

Webquest Answers

Water Cycle

Website #1: http://www.epa.gov/ogwdw/kids/flash/flash_watercycle.html (choose auto, or start with Rain)

1. Another name for rain, snow, sleet, and hail is precipitation. This occurs when there is so much water in the air that it cannot hold onto it anymore.
2. Name some locations where water is stored on earth. Underground aquifers, lakes, streams and rivers, oceans
3. Transpirations is when water vapor comes from plants, trees, and land.
4. Which temperature causes water vapor to turn back into clouds? cold
5. What is the name for the process that forms clouds? condensation

Website #2:

http://oceanservice.noaa.gov/education/pd/oceans_weather_climate/media/watercycle.swf

6. How much of the Earth's water exists in each of the following locations?

Oceans	Atmosphere	Underground Aquifers	Rivers	Lakes	Soil	Glaciers/ Ice Caps
<u>97.25%</u>	<u>0.001%</u>	<u>0.61%</u>	<u>0.001%</u>	<u>0.009%</u>	<u>0.005%</u>	<u>1.9%</u>

7. Click on "Person" and record two interesting facts about how individual people use water.

Answers include: humans are made up of about 2/3 water, humans should drink 2.5 liters of water per day, individual people use an average of 400 liters of water per day

8. Click on "Agriculture" and record two interesting facts about agricultural uses of water.

Answers include: about 70% of the water used by people is for agriculture, pesticides and fertilizers from agriculture can contaminate soil and run off into nearby lakes or rivers

Carbon Cycle

Website: https://www.windows2universe.org/earth/climate/carbon_cycle.html

Introduction:

1. How long has carbon been underground? Millions of years
2. Underground, carbon can be stored in fossil fuels, which humans burn.

Carbon in the Atmosphere:

3. When carbon is in the atmosphere, it's usually in the form of molecules of carbon dioxide, which is a greenhouse gas.
4. More carbon dioxide in our atmosphere makes our planet warmer.

Go towards the plant:

5. Which process in plants removes carbon from the atmosphere? **Photosynthesis**
6. If carbon were to leave the plant, which process would allow for that to happen? **respiration**

Go towards the soil:

7. What happened to the plant the carbon was part of? **It died :(**
8. Carbon is now part of detritus; what is detritus? **Decomposing plants and animals**
9. Where does carbon go to from the soil? **The atmosphere**

Go towards the atmosphere, and then continue towards the surface ocean:

10. List the 3 ways carbon can enter the ocean.
 - a. **Atmospheric carbon dissolving in surface ocean**
 - b. **Decomposing marine life**
 - c. **Cycling up from deep ocean**
11. Which absorbs more carbon, the land or the ocean? **The ocean?**

Move towards marine life.

12. **Phytoplankton** absorb carbon through the process of **photosynthesis**.

Nitrogen Cycle

Website: http://www.pbslearningmedia.org/asset/lsp07_int_nitrogen/

Opening Screen

1. Nitrogen is essential to life. Where in all living things (including humans) is nitrogen found? **Proteins, DNA, RNA, chlorophyll (in plants)**

Begin the activity, and then hover over "Nitrogen in the Atmosphere."

2. Nitrogen makes up about what percent of the atmosphere? **78%**
3. Nitrogen exists in what form in the atmosphere? **Nitrogen gas (N₂)**

Read through "Nitrogen Fixation" and "Ammonification."

4. What is the role of nitrogen-fixing bacteria in the nitrogen cycle? **Answers may include to convert nitrogen gas into ammonium ions in the soil**

Read over both "Nitrifications."

5. Ammonia can form **nitrite ions**, which can then be converted into **nitrate ions**. Both can be taken in by **plants**.

Read over "Denitrification."

6. **Denitrifying** bacteria can convert **nitrates** back into **nitrogen gas**, which goes into the **atmosphere**.

Read "Ammonification."

7. Ammonification is when decomposers do what? **Convert ammonia from dead organic matter into ammonium ions**

Finally, read "Assimilation" and hover over the chipmunk.

8. What is the only way in which humans and other animals can obtain nitrogen? **By eating plants or other animals that eat plants**