

Energy Cartoon Strips

Fifth Grade

Activity: 7

Time: 1-2 Class Periods

General Description

Students will learn how energy cannot be created or destroyed but can be changed from one form to another. Students will then create cartoon strips that illustrate examples of transformation energy.

Objectives

Students will demonstrate their understanding of conservation of energy through the creation of cartoon like illustrations.

Arizona State Standards

SC05 S1C1 PO3 Locate information (e.g., book, article, website) related to an investigation

SC05 S1C4 PO1 Communicate verbally or in writing the results of an inquiry

SC05 S1C4 PO3 Communicate with other groups or individuals to compare the results of a common investigation

SC05 S2C1 PO1 Identify how diverse people and/or cultures, past and present, have made important contributions to scientific innovations (e.g., Percy Lavon Julian [scientist], supports Strand 4; Niels Bohr [scientist], supports Strand 5; Edwin Hubble [scientist], supports Strand 6)

SC05 S5C2 PO3 Examine forces and motion through investigations using simple machines (e.g., wedge, plane, wheel and axle, pulley, and lever)

R05 S3C1 PO5 Locate appropriate print and electronic reference sources (e.g., encyclopedia, atlas, almanac, dictionary, thesaurus, periodical, textbooks, CD-ROM, website) for a specific purpose

W05 S3C6 PO1 Paraphrase information from a variety of sources (e.g., Internet, reference materials)

Teacher Information

Energy is defined as the ability or capacity to make things happen. According to the Law of Conservation of Matter, energy cannot be created or destroyed. However, energy can be changed or transformed from one form to another. There are many different forms of energy including chemical, heat, electrical, mechanical, nuclear and magnetic. Energy is often changed from one form to another before it is used by humans.

Materials

Long strips of white paper or sentence strips

Colored pencils/crayons/markers

Examples of cartoon strips from newspapers

Examples where the characters are using energy

Items to demonstrate energy transformations such as a flashlight, hair dryer, toaster, matches, a tea kettle, a pinwheel, etc.

Procedures/Exploration

1. Discuss with students the various forms of energy and ask for examples.
2. Forms and examples:
 - light - sun, lamps, overhead lights, car lights
 - chemical - batteries, food, fuel (oil, coal, natural gas, wood)
 - heat - sun, burning wood
 - mechanical - moving parts of machines
 - electrical - energy to make appliances work
3. If possible, demonstrate energy transformations and discuss these with the students.
4. For example:
 - an electric hair dryer:*** electrical energy changes to heat energy
 - flashlight:*** chemical energy changes to light energy
 - match:*** chemical and mechanical change to heat and light
 - toaster:*** electrical changes to heat and mechanical
 - Teakettle and pinwheel:*** boil water and allow steam to turn the pinwheel. Electrical energy changes to heat energy which changes to mechanical energy to cause the pinwheel to spin.
5. Distribute cartoon strips from the newspaper. Have students analyze cartoon strips for examples of energy transformations. Discuss the types of energy transformations.
6. Hand out the white strips of paper and tell students to create their own cartoon strips that illustrate examples of their characters using energy. The cartoon strips should indicate the types of energy transformations.
7. Have the students share their cartoon strips with the class and explain the types of energy transformations they illustrate.