|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| M. Angileri | **6th grade science** | | **Lesson Plans 12-9-19 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**  **½ day** | **THURSDAY** | **FRIDAY**  **Substitute** |
| 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 with 70% accuracy. | | 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 analysis 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 Comprehension of Motion energy is proportional to the mass of the moving object and grows with the square of its speed by explain their thinking using s Brain Pop activity | SW demonstrate Comprehension of Motion energy is proportional to the mass of the moving object and grows with the square of its speed by summarizing information in a guided reading |
| 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 70% 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 70% 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 70% 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 Brain Pop activity with 70% accuracy | SW read/write to discuss about how Motion energy is proportional to the mass of the moving object and grows with the square of its speed using guided sentence frames with 70% accuracy. |
| In class today | | Explore Activity 1: Speed and Motion, Data analysis.  Calculating Speed activity  Read Scopepedia Reflect and Look Out | | Explore 2: The Effect of Mass  Finish Reading Scopepedia | Explore 2: The Effect of Mass  Scopepedia: What do you think. Work out problems | Science today: Watch it  Brain Pop: Kinetic Energy | Read: “The Nature of Energy” p. 140-145 together and complete the Guided Reading |