**Title:**

Day 2

**Length of Time:**

1 class period between 45-50 minutes

**Environment:** Once again the desks will be in a half circle and the activity will be conducted in the same groups of 3-4 as the previous day around the perimeter of the room.

**Objectives:**

Students will be able to evaluate the information collected from the carbon cycle lab in order to predict levels of carbon dioxide in the atmosphere.

Students will be able to describe how the increasing use of fossil fuels since the Industrial Revolution has changed the way that energy flows through the biosphere after completing the carbon cycle activity.

Students will be able to discuss the interdependence and dynamic equilibrium among organisms, energy, matter, water, oxygen and minerals in the earth’s biosphere, lithosphere, atmosphere and hydrosphere after completing the carbon cycle activity.

Students will apply concepts taken from the carbon cycle activity to predict how future human activities will affect atmospheric carbon including the impact of biofuels.

**Standards:**

B.3.4 Describe how matter cycles through an ecosystem by way of food chains and food webs and how organisms convert that matter into a variety of organic molecules to be used in part in their own cellular structures.

\*B.3.5 Describe how energy from the sun flows through an ecosystem by way of food chains and food webs and how only a small portion of that energy is used by individual organisms while the majority is lost as heat.

\*B.4.1 Explain that the amount of life environments can support is limited by the available energy, water, oxygen and minerals and by the ability of ecosystems to recycle the remains of dead organisms.

\*B.4.2 Describe how human activities and natural phenomena can change the flow and of matter and energy in an ecosystem and how those changes impact other species

**Materials:**

Carbon Cycle handouts post industrial

**General Procedure**: The Bell Ringer will be posted on the chalkboard. **“**Today we will be looking at the carbon cycle as it is now, in the 21st century. What do you predict the differences will be from what we saw yesterday (the carbon cycle before the Industrial Revolution)?”Students will write their answers on their Daily questions sheet that is turned in at the end of the day**. (5 min.)**

Students will once again work in groups of 3-4 and go around the perimeter of the room this time doing the post- industrial portion of the Carbon Cycle. (40 min.)

**Assessment:** Students will do an exit question on the Carbon Cycle Activity.

“What different thoughts about US oil supply or fuel use or types of energy do you have today, compared to yesterday morning before we started talking about these issues?”