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| M. Angileri | **6th grade science** | | **Lesson Plans 12-3-18 Kinetic Energy #1** | | | | |
| NGSS Standards | **MS-PS3-1**  **MS-PS3-5**  **DCI : MS-PS.3A**  **MS-PS3-5**  S & E practices  CCC | | Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.  Construct, use, and present arguments to support the claim that when the kinetic energy of an object changes, energy is transferred to or from the object.  **Definition of Energy:** Motion energy is properly called kinetic energy; it is proportional to the mass of the moving object and grows with the square of its speed.  **Conservation of Energy and Energy Transfer:** When the motion energy of an object changes, there is inevitably some other change in energy at the same time.  **Analyzing and interpreting Data:** Construct and interpret graphical displays to identify linear and non-linear relationships.  **Scale, Proportion, and Quantity:** Proportional relationships among different types of quantities provided information about the magnitude of properties and processes.  **Energy and Matter:** Energy may take different forms. | | | | |
| Essential Question | | **When is the most kinetic energy being used when riding a rollercoaster?** | | | | | |
| Vocabulary: | | **Density: Mass per unit of volume**  **Kinetic Energy: Energy of motion.**  **Law of Conservation of Energy: Energy can not be created or destroyed, energy just changes form.**  **Mass: A measure of how much matter is present in a substance.**  **Motion: The change in an object’s position with respect to time and in comparison, with the position of other objects used as reference points.**  **Speed: The rate of change of position (or distance traveled) with respect to time.** | | | | | |
|  | | **MONDAY** | | **TUESDAY** | **WEDNESDAY** | **THURSDAY** | **FRIDAY** |
| Content Objective: | | SW demonstrate application of Motion energy is proportional to the mass of the moving object and grows with the square of its speed by collecting data. | | SW demonstrate application of Motion energy is proportional to the mass of the moving object and grows with the square of its speed by analyzing data from the activity. | SW demonstrate application of Motion energy is proportional to the mass of the moving object and grows with the square of its speed by calculating the amount of kinetic energy in an object. | SW demonstrate application of Motion energy is proportional to the mass of the moving object and grows with the square of its speed by collecting data | SW demonstrate application of Motion energy is proportional to the mass of the moving object and grows with the square of its speed by analyzing data from the activity. |
| Language objective | | SW read to make connections about how Motion energy is proportional to the mass of the moving object and grows with the square of its speed using the Stemscopedia article with 75% accuracy. | | SW write to make connections about how Motion energy is proportional to the mass of the moving object and grows with the square of its speed data to graph speed and motion with 75% accuracy. | SW read to make connections about how Motion energy is proportional to the mass of the moving object and grows with the square of its speed using the Stemscopedia article with 75% accuracy. | SW read to make connections about how Motion energy is proportional to the mass of the moving object and grows with the square of its speed using the Effect of Mass activity to collect data with 75% accuracy. | SW read to make connections about how Motion energy is proportional to the mass of the moving object and grows with the square of its speed using the data from the effect of mass data to graph with 75% accuracy. |
| In class today | | Explore Activity 1: Speed and Motion, Data collection  Scopepedia Discussion  Homework Kinetic Energy. Due Thursday | | Explore Activity 1: Speed and Motion Data analysis | Science today: Watch it  Calculating Speed activity | Explore 2: The Effect of Mass | Explore 2: The Effect of Mass |