

Activity 3: Energy Chains for grades 3-8 (pp. 36-38 in Energy & Society Kit)

Subject Area: Language Arts

Strand: Writing

Standard 2: The student writes to communicate ideas and information effectively.

Benchmarks:

- **Grades 3-5:** Writes for a variety of occasions, audiences, and purposes. [LA.B.2.2.3]*
- **Grades 6-8:** Selects and uses appropriate formats for writing, including narrative, persuasive, and expository formats according to the intended audience, purpose, and occasion. [LA.B.2.3.3]*

Strand: Listening, Viewing, and Speaking

Standard 1: The student uses listening strategies effectively.

Benchmarks:

- **Grades 3-5:** No applicable benchmarks.
- **Grades 6-8:** Listens and uses information gained for a variety of purposes such as gaining information from interviews, following directions, and pursuing a personal interest. [LA.C.1.3.1]

Subject Area: Social Studies – No applicable benchmarks for this activity.

Subject Area: Science

Strand: The Nature of Matter

Standard 2: The student understands the basic principles of atomic theory.

Benchmarks:

- **Grades 3-5:** Knows that materials may be made of parts too small to be seen without magnification. [SC.A.2.2.1] *
- **Grades 6-8:** Knows the general properties of the atom (a massive nucleus of neutral neutrons and positive protons surrounded by a cloud of negative electrons) and accepts that single atoms are not visible. [SC.A.2.3.2] *

Strand: Energy

Standard 1: The student recognizes that energy may be changed in from with varying efficiency.

Benchmarks:

- **Grades 3-5:** Knows how to trace the flow of energy in a system (e.g., as in an ecosystem). [SC.B.1.2.1]
- **Grades 3-5:** Recognizes various forms of energy (e.g., heat, light, and electricity). [SC.B.1.2.2]
- **Grades 3-5:** Knows the many ways in which energy can be transformed from one type to another. [SC.B.1.2.4]

- **Grades 6-8:** Knows that energy cannot be created or destroyed, but only changed from one form to another. [SC.B.1.3.2]
- **Grades 6-8:** Knows that energy conversions are never 100% efficient (i.e., some energy is transformed to heat and is unavailable for further useful work). [SC.B.1.3.4]

Standard 2: The student understands the interaction of matter and energy.

Benchmarks:

- **Grades 3-5:** No applicable benchmarks.
- **Grades 6-8:** Knows that most events in the universe (e.g., weather changes, moving cars, and the transfer of a nervous impulse in the human body) involve some form of energy transfer and that these changes almost always increase the total disorder of the system and its surroundings, reducing the amount of useful energy. [SC.B.2.3.1]

Strand: How Living Things Interact With Their Environment

Standard 1: The student understands the competitive, interdependent, cyclic nature of living things in the environment.

Benchmarks:

- **Grades 3-5:** No applicable benchmarks.
- **Grades 6-8:** Knows that the interactions of organisms with each other and with the nonliving parts of their environment result in the flow of energy and the cycling of matter throughout the system. [SC.G.1.3.4]

Note – Benchmarks followed by a star (*) are only met when Integrating Music and Dance, Enrichment, and/or Assessment activities are conducted.