

Connections to Pennsylvania State Math Standards: Grade 1-3

Exhibit Module	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
Academic Content Standards Benchmarks Grade 1-3																							
Number, Number Systems and Relationships																							
Use whole numbers and simple fractions to represent quantities		X	X		X			X						X		X	X			X			
Represent equivalent forms of the same number through the use of concrete objects, drawings, word names and symbols to 1000														X		X							
Use drawings or models to show the concept of a fraction as part of a whole		X																					
Describe the inverse relationship between addition and subtraction		X	X		X			X				X	X	X		X	X		X	X			
Demonstrate knowledge of basic addition and subtraction facts		X	X		X	X	X	X			X	X	X	X	X	X	X			X	X		
Measurement and Estimation																							
Compare measurable characteristics of different objects on the same dimensions (time, temperature, area, length, weight, capacity and perimeter)	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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Determine the measurement of objects with non-standard (arm length, crayons, paper clips) and standard units (US customary and metric)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Determine and compare elapsed time		X	X	X	X	X		X	X	X	X				X			X	X	X		X	X
Tell time (analog and digital) to the minute																							
Determine appropriate unit of measure																							
Use concrete objects to determine area and perimeter								X						X		X							
Estimate and verify measurements		X																					
Mathematical Reasoning and Connections																							
Make, check and verify predictions about the quantity, size and shape of objects and groups 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
Use measurements in everyday situations	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																							

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Use appropriate problem-solving strategies (e.g., make a model, draw a table or picture, working backwards)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Determine when sufficient information is present to solve a problem and explain how to solve a problem	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Select and use an appropriate method, materials and strategy to solve problems, including mental mathematics, paper and pencil and concrete objects	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 Predications																							
State and explain the likelihood of an event and recognize that the results of an experiment may not match predicted outcomes	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																							
Recognize and extend repeating patterns based on an attribute (size, shape, color) or number																X	X						
Geometry																							

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Name and label geometric shapes in two and three dimensions (e.g. circle, sphere, square, cube, triangle, pyramid, rectangle, prism)																	X						
Build geometric shapes using concrete objects		X												X		X							
Draw two- and three-dimensional shapes		X																					
Fold paper to demonstrate the reflections about a line		X																					
Calculus																							
Describe rates of change as faster and slower using real life situations		X	X																				