

Introduction to Matter ▪ *Guided Reading and Study***Energy and Matter**

This section describes some forms of energy that are related to changes in matter and how chemical energy is related to chemical change.

Use Target Reading Skills

As you read about forms of energy, complete the graphic organizer by writing three supporting details that give examples of the main idea.

Main Idea		
There are many forms of energy.		
Detail	Detail	Detail
a.	b.	c.

Forms of Energy

1. Is the following sentence true or false? In chemical reactions, energy is never created or destroyed. _____

2. List six forms of energy related to changes in matter.

3. The energy of matter in motion is _____ energy.

Introduction to Matter ▪ *Guided Reading and Study*

Energy and Matter *(continued)*

4. The energy an object has because of its position is _____ energy.

5. Circle the letter of each example of potential energy.

- a. Rolling ball
- b. Stretched rubber band
- c. Bike at the top of a hill
- d. Bike coasting down a hill

6. What is chemical energy?

7. Circle the letter of the best description of electromagnetic energy.

- a. moves electrons
- b. travels through spaces as waves
- c. forms chemical bonds
- d. gives off heat

8. Give an example of how electromagnetic energy can cause changes in matter.

9. The energy of electrically charged particles moving from one place to another is _____ energy.

10. In electrolysis, electrons move between two metal strips called _____.

Transforming Energy

11. Circle the letter of each kind of energy released when fuel is burned.

- a. chemical energy
- b. thermal energy
- c. electrical energy
- d. electromagnetic energy

12. Is the following sentence true or false? In a chemical change, other forms of energy cannot be changed to chemical energy.

13. During photosynthesis, plants transform _____ energy from the sun to _____ energy.