

Plants in the Carbon Cycle

Plants are considered autotrophs, which means that they create their own energy to live. They do this through the sun, using a process called photosynthesis. During photosynthesis, plants take in carbon dioxide from the air and convert it to energy.

Photosynthesis transfers carbon from the

_____ to the _____.

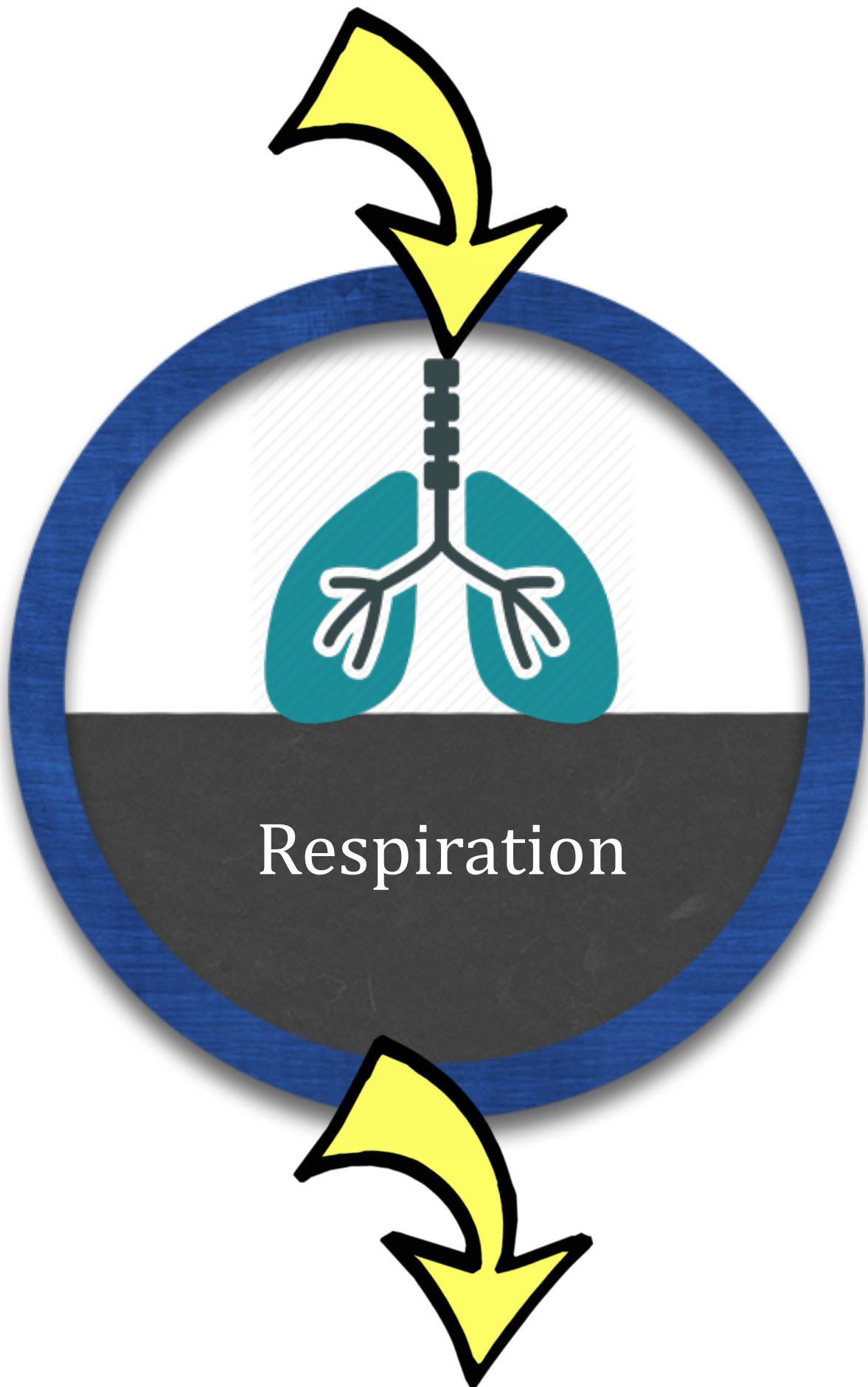


Aquatic Plants in the Carbon Cycle

Plants are considered autotrophs, which means that they create their own energy to live. They do this through the sun, using a process called photosynthesis. During photosynthesis, aquatic plants take in carbon dioxide from the water and convert it to energy.

Photosynthesis transfers carbon from the

_____ to the _____.



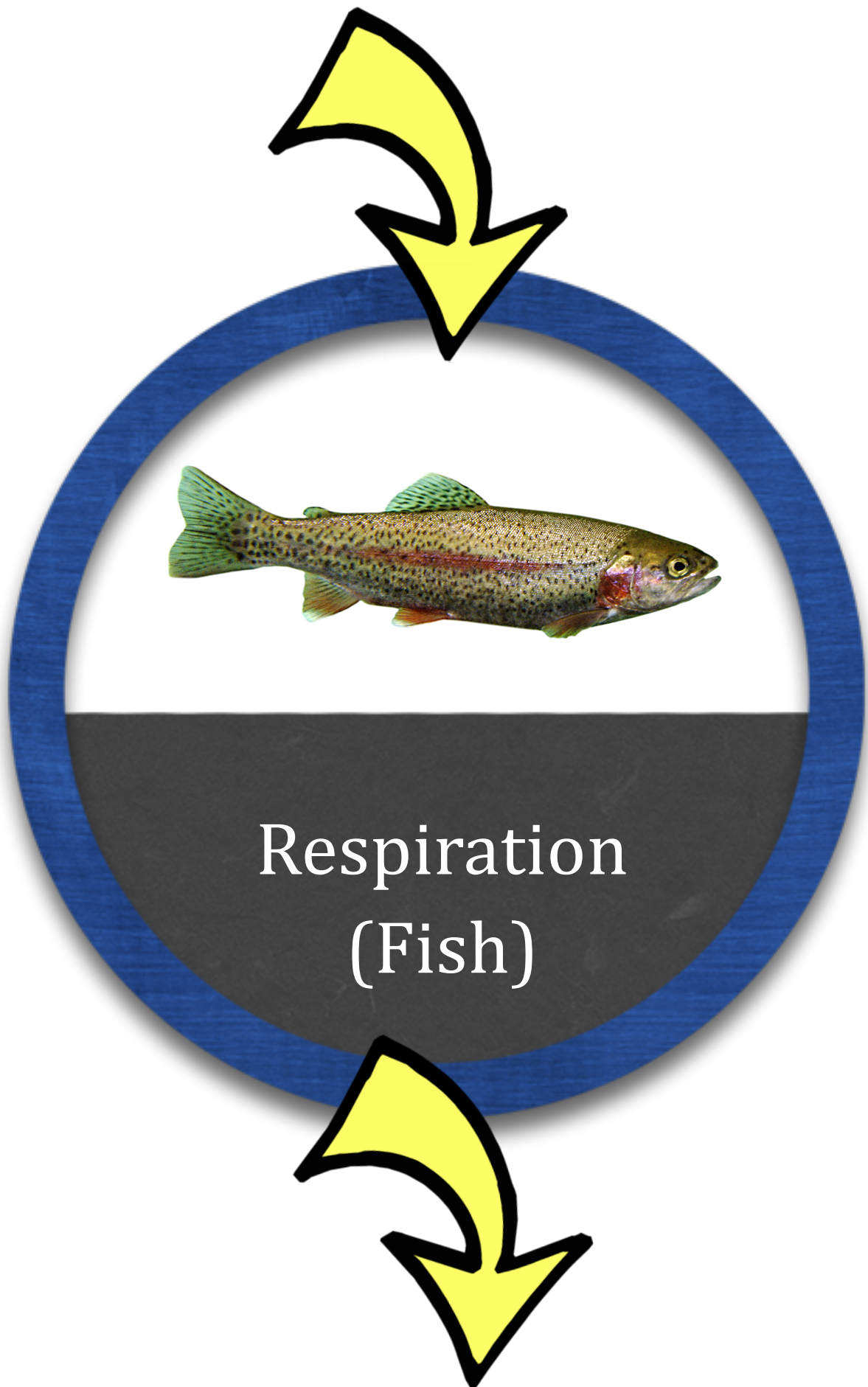
Respiration in the Carbon Cycle

Respiration is a process in living organisms where oxygen is taken in, followed by carbon dioxide being released back into the air.

For example, an animal or a human breathes in oxygen, then exhales carbon dioxide. Organisms from all kingdoms of life (bacteria, archaea, plants, protists, animals, and fungi) perform cellular respiration.

Respiration transfers carbon from the

_____ to the _____.



Fish Respiration in the Carbon Cycle

Respiration is a process in living organisms where oxygen is taken in, followed by carbon dioxide being released back into the air.

For example, an animal or a human breathes in oxygen, then exhales carbon dioxide. Organisms from all kingdoms of life (bacteria, archaea, plants, protists, animals, and fungi) perform cellular respiration.

Humans and mammals receive their oxygen from the air (atmosphere). Fish receive their oxygen from the water.

Respiration in fish transfers carbon from the

_____ to the _____.



Decomposition in the Carbon Cycle

All living things contain carbon. This includes plants and animals. After an animal dies or a plant begins to decompose, the carbon is transferred to the soil.

Decomposition transfers carbon from the

_____ to the _____.

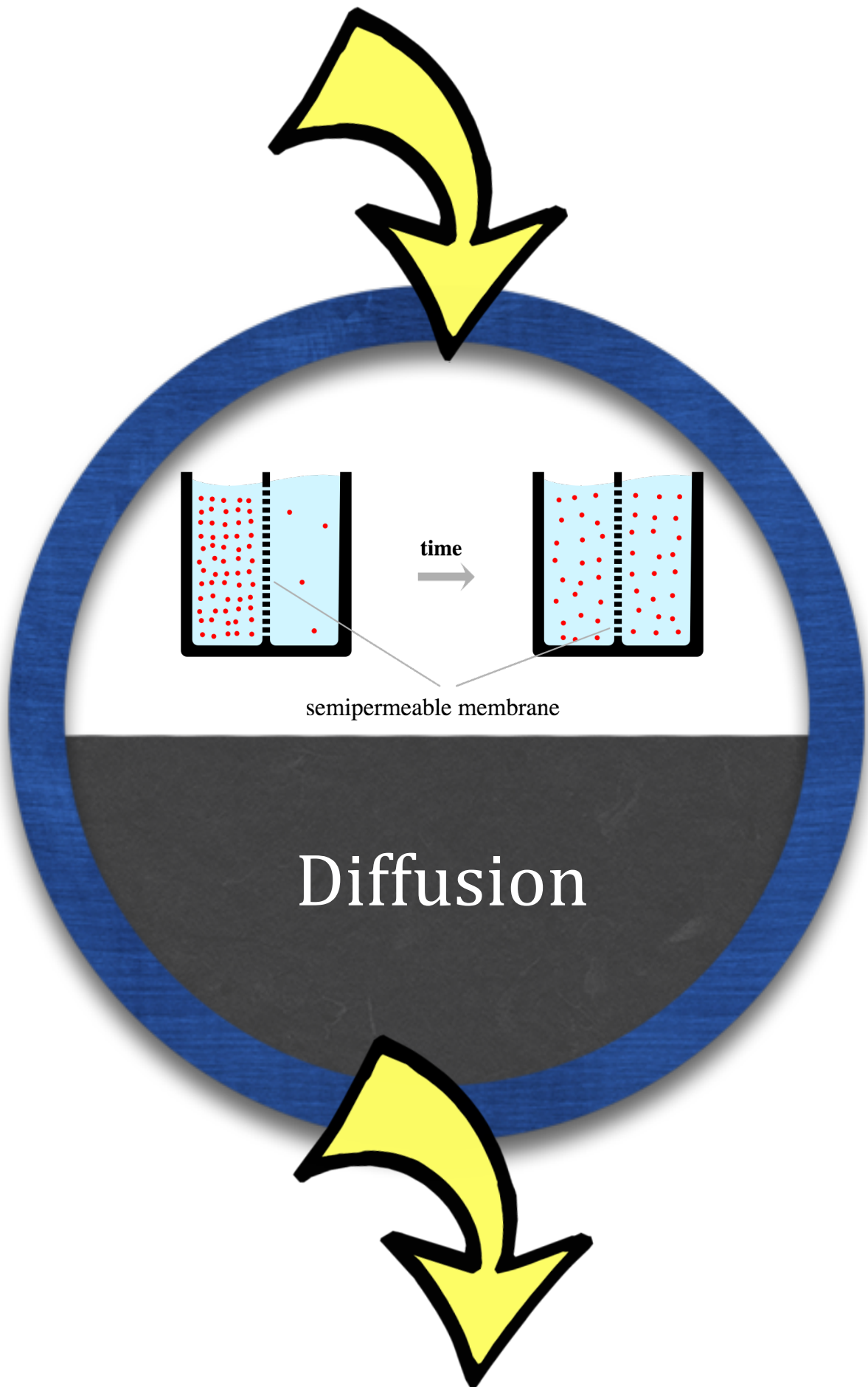


Weathering & Erosion in the Carbon Cycle

Carbon is stored in the soil as well as in deeper areas of the Earth. As rocks and other landforms of the earth's crust weather and erode, they are often washed into rivers and streams that eventually lead to the ocean.

Weathering and Erosion transfer carbon from the

_____ to the _____.



Diffusion in the Carbon Cycle

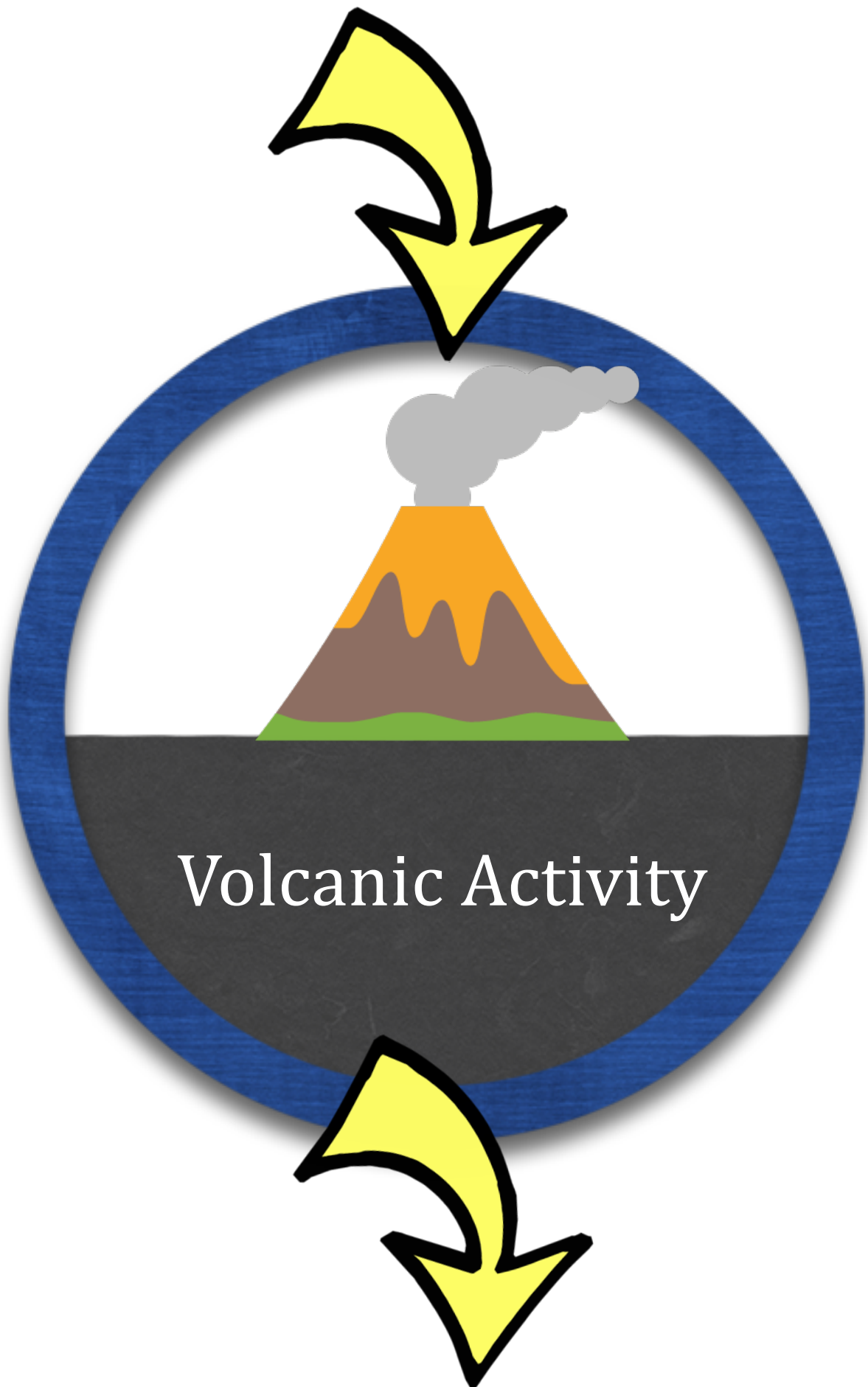
Diffusion is the movement of anything from a region of higher concentration to a region of lower concentration. Diffusion takes place in the carbon cycle when carbon naturally flows from the air to the water. It can also move from the water to the air.

Diffusion transfers carbon from the

_____ **to the** _____.

AND from the

_____ **to the** _____.

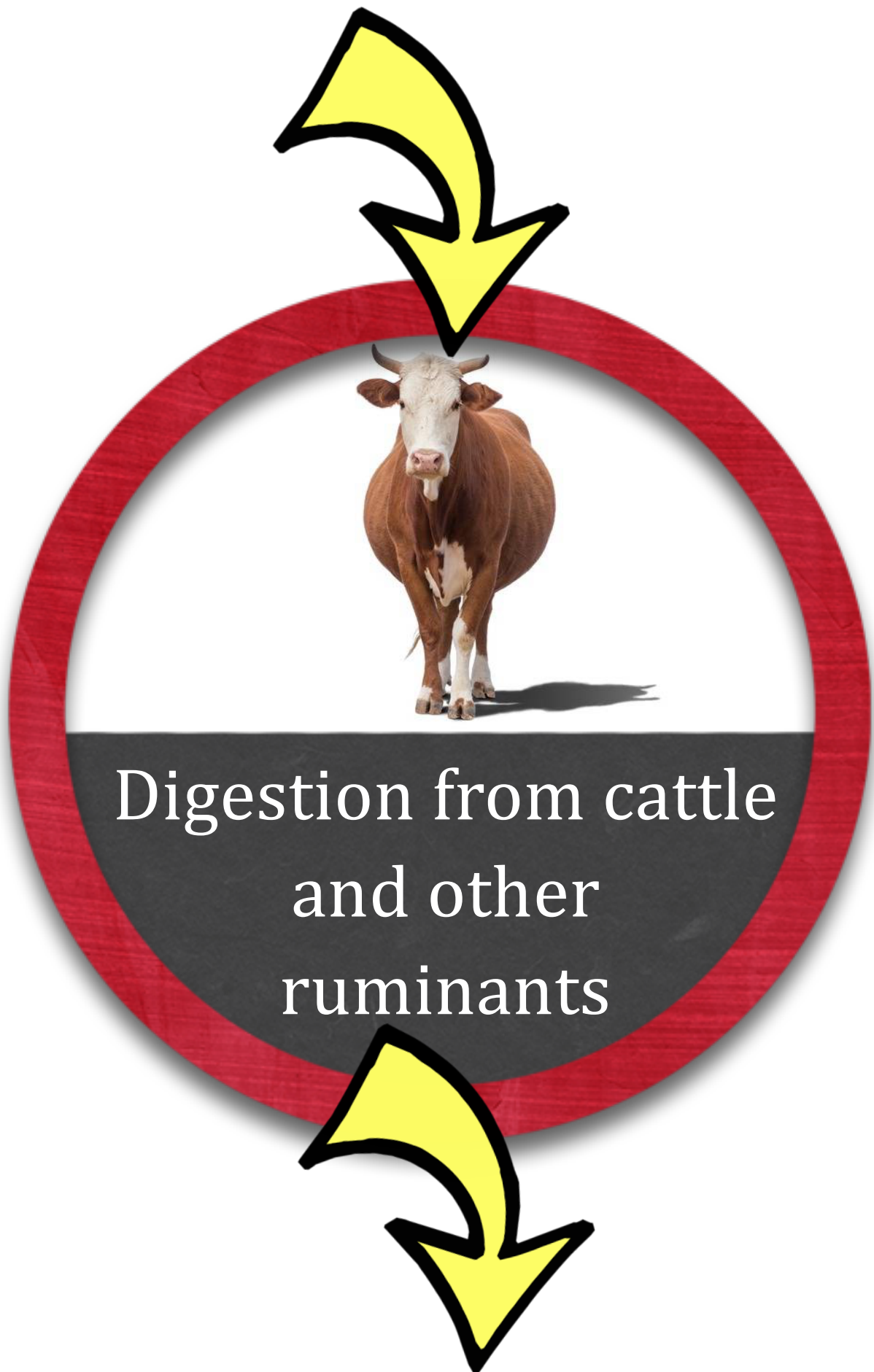


Volcanoes in the Carbon Cycle

When volcanoes erupt, they vent gas to the atmosphere and cover the land with fresh silicate rock. They also transfer carbon dioxide from the ground to the air.

Volcanoes transfer carbon from the

_____ **to the** _____.



Ruminants in the Carbon Cycle

Cattle and other livestock such as sheep, goats, deer, elk, and buffalo have a unique digestive system. These animals are classified as “ruminants.” Their stomach has 4 compartments, which allows them to digest feed that humans cannot.

During digestion, microbial fermentation occurs in the rumen (the first compartment of their stomach) to break down forages so they can be metabolized. CH_4 (methane) is created in the digestive process. It is then exhaled (burped) by the animal. Methane (CH_4) is a greenhouse gas.

Ruminants transfer carbon from the

_____ to the _____.



Deforestation in the Carbon Cycle

Deforestation is the act of clearing a wide area of trees without replanting them. This may be done to clear land for agricultural fields or for cities or developments. Trees may also be cleared to obtain wood and fuel.

If trees are cut down and then burned, all of the carbon stored in the tree is immediately released into the atmosphere.

Deforestation transfers carbon from the

_____ **to the** _____.

*Additionally, trees take carbon dioxide from the air through the process of photosynthesis. Removing trees prohibits them from performing this helpful process in the carbon cycle.



Fossil Fuels

Fossil Fuels in the Carbon Cycle

Fossil fuels are formed deep in the ground from the remains of living organisms that contain carbon. These fuels include petroleum, coal, and natural gas. We use them to fuel our vehicles, heat and cool our buildings, and to make plastics.

Fossil fuels are pumped from deep in the ground. The process moves the carbon from deep in the ground to be released into the air.

The burning of fossil fuels transfers carbon from the

_____ to the _____.



Soil Tillage in the Carbon Cycle

The soil contains carbon. When soil is tilled, it releases carbon dioxide into the air as well as a small amount of nitrous oxide and methane.

Soil tillage transfers carbon from the

_____ to the _____.