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| M. Angileri11-20-17 | **6th grade science** |  **Lesson Plans: Energy Transfer in Motion #1** |
| NGSS Standard | **MS-PS3-1.**[**PS3. B.1:**](http://www.nap.edu/openbook.php?record_id=13165&page=120) S & ECCC | **Construct, use and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from an object****Conservation of energy and energy transfer**: when motion energy of an object changes, there is inevitably some other changes in energy at the same time.**Engaging in Argument from evidence**  Oral and Written: Argument: Construct, use, and/or present an oral and written argument supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon or a solution to a problem.[Energy](http://www.nap.edu/openbook.php?record_id=13165&page=89) and MatterForms of energy: Energy may take different forms (e. g. energy in fields, thermal energy, energy in motion  |
| Vocabulary: | **Energy:** The ability to work or cause change.**Kinetic Energy:** The energy an object has due to its motion. Motion energy that is proportional to the mass of the moving object and grows with the square of its velocity. KE=1/2m x v squared**Mass:** The amount of matter in an object.**Motion:** The state in which one object’s distance from another is changing.**Proportional relationship:** When two values exist in a constant ratio.**Speed:** The Ratio of change of position with respect to time.**Mechanical Energy:** Kinetic or potential energy associated with the motion or position of an object. The sum of the potential and kinetic energy in an object.**Light Energy:** A form of energy that exhibits wave like behavior as it travels through space; part of the electromagnetic spectrum.**Transfer:**  Moving from one place to another.**Potential Energy:** Energy that is stored in a system or object.**Thermal Energy:** Total kinetic energy of the tiny particles that make up matter. The faster the particles move, the warmer the matter becomes.**Sound Energy**: Form of energy that is made by vibrations and requires a medium ( air, Water, or solids) in order to travel. |
|  | **MONDAY** | **TUESDAY** | **WEDNESDAY**  | **THURSDAY** **Happy Thanksgiving** | **FRIDAY****Black Friday** |
| Content Objective: | SW demonstrate comprehension of energy transfer as it relates to Newton’s cradle by summarizing the transfer of energy. | SW demonstrate comprehension of energy transfer as it relates to Bowling by summarizing the transfer of energy from the marble to the pins. |  |  |  |
| Language objective | SW write to describe the transfer of energy using a diagram and 3-5 sentences. | SW write to describe the transfer of energy using a diagram and 3-5 sentences. |  |  |  |
| **Essential Question:** | **What energy changes occur while swinging?** | **What energy changes occur while swinging?** | **What energy changes occur while swinging?** |  |  |
| In class today | Update classroom folders and data sheet.Read article Newtons Cradle and complete the graphic organizer.Penny Hockey activity | Discuss Penny HockeyRead article Bowling ball striking pins and graphic organizer.Marble Bowling activity | SubstitutePBIS Lesson and eventSee lessons from PBIS committee.  | Thanksgiving | **Black Friday** |
| Learning Target | I can describe the energy transfer between the pennies in the penny Hockey activity using a diagram and words using the terms potential and kinetic energy. | I can describe the energy transfer between the marble and pins in the Marble bowling activity using a diagram and words using the terms potential and kinetic energy. | I can relate the video message and discussion topics to my interactions with peers in the classroom and hallway. | I can use proper manners and help my family members to show my appreciation for all that I have. | I will do my best to not snoop for gifts. |

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