

GYSTC Activity



Title: Smashing Steel Spheres

Purpose:	Students will demonstrate the Law of Conservation of Energy, and show mechanical systems convert energy to heat.
Standard:	S8P2. Obtain, evaluate, and communicate information about the law of conservation of energy to develop arguments that energy can transform from one form to another within a system. c. Construct an argument to support a claim about the type of energy transformations within a system [e.g., lighting a match (light to heat), turning on a light (electrical to light)].
Materials:	<ul style="list-style-type: none"> ● Two, 2-inch Steel Spheres ● Small Sheets of Foil ● Sheets of white paper
Procedures:	<ol style="list-style-type: none"> 1. Strike the two Steel Spheres together with paper in between to observe the conversion of mechanical energy into heat energy. 2. Repeat the same process, using aluminum between the two Steel Spheres instead of paper
Science Behind It:	When these two 1-pound Colliding Steel Spheres are smashed together, the kinetic energy transforms into enough heat to burn a hole in a piece of paper! A dramatic demonstration of energy transformation.

Questions to Ask:

1. What happens when two steel spheres collide?
2. When two steel spheres hit what types of energy are present and how do you know?
3. What do you think will happen to the paper when the metal spheres collide?