Chapter 10, Lesson 1 & 2: EARTH'S CYCLES

1. WATER CYCLE

- a. The <u>water cycle</u> is the continuous movement of water through the environment in different forms.
- b. Water surrounds us at all times. This water is an invisible gas called water vapor.
- c. Water can begin at any one of the phases in the water cycle and it <u>does not</u> follow just one path.
- d. The energy needed in the water cycle originally comes from the <u>sun</u>.
- e. When water vapor condenses into liquid water, it releases energy and cools.
- f. Water particles from plants and soil that are released into the air as water vapor is known as <u>transpiration</u>.
- g. Water <u>evaporates</u> into the air from oceans and other bodies of water and becomes water vapor.
- h. <u>Condensation</u> is when water vapor is turned back into a liquid. Condensation forms <u>clouds</u> in the sky and <u>dew</u> that we see in the morning.
- i. Precipitation falls in the form of rain, snow, sleet or hail.
- j. <u>ground water</u> is the water that soaks into the ground. <u>Runoff</u> is the water that flows off of the land and into lakes, streams, rivers, and oceans.
- k. <u>Sublimation</u> is when ice changes into a gas (water vapor) without first melting.



2. NITROGEN CYCLE

- a. Nitrogen in the atmosphere makes life on Earth possible. Nitrogen is the most abundant gas in the atmosphere.
- b. The continuous movement of nitrogen through the environment in different forms - with the help of the food chain- is the nitrogen cycle.
- c. Plants and animals need nitrogen to live, but most cannot use nitrogen gas from the atmosphere. Instead they must use nitrogen compounds which are chemicals containing nitrogen.
- d. Microorganisms make nitrogen compounds and put them in soil for plants to absorb.
- e. Some plants contain bacteria that can make nitrogen compounds from nitrogen in the air.
- f. Herbivores get nitrogen compounds from the plants they eat. Carnivores get nitrogen compounds from the herbivores they eat.
- g. Decomposers break down dead organisms and animal waste into nitrogen compounds.

3. CARBON & OXYGEN CYCLE

- a. The continuous movement of carbon through the environment in different forms is the carbon cycle.
- b. Carbon dioxide is released into the atmosphere in a variety of ways. Some of which are: volcanoes, burning, animal respiration (breathing), combustion and decomposition.
- b. Plants use carbon dioxide and sugar and release oxygen.
- c. Animals use oxygen and release carbon dioxide.
- d. Combustion is the burning of materials inside of a machine. This type of burning occurs in trucks, cars, power plants, and many other machines and releases carbon dioxide into the atmosphere.
- e. Much of the oxygen in the atmosphere come from microscopic ocean organisms called plankton during photosynthesis.