



Pre-Assessment

Organism Energy Transfers
Force, Motion, and Energy

Name: _____ Date: _____

KEY

1 Which of the following is an example of chemical energy being converted into mechanical energy in the biosphere?

- A The weathering of Earth's surface breaks down rock to make soil.
- B Animals convert the food they eat to muscle movement of muscles.
- C Plants store energy collected from sunlight in sugar they produce.
- D Lightning strikes dry vegetation in an open field and causes a fire.



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2 During digestion, which of the following energy conversions occurs?

- A Chemical energy → heat energy
- B Electrical energy → chemical energy
- C Mechanical energy → heat energy
- D Heat energy → chemical energy



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3 A bird that eats seeds converts the energy stored in the seeds into the energy of its flight muscles. This conversion is from what kind of energy to what other kind of energy?

- A Mechanical energy → thermal energy
- B Radiant energy → chemical energy
- C Chemical energy → mechanical energy
- D Sound energy → radiant energy



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4 Green plants use sunlight to make their own food in the form of glucose. This process, known as photosynthesis, is an example of which of the following energy conversions?

- A Mechanical energy → thermal energy
- B Radiant energy → chemical energy
- C Chemical energy → mechanical energy
- D Sound energy → radiant energy



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5 Thermal energy is one of the forms of energy resulting from digestion which gets energy from food in the form of -

- A mechanical energy.
- B radiant energy.
- C light energy.
- D chemical energy.

Name _____

Date _____

Period _____

Organism Energy Transfers



Concept Attainment Quiz

Name: _____

Date: _____

I. Vocabulary Matching

Match the term in the box to the correct definition.

- | | |
|---|---------------|
| 1. <u>D</u> Energy from the Sun | A. Chemical |
| 2. <u>A</u> Energy stored in the bonds of molecules | B. Electrical |
| 3. <u>C</u> Energy of motion or position | C. Mechanical |
| 4. <u>B</u> Energy carried by the flow of an electric current | D. Radiant |

II. Identification

Use the clues provided to fill in the blanks.

Word Bank

chemical bond	energy	radiant	thermal
digestion	transformation	chemical energy	

1. Energy cannot be created or destroyed.
2. Converting energy from one form to another is called transformation.
3. Thermal energy is also known as heat energy.
4. Plants are autotrophic and use radiant energy to make food for themselves through photosynthesis.



CLOZE-ing in on Science

Name: _____ Date: _____

INSTRUCTIONS: Use the words in the box below to fill in the blanks based on what you have learned about organism energy transfers. Words may be used more than once or not used at all.

Word Bank

chemical	conservation	electrical	energy	food	mechanical
plants		radiant	thermal		transform

CLOZE 1

Energy transformation is changing energy from one form to another. Energy has to transform to make things happen. Riding a bicycle shows many types of energy transformations. If you are going to ride a bike, your body needs energy that it will get from eating food. The fruits and vegetables that we eat come from plants. Plants use radiant energy to photosynthesize to produce food that contains chemical energy. When you eat the food, you convert the chemical energy into mechanical energy as your muscles contract for movement. Your body also changes some of the chemical energy into thermal energy which causes your body temperature to rise.



CLOZE-ing in on Science

INSTRUCTIONS: Use the words in the box below to fill in the blanks based on what you have learned about organism energy transfers. Words may be used more than once or not used at all.

Word Bank

chemical	created	electrical	light
mechanical	radiant	sound	transformations

CLOZE 2

Energy transformations are occurring everywhere around you. The Law of Conservation of Energy states that energy can never be created or destroyed; it can only be transformed. The items that we use every day to make our lives easier also transform energy. When you wake up in the morning for school and turn the lights on, it changes electrical energy into light energy. When your mom puts gas in the car to take you to school, the car is transforming chemical energy into mechanical energy. When you turn on the car radio, it is converting electrical energy to sound energy as you hear your favorite song being played. At the school, you get out of the car and walk indoors. Your breakfast has provided you with the chemical energy needed to get your body moving with mechanical energy so you can have a great day at school.



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1 In organisms, some chemical energy from food will be transformed into -

- A thermal energy.
- B electrical energy.
- C sound energy.
- D solar energy.



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2 Animals are able to move by using the energy from the food they eat. This conversion is from what type of energy to what other type of energy?

- A Radiant → chemical
- B Thermal → electrical
- C Chemical → mechanical
- D Sound → chemical



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3 When a plant performs photosynthesis, the radiant energy of the Sun is -

- A released into the atmosphere.
- B used up in the process.
- C transported into the soil through the roots.
- D stored as chemical energy.



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4 Which of the following energy transformations takes place during digestion?

- A Chemical energy → thermal energy
- B Radiant energy → chemical energy
- C Mechanical energy → chemical energy
- D Chemical energy → radiant energy



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5 Which of the following organisms regularly transforms radiant energy into chemical energy?

- A Deer
- B Tree
- C Cow
- D Human



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6 The energy cows need to move about comes from the grass they eat. The energy in the grass is transformed from -

- A mechanical energy → radiant energy.
- B radiant energy → chemical energy.
- C chemical energy → mechanical energy.
- D electrical energy → thermal energy.



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7 During digestion, chemical energy is transformed into useable forms of energy, including -

- A electrical energy.
- B light energy.
- C radiant energy.
- D mechanical energy.