Kindergarten Math

Power Standard: Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will • demonstrate understanding of numbers, ways of representing numbers, and relationships among numbers and number systems, • demonstrate meanings of operations and how they relate to one another, and compute fluently and make reasonable estimates.		
M.O.K.1.1	count forward to 20 and backward from 10 with and without manipulatives.	
	• Count forward to 20 with manipulatives	Performance
	• Count backward from 10 with manipulatives	Performance
	• Count forward to 20 without manipulatives	Performance
	• Count backward from 10 without manipulatives	Performance
M.O.K.1.2	read, write, order, and compare numbers to 20 using multiple strategies (e.g. manipulatives, number line).	
	• Read numbers to 20 using multiple strategies	Performance
	• Write numbers to 20 using multiple strategies	Performance
	• Order numbers to 20 using multiple strategies	Performance
	• Compare numbers to 20 using multiple strategies	Performance
M.O.K.1.3	group and count manipulatives by ones, fives, and tens.	
	• Group manipulatives by ones	Reasoning
	• Group manipulatives by fives	Reasoning
	• Group manipulatives by tens	Reasoning
	• Count manipulatives by ones	Reasoning
	• Count manipulatives by fives	Reasoning
	• Count manipulatives by tens	Reasoning
M.O.K.1.4	model and identify place value of each digit utilizing standard and expanded form through 20.	
	• Model place value of each digit utilizing standard form through 20	Performance
	• Model place value of each digit utilizing expanded form through 20	Performance
	• Identify place value of each digit utilizing standard form through 20	Performance
	• Identify place value of each digit utilizing expanded form through 20	Performance
M.O.K.1.5	Use ordinal numbers 1^{st} – 10^{th} to identify position in a sequence.	Reasoning
M.O.K.1.6	estimate the number of objects in a group of 20 or less and count to evaluate reasonableness of estimation.	
	• estimate the number of objects in a group of 20 or	Reasoning

	less	
	• count to evaluate reasonableness of estimation	Performance
M.O.K.1.7	identify and name halves and wholes using concrete models.	
	• Identify halves using concrete models	Performance
	• Name halves using concrete models	Performance
	• Identify wholes using concrete models	Performance
	• Name wholes using concrete models	Performance
M.O.K.1.8	use concrete objects to model addition and subtraction of whole numbers related to sums of 10 or less and write corresponding number sentence.	
	• use concrete objects to model addition of whole numbers related to sums of 10 or less and write corresponding number sentence.	Performance
	• use concrete objects to model subtraction of whole numbers related to sums of 10 or less and write corresponding number sentence.	Performance
M.O.K.1.9	model meanings of operations and the relationship between addition and subtraction (e.g., identity element of addition, commutative property) using manipulatives.	
	• model meanings of operations between addition and subtraction	Reasoning
	• model meanings of the relationship between addition and subtraction	Reasoning
M.O.K.1.10	create grade-appropriate picture and story problems, solve using a variety of strategies, present solutions and justify results.	
	• create grade-appropriate picture and story problems	Product
	• Solve grade-appropriate picture and story problems using a variety of strategies	Reasoning
	• present solutions of grade-appropriate picture and story problems and justify results	Performance
Power Standard: Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will • demonstrate understanding of patterns, relations and functions, • represent and analyze mathematical situations and structures using algebraic symbols, • use mathematical models to represent and understand quantitative relationships, and analyze change in various contexts.		

M.O.K.2.1	justify the classification of self-selected objects based on attributes.	Reasoning
M.O.K.2.2	create, describe, and extend a repeating pattern using common objects, sound, and movement.	
	• Create a repeating pattern using common objects	Product
	• Create a repeating pattern using sound	Product
	• Create a repeating pattern using movement	Product
	• Describe a repeating pattern using common objects	Reasoning
	• Describe a repeating pattern using sound	Reasoning
	• Describe a repeating pattern using movement	Reasoning
	• Extend a repeating pattern using common objects	Performance
	• Extend a repeating pattern using sound	Performance
	• Extend a repeating pattern using movement	Performance
M.O.K.2.3	model and identify patterns of counting by 5's and 10's.	
	• Model patterns of counting by 5's	Performance
	• Model patterns of counting by 5's	Performance
	• Model patterns of counting by 10's	Performance
	• Model patterns of counting by 10's	Performance
	• Identify patterns of counting by 5's	Reasoning
	• Identify patterns of counting by 5's	Reasoning
	• Identify patterns of counting by 10's	Reasoning
	• Identify patterns of counting by 10's	Reasoning
Power Standard: Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will • analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships, • specify locations and describe spatial relationships using coordinate geometry and other representational systems, • apply transformations and use symmetry to analyze mathematical situations, and solve problems using visualization, spatial reasoning, and geometric modeling		
M.O.K.3.1	use physical materials to construct, identify, and classify basic geometric plane shapes: • circles • ellipses (oval) • rectangles including squares • triangles	
	• use physical materials to construct circles	Product
	• use physical materials to construct ellipses	Product
	• use physical materials to construct rectangles including squares	Product
	• use physical materials to construct triangles	Product

	• use physical materials to identify circles	Reasoning
	• use physical materials to identify ellipses	Reasoning
	• use physical materials to identify rectangles including squares	Reasoning
	• use physical materials to identify triangles	Reasoning
	• use physical materials to classify circles	Reasoning
	• use physical materials to classify ellipses	Reasoning
	• use physical materials to classify rectangles including squares	Reasoning
	• use physical materials to classify triangles	Reasoning
M.O.K.3.2	recognize and describe basic geometric shapes in the environment.	
	• recognize basic geometric shapes in the environment	Knowledge
	• describe basic geometric shapes in the environment	Reasoning
M.O.K.3.3	model and describe spatial relationships: • inside/outside • top/bottom • before/after	
	• Model inside/outside	Performance
	• Model top/bottom	Performance
	• Model before/after	Performance
	• Describe inside/outside	Reasoning
	• Describe top/bottom	Reasoning
	• Describe before/after	Reasoning
M.O.K.3.4	identify the separate parts used to make a whole object.	Knowledge
Power Standard: Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will • demonstrate understanding of measurable attributes of objects and the units, systems, and processes of measurement, and • apply appropriate techniques, tools and formulas to determine measurements		
M.O.K.4.1	estimate the size of an object and compare and order objects with respect to a given attribute.	
	• estimate the size of an object	Reasoning
	• compare objects with respect to a given attribute.	Reasoning
	• order objects with respect to a given attribute.	Performance
M.O.K.4.2	use standard and nonstandard units of measure to find the length of an object.	
	• use nonstandard units of measure to find the length of an object.	Performance
	• use standard units of measure to find the length of	Performance

	an object.	
M.O.K.4.3	compare two objects in nonstandard units of measure, according to one or more of the following attributes: • length • height • weight	
	• compare two objects in nonstandard units of measure using length and height	Reasoning
	• compare two objects in nonstandard units of measure using length and weight	Reasoning
	• compare two objects in nonstandard units of measure using weight and height	Reasoning
M.O.K.4.4	use calendar to identify date and the sequence of days of the week.	
	• use calendar to identify date of the week	Knowledge
	• use calendar to identify the sequence of days of the week	Knowledge
M.O.K.4.5	read time to the hour using analog and digital clocks.	
	• read time to the hour using digital clocks.	Knowledge
	• read time to the hour using analog clocks.	Knowledge
M.O.K.4.6	identify the name and value of coins and explain the relationships between: • penny • nickel • dime	
	• identify the name of the penny	Knowledge
	• identify the name of the nickel	Knowledge
	• identify the name of the dime	Knowledge
	• identify the value of the penny	Knowledge
	• identify the value of the nickel	Knowledge
	• identify the value of the dime	Knowledge
Power Standard: Through communication, representation, reasoning and proof, problem solving, and making connections within and beyond the field of mathematics, students will • formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them, • select and use appropriate statistical methods to analyze data, • develop and evaluate inferences and predictions that are based on models, and apply and demonstrate an understanding of basic concepts of probability.		
M.O.K.5.1	collect, organize, display, and interpret data using a pictograph and bar graph (with and without technology)	
	• Collect data using a pictograph with technology	Performance
	• Organize data using a pictograph with technology	Performance

	• Display data using a pictograph with technology	Performance
	• Interpret data using a pictograph with technology	Performance
	• Collect data using a pictograph without technology	Performance
	• Organize data using a pictograph without technology	Performance
	• Display data using a pictograph without technology	Performance
	• Interpret data using a pictograph without technology	Performance
	• Collect data using a bar graph with technology	Performance
	• Organize data using a bar graph with technology	Performance
	• Display data using a bar graph with technology	Performance
	• Interpret data using a bar graph with technology	Performance
	• Collect data using a bar graph without technology	Performance
	• Organize data using a bar graph without technology	Performance
	• Display data using a bar graph without technology	Performance
	• Interpret data using a bar graph without technology	Performance
M.O.K.5.2	conduct a simple probability experiment and use tallies to record results in a table, make predictions based on results.	
	• conduct a simple probability experiment and make predictions based on results	Performance
	• use tallies to record results in a table and make predictions based on results	Performance