Lesson 19- Cycling of Matter in Ecosystems

Earth constantly receives energy from the sun, but Earth’s matter does not change (remember the law of conservation of mass). Matter is recycled from organisms to the environment, and back again, by three cycles- the carbon cycle, the nitrogen cycle, and the water cycle.

1. Carbon is found in every living organism. It is also found in the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, in\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, and in many kinds of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Carbon dioxide is released into the air as a waste product of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (breathing). In photosynthesis, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, such as plants use \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from the air to make \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (food).

2. Carbon dioxide is also released when organisms die and begin to decompose. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and other decomposers break down \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in a process called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

3. Burning \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_ puts large amounts of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ into the atmosphere.

4. The nitrogen cycle is important because all living things use nitrogen to make materials such as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (this has been a question on previous EOGs). Most organisms cannot use nitrogen gas so bacteria “fix nitrogen” in a process called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Then, animals (humans included) get nitrogen by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

5. The water cycle is the continuous movement of water between Earth’s surface and its atmosphere. The parts of the water cycle include \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, precipitation and percolation/infiltration (groundwater soaking in).

6. Diagram the carbon cycle. 7. Diagram the nitrogen cycle. 8. Diagram the water cycle.