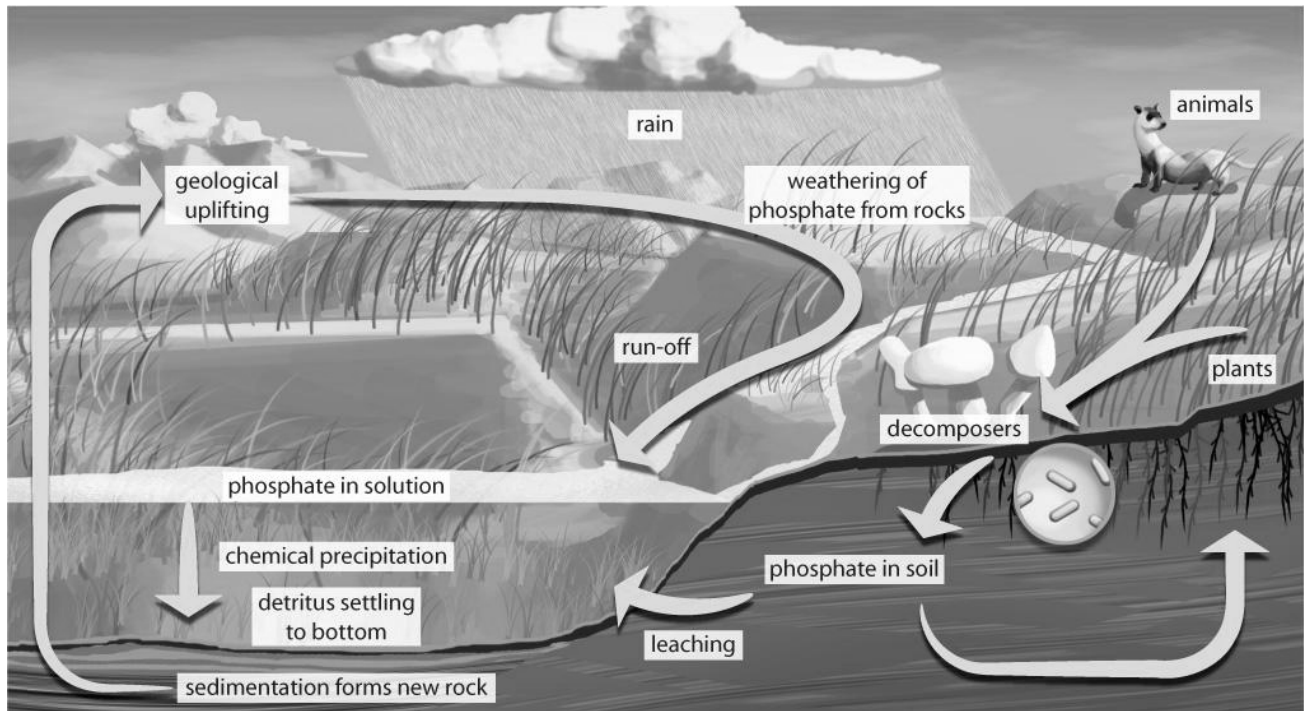


CHAPTER 2**OVERHEAD****The Phosphorus Cycle****BLM 2.2.12**

The phosphorus cycle is a biogeochemical cycle that shows how phosphorus is converted into different forms as it is transported through the water and soil. All organisms require phosphorus as a part of cellular DNA and ATP (the energy carrier essential to all cells).



Phosphorus in the Air

- Unlike carbon, nitrogen, and sulfur, phosphorus does not cycle through the atmosphere.

Phosphorus in the Soil

- Weathering gradually releases phosphorus trapped in rocks and makes it available to organisms.
- Plants and algae can only use phosphorus in the form of phosphate (PO_4^{3-}).
- Phosphorus is scarce in the environment. This keeps the growth of producers in balance, but it can also limit the growth of crops.

Phosphorus in the Water

- The growth of algae in aquatic ecosystems is limited by the amount of available nutrients.
- Because it is scarce in the environment, excess phosphorus in aquatic ecosystems can result in algal overgrowth, known as an algal bloom.