

All About Energy *Learning Guide*

Elementary Science



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TABLE OF CONTENTS

Lesson 1 - What is Energy?	2
Lesson 2 - Energy Sources.....	3
Lesson 3 - Energy Forms & Sources	4
Pause & Review - Energy Forms & Sources.....	6
Lesson 4 - Potential or Kinetic Energy	7
Pause & Review - Potential or Kinetic Energy.....	8
Lesson 5 - Types of Energy	9
Pause & Review - Types of Energy	11
Lesson 6 - Energy Flow	12
Lesson 7 - Energy Sources.....	13
Pause & Review - Energy Sources	14
Lab Investigation - Changes in Energy	15
Key Vocabulary Terms.....	17
Vocabulary Review	21
Assessment.....	24
Assessment Key.....	26
NGSS Correlations	27



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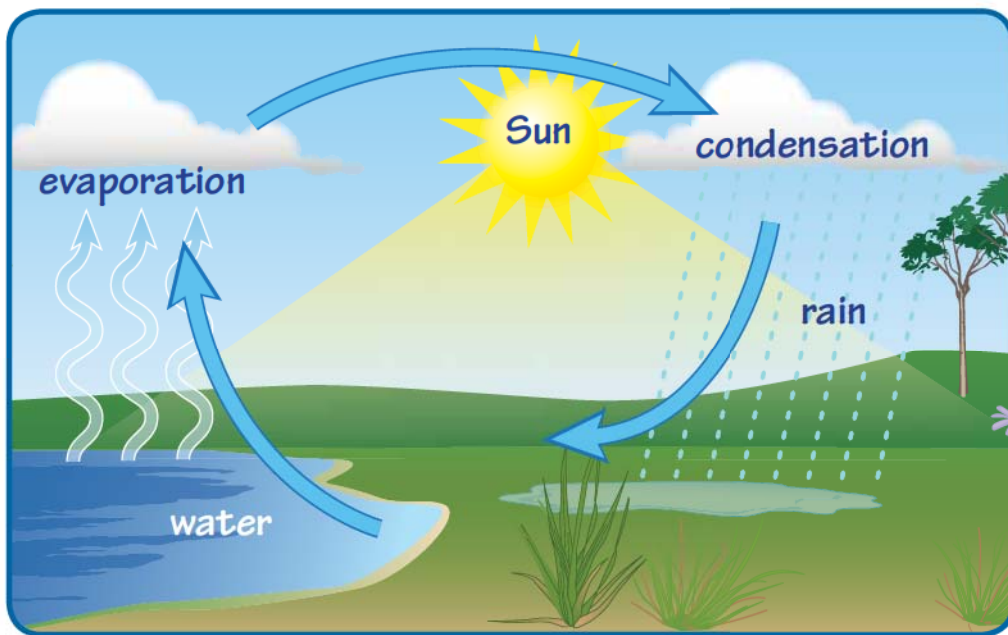
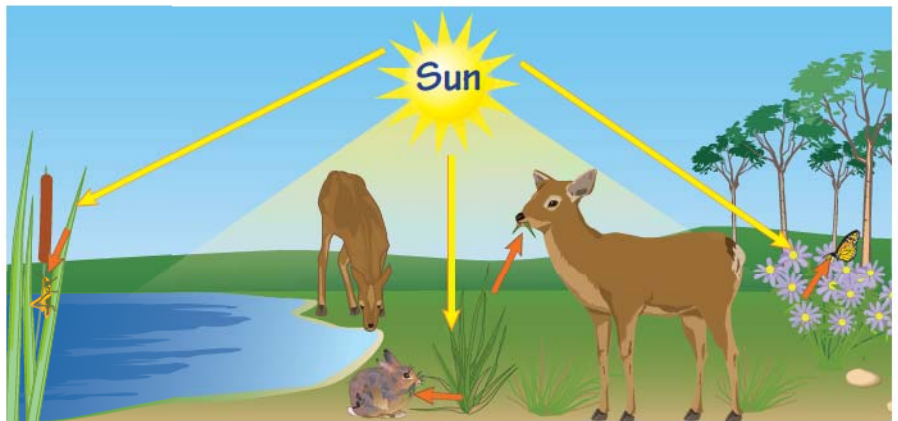
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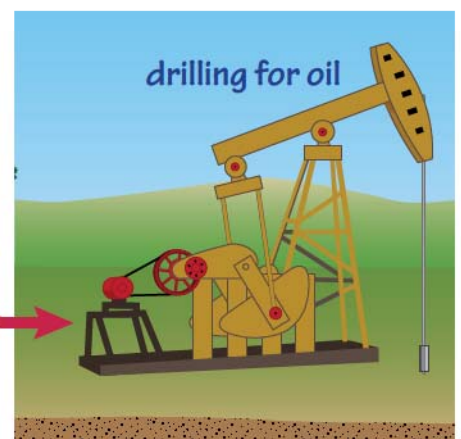
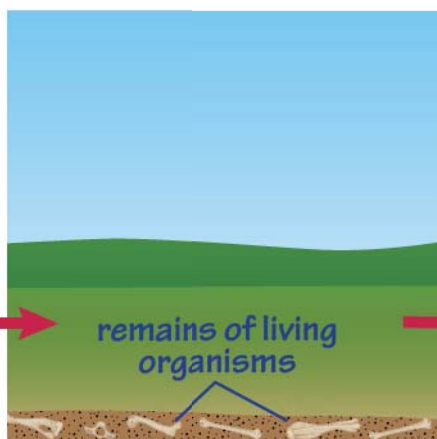
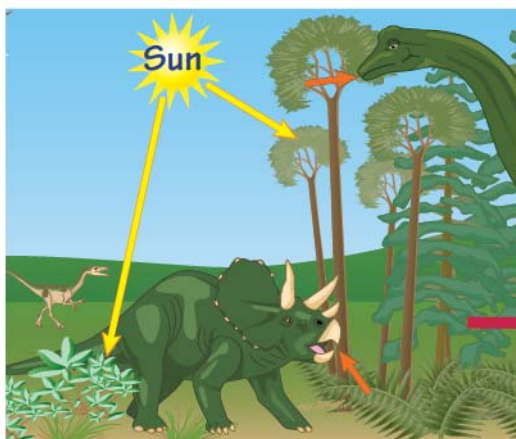
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Other living organisms need energy too. Plants use **light energy** to grow and make food. The Sun provides most of the energy on Earth. Plants absorb light energy from the Sun and use it to make food stored as **chemical energy**. The energy stored in plants in turn provides the energy for other living things on Earth.



The Sun's energy also provides warmth, powers the water cycle, and makes wind.

The energy from the Sun also provided energy to prehistoric plants and animals. When these living organisms died, their remains eventually became **fossil fuels**, named so, because like fossils, they lived long ago. Examples of fossil fuels include **coal** and **oil**. Fossil fuels are very important because when we burn them, they provide most of the energy we use every day!

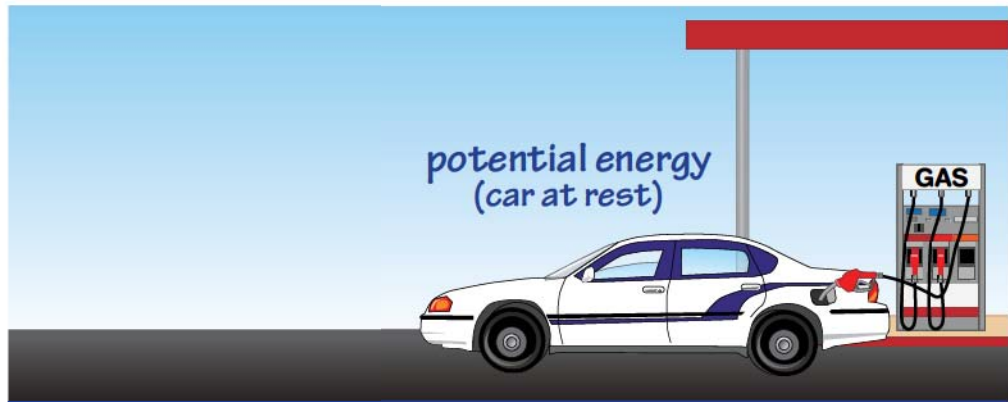


LESSON 4

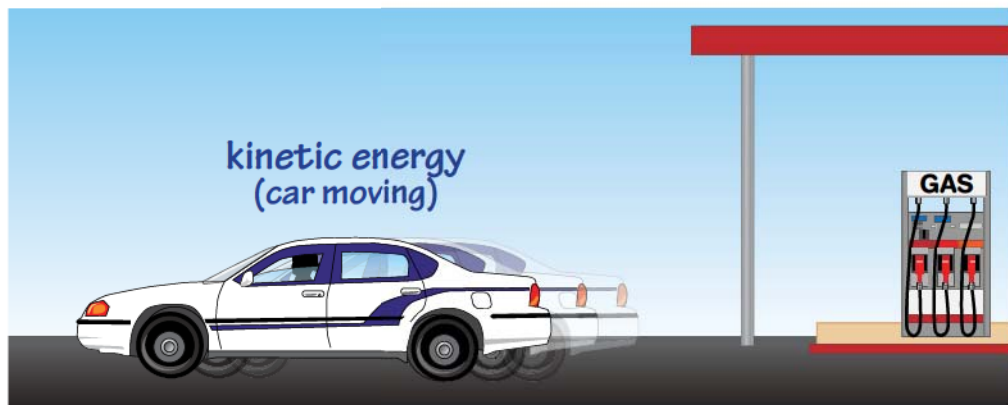
POTENTIAL OR KINETIC ENERGY

There are two main types of energy- **potential energy** and **kinetic energy**. **Kinetic energy** is energy that is **in motion**. A moving car, a bouncing ball, and a spinning top have kinetic energy. In contrast, **potential energy** is **stored energy**.

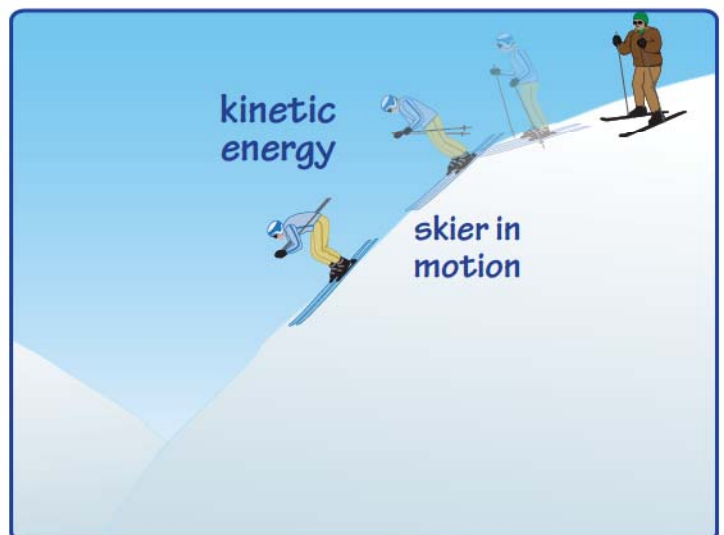
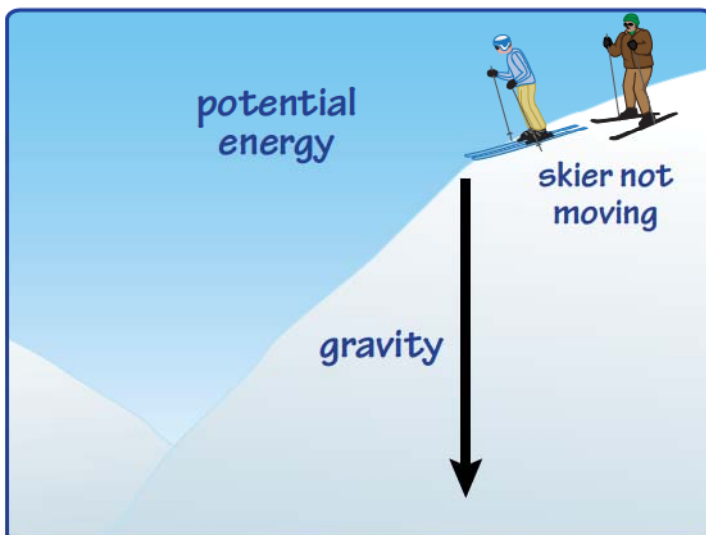
stored energy



kinetic energy

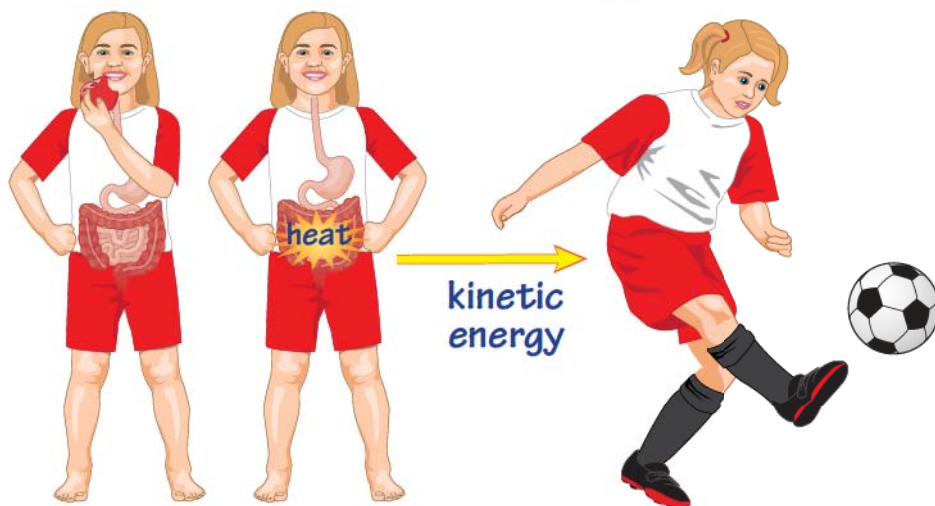
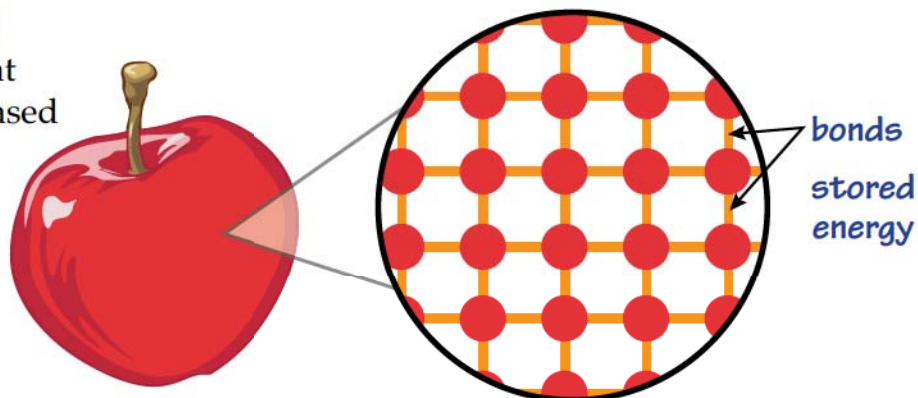


Energy that is **stored** and ready to go is **potential energy**. For example, a skier at the top of the hill who is not moving has potential energy, due to **gravity**. When the skier starts moving downhill, the potential energy **changes** into kinetic energy. Other examples include the energy stored in a **stretched rubber band**, **food**, and **wood**.



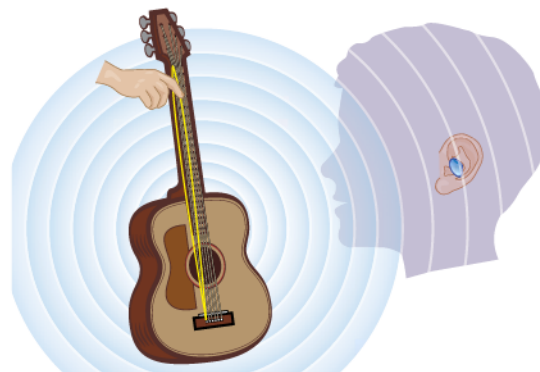
TYPES OF ENERGY

Chemical energy is **potential energy** stored in the bonds that hold matter together. It is released during a chemical reaction.

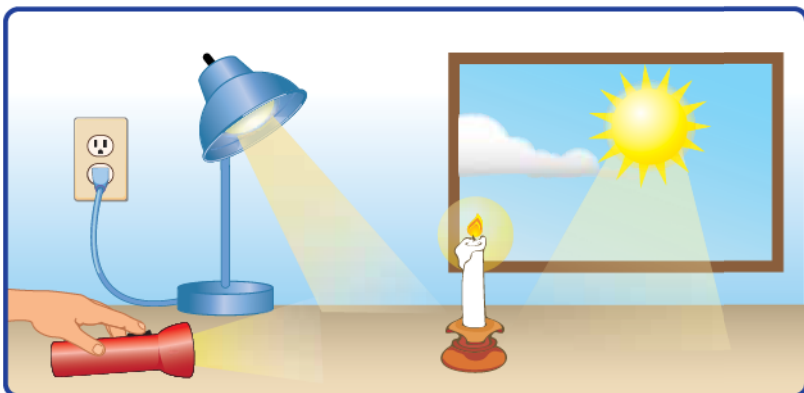


Food has **potential energy**. When we digest food, the stored energy from the food is released in the form of **kinetic energy** and **heat**. Other sources of **chemical energy** include **wood**, **batteries**, and **gasoline**.

Sound is **kinetic energy** that is caused by vibrations passing through matter. These vibrations can be carried by air, water, or solid objects. When you pluck a guitar string, the **vibration** of the string makes air move in waves. This causes movement of our eardrums and we can hear it as **sound**.



Light is a type of **kinetic energy** that we can see. **Light** is all around us and comes from the Sun, lamps, and many other sources.



Pause and Review

Match the following terms with their definition.

TERMS

1) Chemical energy _____

2) Light energy _____

3) Sound energy _____

4) Electrical energy _____

5) Thermal energy _____

DEFINITIONS

- A) a type of kinetic energy caused by a vibration that is sensed by the ear and can travel through solids, liquids, or gases
- B) the energy of moving particles (atoms) in matter; it flows from warmer objects to cooler objects, releasing heat
- C) a type of energy that comes from electric current and can be produced by both nonrenewable and renewable energy sources
- D) a type of kinetic energy that we can see and travels in waves
- E) the energy stored in the bonds that hold matter together; it is released in a reaction, often producing heat

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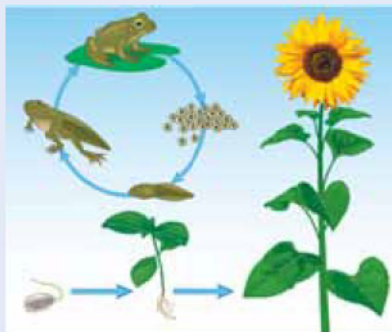
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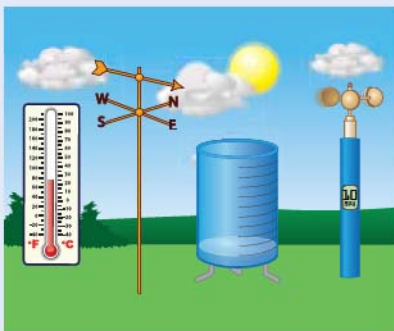
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All About Energy

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