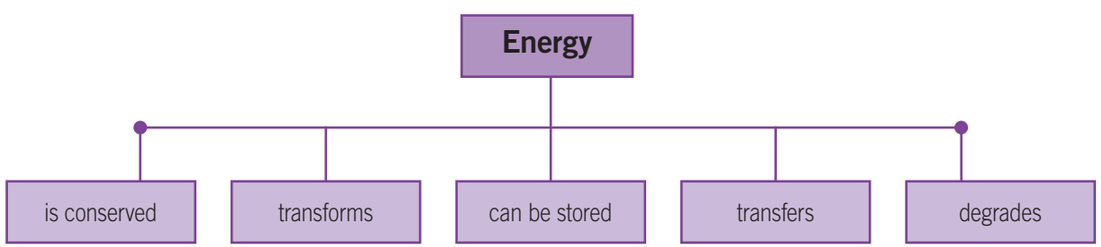
Test 2 Study Page • Summary

Name: _____ Grade: _____

Energy has the capability to create change in bodies. These changes can affect the state of matter or its position, motion or size, among other things.

There are many types of energy. Some of them are as follows:

- **Mechanical energy** depends on the position of a body with respect to another (potential energy) or changes in motion (kinetic energy).
- **Chemical energy** corresponds to the energy stored in matter such as foods, fuel or other substances.
- **Thermal energy** is produced by the movement of the particles that form matter—in other words, their kinetic energy.
- **Heat energy** is the energy transferred between two bodies or two zones of the same body that have different temperatures. The transfer is always from the body or zone with a higher temperature to the one with a lower temperature.
- **Electric energy** is produced by the movement of electric charges through conductive materials.
- **Radiant energy** is the transmission of light waves, radio waves, ultraviolet waves or infrared rays, among other forms of radiation. They can travel through space—in other words, they do not need matter to transport them.
- **Nuclear energy** is obtained from minerals like uranium and plutonium. This energy uses water vapor to power an electric generator, which produces electricity.
- **Sound energy** is the energy that transports sound waves. Unlike light, sound energy needs matter to be transported.



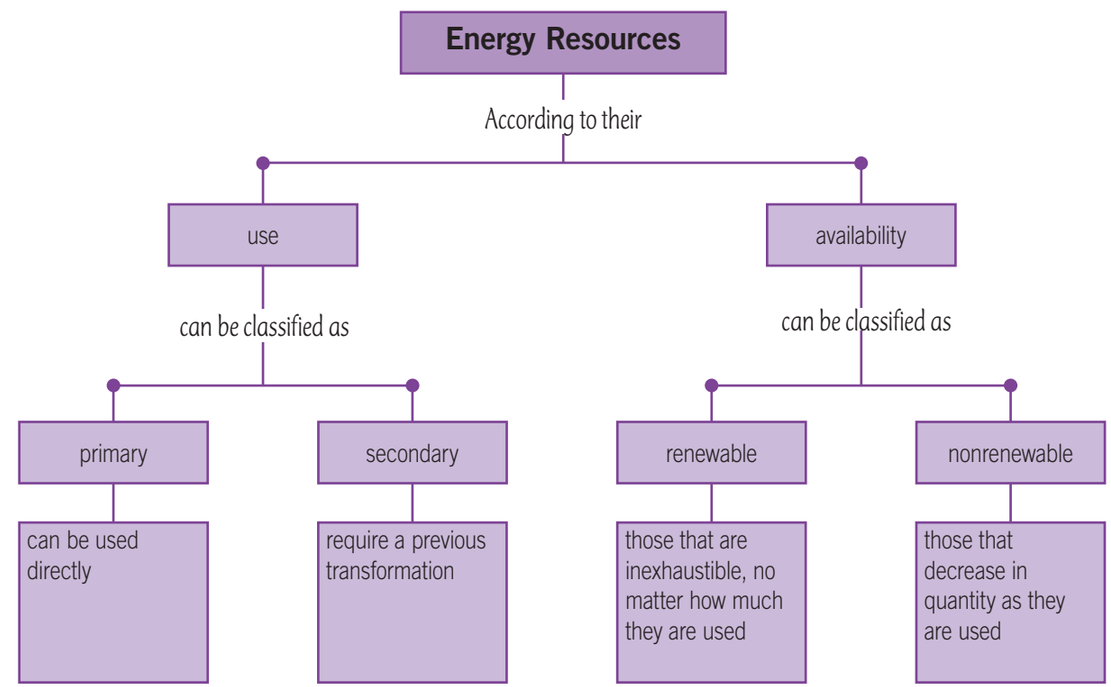
Energy and Objects

There are many objects and devices that use energy to function. They obtain this energy from different sources. Also, they can transform the energy into a different form. There are also objects that need no energy to function.

Energy and Living Things

In order to stay alive, living things need energy. Some living things, like plants and algae, make their own nutrients; others, like animals and fungi, consume other living things.

Energy resources are all the sources of energy that humans can use to their benefit, either directly or after a process of transformation. Aside from nuclear and geothermal energy, **the original source of almost all energy is the sun**.



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Test 2 Study Page • Review

Remove, answer, and glue in your notebook.

Section 1

1. Indicate what form of energy the following bodies have.

a. A cell phone battery: _____

b. An apple: _____

c. Water boiling in a pot: _____

d. A lightbulb that is on: _____

e. A car going 100 km/h on the freeway: _____

2. Carefully read each of the following definitions and write the corresponding form of energy.

Definition	Type of Energy
a. Energy contained in a body from the movement of its particles.	
b. Energy that is transmitted by electromagnetic waves, such as visible, infrared and ultraviolet light.	
c. Energy produced by the movement of electric charges in matter.	
d. Energy that is stored in food and fuel, among other substances.	

Section 2

3. Write the type of change that occurs in each situation.

a. When a hair dryer is turned on: _____

b. When a cart is pushed: _____

c. When a windmill blows: _____

d. When an MP3 player is turned on: _____

4. Calculate the kilocalories (kcal) of each food according to the nutritional information. Then indicate which food has more chemical potential energy.

Nutritional Information Food 1	
Protein	0.3 grams
Total Fat	0.5 grams
Carbohydrate	14.5 grams

Nutritional Information Food 2	
Protein	1.1 grams
Total Fat	1.1 grams
Carbohydrate	13.0 grams

5. Answer the following questions.

a. Coal, petroleum and natural gas are all fossil fuels. Why do you think they are classified this way?

_____

_____

b. Of all the forms of energy you studied in the unit, which come directly or indirectly from the sun?

_____

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