

3. The Nitrogen Cycle

- a. Approximately _____% of the Earth's atmosphere is made up of *Nitrogen*.
- b. Why must nitrogen be "**fixed**?"
- c. What is the **Nitrogen Cycle**?
- d. As you learn about the Nitrogen cycle, fill in the chart which identifies and describes the four main processes.

<i>Nitrogen Fixation</i>	
	Animals eat the plants full of usable, fixed nitrogen.
<i>Denitrification</i>	
	Animals release wastes loaded with nitrogen which can be used as fertilizers.

- e. What are the **three** methods which can be used to fix nitrogen?
- f. Describe how **lightning** is used for nitrogen fixation.
- g. Describe the symbiotic relationship between **nitrogen fixing bacteria and plants**.
 - i. This is an example of _____ symbiosis.
- h. Pause the video and draw a (simple) picture which illustrates the Nitrogen Cycle in the space below.

4. The Carbon Cycle

a. Let's review, what is the purpose of **photosynthesis**?

i. Photosynthesis takes place in the _____.

b. Let's review, what is the purpose of **cellular respiration**?

i. Cellular respiration takes place in the _____.

c. What is the **Carbon Cycle**?

d. In what forms does carbon **EXIST**?

e. Through what process does carbon **ENTER** the biotic environment?

f. How does carbon **RETURN** to the atmosphere?

g. Describe the impact humans are having on the carbon cycle.

h. Summarize the **carbon cycle**.

i. Explain the concerning connection between burning fossil fuels and global warming.

j. Pause the video and draw a (simple) picture which illustrates the Carbon Cycle in the space below.

5. The Phosphorus Cycle

- a. What cycle is the Phosphorus Cycle most like?
- b. What is the **Phosphorus Cycle**?
- c. _____ is an essential nutrient for plants and animals.
- d. Why is phosphorus a necessary nutrient?
- e. What two processes cause rocks to release inorganic phosphate?
- f. Where does inorganic phosphate go once it has been released from the rocks?
- g. _____ take up inorganic phosphate from the soil.
- h. How do animals get phosphate?
- i. How does organic phosphate get into the soil?
- j. What turns organic phosphate into inorganic phosphate?
- k. Pause the video and draw a (simple) picture which illustrates the Phosphorus Cycle in the space below.

Water Cycle

Nitrogen Cycle

Carbon Cycle

Phosphorus Cycle