

Name: Class Copy

Period: Subject: Int Science

Activity 4 - Impact Events

Apply

1. If an asteroid colliding with the Earth has an energy of 2.1×10^{19} joules, estimate how many atomic bombs (energy of an atomic bomb = 10^{13}) it would take to produce the same amount of energy?
2. The formula for kinetic energy is $\frac{1}{2} mv^2$. How much more energy will an asteroid have if it has 4 times the mass of another asteroid (both traveling at the same speed)?

How much more energy will an asteroid have if it is traveling four times faster than another asteroid (both asteroids have the same mass)?

3. Explain how one asteroid could have more mass than another asteroid even if the two asteroids are the exact same size.
4. What is the difference in composition between asteroids and comets?
5. What determines how big a comet's tail is?

What determines what direction the tail of the comet points?

6. Describe the difference between a meteor, a meteoroid, and a meteorite.