Biology 1 Name:

***The Water Cycle*** Date:

Hour:

**Use information from the Biogeochemical Cycles Reading to help you reason answers to the following.**

What are the six most important elements for building life?

Why are the biogeochemical processes that change these atoms considered ‘cycles’?

Describe the steps of the water cycle *(you may wish to include a diagram).*

Why is the water cycle important to humans?

Are there other organisms that rely on the water cycle?

Based on what you’ve found, write a few sentences that defend why the water cycle is the most

important of all cycles in the Earth system.

Biolo*g*y 1 Name:

***The Carbon Cycle*** Date:

Hour:

**Use information from the Biogeochemical Cycles Reading to help you reason answers to the following.**

What are the six most important elements for building life?

Why are the biogeochemical processes that change these atoms considered ‘cycles’?

Describe the steps of the carbon cycle *(you may wish to include a diagram).*

Why is the carbon cycle important to humans?

Are there other organisms that rely on the carbon cycle?

Based on what you’ve found, write a few sentences that defend why the carbon cycle is the most important of all cycles in the Earth system.

Biolo*g*y 1 Name:

***The Nitrogen Cycle*** Date:

Hour:

**Use information from the Biogeochemical Cycles Reading to help you reason answers to the following.**

What are the six most important elements for building life?

Why are the biogeochemical processes that change these atoms considered ‘cycles’?

Describe the steps of the nitrogen cycle *(you may wish to include a diagram).*

Why is the nitrogen cycle important to humans?

Are there other organisms that rely on the nitrogen cycle?

Based on what you’ve found, write a few sentences that defend why the nitrogen cycle is the most

important of all cycles in the Earth system.

Biolo*g*y 1 Name:

***The Phosphorus Cycle*** Date:

Hour:

**Use information from the Biogeochemical Cycles Reading to help you reason answers to the following.**

What are the six most important elements for building life?

Why are the biogeochemical processes that change these atoms considered ‘cycles’?

Describe the steps of the phosphorus cycle *(you may wish to include a diagram).*

Why is the phosphorus cycle important to humans?

Are there other organisms that rely on the phosphorus cycle?

Based on what you’ve found, write a few sentences that defend why the phosphorus cycle is the most

important of all cycles in the Earth system *(or why it may be the easiest to reproduce)*.

Biology 1 Name:

***The Sulfur Cycle*** Date:

Hour:

**Use information from the Biogeochemical Cycles Reading to help you reason answers to the following.**

What are the six most important elements for building life?

Why are the biogeochemical processes that change these atoms considered ‘cycles’?

Describe the steps of the sulfur cycle *(you may wish to include a diagram).*

Why is the sulfur cycle important to humans?

Are there other organisms that rely on the sulfur cycle?

Based on what you’ve found, write a few sentences that defend why the sulfur cycle is the most

important of all cycles in the Earth system.

Biology 1

***Cycle Summit*** Group Names: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Hour: \_\_\_\_\_

It is 50 years in the future and you have been appointed to the NASA Terra-Forming Committee (NTFC), a group in charge of scheduling the development of distant planets into Earth-like worlds that can be inhabited by humans. Unfortunately, this is a ***very*** expensive process.

NASA has discovered an Earth sized planet in the next star system. It is a rocky planet near enough to its star to experience patterns of warming similar to Earth. It has a very thin atmosphere comprised of 1/3 oxygen, 1/3 nitrogen and 1/3 carbon dioxide. Some of the spectra analysis indicates that the rocky surface has phosphorus & sulfur bearing minerals.

Congress has informed the NTFC that they will only fund one mission to this planet for terra-forming every 100 years (*according to most estimates, it turns out that terra-forming a planet to resemble Earth is a process that will take hundreds or even thousands of years anyway*). Which cycle should be first established on this new planet? Why? What elements and/or materials would need to be transported to this distant world? Be sure to describe why your group selected one cycle over the others.

The first cycle for terra-forming a planet for life should be

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

This cycle was chosen because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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It is a better choice to be funded first when compared to the other cycles because \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Where there any dissenters in your group?

Through a generous grant funded by siemianowski.weebly.com (which has become a wildly popular website in the future), you are able to send a second shuttle with the capacity to establish another cycle. Which do you chose? Will these two cycles be enough to support life? Can/do they have the capacity to impact or jumpstart the remaining cycles? Explain.