

Energy ▪ *Guided Reading and Study*

Energy Transformations and Conservation

This section explains how different forms of energy are related and describes the law of conservation of energy.

Use Target Reading Skills

Before you read, preview the red headings for an overview of the section content. Ask a what or a how question for each heading. As you read the material under each heading, find the answer to your question and record it in the graphic organizer.



Energy Transformations

Question	Answer

Energy Transformations

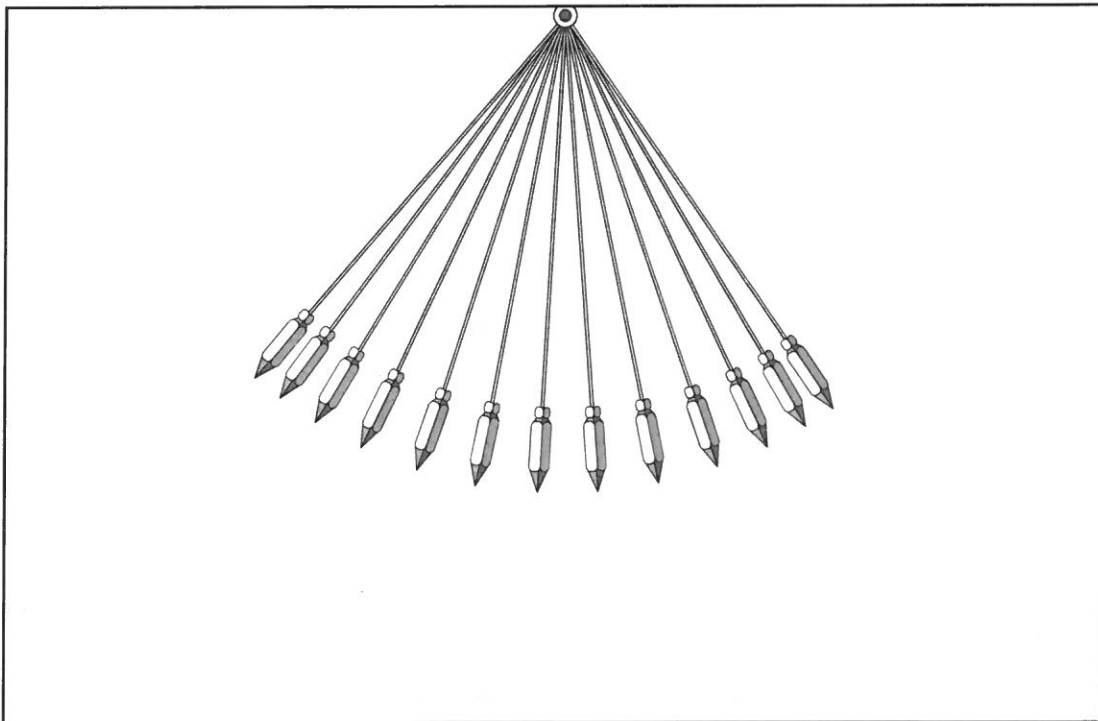
1. A change from one form of energy to another is called a(n) _____.
2. Is the following sentence true or false? Most forms of energy can be converted into other forms. _____
3. Describe the conversion of chemical energy to mechanical energy in your body.

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Transformations Between Potential and Kinetic Energy

4. When you throw an orange up into the air, what kind of energy increases as its height increases? _____
5. As an orange falls from its greatest height, what kind of energy increases and what kind of energy decreases?

6. On the diagram of a moving pendulum, label the places where the pendulum has maximum potential energy and where it has maximum kinetic energy.



Conservation of Energy

7. What does the law of conservation of energy state?

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Energy Transformations and Conservation *(continued)*

8. Friction converts mechanical energy to _____ energy.
9. Circle the letter of the sentence that explains why no machine is 100 percent efficient.
- a. Electrical energy is converted to mechanical energy by fuel.
 - b. Mechanical energy is converted to thermal energy by friction.
 - c. Thermal energy is converted to mechanical energy by friction.
 - d. Mechanical energy is converted to electrical energy by a spark.
10. How did Albert Einstein's theory of relativity change the law of conservation of energy?
- _____
- _____
- _____
11. Is the following sentence true or false? Matter can sometimes be converted to energy. _____

