

Connections to Pennsylvania Academic Standards for Science and Technology: Grade 7

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	Peakboo Window	PVC Pipe Organ	Rhythm machine	Stream Table	Video Browser	Water Table/Tide	
Unifying Themes																								
Explain the parts of a simple system and their relationship to each other.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Describe the use of models as an application of scientific or technological concepts.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Identify patterns as repeated processes or recurring elements in science and technology.		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Explain scale as a way of relating concepts and ideas to one another by some measure.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Identify change as a variable in describing natural and physical systems.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Inquiry and Design																								
Explain and apply scientific and technological knowledge.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Apply process knowledge to make and interpret observations.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Identify and use the elements of scientific inquiry to solve problems.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Know and use the technological design process to solve problems.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Physical Science, Chemistry, and Physics																								
Describe concepts about the structure and properties of matter.	X	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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Academic Standards for Science and Technology: Grade 7																								
Relate energy sources and transfers to heat and temperature.	X	X	X	X	X	X		X		X	X	X	X	X	X	X	X		X	X	X	X	X	X
Identify and explain the principles of force and motion.			X		X				X	X	X	X	X				X							X
Describe essential ideas about the composition and structure of the universe and the earth's place in it.																								
Earth Sciences																								
Describe earth features and processes.				X	X					X	X	X	X								X	X	X	X
Recognize earth resources and how they affect everyday life.			X	X						X	X	X	X								X	X	X	X
Describe basic elements of meteorology.			X							X	X	X	X								X	X	X	X
Explain the behavior and impact of the earth's water systems.										X	X	X	X								X	X	X	X
Technology Education																								
Explain information technologies of encoding, transmitting, receiving, storing, retrieving and decoding.	X						X													X		X		
Explain physical technologies of structural design, analysis and engineering, personnel relations, financial affairs, structural production, marketing, research and design.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Technological Devices																								

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Describe the safe and appropriate use of tools, materials and techniques to answer questions and solve problems.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Use appropriate instruments and apparatus to study materials.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Science, Technology, and Human Endeavors																							
Explain how sciences and technologies are limited in their effects and influences on society.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Explain how human ingenuity and technological resources satisfy specific human needs and improve the quality of life.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Identify the pros and cons of applying technological and scientific solutions to address problems and the effect upon society.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X