Conduct grade-appropriate experiments using concrete objects (e.g. counters, number cubes, spinners) to determine the likelihood of events 	Product
	<ul style="list-style-type: none"> Develop grade-appropriate experiments using concrete objects (e.g. counters, number cubes, spinners) to list all outcomes 	Product
	<ul style="list-style-type: none"> Conduct grade-appropriate experiments using concrete objects (e.g. counters, number cubes, spinners) to list all outcomes 	Product
Power Standard: Students will demonstrate an understanding of equivalent proper and improper fractions and mixed numbers, read, write, and compare numbers to 10,000 write and justify equivalent numerical expressions.		
M.O.3.1.7 DOK 2	use concrete models and pictorial representations to demonstrate an understanding of equivalent fractions, proper and improper fractions, and mixed numbers.	
	<ul style="list-style-type: none"> use concrete models to demonstrate an understanding of equivalent fractions 	Reasoning
	<ul style="list-style-type: none"> use concrete models to demonstrate an understanding of proper and improper fractions 	Reasoning

	<ul style="list-style-type: none"> • use concrete models to demonstrate an understanding of mixed numbers 	Reasoning
	<ul style="list-style-type: none"> • use pictorial representations to demonstrate an understanding of equivalent fractions 	Reasoning
	<ul style="list-style-type: none"> • use pictorial representations to demonstrate an understanding of proper and improper fractions 	Reasoning
	<ul style="list-style-type: none"> • use pictorial representations to demonstrate an understanding of mixed numbers 	Reasoning
M.O.3.1.1 DOK 1	read, write, order, and compare numbers to 10,000 using a variety of strategies (e.g., symbols, manipulatives, number line).	
	<ul style="list-style-type: none"> • Read numbers to 10,000 using a variety of strategies 	Knowledge
	<ul style="list-style-type: none"> • Write numbers to 10,000 using a variety of strategies 	Knowledge
	<ul style="list-style-type: none"> • Order numbers to 10,000 using a variety of strategies 	Knowledge
	<ul style="list-style-type: none"> • Compare numbers to 10,000 using a variety of strategies 	Reasoning
M.O.3.2.4 DOK 2	write equivalent numerical expressions and justify equivalency.	Reasoning
M.O.3.4.1 DOK 4	<p>Within a project based investigation, identify a real life situation, consider a number of variables and use appropriate measurement tools, overtime, make a hypothesis as to the change overtime; with more precision than whole units;</p> <ul style="list-style-type: none"> • length in centimeters and inches, • temperature in Celsius and Fahrenheit • weight/mass in pounds and kilograms, <p>and design and implement a method to collect, organize, and analyze data; analyze results to make a conclusion; evaluate the validity of the hypothesis upon collected data; design a mode of presentation (with and without technology)</p>	Product
M.O.3.1.6 DOK 2	<p>create concrete models and pictorial representations to</p> <ul style="list-style-type: none"> • compare and order fractions with like and unlike denominators, • add and subtract fractions with like denominators, <p>and verify results.</p>	
	<ul style="list-style-type: none"> • create concrete models to compare fractions 	Performance

	with like denominators	
	<ul style="list-style-type: none"> • create concrete models to compare fractions with unlike denominators 	Performance
	<ul style="list-style-type: none"> • create concrete models to order fractions with like denominators 	Performance
	<ul style="list-style-type: none"> • create concrete models to order fractions with unlike denominators 	Performance
	<ul style="list-style-type: none"> • Create pictorial representations to compare fractions with like denominators 	Performance
	<ul style="list-style-type: none"> • Create pictorial representations to compare fractions with unlike denominators 	Performance
	<ul style="list-style-type: none"> • Create pictorial representations to order fractions with like denominators 	Performance
	<ul style="list-style-type: none"> • Create pictorial representations to order fractions with unlike denominators 	Performance
	<ul style="list-style-type: none"> • Create concrete models to add fractions with like denominators 	Performance
	<ul style="list-style-type: none"> • Create concrete models to subtract fractions with like denominators 	Performance
	<ul style="list-style-type: none"> • Create pictorial representations to add fractions with like denominators 	Performance
	<ul style="list-style-type: none"> • Create pictorial representations to subtract fractions with like denominators 	Performance
	<ul style="list-style-type: none"> • Verify results with all above 	Performance