

Biogeochemical Cycles Guided Notes

The Carbon & Oxygen Cycles

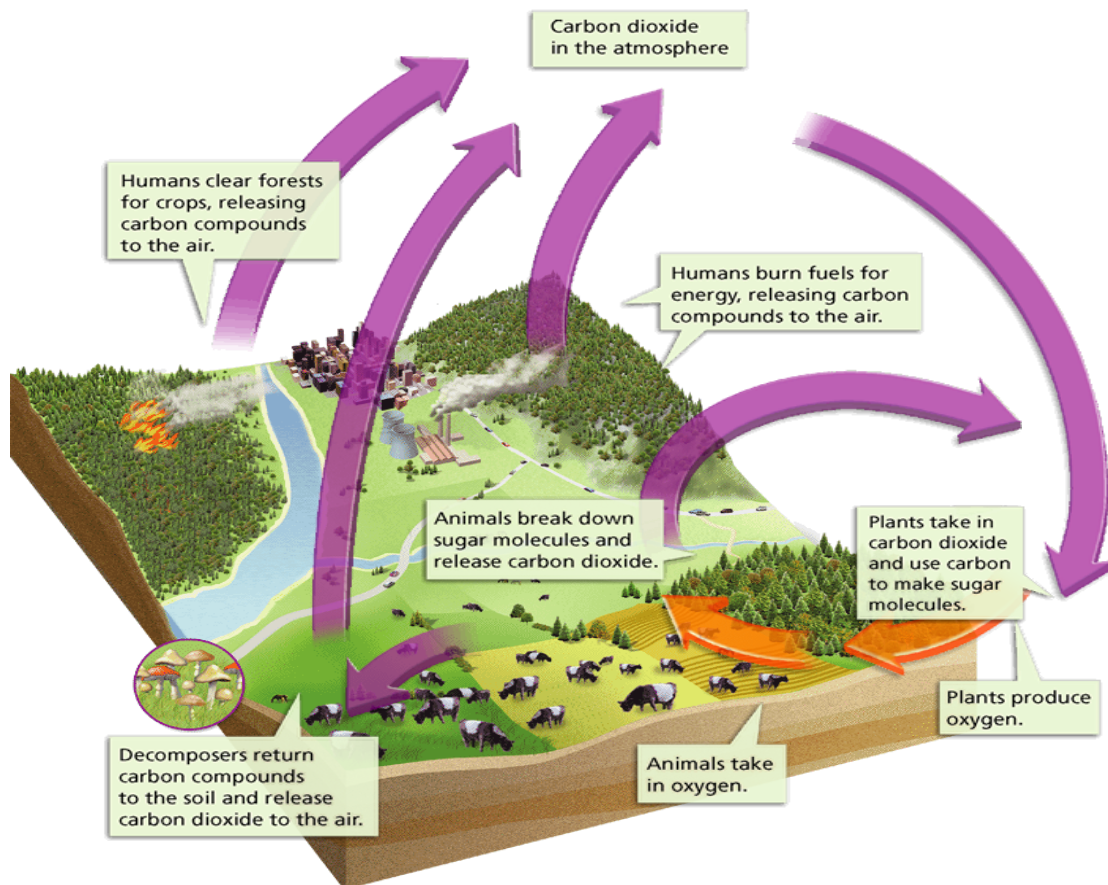
- Carbon and oxygen are _____.
- _____, _____ and _____ all play a role in this cycle.
- $6\text{CO}_2 + 6\text{H}_2\text{O}$ $\text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2$
(_____) (_____)
- Plants and Consumers are _____ on each other!

The Carbon Cycle

- _____ take in carbon dioxide and give off oxygen through _____.
- _____ eat producers (taking in carbon-food molecules) and release them as carbon dioxide and carbon waste products through _____ respiration.
- Decomposers _____ the remains of producers and consumers and return it to the soil. They also release _____.

The Oxygen Cycle

- _____ take in carbon dioxide and give off oxygen. (consumers are opposite)
- Most organisms take in _____ and give off carbon dioxide.



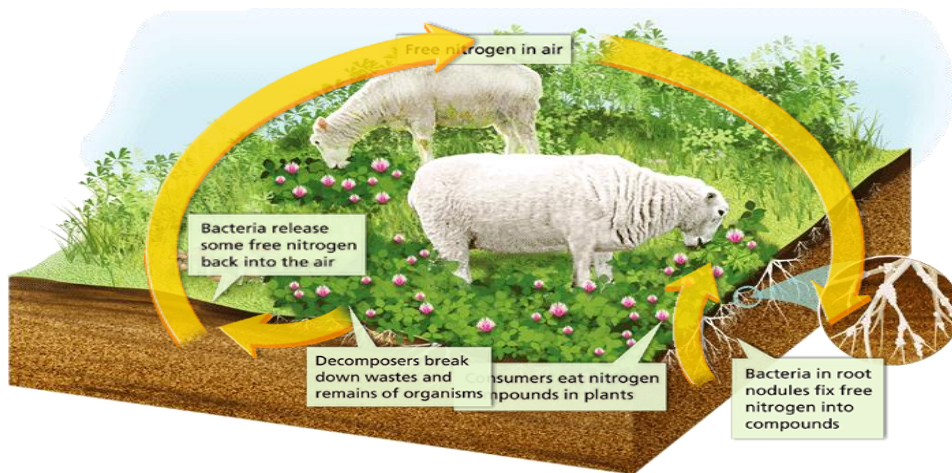
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The Human Impact: Carbon Cycle

- Humans _____ the amount of carbon dioxide in the atmosphere by:
 - _____ oil and other fossil fuels
 - _____ forests for lumber
 - Burning down _____ to clear a forest
 - _____ give off carbon dioxide
- Carbon dioxide is a _____
 - Greenhouse gases hold _____ in the atmosphere
- _____ (carbon compound) is also a GREENHOUSE GAS
 - Methane is produced through _____, factories, and cars

The Nitrogen Cycle

- Nitrogen moves from the _____ to the soil, into living things, and back into the air.
- Nitrogen gas is plentiful in the atmosphere (_____) but cannot be used until it is "fixed".
- Most nitrogen is fixed by _____.
- They change free N to useable N.



The Release of Nitrogen

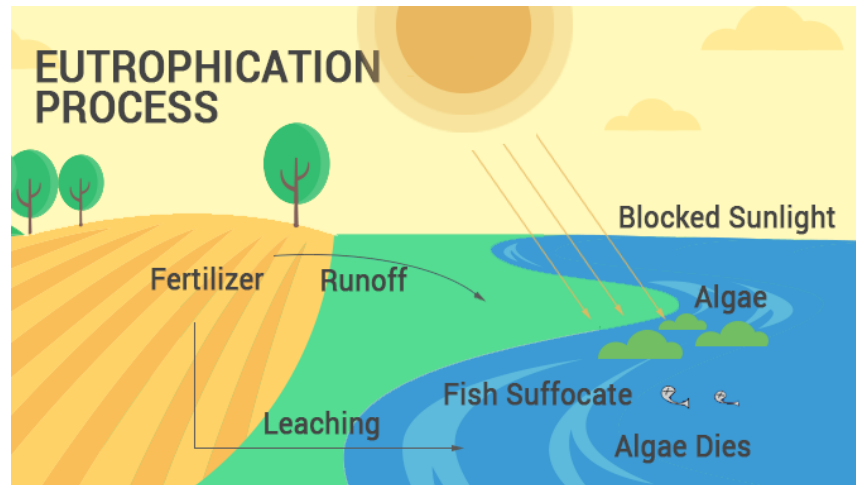
- All living things use Nitrogen to build _____ and _____ acids (DNA, RNA).
- _____ can break down waste (including animal waste) and return it to the atmosphere.
- Nitrogen fixing _____ can live on the roots of legumes, such as peanuts and beans.

The Human Impact: Nitrogen Cycle

- Fertilizer _____ from farms can increase the amount of nitrogen in water systems
- _____ from urban area increase amount of nitrogen in water systems
- Eutrophication
 - As nitrogen builds in water system it causes the growth of _____
 - As plant life becomes _____, animal (fish, etc.) species start to die because of lack of _____

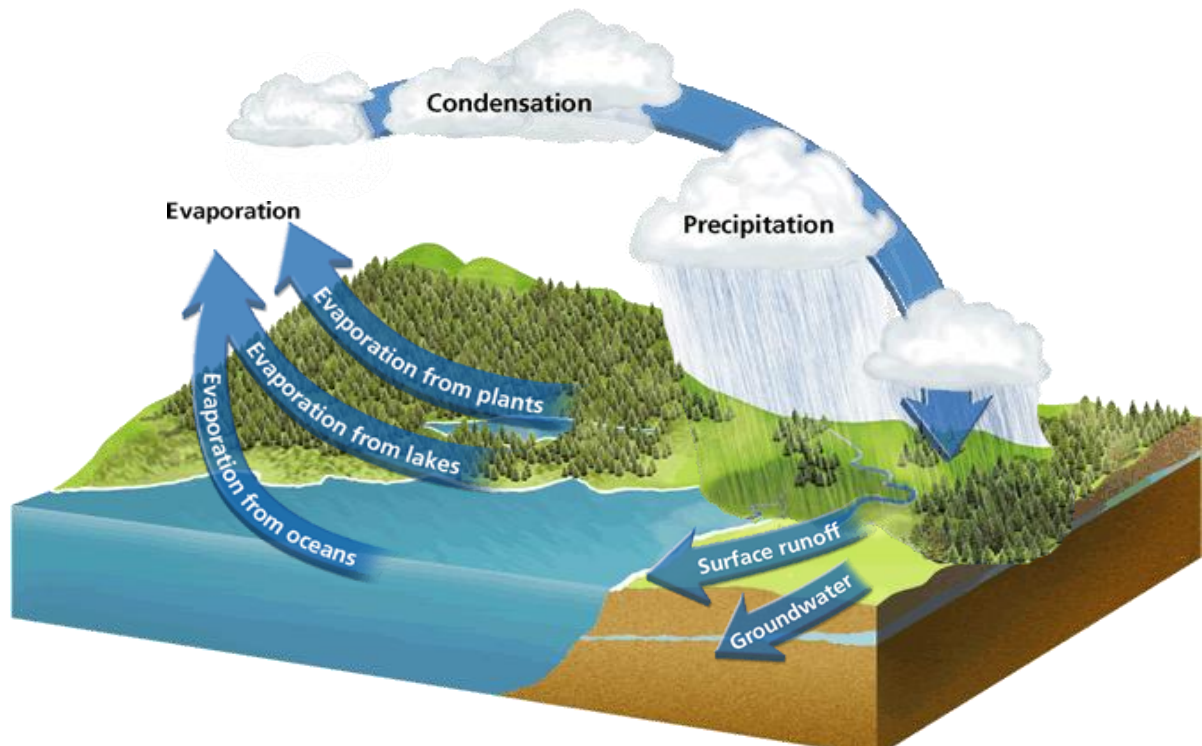
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Eutrophication Process



The Water Cycle

- The continuous process by which water moves from the Earth's surface to the atmosphere and back.
- **It uses the process of:**
 - Evaporation and _____ (plants) (liquid to gas)
 - _____ (gas to liquid)
 - _____ (water vapor falls to Earth)
 - _____ (water runs off the surface of the land to waterways)



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The Human Impact: Water Cycle

- Urbanization
 - The shift from _____ to _____ living
 - Increases the risk of _____ in an area because water is unable to be _____ by soil
 - Paved areas such as parking lots and _____ are more likely to flood because water is not absorbed by the concrete or asphalt



The Human Impact: Water Cycle

- Factories, cars, and burning trash can pollute the atmosphere with _____ and _____
- Sulfur dioxide and nitrous oxide mix and react with water and oxygen to form _____
- Acid rain can kill _____
- Acid rain can also _____ metal and _____ limestone