

Rendezvous with a Comet

Standards Alignment

Science

- 8.E.4.3** Obtain and communicate information to describe and compare the characteristics and movements of objects in the solar system (including planets, moons, asteroids, comets, and meteors).
- 8.E.4.4** Construct explanations for how gravity affects the motion of objects in the solar system and tides on Earth.
- 8.E.4.8** Obtain and communicate information about the surface features of the Sun (including photosphere, corona, sunspots, prominences, and solar flares) to predict how these features may affect Earth.
- 8.E.5.2** Use the rock cycle model to describe the relationship between the processes and forces that create igneous, sedimentary, and metamorphic rocks.
- 8.E.5.9** Obtain and communicate information regarding the physical and chemical properties of minerals, ores, and fossil fuels to describe their importance as Earth resources.
- 8.E.6.3** Develop and use models to explain how catastrophic events (including volcanic activities, earthquakes, climatic changes, *and the impact of an asteroid/comet*) have affected the conditions on Earth and the diversity of its life forms.
- 8.P.2.1** Plan and carry out controlled scientific investigations to test how varying the amount of force or mass of an object affects the motion (speed and direction), shape, or orientation of an object.
- 8.P.2.2** Develop and use models to compare and predict the resulting effect of balanced and unbalanced forces on an object's motion in terms of magnitude and direction.
- 8.P.3.1** Construct explanations of the relationship between matter and energy based on the characteristics of mechanical and light waves.
- 8.P.3.2** Develop and use models to exemplify the basic properties of waves (including frequency, amplitude, wavelength, and speed).
- 8.P.3.3** Analyze and interpret data to describe the behavior of waves (including refraction, *reflection*, transmission, and absorption) as they interact with various materials.
- 8.P.3.6** Obtain and communicate information about how various instruments are used to extend human senses by transmitting and detecting waves (such as radio, television, cell phones, and wireless computer networks).