

Connections to Pennsylvania State Math Standards: Grade K

Exhibit Module																							
Academic Content Standards Benchmarks Grade K	Airplane	Airplane Shooter	Amazing Airways	Archimedes Screw	Bernoulli Fountain	Blue Screen	Brain Quiz	Catenary Arch	Crackle Screen	Echo Tube	Erosion Table	Gear Wall	Hurricane Chamber	Kapla Blocks	Laser Guitar	Lego Table	Magnet Wall	Peakaboo Window	PVC Pipe Organ	Rhythm machine	Stream Table	Video Browser	Water Table/Tide Pool
Numbers, Number Systems and Number Relationships																							
Rote count by whole numbers to 100 by ones														X	X								
Attempt to count by tens along with an adult								X						X	X								
Read and write whole numbers 0 – 20								X												X			
Count up to 20 objects using one to one correspondence			X					X						X	X					X			
Use basic numbers and counting	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Use vocabulary independently to compare number of objects	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Tell what number comes before or after (up to 20)								X												X			
Use concrete objects to represent quantities up to and including twenty														X	X					X			
Represent equivalent forms of the same number through the use of concrete objects and drawings up to and including 20			X					X						X	X								
Use concrete objects to separate a set into two equal parts			X					X						X	X								

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Group objects into sets of ten			X											X	X									
Use ordinal number words to describe the position of objects		X	X				X							X	X					X				
Match numerals to sets of objects																				X				
Computation and Estimation																								
Separate concrete objects into groups														X	X									
Represent addition and subtraction in everyday situations using up to ten concrete objects		X	X		X	X	X					X	X	X	X					X				
Explain the results of joining and separating sets of objects up to and including 10 using math vocabulary														X	X									
Use counting backwards as a strategy for finding a difference in the numbers 1 - 10													X	X	X									
Estimate how many objects are in a set/group up to and including twenty objects			X				X							X	X									
Check estimate by counting the number of objects			X											X	X									
Measurement and Estimation																								

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	Measure objects		X	X											X	X	X						
Estimate and measure objects using nonstandard units		X	X									X		X	X	X							
Determine the length and height of objects with nonstandard units		X	X									X		X	X	X							
Analyze charts and graphs of objects with assistance and support from adult																							
Compare two objects using direct comparison		X	X		X									X	X	X			X	X		X	
Group objects according to common properties			X																				
Practice using measurement vocabulary when comparing		X	X		X			X						X	X	X							
Mathematical Reasoning and Connections																							
Verify predictions and solutions about environmental objects	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Identify connections between objects to help with problem solving	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mathematical Problem Solving and Communication																							
Identify and analyze a problem for possible solutions	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

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Seek information through observation, exploration and conversations	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Communicate the findings from the problem solving process using math vocabulary	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Statistics and Data Analysis																							
Gather data in response to questions posed to learners	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Organize and display objects by one or more attributes		X	X				X						X		X	X							
Practice explaining organization of data	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Probability and Predictions																							
Predict the probability of an event		X	X	X	X			X				X		X	X	X				X	X	X	X
Answer questions based on data	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Algebra and Functions																							
Compare concrete objects to show equal or not equal		X	X					X						X		X							
Recreate a simple story problem using manipulatives														X		X							

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Explain story problem solutions														X	X								
Recognize, describe, extend and transfer patterns														X	X								
Reproduce an existing pattern and verbalize the pattern														X	X								
Identify and create complex patterns using numerous objects														X	X								
Geometry																							
Identify and name common two- and three-dimensional geometric shapes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Compare the attributes of shapes	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Sort geometric figures according to common attributes		X	X				X					X		X	X	X							
Identify a reflection													X										
Create an example of symmetry independently					X			X						X	X	X					X		
Practice using directionality independently	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Use position words to describe the location of objects	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X