

**Bozeman AP Environmental Science | Big Idea #2 - Living World**  
**011 - Biogeochemical Cycles**

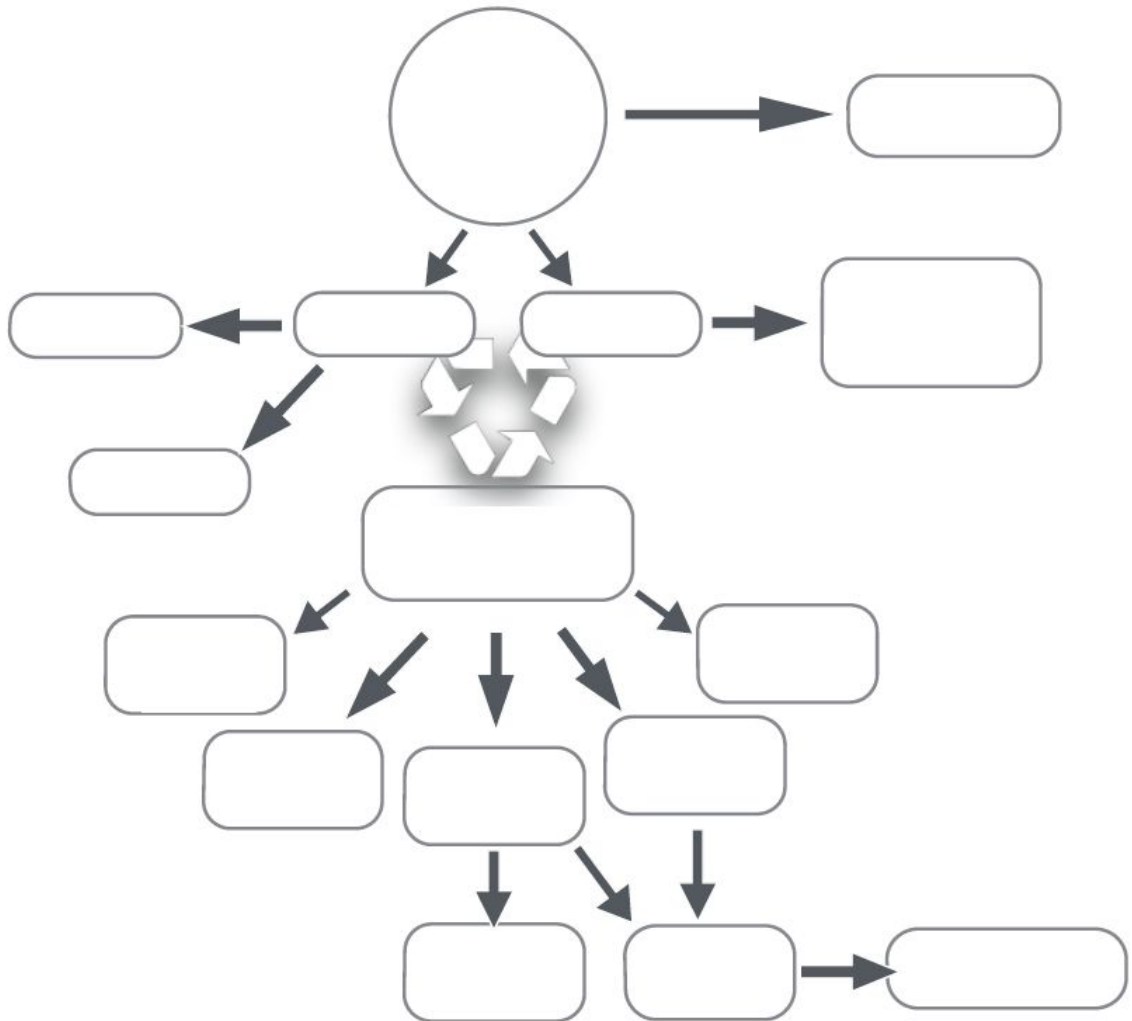
Name: \_\_\_\_\_ Block/Period: \_\_\_\_ Date: \_\_\_\_\_

**Students:** It is recommended that you watch the video with subtitles ON; be prepared to pause and rewind. The video is ~10 minutes long, but this worksheet will take you around ~30 to 35 minutes to complete. There will be a review / discussion afterwards requiring you to record corrections AND summarize additional material / information.

Description (-½ point for each time the rubric is not followed)	Point Value
Each question has been answered	0   ½   1
Each question has been answered in a full sentence	0   ½   1
Each answer has avoided 'it' or 'they' statements, by being clear on the topic of the answer	0   ½   1
<i>Review: Answers that were incorrect are corrected, in a different color</i>	0   ½   1
<i>Discussion: 2 OR more summary statements of the additional material / information, in a different color</i>	0   ½   1
Score:	_____ / 5



1. Listen to Mr. Anderson describe the various parts of the concept map, and pause after he reveals a new word, and fill in that word.



2. **Define** Biogeochemical Cycles (explained at ~1:10 in the video during the concept map outline).

\_\_\_\_\_

3. Energy starts in the \_\_\_\_\_ -> moves through

\_\_\_\_\_ -> to \_\_\_\_\_ -> to other

\_\_\_\_\_ -> and eventually is lost as \_\_\_\_\_.

4. **Define** the mnemonic CHNOPS, **summarize** how each of the CHNOPS elements are important to life

a. C - \_\_\_\_\_, and is important to life because...

\_\_\_\_\_

b. H - \_\_\_\_\_, and is important to life because...

\_\_\_\_\_

c. N - \_\_\_\_\_, and is important to life because...

\_\_\_\_\_

d. O - \_\_\_\_\_, and is important to life because...

\_\_\_\_\_

e. P - \_\_\_\_\_, and is important to life because...

\_\_\_\_\_

f. S - \_\_\_\_\_, and is important to life because...

\_\_\_\_\_

5. **Define** evaporation.

\_\_\_\_\_

6. **Define** evapotranspiration.

\_\_\_\_\_

7. **Draw** the Water Cycle, labelling the key-words in the cycle with arrows for direction. (you do not need to be 'fancy' with your drawings).



- 8. Draw** the Carbon Cycle, labelling the key-words in the cycle with arrows for direction.  
(you do not need to be 'fancy' with your drawings).

**Explain** what is happening to carbon at each step.



9. **Draw** the Nitrogen Cycle, labelling the key-words in the cycle with arrows for direction.  
(you do not need to be 'fancy' with your drawings).

**Explain** what is happening to nitrogen at each step.



**10. Draw** the Phosphorus Cycle, labelling the key-words in the cycle with arrows for direction. (you do not need to be 'fancy' with your drawings).

**Explain** what is happening to phosphorous at each step.

**11. Draw** the Sulfur Cycle, labelling the key-words in the cycle with arrows for direction. (you do not need to be 'fancy' with your drawings).

**Explain** what is happening to sulfur at each step.