

# Energy

Grade 4

## Big Idea

Energy comes in a variety of forms that can be transferred from one object to another.

## Questions to support inquiry with students:

What is energy input and energy output?

What is energy conservation?

What is the relationship between energy input, output and conservation?

## Learning Standards: Content

- 1) energy has various forms  
energy is conserved
- 2) devices that transform energy

## Content Elaborations

- 1) Ten forms of energy: light, sound, thermal, elastic, nuclear, chemical, magnetic, mechanical, gravitational and electrical.  
The law of conservation of energy – energy cannot be created or destroyed but can be changed.
- 2) Devices that transform energy change input energy into a different output energy (eg. glow stick (chemical to light), wind-up toy (elastic to mechanical), flashlight (electrical to light)).

## Learning Standards: Curricular Competencies

### Processing and analyzing data and information

- ▶ Experience and interpret the local environment
- ▶ Sort and classify data and information using drawings or provided tables
- ▶ Use tables, simple bar graphs, or other formats to represent data and show simple patterns and trends
- ▶ Compare results with predictions, suggesting possible reasons for findings

### Evaluating

- ▶ Make simple inferences based on their results and prior knowledge
- ▶ Reflect on whether an investigation was a fair test
- ▶ Demonstrate an understanding and appreciation of evidence
- ▶ Identify some simple environmental implications of their and others' actions

### Applying and innovating

- ▶ Contribute to care for self, others, school, and neighbourhood through individual or collaborative approaches
- ▶ Co-operatively design projects
- ▶ Transfer and apply learning to new situations
- ▶ Generate and introduce new or refined ideas when problem solving