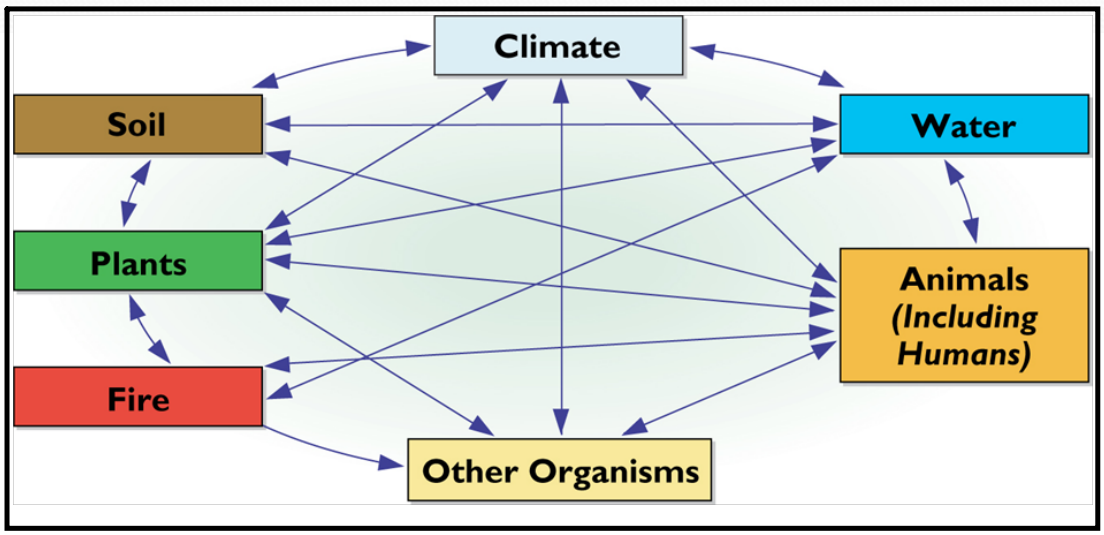
Ecosystems

- All of the organisms living in an area together with their physical environment.
  - There can be great variation from one ecosystem to another.
  - However, ecosystems overlap.
  - Requirements include energy, mineral nutrients, water, oxygen, and living organisms.

Apr. 11

An ecosystem is made up of all of the living and nonliving things in an area. This includes all of the plants, animals, and other living things that make up the communities of life in an area. An ecosystem also includes nonliving materials—for example, water, rocks, soil, and sand.



Factors in Ecosystems

Biotic (living) factors include:

- Plants
- Animals

} organisms

- Dead organisms & Waste Products (came from living at one time)

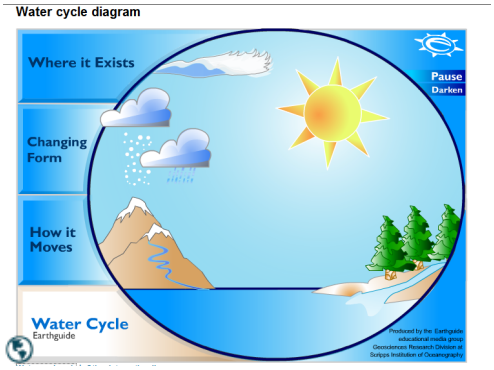
Abiotic (nonliving) factors include:

- Air
- Water
- Soil
- Rocks
- Light
- Temperature
- Climate

Water Cycle or Hydrologic Cycle

must know both names

Already did



Describe Nitrogen Cycle-Nitrogen cycle in simple terms (youtube.com)

2 min

TEXT - Water and Nitrogen Cycles.pdf

The Carbon Cycle Process (youtube.com)

3 min

1. **transpiration** - loss of water through the pores in the leaves of plants.
2. **evaporation** - water vaporizes into the air.
3. **condensation** - water forms into a liquid form.
4. **precipitation** - collects in clouds and falls to the ground as rain/snow.
5. **surface runoff** - water that travels on the ground to a stream, pond or other body of water.
6. **percolation/infiltration** - water soaks into the ground.
7. **ground water** - water found within bedrock.
8. **capillarity** - water movement from the soil up to the roots of a plant.

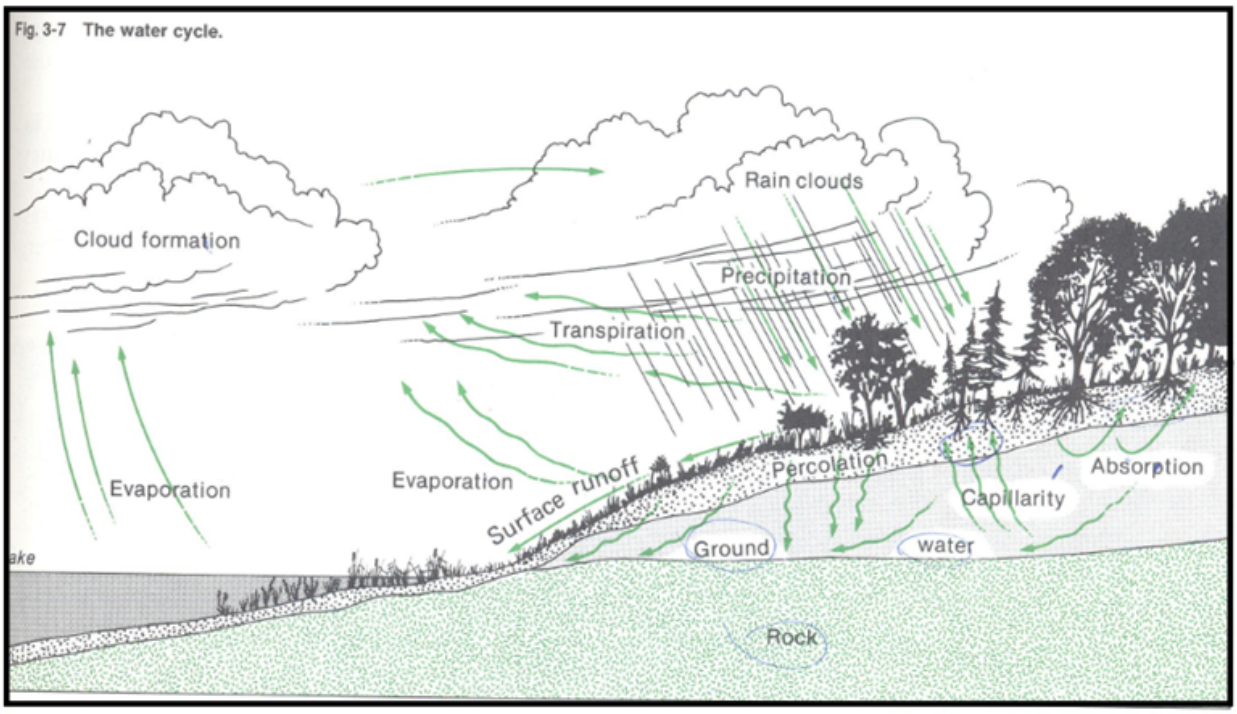


Fig. 3-7 The water cycle.
Rain clouds
Cloud formation
Precipitation
Transpiration
Evaporation
Evaporation
Surface runoff
Percolation
Absorption
Capillarity
Ground
water
Rock

pages 43-44

The Water Cycle

The hydrogen and oxygen atoms in water are nutrients organisms need. These nutrients are recycled through ecosystems as follows.

Water vapour enters the atmosphere through **transpiration** from vegetation. (Transpiration is the loss of water through pores in the leaves of plants.) It also enters the atmosphere by evaporating from bodies of water and the soil (Fig. 3-7). In the cool upper atmosphere this vapour condenses, forming clouds. In time, enough water collects in the clouds to cause **precipitation**. When this happens, some of the water that falls on the ground runs along the surface of the ground to a stream, pond, or other body of water. This water is called **surface runoff**. But some of the water also soaks into the ground by a process called **percolation**. Some water percolates down to the bedrock. Then it becomes **ground water** and gradually runs back to lakes and other bodies of water.

Some of the water in the soil moves up to the roots of plants by **capillarity**. The roots absorb the water. This is how most plants get the hydrogen and oxygen they need. Animals can obtain water by eating plants or by eating other animals. Of course, they can also obtain it by drinking water directly from a body of water.

Finally, when plants and animals die, they decompose. During this process, the water in their tissues is released back into the environment.

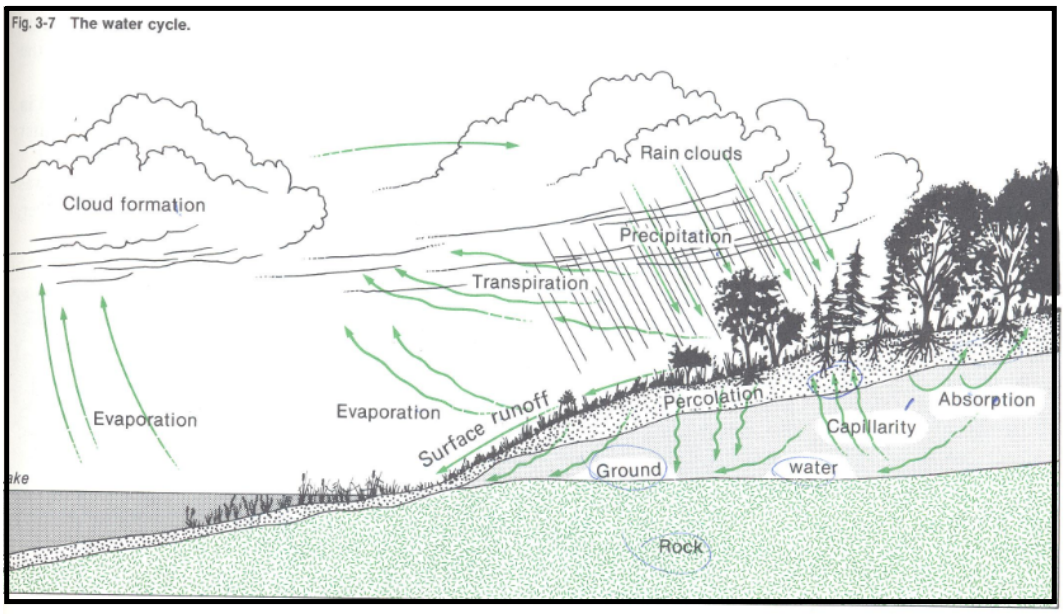
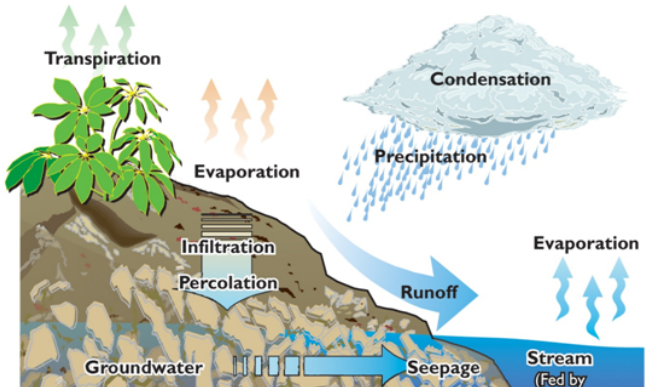


Fig. 3-7 The water cycle.

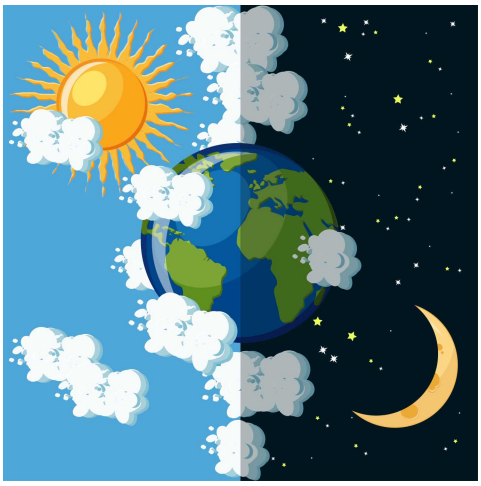
Water Cycle



Did you know?

- A fixed amount of water recirculates around the Earth.
- Water moves in certain directions from place-to-place (reservoir-to-reservoir) by only certain processes and pathways.
- Some processes of transfer are rapid while others are much slower.
- A conceptual "reservoir" of water is not quite the same thing as a reservoir in which water is stored.
- When land-based glacial ice melts and runs off into the sea, sea level rises.
- When land-based glacial ice forms, sea level drops.
- When floating icebergs melt into the sea, sea level doesn't change.
- Glacial ice is made up of freshwater that had previously fallen as snow.
- Evaporation of seawater requires an input of energy; condensation of clouds releases energy.

Let's Look at the Earth and It's Cycles

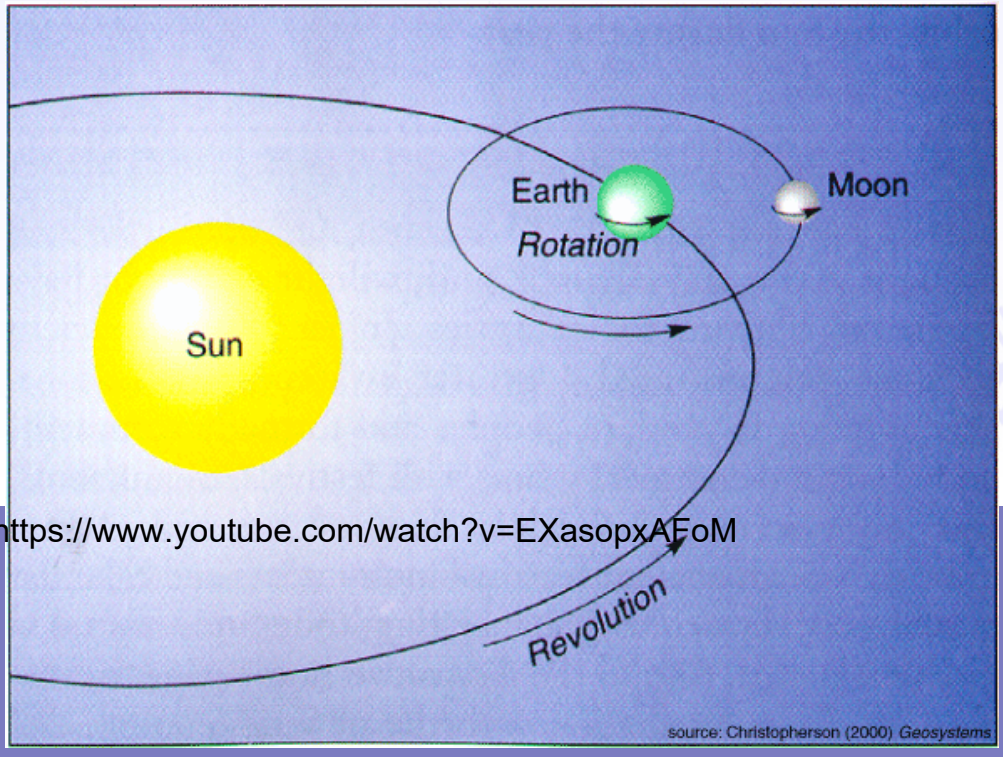


Revolution -The movement of an object around another.

earth (goes around sun)

↳ Earth takes 1 year = 365 days

↳ counter clockwise



https://www.youtube.com/watch?v=EXasopxAFoM

12

Attachments

NOTES - Ecological Organization.pdf

TEXT - Water and Nitrogen Cycles.pdf

Science 7 Rock Assignment 1.docx