**The Greenhouse Effect Webquest**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour\_\_\_\_\_\_\_

1. **Click on the link below then answer all of these by typing in your answers:**

<http://www.ucar.edu/learn/1_3_1.htm>

What does the web site report as the surface temperatures for the three “Goldilocks Planets”?

Venus: Earth Mars:

What is the “blanket” composed of?

Compare the “blanket” present on Venus, Earth, and Mars.

What are the four major Greenhouse Gases and their formulas?

**Look at the graph about Solar Radiation. The X axis of this graph contains the various sizes of radiation of the electromagnetic spectrum (X rays on the left have the smallest wavelength, while Radio waves on the right have the largest wavelength). The Y axis of this graph indicates increased concentration of these types of radiation. Type in your answers.**

What is the size range of a single wavelength of visible light? (nm means nanometer)

What is the size range of a single wavelength of infrared light?

**The yellow line on this graph indicates the types and concentrations of the radiation released by our sun.**

What kinds of radiation does our sun release?

Where on the electromagnetic spectrum is our sun’s energy the highest concentration?

**Look at the next diagram which shows how the Sun’s energy is either absorbed or reflected by various parts of our Earth system.**

How much of our Sun’s energy makes it all the way through the atmosphere to the surface of the earth?

How much of our Sun’s energy is actually absorbed by the surface of the Earth?

Once the energy has been absorbed it is re-radiated from the Earth as what kind of energy?

Why is it that the Earth doesn’t get VERY HOT during the day and LOSE ALL OUR HEAT AT NIGHT?

Thinking Question (answer not on the web site): What would happen to surface temperatures on our planet if the Sun’s energy were absorbed and NOT re-radiated?

How do Carbon Dioxide and other greenhouse gasses work to absorb infrared radiation?

Why don’t Nitrogen gas (N2) and Oxygen (O2) gas act as greenhouse gases too?

What other factors influence the Greenhouse effect?

What does Albedo mean?

**Global Climate Change**

<http://epa.gov/climatechange/kids/basics/index.html>

1. Why is the Earth getting warmer?

**Click on ‘Find out how and why the climate is changing”**

1. What is the main reason why the climate is changing?

**Click on “Greenhouse Gases”**

1. Use the pie chart to list the name of the major greenhouse gas from people’s activities and the %.

**At the top of the screen, scroll over “See the Impacts” then click on “The Signs of Climate Change”.**

Choose 2 of the signs of climate change on the bottom to learn more about. In the space below, write the sign of the change and a summary about what you learn from each.

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2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_