**Conduction, Convection, Radiation Stations** Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Hour \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Directions:** With your table groups you will travel around the room to the other tables and complete several different tasks. Please always sit in your same seat color; if you are at the yellow seat you should sit at the yellow seat at all tables. Wait for Ms. Murphy to announce when it is time to “switch” at that time you will rotate counter clockwise around the room. Yellow table travels to the purple table, purple travels to orange and so on. Complete the following at each table station. You will want to start with the table station you are at now. (If you are sitting at the orange table start at the orange station below)

**Yellow Station** (look up are you really at the yellow table?)

Here you will watch a short video and answer the following questions. The person at the yellow seat is in charge of the Promethean pen, please be very careful. Start the movie right away (you may have to rewind) and place the pen back on the side of the Promethean board. Answer the following.

1. Can radiation be harmful? How?

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2. Can radiation be helpful? How?

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3. Is radiation evil?

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**Purple Station**

There is a picture in the manila folder, take it out, examine it and answer the following questions.

1. What are the three kinds of energy transfer taking place in this picture?

2. Do you think the hand in the picture is getting burned? Explain?

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3. If this picture was real, where would you put your hand so you could just feel the radiant energy? Explain.

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4. What do the convection currents in this picture cause?

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**Orange Station**

Here you will be writing a very short story. Please be creative, use your imagination and follow the guide lines below.

Choose your main character- Ray the sun ray or Ernie the molecule of energy

Now tell a short story about your main character involving conduction, convection and radiation. Your main character must go through all the three ways energy transfers on Earth. (Refer to p. 436 in your text)

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**Blue Station**

It’s a matching game. You should work with your table partner and match the pieces together. There is one baggie for each table partner. Ms. Murphy has a key.

**Green Station**

**First Green Group**: If you are the first group at this station, meaning you always sit here continue to read and follow these directions. If you are not the first group at this table move down to the second set of directions. You are working with your table partner.

*Materials* per pair

-mug

-hot water (Ms. Murphy will give you)

-3 chunks of butter

-3 sugar cubes

- 1 plastic knife, Popsicle stick, kitchen knife

*Procedure*

1. Place the butter at the top of the plastic knife, Popsicle stick and kitchen knife. (you may have to smush it)
2. Place the sugar cube on the butter.
3. Ask Ms. Murphy to fill your mug with hot water.
4. Place the Popsicle stick, plastic knife and kitchen knife in the mug of hot water, butter side up!
5. Observe, record and answer the questions below

**Not First Green Group**

This lab was already started by the first group; you will observe the experiment from this point on. Please review the above procedure to learn what was done and answer the following questions.

1. Describe what you see, pay attention to the state of the butter and its location.

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2. What kind of energy transfer is happening and how do you know?

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3. How is the heat reaching the butter?

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4. Which kind of conductor is the best? (Plastic knife, Popsicle stick or kitchen knife) Explain your answer.

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