

# Science Learning Progression

## FOSS Matter and Energy, Investigation 1: Energy Grades 4-5

### Prerequisite skill/body of knowledge:

Grade band 2-3 PS3: Different forms of energy are used in everyday activities.

### Identify different forms of energy in a system.

4-5 PS3A  
Inv. 1, Part 1, 3 sessions

#### In my work

- I named each part of the system.
- Beside the part, I identified the form of energy in that part.
- I continued until I listed each part and the form of energy for each part of the system.

#### Exit ticket:

Students list the forms of energy [e.g., *heat, light, sound, motion* (kinetic), *electrical, chemical*] present in a given system.

### Explain how one form of energy can be transformed (changed) to another form of energy.

4-5 PS3  
Inv. 1, Part 2, 3 sessions

#### In my writing

- I explained how energy from sunlight can be transformed to chemical energy.
- I included **evidence** that a vehicle powered by gasoline can be explained to be powered by sunlight.

#### “Response Sheet – Energy” (FOSS Notebook sheet #5):

Students explain energy transformations in a given scenario.

### Show different ways energy transfers (moves) from one place to another.

4-5 PS3B  
Inv. 1, Part 3, 3 sessions

#### In my work

- I drew a **diagram** of energy transfers.
- I labeled each form of energy.
- I drew arrows to show energy transfer from one place to another.
- I labeled the ways the energy is transferred.

#### Energy diagram:

Students choose one energy system from “How does energy travel?” (FOSS Notebook sheet s #6-7), and construct an energy diagram for the system.

Energy has many forms that can be transformed (changed) and transferred (moved).

4-5 PS3

### Later big ideas that build on this big idea include:

Grade band 6-8 PS3

- Heat energy (thermal) always moves from a warmer to a cooler place.
- Electrical energy is a convenient way to transfer energy.