

Mathematics Curriculum for K – 2

Strand	Standard	Benchmark	K	1	2	
Patterns, Relationships and Functions	Patterns	Sort items by size. Compare size, length, height. (K)				
		Recognize, describe and extend geometric and numerical patterns. (K, 1, 2)				
		Use patterns to create models, make predictions, describe real world phenomena, solve problems. (K, 1, 2)				
		Record data using tally marks and graphs. Interpret data using graphs. (K, 1)				
		Identify patterns and relationships in tables, charts, schedules, etc. (2)				
		Explore various numeric patterns (ex. odd, even, addition, subtraction). (2)				
	Variability	Identify changes in a pattern. Create new patterns using the change. (K)				
		Recognize changing shapes and numbers in a variety of settings. (1, 2)				
		Use patterns and graphs to show changes and describe these changes. (1, 2)				
		Notice patterns of repetition, growing and shrinking. Explore these changes and their frequency. Represent these changes using manipulatives. (2)				
Geometry and Measurement	Shape and Shape Relationships	Identify sides and corners of basic shapes. (K, 1)				
		Group shapes by properties. (K)				
		Draw or construct shapes using a variety of mediums. (K)				
		Compare, classify and draw familiar 1, 2 & 3 dimensional shapes. (K, 1)				
		Know the difference between flat and space shapes. Describe attributes of space shapes. (1, 2)				
		Use shapes and properties of shapes to describe the physical world and solve problems. (1)				
		Recognize congruence. (2)				
		Explore perimeter. (2)				
	Position	Understand concepts: before/after; above/below/between; top/middle/bottom; left/right; inside/outside. (K)				
		Locate and describe objects in terms of their orientation, direction and relative position. Identify North, South, East and West. (1, 2)				
		Transform objects by sliding, flipping, turning, enlarging, reducing. (1, 2)				
		Recognize and understand symmetry. (K, 1, 2)				
		Use position, direction and orientation to solve problems. (1)				
		Understand the use of number lines and graphs. (2)				
	Measurement	Use standard tools for measuring length, weight. (K, 1, 2)				
		Select and use standard tools for measuring perimeter, volume, time, temperature, money. (K, 1, 2)				
		Compare attributes of objects and develop standard units of measurement. (2)				
		Understand hot and cold. (K)				
		Recognize that the number of units used to measure an object is related to the size of the unit. (1, 2)				
		Estimate measures and compare to results. Develop strategies for estimation. (1, 2)				
		Use measurement to solve problems. (1, 2)				
	Data Analysis and Statistics	Collection, Organization and Presentation of Data	Collect and group objects such as leaves, rocks, etc. (K)			
			Make comparisons: more/less/the same. (K)			
Collect and explore data through counting, measuring, conducting surveys, doing experiments. (1, 2)						
Organize data using concrete objects, pictures, tallies, tables, graphs, charts and diagrams. (K, 1, 2)						
Identify information needed to answer questions or solve problems and implement strategies to obtain, organize and present the information. (1, 2)						
Description and Interpretation		Collect, organize and analyze data to find sets with more/less/the same. (K)				
		Recognize phrases such as "How many more?" as related to graphs. (K)				
		Read and explain data students have collected. (1, 2)				
		Read data from other sources. (2)				
		Describe the shape of the data using informal language and draw conclusions based on the data. (1, 2)				
		Answer questions about the source, collection, organization and presentation of data. (1, 2)				
		Formulate questions and problems. Gather and interpret data to answer questions. (1, 2)				
		Draw, explain and justify conclusions, such as trends, based on data. (2)				

	Inference and Prediction	Develop questions and answers about a collection of objects. (K)			
		Make and explain predictions based on data to answer questions and solve problems. (K, 1, 2)			
		Create surveys to answer questions. (1)			
		Make and test hypotheses. (1, 2)			
Number Sense and Numeration	Concepts and Properties of Numbers	Understand whole numbers: read, write, count using whole numbers. (K, 1, 2)			
		Sequence numbers 1 – 20. (K)			
		Understand ordinal numbers. (K, 1)			
		Apply understanding of ordinal numbers to solve problems. (1)			
		Investigate basic concepts of fractions: $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$. (1, 2)			
		Understand base-10 place value system. (1, 2)			
		Develop an understanding of the properties of numbers and special numbers 0 and 1. (2)			
		Apply understanding of number systems to model and solve problems. (2)			
	Understand commutative property ($2+1 = 1+2$). (2)				
	Representation and Uses of Numbers	Represent whole numbers using concrete, pictorial and symbolic representations. (K, 1, 2)			
		Recognize different representations for the same number and explain why they are the same. (K, 1, 2)			
		Represent fractions using concrete, pictorial and symbolic representations. (1, 2)			
		Investigate counting, ordering, naming, locating and measuring. (K, 1, 2)			
		Develop strategies for estimating quantity and evaluate the reasonableness of these estimates. (K, 1, 2)			
		Find a number before, after and between. (K, 1)			
		Select appropriate numbers and operations to solve problems. (1, 2)			
		Recognize different representations for the same number and explain why they are the same. (K, 1, 2)			
	Number Relationships	Make comparisons more/less/the same. (K, 1, 2)			
		Use terms less than/greater than/ equal to. (1, 2)			
		Classify numbers as even or odd. (1, 2)			
Use part-whole relationships to explore shapes. (K, 1, 2)					
Apply understanding of number relationships to solve problems. (1, 2)					
Use whole relationships to explore numbers, develop number concepts and understand computation. (2)					
Numerical and Algebraic Operations and Analytical Thinking	Operations and their Properties	Name symbols "+", "-", "=" . (K)			
		Add numbers to 6. (K)			
		Subtract using 0 – 6. (K)			
		Develop addition and subtraction sentences. Use number line to solve problems. (K)			
		Add and subtract through 18. (1, 2)			
		Add with 3 addends. (1, 2)			
		Compute 2 digits with renaming. (1)			
		Compute 2 and 3 digits, addition and subtraction, with renaming. (2)			
		Add and subtract money. (1, 2)			
		Use manipulatives to model and record operations and construct story problems. (1, 2)			
		Use manipulatives to model and record operations. Relate models to symbolic expressions and algorithms. (2)			
		Use appropriate form of computation (mental math, calculator, estimation, paper and pencil) to solve a problem and understand why method is used. (1, 2)			
		Apply operations efficiently and accurately in solving problems. (1, 2)			
		Explore commutative and distributive properties. (2)			
	Explore use of calculators and computers. (K, 1, 2)				
	Algebraic and Analytical Thinking	Write and solve story problems for addition and subtraction. Use manipulatives to solve open sentences. (K, 1, 2)			
		Look for patterns in order to solve problems. (1)			
		Use pictures and manipulatives to explore algebraic concepts. (1, 2)			
		Use analytic thinking to describe situations and solve problems. (1, 2)			
	Probability and Discrete Mathematics	Probability	Understand difference between events that can and cannot occur. (K, 1, 2)		
Understand events as more or less likely. (1, 2)					
Judge the reasonability of an answer. (K)					
Explain difference between chance and certainty and give examples. (1, 2)					
Conduct probability experiments and record outcome. (K, 1, 2)					
Discrete	Explore sets by sorting and classifying by common attributes. (K, 1, 2)				

	Mathematics	Organize objects and events in a series. (K)			
		Model and trace figures. (1)			
		Use manipulatives and diagrams to explore problems involving counting and arranging objects. (1, 2)			
		Solve problems with multiple solutions. (2)			