

What Cycles Exist in Nature?

Name: _____

Date: _____

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- Does the _____ describe any cycles?
- _____ says “He draws up the drops of water, which distill as rain to the streams; the clouds pour down their moisture and abundant showers fall on mankind.”
- You may recall learning about that cycle in previous science classes.

The Carbon Cycle

- Do you recall the different phases of the Moon?
- Every month, you can observe the change in the amount of _____ we observe in the Moon.
- This is an example of a _____.
- A cycle is a series of events _____ in the same order.
- Another cycle involves a common _____.
- _____, a natural element, is a basic part of life on Earth.
- It exists in the _____ of living things.
- It is found in _____, which are formed from the decomposition of living organisms.
- Carbon can be found in rocks, soil, ocean, water, and Earth’s _____.
- Most of the carbon on Earth is stored as _____ in the air, in the bodies of living and dead organisms, and dissolved in ocean water.
- Carbon is exchanged between organisms and the environment in a process called the _____.
- Let’s explore the carbon cycle by starting with _____.
 1. As land plants _____, they absorb carbon dioxide from the air and use it to make food.
 - They release oxygen back into the _____.
 - Ocean plants photosynthesize and absorb dissolved carbon dioxide in the _____ and use it to make food.
 - The land and ocean plants stored _____ contains carbon.
 2. Next, carbon might travel from the plant to an _____.

- The animal gets the carbon by _____ the plant.
- 3. During the _____, plants and animals release carbon back into the atmosphere in the form of carbon dioxide, a gas.
- 4. When plants and animals die, and decompose, some of the carbon within their bodies is released into the _____.
- 5. Organisms that die and become buried deep underground for thousands of years may become _____, such as oil or coal.
 - When humans burn fossil fuels, carbon enter Earth's atmosphere as _____ and the cycle beings again.

Scripture Spotlight

- *What nature cycles does Genesis 8:22 describe?*

The Nitrogen Cycle

- Like carbon, _____ is essential to living things.
- Nitrogen gas makes up about _____ of Earth's atmosphere.
- However, most organisms cannot use nitrogen in its _____ form.
- Instead they need nitrogen _____.
- These usable compounds are formed when the nitrogen gas is changed during a process called _____.
- The process occurs in different _____.
- Nitrogen-fixing bacteria in _____ or _____ do most of the nitrogen fixations on Earth.
- Some of these bacteria grow on the roots of _____.
- _____ also fixes nitrogen. The heat from the lightning helps form nitrogen compounds in the air.
- These compounds are washed into the soil by _____.
- _____ can also fix nitrogen into usable compounds.
- These compounds are included in _____.
- Nitrogen is like carbon in another way.
- It is cycled between the environment and living things in a process called the _____.
- To explore the nitrogen cycle further, let's start with the _____.

1. Plants get the nitrogen they need through _____ or _____.
2. Animals get nitrogen from _____ plants or other animals that eat plants.
3. When organisms die, decomposers change the nitrogen in the proteins of the dead organisms' bodies into _____ compounds. Ammonia has nitrogen in it that remains in the _____.
4. Other bacteria change ammonia compounds into nitrites and nitrates. The _____ change the nitrites and nitrates to nitrogen gas. The gas returns to the atmosphere.

Water Cycle

- Water is essential to _____.
- It makes up about _____ of the human body.
- It is in the _____ we breathe and in the soil, we work with and live on.
- Water is constantly _____ repeatedly.
- The water cycle has an impact on _____ greater than any other factor in the biosphere.
- Since water is necessary for cells to maintain homeostasis, the availability of water is _____ to all life forms on Earth.
- When there is a _____, a lack of rain, both plants and animals can be affected.
- How the water cycle works can determine how well or how poorly living things _____.
- Ecosystems and populations and _____ or _____.

Faith Connection

- *Our year, month, and day come from natural occurrences related to the Sun and Moon. Where does our week come from? Compare Genesis 2:2-3 with Exodus 20:8-11. See also Revelation 14:6-7.*

The Seasonal Cycle

- We can describe the pattern of winter, spring, summer, and fall as a _____.
- The seasons affect _____ and animals.
- For example, during a cold winter, there is less food for _____.
- Plants are affected by the changes in the amount of _____ throughout the seasons, especially in the higher latitudes.

Scripture Spotlight

- *What does Job say about God and rain in Job 5:10, 28:26, and 36:27-28?*

Reproductive Cycle

- In Genesis 1:22 and 28, God said, “Be fruitful and increase in _____.”
- For a species to survive, it must _____.
- The process by which new individuals are produced is called the _____.
- Different species have different reproductive cycles, but the individuals within a species go through the same _____ each time they reproduce.
- The reproductive cycle begins with the combination of a male and a female cell in a process called _____.
- The fertilized cell develops through various _____ until a new individual is formed.

Predator-Prey Cycle

- The increases and decreases in the population sizes of a predator and its prey are called the _____ - _____ cycle.
- For example, foxes are _____ that often prey on rabbits.
- The _____ of an environment is the largest number of one species that an environment can support without harmful effects.
- For example, if marsh rabbits reach their carry capacity and eat all the vegetation, there won't be enough food for them to _____ in the area.
- The lack of food would be a _____.

- Limiting factors are things that keep a population from growing any _____.
- Limiting factors affect populations and include _____, parasites, _____, and predation.