

NEXT GENERATION SCIENCE STANDARDS



SciGirls Engineer It Activity Guide



		Grade 5				Grades 6-8				
		Physical Science	Engineering Design			Physical Science	Engineering Design			
		Make observations and measurements to identify materials based on their properties.	Define a simple design problem reflecting a need or a want that includes specific criteria for success and constraints on materials, time, or cost.	Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.	Plan and carry out fair test in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.	Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the mass of the object.	Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.	Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.	Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.	Develop a model to generate data for iterative testing and modification of a proposed object, tool, or process such that an optimal design can be achieved.
Bouncing Balloons	x	x	x	x	x	x	x	x	x	x
Parachute Parade	x	x	x	x	x	x	x	x	x	x
Twirling in the Breeze		x	x	x	x	x	x	x	x	x
Puppet Power		x	x	x	x	x	x	x	x	x
Blowin' in the Wind		x	x	x	x	x	x	x	x	x

STANDARDS FOR TECHNOLOGICAL LITERACY 3rd Edition



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Grades 3-5																			
The Nature of Technology					Design								Abilities for a Technological World					The Designed World	
2G	2H	2I	2J	2L	8C	8D	9C	9D	9E	10C	10E	11D	11E	11F	11G	12E	12G	16C	
Bouncing Balloons			x	x	x	x	x	x	x		x	x			x	x	x	x	
Parachute Parade			x	x	x	x	x	x	x	x	x			x	x	x	x		
Twirling in the Breeze	x		x		x	x	x	x	x	x	x	x		x	x	x	x		
Puppet Power	x		x		x	x	x	x			x	x		x	x	x	x		
Blowin' in the Wind	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x



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Grades 6-8																				
The Nature of Technology					Design								Abilities for a Technological World					The Designed World		
	2N	2P	2Q	2R	2S	8E	8F	8G	9F	9G	9H	10F	10H	11I	11J	11K	11L	12I	13F	16F
Bouncing Balloons				x	x	x	x	x	x	x	x	x	x	x		x	x	x		
Parachute Parade				x	x	x	x	x	x	x	x	x	x	x		x	x	x		
Twirling in the Breeze	x			x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	
Puppet Power	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
Blowin' in the Wind	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x

