



## Lab: Matter Cycles- Water, Carbon, Nitrogen & Phosphorus

### Introduction

During this activity you will be learning about the ways carbon, nitrogen, water, and phosphorus are cycled through the environment. These elements and compounds are part of the biotic and abiotic factors found in every ecosystem. Each one of these elements/molecules are necessary for homeostasis to be maintained within ecosystems. *As you move through each cycle, think about what might happen if something occurred to interrupt that cycle.*

1. List the substances that are elements: \_\_\_\_\_

2. Which substances above are/ is a compound? \_\_\_\_\_

### Directions

**You will be using a website to complete this assignment:**  
<http://poster.4teachers.org/worksheet/view.php?id=123451>

Your task today is to use the links to explore each cycle. You will have one period to work on this with your partner, but you may access this assignment on the webpage at home if you need more time. Please read the facts listed below the interactive diagrams to complete your chart. EACH student should take their own notes including:

\* **Describe what is being cycled**

\* **Explain/Illustrate how the cycle works**

\* **Examples of how each element/molecule cycled**

\* **Why do we need the cycles of matter to maintain homeostasis within ecosystems and the biosphere as a whole. What might happen if one of the cycles stopped working?**

**\*\*NOTE:** Think about the compounds we have discussed that are vital to living things and how they play a role in these cycles!\*\*

### Extension/ Homework

1. Draw a labeled diagram of 1 matter cycle we are studying. Use your notes to label the substances and use arrows to show how matter moves through the cycle and is changed
2. Attach to the diagram a paragraph explaining the importance of the cycle. Explain what would happen if your cycle no longer worked. Give an example of what would change in an ecosystem

Notes should be succinct and in YOUR OWN WORDS! These are designed to help YOU differentiate between these cycles AND examine their importance.

Cycle \_\_\_\_\_

**What matter is being Cycled?**

**Explain how the cycle works**

**Examples of how each element/  
molecule is cycled**

**Why do we need this cycle?  
What would happen if this cycle stopped  
working?**