**Name:**

**Biogeochemical Cycles Study Guide**

**Directions**: Review the drawings of all the cycles in your notes and complete study guide.

1. **Draw the Hydrologic Cycle**
2. Define
	* 1. Transpiration
		2. Evaporation
		3. Evapotranspiration
		4. Precipitation
		5. Condensation



1. **Draw the Carbon Cycle**
2. Define
3. Carbon Sink
4. Deforestation
5. Combustion
6. Decomposition
7. List the various ways carbon can be released into the atmosphere.
8. How does the burning of fossil fuels impact the carbon cycle?
9. **Draw the Nitrogen Cycle**
10. Define nitrogen fixation. What are the two methods in which nitrogen fixation can occur?
11. How do certain types of bacteria remove important nitrates from the soil?
12. Define nitrification.
13. Define denitrification.
14. Define Ammonification.
15. How does the use of nitrogen enriched fertilizers impact the nitrogen cycle?
16. **Draw the Phosphorous Cycle**
17. In what ways is phosphorous a key element to living things?
18. What are the largest reservoirs of phosphorous?
19. How do organisms obtain phosphorous?
20. Explain why phosphorous is a limiting factor for plant growth in many soils and aquatic ecosystems.



1. **Draw the Sulfur Cycle**
2. Why is sulfur important to living organisms?
3. List two ways that humans impact the sulfur cycle. What is the product that is formed from this?

List 3 ways humans have impacted, or are impacting, the different biogeochemical cycles and which cycles they are affecting.

1. **NAME THE CYCLE DESCRIBED:**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Cycle in which photosynthesis and cellular respiration

 are involved.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Only cycle which does not pass through the atmosphere.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Cycle that involves transpiration.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Cycle which is dependent on bacteria for nitrogen fixation

 and denitrification.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Cycle in which volcanic activity and burning fossil fuels plays

 a role.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Another name for the water cycle

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Cycle which includes an underground reservoir in the form of

 fossil fuels.

1. **NAME THE STEP IN A BIOGEOCHEMICAL CYCLE:**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Process in which nitrogen gas from the atmosphere is

 converted into ammonia by bacteria that live in the soil and on

 the roots of plants called legumes.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Process in which soil bacteria convert nitrogen compounds in

 soil back into nitrogen gas which is released into the

 atmosphere.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Process in which sunlight is used to change atmospheric

 carbon into biomolecules used for energy by living things

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Process in which water evaporates from the surface of plant

 leaves.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Process in which nutrients in dead organisms are returned to

 the soil.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Process in which liquid water changes into gas form.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Process in which condensed water in clouds falls to the Earth’s surface.

 Define:

1. System:
2. Dynamic Equilibrium/Homeostasis:
3. Organic Compound:
4. Gaia hypothesis