**Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Section \_\_\_\_\_\_\_\_\_\_\_\_\_ Date:** Friday, October 15, 2010

**Energy Conversions Web Quest!**

**Introduction**: You are an energy engineer employed by Energy Quest Incorporated. You will encounter several links that are provided for research and online activities. These links will give more information and opportunities to test your knowledge regarding the different forms of energy and energy conversions.

**Stop #1: Researching Energy Conversions**: *Read the text found of the web site and answer the following questions:*

1. What energy conversion takes place in a solar cell?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *energy 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy*

1. What energy conversion takes place in photosynthesis?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *energy 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy*

1. Chemical energy stored in coal is released as heat and light energy when the coal is burned. The heat energy is used to produce steam and is changed into mechanical energy in a generator. The generator converts mechanical energy into electric energy that travels through power lines into your home. When you use your toaster, that electric energy is again changed into heat energy.

*Describe all of the energy conversions you just read about:*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *energy 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy & \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy* when coal is burned.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *energy 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy* in a generator.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *energy 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy* that travels through power lines into your home.

When you use your toaster, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *energy 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy.*

**Stop #2: Energy Quest!:** *At the top of the screen, click on “The Energy Story”*

* ***Click on Chapter 5: Stored Energy & Batteries***
* *Read the entire page about how batteries provide energy and answer the following question(s):*
1. What do food and batteries have in common? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* ***Click on Chapter 6: Generators, Turbines & Power Plants***
* *Read the entire page about how electricity is generated and answer the following question(s):*
1. How does a thermal power plant make electricity? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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1. “In most boilers, wood, coal, oil or natural gas is burned in a firebox to make heat.” *What energy conversion is being described here?*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *energy 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy*

1. “Nuclear power plants use nuclear energy to heat water to make electricity.” *What two energy conversions are being described here?*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *energy 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy 🡪 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy*

* If you finish early, you may navigate around the Energy Quest website (*make sure sound is off)*
* Because we are starting a project next week about energy sources, it might be advantageous for you to begin researching alternative (renewable) energy sources!

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| **Homework Due Monday!*** Make an **ENERGY COLLAGE.**
* Use **1 sheet** of construction paper or computer paper.
* **Use pictures** from magazines, newspapers, the Internet, or you can draw pictures.
* You must have pictures that represent **at least 5 different forms** of energy on your collage.
* Label each picture using the correct form of energy.
* Make sure the pictures are **appropriate** and make sure they are labeled **correctly**.
* Be as creative as you want to be, use as many pictures and images as you’d like! ☺
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| **Weekly Quiz 9 on Monday!*** **Your quiz on Monday will cover the following topics:**
	+ The meanings (definitions) of each of our 7 forms of energy
		- Mechanical Energy
		- Thermal Energy
		- Chemical Energy
		- Electrical Energy
		- Sound Energy
		- Light Energy
		- Nuclear Energy
	+ Examples of each of our 7 forms of energy
	+ Examples of how energy can change from one form to another (energy conversions)
* **Resources you can use:**
	+ Chapter 12, Section 1 (pages 349-352)
	+ Chapter 12, Section 2 (pages 354-359)
	+ Cornell Notes from Friday, October 8th and vocabulary notecards
	+ Partner reading worksheet from Thursday, October 14th
	+ Today’s Webquest (**we will turn it in before our quiz on Monday**)
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