**Grade 7 Science**

**WebQuest: Forms of Energy (7-2-12) 3 Methods of Heat Transfer (7-2-8)**

**Name: Date:**

1. Use homework-on-line for the assignment “WebQuest: Forms of Energy and Methods of Heat Transfer”.

Be sure to print it if you do not get done in class OR be prepared to print it at home. You only need a computer for question #2.

1. Sign up for one of the following examples to research. Make a sketch of how conduction, convection or radiation works to move heat from place to place.

Use the vocabulary words and color coding as in class. Be ready to explain this to others.

a) hot air rising, then cooling, then falling (helps birds fly)

b) touching a hot stove and being burned

c) heat from a fire warming your hands

d) light bulb (the old-fashioned incandescent bulbs) heating up the wall around it

e) lower floors of a building being cooler than upper floors

f) food is heated in a microwave oven

g) water warmer at the surface of the lake

h) a hot air balloon can be made to move upward

i) a thermos prevents heat energy from escaping

**Vocabulary Words/Phrases**

particles move (or vibrate) faster

more dense warmer

thermal energy in the form of waves collide (bump into)

absorb (or absorbed) heat source (or source of heat)

transfer (or transferred) less dense

empty space reflect (or reflected)

cooler convection current

move farther apart

1. Match the form of energy with its example (7-2-12)(5 marks)

**Forms of Energy Real-life Examples**

1. Sound energy 1) energy that “powers” the sun
2. Mechanical energy 2) eating food and getting energy from it
3. Chemical energy 3) the bell rings to indicate it is time for break
4. Light energy 4) fan blades spinning
5. Nuclear energy 5) turning on a bulb so you can see

**Fill-in-the-Blanks**

4) Energy is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. (7-2-12)(1 mark)

5) Describe TWO main differences between energy and matter. Use the words mass and volume.

Be sure to describe what mass and volume are. (7-2-12) (4 marks)

6) Match the method of heat transfer with its description:

Method of heat transfer Description

a) radiation heat is moved up and down in liquids or gases

because a group of less dense particles rise

b) conduction heat travels in the form of a wave through empty space

c) convection heat is moved from one part of a solid to another part of the

solid because the particles bump into eachother

7) Give the method of heat transfer described by each example (there are 3 ways heat moves, right?)

a) hot air rising, then cooling, then falling (helps birds fly)

b) touching a hot stove and being burned

c) heat from a fire warming your hands

d) light bulb (the old-fashioned incandescent bulbs) heating up the wall around it

e) lower floors of a building being cooler than upper floors

f) food is heated in a microwave oven

g) water warmer at the surface of the lake

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8) Scroll down if you cannot see the pictures of moving heat from place to place. Describe what is happening in the beginning, middle and end of each of the following pictures. Use proper vocabulary/phrases as in the list in question #2. You can draw the pictures if you want or if you do not print them out. They are the same pictures as in your handout titled “3 Methods of Heat Transfer”.

