

MVSU NCLB 2017 Summer Reading Institute
Lesson Plan Template

Name: Joelle Stuart	Name of Unit: Locomotive	Date: Day 1	Grade Level: 5 th
Objective	Procedures	Materials	Evaluation
<p>5. 2d. Categorize examples of potential energy as gravitational (e.g., boulder on a hill, child on a slide), elastic (e.g., compressed spring, slingshot, rubber band), or chemical (e.g., unlit match, food). (DOK 2)</p> <p><i>Essential Questions</i></p> <p><i>***What is energy?</i></p> <p><i>****Where does energy come from?</i></p> <p><i>*****How many kinds of energy are there?</i></p> <p><i>*****What are the different kinds of energy?</i></p>	<p>Day One:</p> <p>Essential Question: How can potential energy be changed to kinetic energy?</p> <p>Anticipatory Set:</p> <p>The teacher will: Place a chair in front of the class. Called a student to the front and ask him or her to have a seat. Ask the students state what the student is doing. Call another student up and asked him or her to jog in place. Pose the same question. Begin a discussion by asking students questions such as “What is energy? Where does energy come from? How many kinds of energy are there? What are the different kinds of energy?”</p> <p>Introduction:</p> <p>The teacher will show the class the following video: Pose questions throughout the video using the following questions to ensure students gathered what they needed from the video.</p> <ol style="list-style-type: none"> 1. What kind of energy is stored or not being used at the moment? (Potential energy) 2. What is an example of Potential Energy? (example response: ball on top of a hill, a water balloon) 3. What is energy that is in motion? (Kinetic energy) 4. What is an example of Kinetic Energy? (example response: ball rolling down a hill, when the water balloon pops) <p>Guided Practice: Hand out 1 rubber band to each student teacher ask students to demonstrate Potential Energy with the rubber band (the students should pull the rubber band tight, to show that it is energy in waiting or is stored). After showing Potential energy the teacher should ask students to demonstrate Kinetic</p>	<p>Text: Locomotive</p> <p>Chair</p> <p>Kinetic and Potential Energy You Tube</p> <p>YouTube: Kinetic and Potential Energy</p>	<p>Observe students as they work. Listen for oral responses Check students’ work</p> <p>exit tickets</p> <p>Journal writing</p> <p>Reading log</p> <p>Teacher made test</p>

	<p>energy with the rubber band (the students should let the rubber band snap/fly across the room/hit the desk/etc to show that the rubber band is energy in motion or when the energy is released. Practice two or more times. Say potential energy. Everyone should stretch their rubber band in their hand and ready to go. Then say 'Kinetic energy!' and everyone releases their rubber band. Discuss other examples of potential and kinetic energy in the classroom. A pencil and a blank piece of paper are potential. Then when you pick up the pencil and start writing on it, this is now kinetic. Have students come up with ideas.</p> <p>Work Period:</p> <p>The teacher will: Divide students into groups. Distribute investigation-data sheets to each student. Explain to students that today they will visit stations that will provide them with the opportunity to examine how various changes in potential energy affects the kinetic.</p> <p>Have students complete the activities at each station. (Directions will be written on poster boards for each station.)</p> <p>Independent Practice:</p> <p>Have students complete interactive notebook potential and kinetic energy activity to reserve for future use.</p> <p>Closure:</p> <p>The teacher will: Review the lesson in its entirety. Ask and answer questions to ensure understanding. Discuss the activities completed during the work period.</p> <p>Have students complete exit tickets to demonstrate today's lesson content. Reteach: Have students roleplay examples of potential and kinetic energy. Enrichment: Create a powerpoint on potential and kinetic energy.</p>	<p>Rubberbands</p> <p>It's All About That Energy Activity sheet Balls Balloons Rock Pebble Empty soda can</p> <p>Composition notebook' Flip Flap Foldable</p>	
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<p>5. 2d. Categorize examples of potential energy as gravitational (e.g., boulder on a hill, child on a slide), elastic (e.g., compressed spring, slingshot, rubber band), or chemical (e.g., unlit match, food). (DOK 2)</p> <p>Essential Questions</p> <p><i>***What is energy?</i></p> <p><i>****Where does energy come from?</i></p> <p><i>*****How many kinds of energy are there?</i></p> <p><i>*****What are the different kinds of energy?</i></p>	<p>Day Two:</p> <p>What is the relationship between potential and kinetic energy?</p> <p>Anticipatory Setting:</p> <p>The teacher will show a video of roller coaster: ask students what is happening? http://www.sciencechannel.com/video-topics/engineering-construction/machines-rollercoaster/</p> <p>Using the video and the previous day's lesson have students respond to the following question on index cards: What is the relationship between potential and kinetic energy?</p> <p>The teacher will review the previous day's lesson. Have students record on an entrance/exit ticket what potential and kinetic energy are and explain examples of each. Explain today's activity. Distribute potential and kinetic energy practice sheet. Have students complete sheet for quick review. Show the students the two different cars that will be used in the activity. Tell students that today they will learn how to will use determine how a change in potential energy can affect the amount of kinetic energy an object will have. Introduce and explain the potential energy equation, $P_e = (mass)(gravity)(height)$. Explain that the gravitational pull on Earth is always 9.81 meters per second squared. Provide students with data to practice using the formula.</p> <p>Guided Practice</p> <p>The teacher will divide the students into two groups. (There will be two identical tracks set up on opposite sides of the classroom, and two heights will be tested at each track. (.25m- 1m).</p> <p>Explain to students that each of the two groups will run both cars at each height, and answer whether or not the car went all the way through the loop. After the activity is complete, have students return to their desk. Introduce the potential energy equation to the students. Tell the class what each car weighs. Remind students that the gravitational pull on Earth is always 9.81 meters per second squared.</p>	<p>Video of Roller Coaster http://www.sciencechannel.com/video-topics/engineering-construction/machines-rollercoaster/</p> <p>Potential and Kinetic Energy Worksheet</p> <p>Investigation Activity sheet Toy cars Race track</p> <p>Investigation Activity sheet</p> <p>tennis balls</p> <p>Rubberbands It's All About</p>	<p>Observe students as they work. Listen for oral responses Check students' work</p> <p>exit tickets</p> <p>Journal writing</p> <p>Reading log</p>
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	<p>Explain to students that today they will design and carry out an investigation to examine how a change in the amount of potential energy affects the amount of kinetic energy that object will have once it reaches the ground.</p> <p>Distribute a set of materials in which students can test the effect of potential energy on kinetic energy using their supplies. Distribute handout for students to follow the procedure to complete the exercise.</p> <p>Independent Practice:</p> <p>The teacher will have students use information compiled in guided practice to use formula to explain how the amount of potential energy can affect kinetic energy.</p> <p>Closure:</p> <p>The teacher will review the lesson in its entirety. Ask and answer questions to ensure understanding. Have students complete exit tickets by responding to the following questions: “What did you notice about the relationship between potential and kinetic energy?”</p> <p>Reteach:</p> <p>Use tennis balls and have students drop them from different heights to test relationship between potential and kinetic energy.</p> <p>Enrichment:</p> <p>Write a story to explain the relationship between potential and kinetic energy. Use various objects as characters.</p>	<p>That Energy Balls Balloons Rock Pebble Empty soda can Composition notebook' Flip Flap Foldable</p>	
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	<p>use various forms of energy.</p> <p>Closing:</p> <p>The teacher will review the lesson in its entirety. Ask and answer questions to ensure understanding. Have students meet with a peer and discuss the different forms of energy and which one they think is used the most. Have volunteers share their consensus with the class. Have students complete exit tickets explaining how today's less will be beneficial to them.</p> <p>Reteach:</p> <p>Ask your students to draw the following actions they do every day. The actions are sitting, eating, stretching, sleeping, standing and bathing. Ask your students to write the energy used in these actions next to the picture.</p> <p>Enrichment:</p> <p>Ask your students to think about their after-school routine. Tell them to list five actions they take between the end of school and bedtime. Remind them to include whether they used potential or kinetic in each action.</p>	<p>Teacher-made booklet</p> <p>Rubberbands</p> <p>It's All About That Energy Balls Balloons Rock Pebble Empty soda can</p> <p>Composition notebook' Flip Flap Foldable</p>	
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<p>****Where does energy come from?</p> <p>*****How many kinds of energy are there?</p> <p>*****What are the different kinds of energy?</p>	<p>Work Period:</p> <p>Guiding Practice:</p> <p>The teacher will have students complete task card activities to review forms of energy. Discuss responses with students.</p> <p>Independent Practice:</p> <p>Have students complete close reading activity.</p> <p>Closure:</p> <p>The teacher will review lesson in its entirety. Ask and answer questions to ensure understanding. Have students write a brief paragraph explaining what they learn and how this information can be beneficial to them.</p> <p>Reteach: Have students match the potential energy to its form of energy and the related picture.</p> <p>Enrichment: Write an article explaining the forms of energy and how they relate to potential and kinetic energy.</p>	<p>Task cards</p> <p>Close Reading Activity</p>	
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<p>unlit match, food). (DOK 2) Essential Questions ***What is energy? ****Where does energy come from? *****How many kinds of energy are there? *****What are the different kinds of energy?</p>	<p>Guided Practice: The teacher will provide sample items for practice prior to assessment.</p> <p>Independent Practice</p> <p>Have students complete assessment activity to demonstrate mastery of standards.</p> <p>Closure: The teacher will review the lesson in its entirety. Ask and answer questions to ensure understanding. Have volunteers share what they have learned. Have students complete Count Down Activity in which they write down three things they have learned.</p>	<p>Teacher-Made Assessment</p>	<p>Reading log</p> <p>Teacher made test</p>
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For each lesson plan, do the following:

- 1). Identify the domain
- 2). Align with the standards
- 3). State the benchmark
- 4). Address diversity
- 5). Infuse technology