



**Activity Three: Brain Pop!** On the Weebly web page, go to the Wave Energy unit and find the Brain Pop movie entitled Forms of Energy. *First*, watch the movie *then* take the quiz. Write the correct answers here:

1. C Which of these objects has potential energy?
  - a. A ball moving through the air
  - b. A ball deflating
  - c. A ball in someone's hands
2. A Which of these objects has kinetic energy?
  - a. A ball moving through the air
  - b. A ball on the table
  - c. A ball buried underground
3. B What is energy?
  - a. The ability to stand still
  - b. The ability to do work
  - c. The ability to speak
4. B What is the major source of light energy?
  - a. Light bulbs
  - b. The sun
  - c. Fires
5. A What is a source of mechanical energy?
  - a. Wind
  - b. Sunlight
  - c. Dirt
6. C What type of energy is stored in fuel?
  - a. Light energy
  - b. Electrical energy
  - c. Chemical energy
7. A What type of energy do batteries provide?
  - a. Electrical energy
  - b. Mechanical energy
  - c. Sound energy
8. C How is nuclear energy released?
  - a. By burning fuel
  - b. By liquids mixing
  - c. By atoms splitting apart or joining together
9. C What does your body convert into energy?
  - a. Hair
  - b. Water
  - c. Food
10. B What type of energy do plants use to make food?
  - a. Sound energy
  - b. Light energy
  - c. Wind energy

FACT: Potential energy is the energy an object has because of its

position

FACT: energy cannot be

created

or

destroyed

FACT: Kinetic energy is the energy of

motion

#### Activity Four: Map It.

Create a concept map that includes the following words: *kinetic energy, heat, conduction, thermal expansion, radiation, temperature, electromagnetic waves, convection, transverse*

Activity Five: Think, Think, Think!

Circle the correct answer

Which temperature is the coldest:  $50^{\circ}\text{C}$        $50^{\circ}\text{F}$        $50\text{ K}$       They're the same

When a cold spoon is placed in a hot cup of soup the total amount of energy in the spoon and soup...  
Increases because the spoon gets warmer.      Decreases because the soup gets cooler.

Stays the same because energy lost by the soup is gained by the spoon.

The spoon did not have any energy until it was placed in the hot soup.

Two friends are standing the same distance away from you, and blow whistles at the same time. The first whistle creates a sound wave with a large amplitude, and the second makes a sound with a smaller amplitude. Which whistle sounds louder?

The wave with a taller amplitude      The wave with a shorter amplitude      They both have the same loudness

Which object would have the GREATEST kinetic energy?

A 10 kg object moving at 5 m/s      A 5 kg object moving at 10 m/s      They have the same energy

There are two substances with the same thermal energy, but they are different amounts. What do you know about their temperature?

The smaller amount has a higher temperature      The larger amount has the higher temperature

They both have the same temperature      You don't have enough information

Which of the following is true about the process of convection?

Convection occurs in fluids (liquids and gasses). The process of convection underneath the plates causes earthquakes.

Convection happens because hot, less dense molecules rise and cool, denser molecules fall.

All of the above.

What is the GPE of your chair? 0 J Why? it is on the ground & has no height

Two friends put a bowl of very cold water outside on a hot sunny day. The sun warmed the water. They wondered about the energy of the water. This is what they thought:

Trayvon: "The very cold water had some energy. The sun provided additional energy to warm the water."

Sarah: "The very cold water did not have energy. The all the energy that is now in the water came from the sun."

Mercedes: "The molecules from the sun were added to the molecules in the water. This made the water have more energy."

Which friend had the best idea? Trayvon Explain why: All molecules are always moving (have KE) even if it is only a little. The light energy from the sun is transferred to the molecules so they increase in speed/energy

