



# All About Energy

SCIENCE

READING

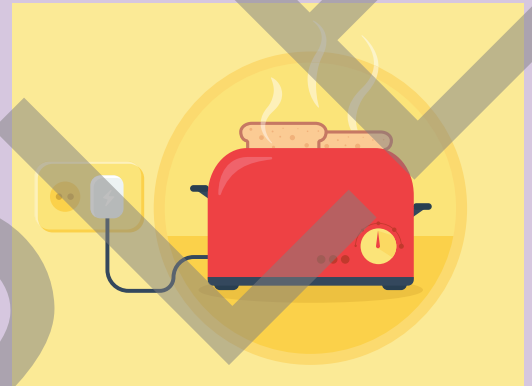
**Directions:** *In this activity, you will read a passage. Then, you will answer questions about the passage. Fill in the circle next to the correct answer.*

## Energy

Everything is made up of energy. Energy is needed to make things happen. So, what happens when you eat food? Does it just disappear and the energy disappears with it? Absolutely not!

According to the Law of Conservation of Energy, energy can never be created or destroyed. It can only be converted from one form to another. What this means is that energy cannot disappear! It simply changes. In the example of eating food, once you chew and swallow a tasty bite of pizza, the energy in the pizza is changed into energy that can be used by your body's cells. This is called chemical energy. Any energy stored in food is chemical energy. Your cells use this chemical energy to heat up your body (heat energy), help you talk (sound energy), or help you move (kinetic energy).

The transfer of energy from one object to another is called energy transfer. If you hit a tennis ball, the energy from your arm is being transferred to the ball, so the ball moves. Energy can also change from one type to another, like when you eat food. Or, think of a toaster. When you plug a toaster into an outlet, you are using electrical energy. The electrical energy converts to heat energy to warm up the bread.



1. Which law states, “Energy can never be created or destroyed”?

- Ⓐ The Law of Energetic Creation
- Ⓑ The Law of Energy and its Purpose
- Ⓒ The Law of Creation or Destroying
- Ⓓ The Law of Conservation of Energy

2. Fire changing from chemical energy to heat and light energy is an example of what?





- Ⓐ Energy transfer
- Ⓑ Shifting energy
- Ⓒ Change of resources
- Ⓓ Fire switch


SAMPLE

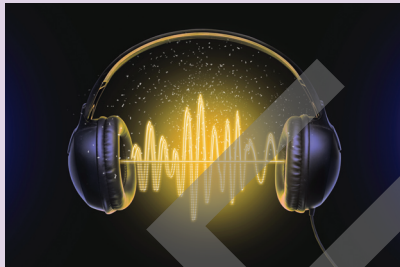


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 **Types of Energy**

When energy is transformed, it can change into different types of energy.

<p><b>Mechanical Energy</b></p>	<p>The energy that moves an object. It has both stored energy (potential energy) when the object is not moving and moving energy (kinetic energy) when the object is in motion.</p>	
<p><b>Electrical Energy</b></p>	<p>Objects carried by electricity (phone, computer, microwave)</p>	
<p><b>Light Energy</b></p>	<p>Objects that produce their own light (sun, stars, lightbulbs)</p>	
<p><b>Heat Energy</b></p>	<p>Objects that produce heat (fire)</p>	

 **Types of Energy** *(continued)*

<p><b>Sound Energy</b></p>	<p>The movement of energy through a substance (air, liquids, solids) that allows us to hear things.</p>	
<p><b>Kinetic Energy</b></p>	<p>Anything moving through the air (ball, airplane)</p>	
<p><b>Chemical Energy</b></p>	<p>Fuels (coal, wood, gasoline, batteries, food)</p>	

3. Which energy type has two different energy forms?

- Ⓐ Chemical energy
- Ⓑ Mechanical energy
- Ⓒ Light energy
- Ⓓ Heat energy

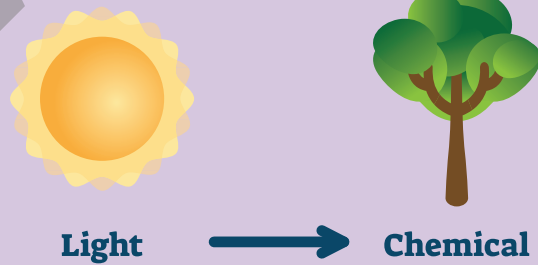
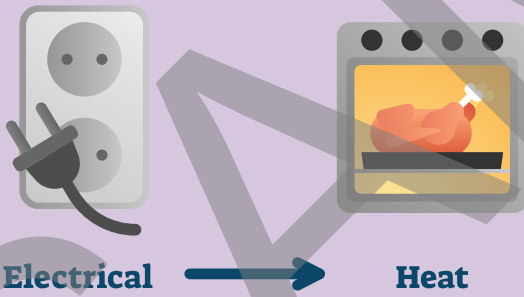
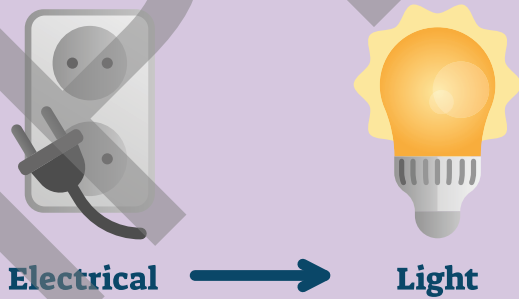
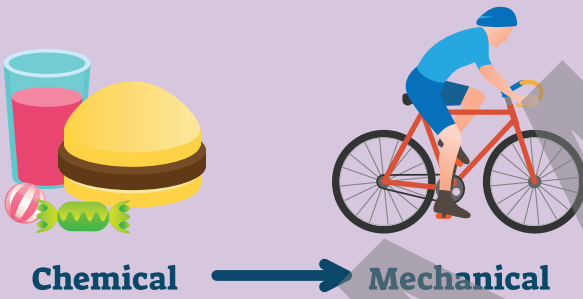
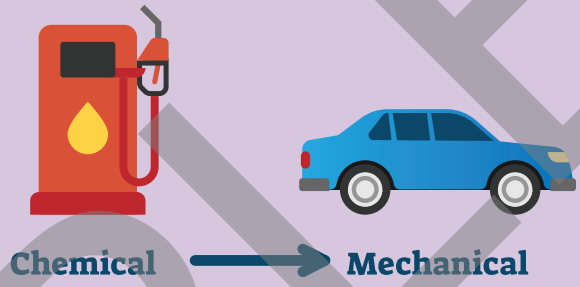
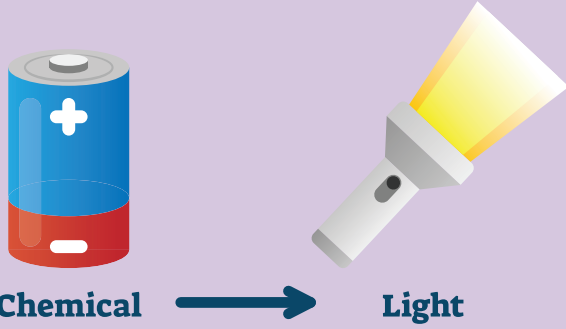
4. Food is broken down as chemical energy, causing it to be \_\_\_\_ for your body. Which best belongs in the blank?

- Ⓐ fuel
- Ⓑ a chemical
- Ⓒ cells
- Ⓓ harmful

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**Energy Transformations**

Energy transfer diagrams are helpful in illustrating how different forms of energy can be converted to another form of energy. With an energy transfer diagram, the arrow points in the direction of the energy conversion. The input energy is written at the back of the arrow. The converted energy is written at the tip of the arrow.



5. What is the benefit of an energy transfer diagram?

- Ⓐ It gives us the chance to draw a picture of an energy transfer.
- Ⓑ It shows us examples of the different energy types.
- Ⓒ It helps us to understand the specific conversion of energy between objects.
- Ⓓ It describes the characteristics of energy conversion.



6. What would an energy transfer diagram look like for a television?

- Ⓐ Mechanical energy → Light energy, Sound energy
- Ⓑ Electrical energy → Light energy, Heat energy, Sound energy
- Ⓒ Light energy, Heat energy, Sound energy → Electrical energy
- Ⓓ Electrical energy → Kinetic energy, Light energy, Sound energy