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<b>Unit Title:</b> Let's Move		<b>Content Area:</b> Physical Science		<b>Grade Level:</b> K	
<b>Unit Summary:</b> Let's Move provides experiences for students to discover that forces can cause objects to change position in a process known as movement, and extend their learning by exploring the different types of movement and various pathways of motion. [NJCCCS 5.2 Physical Science: All students will understand that physical science principles, including fundamental ideas about matter, energy, and motion are powerful conceptual tools for making sense of phenomena in physical, living, and Earth systems science.]					
<b>Unit Essential Questions:</b>			<b>Unit Enduring Understandings:</b>		
<ul style="list-style-type: none"> <li>How can energy be transferred from one material to another?</li> <li>What happens to a material when energy is transferred to it?</li> </ul>			<ul style="list-style-type: none"> <li>Investigate and model the various ways that inanimate objects can move.</li> <li>Investigate how different objects move and determine the factors that affect movement.</li> </ul>		
<b>Possible Student Misconceptions:</b>					
<ul style="list-style-type: none"> <li>An object at rest has no energy.</li> <li>Force is a property of an object.</li> <li>Only animate objects can exert a force.</li> <li>If a body is not moving, there is no force. If something is moving, there is force acting on it.</li> <li>Large objects exert a greater force than small objects.</li> <li>A force is needed to keep an object moving with constant speed.</li> </ul>					
<b>NJCCCS:</b> 5.2.2.E.1-3					
<b>NGSS Performance Expectations:</b> <i>Students who demonstrate understanding can...</i>					
<ul style="list-style-type: none"> <li>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.</li> <li>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.</li> </ul>					
<b>Primary CCSS ELA/Literacy Connections:</b> RI.K.1, W.K.7,8, SL.K.3,6			<b>Primary CCSS Mathematics Connections:</b> MP.2, K.CC.4, K.MD.A.1-3, K.G.1,2,4,5		
<b>Lesson Pace &amp; Sequence</b>					
<b>Lesson Title/Number:</b> Ways that Objects Move- Part 1/ 1		<b>Learning Objective(s):</b> SWBAT understand that things near the Earth fall to the ground unless something holds them up. Things move in many different ways, such as straight, zigzag, round and round, back and forth, and fast or slow.		<b>Lesson Duration:</b> 1 period/ 40 minutes	
<b>Learning Cycle</b>	<b>Learning Activities</b>	<b>Resources/Materials</b>	<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<i>What lesson elements will support students' progress towards mastery of the learning objective(s)?</i>  <i>*Elements do not have to be in conducted in sequence.</i>	<i>What specific learning experiences will support ALL students' progress towards mastery of the learning objective(s)?</i>	<i>What curricular resources/materials are available to facilitate the implementation of the learning activities?</i>	<i>What specific practices do students need to use in order to progress towards mastery of the learning objective(s)?</i>	<i>What core ideas do students need to understand in order to progress towards mastery of the learning objective(s)?</i>	<i>What crosscutting concepts will enrich students' application of practices and their understanding of core ideas?</i>
<b>Elicit:</b> <i>How will you access students' prior knowledge?</i>	Before the activity, students are asked to predict what will happen to each of the pencils.				
<b>Engage:</b> <i>How will you capture students' interest and get students' minds focused on the concept/topic?</i>	Students use the Different Ways Objects Move worksheet to check if the object is moving up or down, right or left, or in a	<ul style="list-style-type: none"> <li>KWL Chart</li> </ul>	Connections to the Nature of Science: - Scientists use different ways to study the world.	Types of Interactions: -When objects touch or collide, they push on one another and can change motion.	

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	circle.		(K-PS2-1)	(K-PS2-1) Relationship between Energy and Forces: -A bigger push or pull makes things speed up or slow down more quickly. (Secondary to K-PS2-1)	
<b>Explore: What hands-on/minds-on common experience(s) will you provide for students?</b>	Afterwards, they begin a KWL chart on different ways nonliving things move. With teacher assistance, students perform The Stand of the Pencil activity.	<ul style="list-style-type: none"> <li>Energy Sources: <a href="http://www.brainpopjr.com/science/energy/energysources/preview.weml">www.brainpopjr.com/science/energy/energysources/preview.weml</a></li> <li>Changing States of Matter: <a href="http://www.brainpopjr.com/science/matter/changingstatesofmatter/preview.weml">http://www.brainpopjr.com/science/matter/changingstatesofmatter/preview.weml</a></li> </ul>	Planning and Carrying Out Investigations: - With guidance, plan and conduct an investigation in collaboration with peers. (K-PS2-1)	Forces and Motion: - 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)  Defining Engineering Problems: -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)	Cause and Effect: -Simple tests can be designed to gather evidence to support or refute students' ideas about causes. (K-PS2-1) (K-PS2-2)
<b>Evaluate: How will students demonstrate their mastery of the learning objective(s)?</b>	Students can respond to the following questions in their Science Journals: - Can you name two ways to make things move? -When one side of a seesaw goes up, explain what happens to the other side?	<ul style="list-style-type: none"> <li>Property Changes: <a href="http://www.brainpop.com/science/matterandchemistry/propertychanges/preview.weml">http://www.brainpop.com/science/matterandchemistry/propertychanges/preview.weml</a></li> </ul>	Analyzing and Interpreting Data: -Analyze data from tests of an object or tool to determine is it works as intended.  Obtaining, Evaluating, and Communicating Information: -Communicate information or design ideas and/or solutions with others in oral and/or written forms using models, drawings, writing, or numbers that provide detail about scientific ideas, practices, and/or design ideas.		
<b>Extend: How will students deepen their conceptual</b>	Students can correctly draw pictures to relate to vocabulary	<ul style="list-style-type: none"> <li>Roller-coaster Simulations: <a href="http://www.youtube.com/w">http://www.youtube.com/w</a></li> </ul>	Obtaining, Evaluating, and Communicating Information:		

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<i>understanding through use in new context?</i>	terms in their Science Journals.	<a href="#">atch?v=bYwylmu09Dg&amp;feature=player_embedded</a>	-Communicate information or design ideas and/or solutions with others in oral and/or written forms using models, drawings, writing, or numbers that provide detail about scientific ideas, practices, and/or design ideas.		
<b>Lesson Title/Number: Ways That Objects Move- Part 2/ 2</b>		<b>Learning Objective(s): TLWBAT understand that some objects move in one way while others move in many ways. The shape of an object affects the way it can move.</b>		<b>Lesson Duration: 2 periods/ 80 minutes</b>	
<b>Learning Cycle</b>  <i>What lesson elements will support students' progress towards mastery of the learning objective(s)?</i>  <i>*Elements do not have to be in conducted in sequence.</i>	<b>Learning Activities</b>  <i>What specific learning experiences will support ALL students' progress towards mastery of the learning objective(s)?</i>	<b>Resources/Materials</b>  <i>What curricular resources/materials are available to facilitate the implementation of the learning activities?</i>	<b>Science and Engineering Practices</b>  <i>What specific practices do students need to use in order to progress towards mastery of the learning objective(s)?</i>	<b>Disciplinary Core Ideas</b>  <i>What core ideas do students need to understand in order to progress towards mastery of the learning objective(s)?</i>	<b>Crosscutting Concepts</b>  <i>What crosscutting concepts will enrich students' application of practices and their understanding of core ideas?</i>
<b>Engage: How will you capture students' interest and get students' minds focused on the concept/topic?</b>	Provide students with 4 different objects of varying size and shape. Ask them to move the objects in different ways to identify different ways those objects move and then have them relate the form of movement and give examples relate the form of movement and of other objects they have seen move in a similar matter.	<ul style="list-style-type: none"> <li>• KWL Chart</li> </ul>	Connections to the Nature of Science: - Scientists use different ways to study the world. (K-PS2-1)	Types of Interactions: -When objects touch or collide, they push on one another and can change motion. (K-PS2-1)  Relationship between Energy and Forces: -A bigger push or pull makes things speed up or slow down more quickly. (Secondary to K-PS2-1)	
<b>Explore: What hands-on/minds-on common experience(s) will you provide for students?</b>		<ul style="list-style-type: none"> <li>• Energy Sources: <a href="http://www.brainpopjr.com/science/energy/energysources/preview.weml">http://www.brainpopjr.com/science/energy/energysources/preview.weml</a></li> </ul>	Planning and Carrying Out Investigations: - With guidance, plan and conduct an investigation in collaboration with peers. (K-PS2-1)	Forces and Motion: - 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)	Cause and Effect: -Simple tests can be designed to gather evidence to support or refute students' ideas about causes. (K-PS2-1) (K-PS2-2)

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				Defining Engineering Problems: -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)	
<b>Evaluate: How will students demonstrate their mastery of the learning objective(s)?</b>	Students can create a mini book of how objects move and write words that describe the action (roll up and down, spin round and round...)	<ul style="list-style-type: none"> <li>Property Changes: <a href="http://www.brainpop.com/science/matterandchemistry/propertychanges/preview.weml">http://www.brainpop.com/science/matterandchemistry/propertychanges/preview.weml</a></li> </ul>	Analyzing and Interpreting Data: -Analyze data from tests of an object or tool to determine if it works as intended. (K-PS2-2)		
<b>Lesson Title/Number:</b> Nature and Movement/Lesson 3		<b>Learning Objective(s):</b> SWBAT understand that some objects move in one way, while others move in many ways.		<b>Lesson Duration:</b> 2 periods/ 80 minutes	
<b>Learning Cycle</b>  <i>What lesson elements will support students' progress towards mastery of the learning objective(s)?</i>  *Elements do not have to be in conducted in sequence.	<b>Learning Activities</b>  <i>What specific learning experiences will support ALL students' progress towards mastery of the learning objective(s)?</i>	<b>Resources/Materials</b>  <i>What curricular resources/materials are available to facilitate the implementation of the learning activities?</i>	<b>Science and Engineering Practices</b>  <i>What specific practices do students need to use in order to progress towards mastery of the learning objective(s)?</i>	<b>Disciplinary Core Ideas</b>  <i>What core ideas do students need to understand in order to progress towards mastery of the learning objective(s)?</i>	<b>Crosscutting Concepts</b>  <i>What crosscutting concepts will enrich students' application of practices and their understanding of core ideas?</i>
<b>Engage: How will you capture students' interest and get students' minds focused on the concept/topic?</b>	Whole group lesson: Students stand up and choose a part they will reenact in nature and all at once move like their natural object. As an option you may music during the activities to enhance the students' physical activity, as well as participation.	<ul style="list-style-type: none"> <li>KWL Chart</li> </ul>	Connections to the Nature of Science: - Scientists use different ways to study the world. (K-PS2-1)	Types of Interactions: -When objects touch or collide, they push on one another and can change motion. (K-PS2-1)  Relationship between Energy and Forces: -A bigger push or pull makes things speed up or slow down more quickly. (Secondary to K-PS2-1)	

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<p><b>Explore: What hands-on/minds-on common experience(s) will you provide for students?</b></p>	<p>Students demonstrate and observe how the ocean moves by creating wave bottles and moving them back and forth, left to right, up and down.</p>	<ul style="list-style-type: none"> <li>Energy Sources: <a href="http://www.brainpopjr.com/science/energy/energysources/preview.weml">http://www.brainpopjr.com/science/energy/energysources/preview.weml</a></li> </ul>	<p>Planning and Carrying Out Investigations: - With guidance, plan and conduct an investigation in collaboration with peers. (K-PS2-1)</p>	<p>Forces and Motion: - Pushes and pulls can have different strengths and directions. (K-PS2-1) (K-PS2-2)</p> <p>-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)</p> <p>Defining Engineering Problems: -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)</p>	<p>Cause and Effect: -Simple tests can be designed to gather evidence to support or refute students' ideas about causes. (K-PS2-1) (K-PS2-2)</p>
<p><b>Explain: How will you help students connect their exploration to the concept/topic under investigation?</b></p>	<p>Students then discuss other things found around the beach and in nature that move.</p>	<ul style="list-style-type: none"> <li>Changing States of Matter: <a href="http://www.brainpopjr.com/science/matter/changingstatesofmatter/preview.weml">http://www.brainpopjr.com/science/matter/changingstatesofmatter/preview.weml</a></li> </ul>			<p>Stability and Change: -Some things stay the same while other things change.</p>
<p><b>Evaluate: How will students demonstrate their mastery of the learning objective(s)?</b></p>	<p>Science Journals: - Students may record their responses to lesson activities. - Do shapes roll, stack or slide?</p>		<p>Analyzing and Interpreting Data: -Analyze data from tests of an object or tool to determine if it works as intended.</p> <p>Obtaining, Evaluating, and Communicating Information: -Communicate information or design ideas and/or solutions with others in oral and/or written forms using models, drawings, writing, or numbers that provide detail about scientific ideas, practices, and/or design ideas.</p>		

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<b>Lesson Title/Number:</b> Blow Football/Lesson 4		<b>Learning Objective(s):</b> SWBAT understand the position and motion of objects can be changed by pushing or pulling.		<b>Lesson Duration:</b> 2 periods/ 80 minutes	
<b>Learning Cycle</b>	<b>Learning Activities</b>	<b>Resources/Materials</b>	<b>Science and Engineering Practices</b>	<b>Disciplinary Core Ideas</b>	<b>Crosscutting Concepts</b>
<p><i>What lesson elements will support students' progress towards mastery of the learning objective(s)?</i></p> <p><i>*Elements do not have to be in conducted in sequence.</i></p>	<p><i>What specific learning experiences will support ALL students' progress towards mastery of the learning objective(s)?</i></p>	<p><i>What curricular resources/materials are available to facilitate the implementation of the learning activities?</i></p>	<p><i>What specific practices do students need to use in order to progress towards mastery of the learning objective(s)?</i></p>	<p><i>What core ideas do students need to understand in order to progress towards mastery of the learning objective(s)?</i></p>	<p><i>What crosscutting concepts will enrich students' application of practices and their understanding of core ideas?</i></p>
<p><b>Engage: How will you capture students' interest and get students' minds focused on the concept/topic?</b></p>	<p>Students learn about things they can do to make an object move. Students gain a foundational understanding that force and motion involve direction.</p>	<ul style="list-style-type: none"> <li>KWL Chart</li> </ul>	<p>Connections to the Nature of Science: - Scientists use different ways to study the world. (K-PS2-1)</p>	<p>Types of Interactions: -When objects touch or collide, they push on one another and can change motion. (K-PS2-1)</p> <p>Relationship between Energy and Forces: -A bigger push or pull makes things speed up or slow down more quickly. (Secondary to K-PS2-1)</p>	

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<p><b>Explore: What hands-on/minds-on common experience(s) will you provide for students?</b></p>		<ul style="list-style-type: none"> <li>Pushes and Pulls Interactive Game: <a href="http://www.bbc.co.uk/schools/scienceclips/ages/5_6/pushes_pulls.shtml">http://www.bbc.co.uk/schools/scienceclips/ages/5_6/pushes_pulls.shtml</a></li> </ul>	<p>Planning and Carrying Out Investigations: - With guidance, plan and conduct an investigation in collaboration with peers. (K-PS2-1)</p>	<p>Forces and Motion: - Pushes and pulls can have different strengths and directions. (K-PS2-1) (K-PS2-2)</p> <p>-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)</p> <p>Defining Engineering Problems: -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)</p>	<p>Cause and Effect: -Simple tests can be designed to gather evidence to support or refute students' ideas about causes. (K-PS2-1) (K-PS2-2)</p>	
<p><b>Evaluate: How will students demonstrate their mastery of the learning objective(s)?</b></p>	<p>Students can complete response sheets</p>		<p>Analyzing and Interpreting Data: -Analyze data from tests of an object or tool to determine if it works as intended. (K-PS2-2)</p>			
<p><b>Lesson Title/Number:</b> Gravity Game/Lesson 5</p>		<p><b>Learning Objective(s):</b> SWBAT observe how gravity causes objects to move down, how the size and shape of an object has an impact on movement, as well as the position/angle of the surface on which an object travels has an impact on the object's movement.</p>			<p><b>Lesson Duration:</b> 1 period/ 40 minutes</p>	
<p align="center"><b>Learning Cycle</b></p> <p><i>What lesson elements will support students' progress towards mastery of the learning objective(s)?</i></p> <p><i>*Elements do not have to be in conducted in sequence.</i></p>	<p align="center"><b>Learning Activities</b></p> <p><i>What specific learning experiences will support ALL students' progress towards mastery of the learning objective(s)?</i></p>	<p align="center"><b>Resources/Materials</b></p> <p><i>What curricular resources/materials are available to facilitate the implementation of the learning activities?</i></p>	<p align="center"><b>Science and Engineering Practices</b></p> <p><i>What specific practices do students need to use in order to progress towards mastery of the learning objective(s)?</i></p>	<p align="center"><b>Disciplinary Core Ideas</b></p> <p><i>What core ideas do students need to understand in order to progress towards mastery of the learning objective(s)?</i></p>	<p align="center"><b>Crosscutting Concepts</b></p> <p><i>What crosscutting concepts will enrich students' application of practices and their understanding of core ideas?</i></p>	

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<p><b><i>Engage: How will you capture students' interest and get students' minds focused on the concept/topic?</i></b></p>		<ul style="list-style-type: none"> <li>• KWL Chart</li> </ul>	<p>Connections to the Nature of Science:          - Scientists use different ways to study the world.          (K-PS2-1)</p>	<p>Types of Interactions:          -When objects touch or collide, they push on one another and can change motion.          (K-PS2-1)</p> <p>Relationship between Energy and Forces:          -A bigger push or pull makes things speed up or slow down more quickly. (Secondary to K-PS2-1)</p>	
<p><b><i>Explore: What hands-on/minds-on common experience(s) will you provide for students?</i></b></p>		<ul style="list-style-type: none"> <li>• SIRS Discoverer:  <a href="http://discoverer.prod.sirs.com/discoweb/disco/do/article?urn=urn:sirs:US:ARTICLE:ART:0000314949&amp;fmt=pdf">http://discoverer.prod.sirs.com/discoweb/disco/do/article?urn=urn:sirs:US:ARTICLE:ART:0000314949&amp;fmt=pdf</a> (Free Trial with Signup)</li> </ul>	<p>Planning and Carrying Out Investigations:          - With guidance, plan and conduct an investigation in collaboration with peers.          (K-PS2-1)</p>	<p>Forces and Motion:          - Pushes and pulls can have different strengths and directions.          (K-PS2-1) (K-PS2-2)</p> <p>-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)</p> <p>Defining Engineering Problems:          -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)</p>	<p>Cause and Effect:          -Simple tests can be designed to gather evidence to support or refute students' ideas about causes.          (K-PS2-1) (K-PS2-2)</p>

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<p><b>Explain: How will you help students connect their exploration to the concept/topic under investigation?</b></p>	<p>Students will participate in a gravity game to observe these findings:</p> <ul style="list-style-type: none"> <li>- Gravity causes objects to move down.</li> <li>- Size and shape of an object have an impact on movement.</li> <li>- The position/angle of the surface on which an object travels, has an impact on the object's movement.</li> </ul>					
<p><b>Evaluate: How will students demonstrate their mastery of the learning objective(s)?</b></p>	<p>Science Journals:</p> <ul style="list-style-type: none"> <li>- How does gravity affect people and the Earth?</li> <li>- List three objects that pull on each other.</li> <li>- Which pulls with more force, you or the Earth?</li> </ul>	<ul style="list-style-type: none"> <li>• Brain Pop: <a href="http://www.brainpop.com/science/matterandchemistry/propertychanges/preview.weml">http://www.brainpop.com/science/matterandchemistry/propertychanges/preview.weml</a></li> </ul>	<p>Analyzing and Interpreting Data: -Analyze data from tests of an object or tool to determine is it works as intended. (K-PS2-2)</p>			
<p><b>Lesson Title/Number:</b> Animal Crash/Lesson 6</p>		<p><b>Learning Objective(s):</b> SWBAT observe an object staying in motion unless a force is applied to the object.</p>			<p><b>Lesson Duration:</b> 2 periods/ 80 minutes</p>	
<p align="center"><b>Learning Cycle</b></p> <p><i>What lesson elements will support students' progress towards mastery of the learning objective(s)?</i></p> <p><i>*Elements do not have to be in conducted in sequence.</i></p>	<p align="center"><b>Learning Activities</b></p> <p><i>What specific learning experiences will support ALL students' progress towards mastery of the learning objective(s)?</i></p>	<p align="center"><b>Resources/Materials</b></p> <p><i>What curricular resources/materials are available to facilitate the implementation of the learning activities?</i></p>	<p align="center"><b>Science and Engineering Practices</b></p> <p><i>What specific practices do students need to use in order to progress towards mastery of the learning objective(s)?</i></p>	<p align="center"><b>Disciplinary Core Ideas</b></p> <p><i>What core ideas do students need to understand in order to progress towards mastery of the learning objective(s)?</i></p>	<p align="center"><b>Crosscutting Concepts</b></p> <p><i>What crosscutting concepts will enrich students' application of practices and their understanding of core ideas?</i></p>	

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<p><b>Engage: How will you capture students' interest and get students' minds focused on the concept/topic?</b></p>		<ul style="list-style-type: none"> <li>• KWL Chart</li> </ul>	<p>Connections to the Nature of Science:                  - Scientists use different ways to study the world.                  (K-PS2-1)</p>	<p>Types of Interactions:                  -When objects touch or collide, they push on one another and can change motion.                  (K-PS2-1)</p> <p>Relationship between Energy and Forces:                  -A bigger push or pull makes things speed up or slow down more quickly. (Secondary to K-PS2-1)</p>	
<p><b>Explore: What hands-on/minds-on common experience(s) will you provide for students?</b></p>		<ul style="list-style-type: none"> <li>• Energy Sources:  <a href="http://www.brainpopjr.com/science/energy/energysources/preview.weml">http://www.brainpopjr.com/science/energy/energysources/preview.weml</a></li> </ul>	<p>Planning and Carrying Out Investigations:                  - With guidance, plan and conduct an investigation in collaboration with peers.                  (K-PS2-1)</p>	<p>Forces and Motion:                  - Pushes and pulls can have different strengths and directions.                  (K-PS2-1) (K-PS2-2)</p> <p>-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)</p> <p>Defining Engineering Problems:                  -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)</p>	<p>Cause and Effect:                  -Simple tests can be designed to gather evidence to support or refute students' ideas about causes.                  (K-PS2-1) (K-PS2-2)</p>
<p><b>Explain: How will you help students connect their exploration to the concept/topic under investigation?</b></p>	<p>Students will use toys to discover that an object in motion remains in motion unless acted upon by an outside force.</p>	<ul style="list-style-type: none"> <li>• Energy:  <a href="http://www.science4us.com/elementary-physical-science/energy/">http://www.science4us.com/elementary-physical-science/energy/</a></li> </ul>			

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<p><b>Evaluate: How will students demonstrate their mastery of the learning objective(s)?</b></p>	<p>Students will draw an illustration and write about the importance of seatbelts referring back to the experiment as evidence.</p>	<ul style="list-style-type: none"> <li>Property Changes: <a href="http://www.brainpop.com/science/matterandchemistry/propertychanges/preview.weml">http://www.brainpop.com/science/matterandchemistry/propertychanges/preview.weml</a></li> </ul>	<p>Analyzing and Interpreting Data: -Analyze data from tests of an object or tool to determine is it works as intended. (K-PS2-2)</p>			
<p><b>Lesson Title/Number:</b> Magnets/Lesson 7</p>		<p><b>Learning Objective(s):</b> SWBAT move objects by using a magnet to attract without touching the object.</p>			<p><b>Lesson Duration:</b> 2 periods/ 80 minutes</p>	
<p align="center"><b>Learning Cycle</b></p> <p align="center"><i>What lesson elements will support students' progress towards mastery of the learning objective(s)?</i></p> <p align="center"><i>*Elements do not have to be in conducted in sequence.</i></p>	<p align="center"><b>Learning Activities</b></p> <p align="center"><i>What specific learning experiences will support ALL students' progress towards mastery of the learning objective(s)?</i></p>	<p align="center"><b>Resources/Materials</b></p> <p align="center"><i>What curricular resources/materials are available to facilitate the implementation of the learning activities?</i></p>	<p align="center"><b>Science and Engineering Practices</b></p> <p align="center"><i>What specific practices do students need to use in order to progress towards mastery of the learning objective(s)?</i></p>	<p align="center"><b>Disciplinary Core Ideas</b></p> <p align="center"><i>What core ideas do students need to understand in order to progress towards mastery of the learning objective(s)?</i></p>	<p align="center"><b>Crosscutting Concepts</b></p> <p align="center"><i>What crosscutting concepts will enrich students' application of practices and their understanding of core ideas?</i></p>	
<p><b>Engage: How will you capture students' interest and get students' minds focused on the concept/topic?</b></p>		<ul style="list-style-type: none"> <li>KWL Chart</li> </ul>	<p>Connections to the Nature of Science: - Scientists use different ways to study the world. (K-PS2-1)</p>	<p>Types of Interactions: -When objects touch or collide, they push on one another and can change motion. (K-PS2-1)</p> <p>Relationship between Energy and Forces: -A bigger push or pull makes things speed up or slow down more quickly. (Secondary to K-PS2-1)</p>		

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<p><b>Explore: What hands-on/minds-on common experience(s) will you provide for students?</b></p>	<p>Students work with magnets and find that two magnets either attract or repel one another, depending on their orientation (force at a distance). Students read about and view a video on how tools and machines make things move.</p>	<ul style="list-style-type: none"> <li>Amusement Park Physics: <a href="http://www.learner.org/interactives/parkphysics/">http://www.learner.org/interactives/parkphysics/</a></li> </ul>	<p>Planning and Carrying Out Investigations: - With guidance, plan and conduct an investigation in collaboration with peers. (K-PS2-1)</p>	<p>Forces and Motion: - Pushes and pulls can have different strengths and directions. (K-PS2-1) (K-PS2-2)</p> <p>-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)</p> <p>Defining Engineering Problems: -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)</p>	<p>Cause and Effect: -Simple tests can be designed to gather evidence to support or refute students' ideas about causes. (K-PS2-1) (K-PS2-2)</p>
<p><b>Explain: How will you help students connect their exploration to the concept/topic under investigation?</b></p>		<ul style="list-style-type: none"> <li>Changing States of Matter: <a href="http://www.brainpopjr.com/science/matter/changingstatesofmatter/preview.weml">http://www.brainpopjr.com/science/matter/changingstatesofmatter/preview.weml</a></li> </ul>			
<p><b>Elaborate: How will students apply their learning and develop a more sophisticated understanding of the concept/topic?</b></p>		<ul style="list-style-type: none"> <li>Energy: <a href="http://www.science4us.com/elementary-physical-science/energy/">http://www.science4us.com/elementary-physical-science/energy/</a></li> </ul>			
<p><b>Evaluate: How will students demonstrate their mastery of the learning objective(s)?</b></p>	<p>Students will accurately identify 3 objects that could be moved a charged balloon.</p>		<p>Analyzing and Interpreting Data: -Analyze data from tests of an object or tool to determine is it works as intended. (K-PS2-2)</p>		
<p><b>Lesson Title/Number:</b> The Domino Effect/Lesson 8</p>		<p><b>Learning Objective(s):</b> SWBAT understand that some objects move in one way, while others move in many ways.</p>			<p><b>Lesson Duration:</b> 2 periods/ 80 minutes</p>

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<p><b>Learning Cycle</b></p> <p><i>What lesson elements will support students' progress towards mastery of the learning objective(s)?</i></p> <p><i>*Elements do not have to be in conducted in sequence.</i></p>	<p><b>Learning Activities</b></p> <p><i>What specific learning experiences will support ALL students' progress towards mastery of the learning objective(s)?</i></p>	<p><b>Resources/Materials</b></p> <p><i>What curricular resources/materials are available to facilitate the implementation of the learning activities?</i></p>	<p><b>Science and Engineering Practices</b></p> <p><i>What specific practices do students need to use in order to progress towards mastery of the learning objective(s)?</i></p>	<p><b>Disciplinary Core Ideas</b></p> <p><i>What core ideas do students need to understand in order to progress towards mastery of the learning objective(s)?</i></p>	<p><b>Crosscutting Concepts</b></p> <p><i>What crosscutting concepts will enrich students' application of practices and their understanding of core ideas?</i></p>
<p><b>Elicit:</b> <i>How will you access students' prior knowledge?</i></p>	<p>Before the activity, teacher models and discusses the domino effect.</p>				
<p><b>Engage:</b> <i>How will you capture students' interest and get students' minds focused on the concept/topic?</i></p>	<p>Students create a maze using dominoes or similar objects to explain and summarize their conceptual understandings of motion and movement.</p>	<ul style="list-style-type: none"> <li>• KWL Chart</li> </ul>	<p>Connections to the Nature of Science:                      - Scientists use different ways to study the world.                      (K-PS2-1)</p>	<p>Types of Interactions:                      -When objects touch or collide, they push on one another and can change motion.                      (K-PS2-1)</p> <p>Relationship between Energy and Forces:                      -A bigger push or pull makes things speed up or slow down more quickly. (Secondary to K-PS2-1)</p>	

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<p><b><i>Explore: What hands-on/minds-on common experience(s) will you provide for students?</i></b></p>			<p>Planning and Carrying Out Investigations:                  - With guidance, plan and conduct an investigation in collaboration with peers.                  (K-PS2-1)</p>	<p>Forces and Motion:                  - Pushes and pulls can have different strengths and directions.                  (K-PS2-1) (K-PS2-2)</p> <p>-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)</p> <p>Defining Engineering Problems:                  -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)</p>	<p>Cause and Effect:                  -Simple tests can be designed to gather evidence to support or refute students' ideas about causes.                  (K-PS2-1) (K-PS2-2)</p>
<p><b><i>Evaluate: How will students demonstrate their mastery of the learning objective(s)?</i></b></p>			<p>Analyzing and Interpreting Data:                  -Analyze data from tests of an object or tool to determine is it works as intended.                  (K-PS2-2)</p>		