Matter Cycling Jigsaw

OBJECTIVES:

* Identify the nitrogen, carbon, phosphorus, and water cycles
* Explain the importance of the cycling of elements from one state to another

(ex: carbon in CO2, CH4, C6H12O6, etc.)

**You are a group of experts on a given chemical cycle:**

* For this assignment, you need to research your cycle using the resources I provide, as well as any other resources you find helpful!
* I have provided guiding questions below to help keep you on track. You must answer these questions.
* You will teach the class about your cycle, and they will need to take notes from your lesson. Make sure the questions below are included in your lesson. They are the big-picture questions about your cycle.
* It is up to you how teach your mini-lesson, thus you may create a powerpoint, guided notes, use the projector or the board, etc. We did the water cycle together as a class, so you can use that example as a guide while creating your lesson.

Chemical Cycle:

Members of your group and their roles (include yourself):

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**Big Picture Questions:**

1. Why is this element necessary for life?
2. What are the important organisms, elements, objects, etc. in this cycle? Why? Think about what links the abiotic and biotic factors.
3. What are the steps in this cycle? Draw a diagram and annotate it.
4. How does this cycle relate to each of the 4 spheres of the Earth?
5. How are humans influencing this cycle?

**Writing a Mini-Report**

Your individual assignment for this lesson allows you to practice your scientific researching, summarizing, and writing skills. You will be focusing on a cycle of matter that you did NOT teach to the class, and you must answer the question “How are humans affecting this chemical cycle?” You must look at a certain topic in particular. For example if I were to research human influence on the water cycle, I may focus on the depletion of freshwater stores, such as lakes and groundwater, from overuse/wasting of water. After you write your report you must post a discussion board in a few sentences summarizing your topic, and then inform your classmates on how they can reduce their impact on the cycle personally. You must respond to 2 other posts, adding meaningful ideas and information to the discussion!

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|  | **1 point** | **3 points** | **5 points** |
| **Sources** | 1 of the criteria is represented | 2 of the criteria are represented | Reliable, relevant, and scientific sources usedCited in the works cited pageCited in the paper when necessary (According to…) |
| **Mini-Report Content** |  |  | Describe how humans have affected cycleImpact this has had on life (positive or negative)How can we change at a national/global/local level AND a personal level |
| **Paper Criteria** |  |  | Between 1-2 pages in length at 11/12 point fontWorks cited stapled to the back in correct formatDoubled spaced with title |
| **Blog Entry** |  |  | Short few sentence summary of the mains idea of your reportAdvocate how students can reduce negative impacts on the cycleMeaningful response to 2 other student posts |

DUE DATE: