GENERATIONGENIUS
STREAM. EDUCATE. ENTERTAIN.

TEACHER INFO

COLLISIONS
GRADES 3-5

COMMON MISCONCEPTIONS

- Energy is matter. Students may think that matter (things like coal, wood, etc.) are energy.
  Energy is stored in coal and wood.
- Only hot or warm objects transfer energy.
  Moving objects can transfer energy regardless of their temperature.
- The motion energy of an object does not depend on its speed.
  The motion energy of an object increases as the speed increases.
- Energy is associated mainly with humans, not inanimate objects. Objects have motion energy only when they are moved by a person.
  Inanimate objects have energy if they are moving. For example, water flowing in a stream due to gravity has energy.

WHAT IS ENERGY?

At this level, energy can be defined as the ability to get things done. Students should understand that energy is not "stuff"—it cannot be held in their hand nor does it have any weight. In later grades students will explore energy and energy transfer in more depth and quantitatively.

ENERGY TRANSFER DURING COLLISIONS

Collisions occur when two objects come in contact with each other. Collisions may involve one moving and one stationary object, or both objects may be moving.

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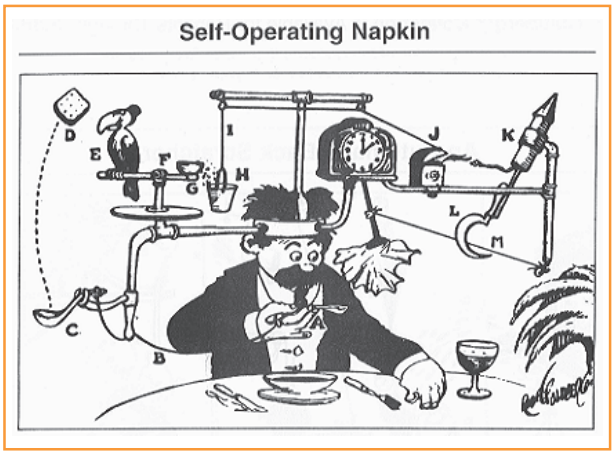
RUBE GOLDBERG MACHINES

"Rube Goldberg" sounds a little funny but it is actually someone's name. Reuben Goldberg was an American cartoonist with a degree in Engineering who lived from 1883-1970. He won the Pulitzer Prize in 1948. In his cartoons he often illustrated "machines" that used a chain reaction of energy transfer to complete a simple task. Some book suggestions to further explore Rube Goldberg include:

Rube Goldberg's Simple Normal Humdrum School Day
By: Jennifer George and Ed Steckley

The Art of Rube Goldberg: (A) Inventive (B) Cartoon (C) Genius
By: Jennifer George and Rube Goldberg



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