

Kindergarten

Unit2: Forces and Interactions: Pushes and Pulls

Duration: 4 weeks (March/April)

Desired Results		
<p>Performance Expectations(standards):</p> <p>K-PS2-1 Plan and conduct an investigation to compare the effects of different strengths or different directions of pushes and pulls on the motion of an object. [Clarification Statement: Examples of pushes or pulls could include a string attached to an object being pulled, a person pushing an object, a person stopping a rolling ball, and two objects colliding and pushing on each other.]</p> <p>K-PS2-2 Analyze data to determine if a design solution works as intended to change the speed or direction of an object with a push or a pull. [Clarification Statement: Examples of problems requiring a solution could include having a marble or other object move a certain distance, follow a particular path, and knock down other objects. Examples of solutions could include tools such as a ramp to increase the speed of the object and a structure that would cause an object such as a marble or ball to turn.]</p>	Transfer	
	<p><i>Meaning</i></p> <p>ENDURING UNDERSTANDINGS: Crosscutting Concepts</p> <p><i>Students will understand ...</i></p> <ul style="list-style-type: none"> ● Simple tests can be designed to gather evidence to support or refute student ideas about causes. ● Machines can have an effect when completing a task. ● There is a cause and effect relationship between the movement of a machine and the work it can do. ● There is a cause and effect relationship between the size of the force on an object and the direction or speed it goes. 	
	Meaning	
	<p><i>Acquisition</i></p> <p>Disciplinary Core Ideas</p> <p><i>Students will know...</i></p> <ul style="list-style-type: none"> ● Pushes and pulls can have different strengths and directions. (K-PS2-1),(K-PS2-2) ● Pushing or pulling on an object can change the speed or direction of its motion and can start or stop it. (K-PS2-1),(K-PS2-2) ● When objects touch or collide, they 	<p>Science and Engineering Practices</p> <p><i>Students will be skilled at...</i></p> <ul style="list-style-type: none"> ● With guidance, plan and conduct an investigation in collaboration with peers. (K-PS2-1) ● Analyze data from tests of an object or tool to determine if it works as intended. (K-PS2-2) ● Scientists use different ways to study the world. (K-PS2-1)

	<p>push on one another and can change motion. (K-PS2-1)</p> <ul style="list-style-type: none"> • A bigger push or pull makes things speed up or slow down more quickly. (secondary to K-PS2-1) • A situation that people want to change or create can be approached as a problem to be solved through engineering. Such problems may have many acceptable solutions. (secondary to K-PS2-2) 	
Evidence		
Evaluation Criteria	Assessment Evidence	
<p>Resources:</p> <ul style="list-style-type: none"> • Tara West Kinder Science Unit 5 • Little Thinkers Science Unit 6 • Mystery Science “Force Olympics” Unit 	<p>PERFORMANCE TASK(S):</p> <ul style="list-style-type: none"> • Marshmallow Shooter (optional classroom) • Force and Motion Experiments (Karen Langdon) 	
	<p>OTHER EVIDENCE:</p> <ul style="list-style-type: none"> • Push and Pull Sorting 	
Learning Plan		
<i>Summary of Key Learning Events and Instruction</i>		