



Ch 6.1: The Water Cycle

Be able to:

- *List where water is found on earth.*
- *Identify and define the 4 parts to the water cycle.*

Why is Earth called the blue planet?

- ~70% of Earth is covered by water
- Less than 1% is available for consumption



Where is H₂O on Earth?

❖ **97% salt water in oceans**

❖ **2% frozen at poles**

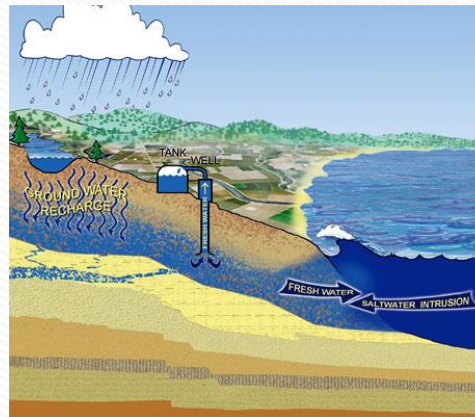
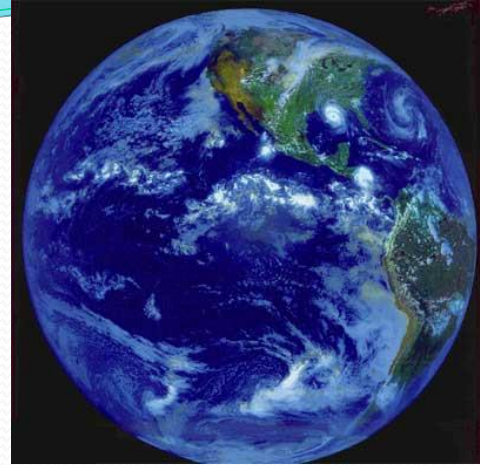
❖ **.61% groundwater (Aquifer)**

- An underground area of sediment and rocks that contains groundwater

❖ **.016% lakes**

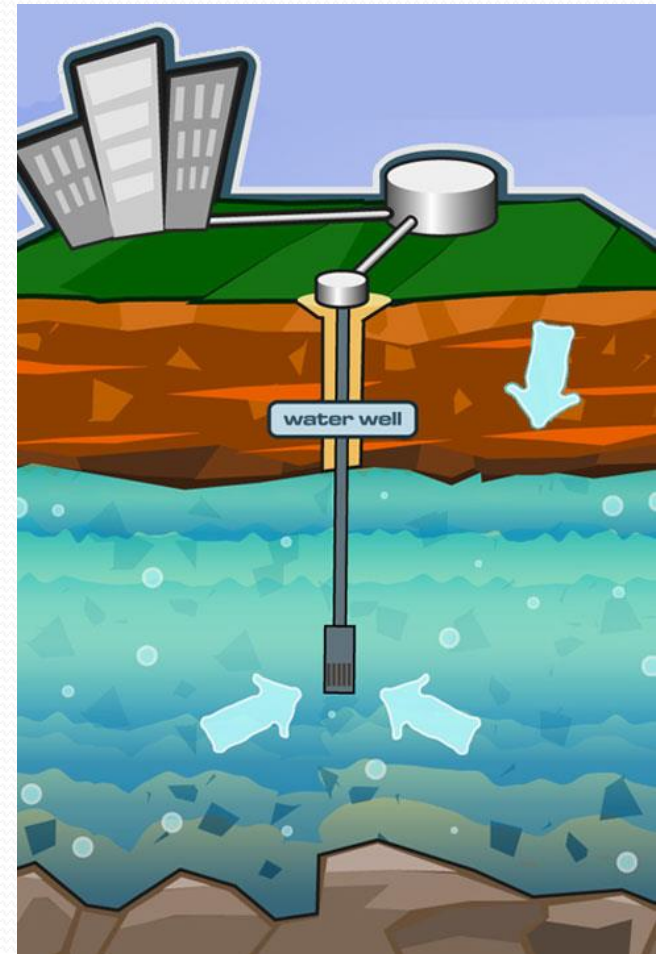
❖ **.001% moisture in the air**

❖ **.0001% rivers**



Where is H₂O on Earth?

- Sources of water for consumption
 - Reservoirs – protected artificial or natural lakes
 - Groundwater – water collected underground



The water cycle

- *Water we drink today is the same water drank millions of years ago*
- **Water cycle** – process where water is continuously recycled and filtered.
- Driven by the sun.
- Wind, weather, gravity, and people transport water on Earth.



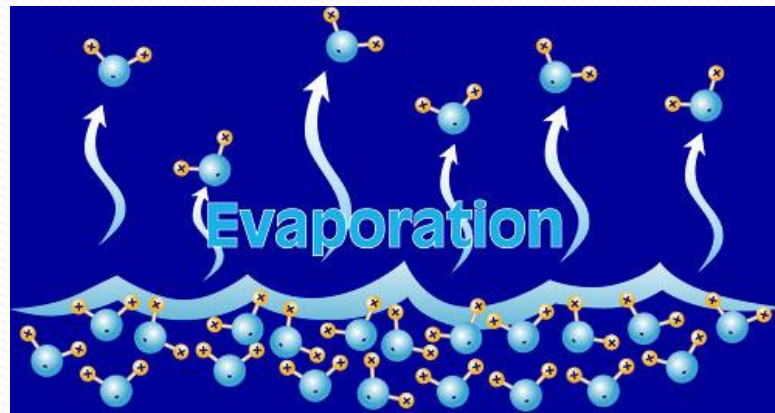
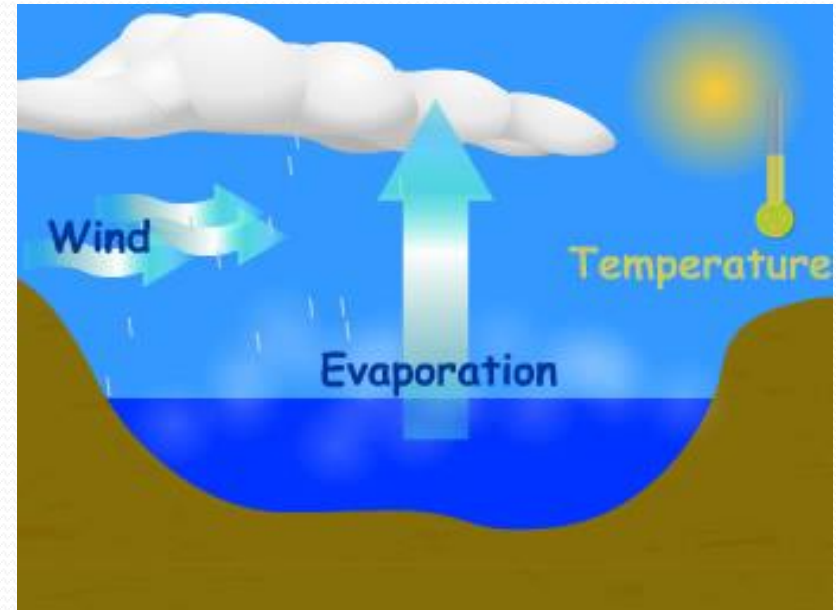
Water Cycle *(also called the hydrologic cycle)*

Four Processes:

- *Evaporation*
- *Transpiration*
- *Condensation*
- *Precipitation*

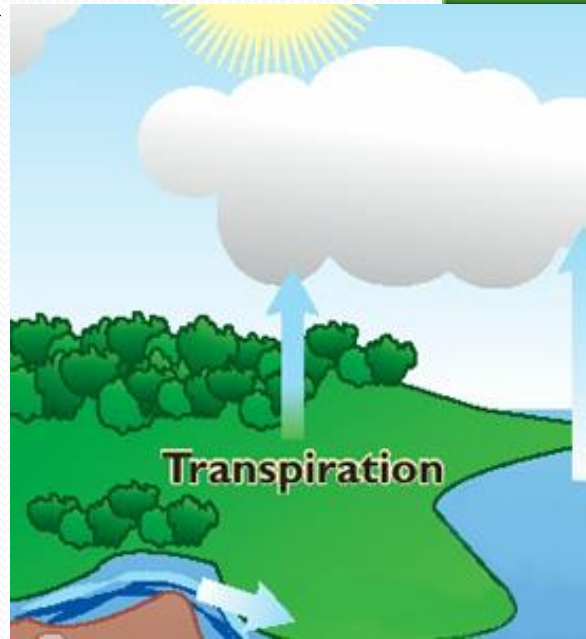
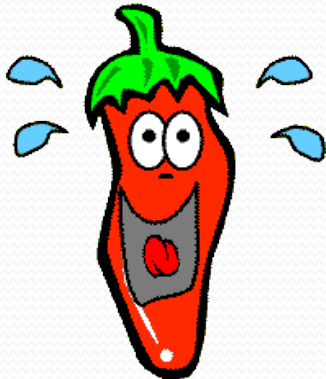
Four Main Processes

- 1) **Evaporation**
 - Leave the liquid state to go gaseous
 - Heat from sun turns surface water (lakes, oceans, ponds, etc.) into gas



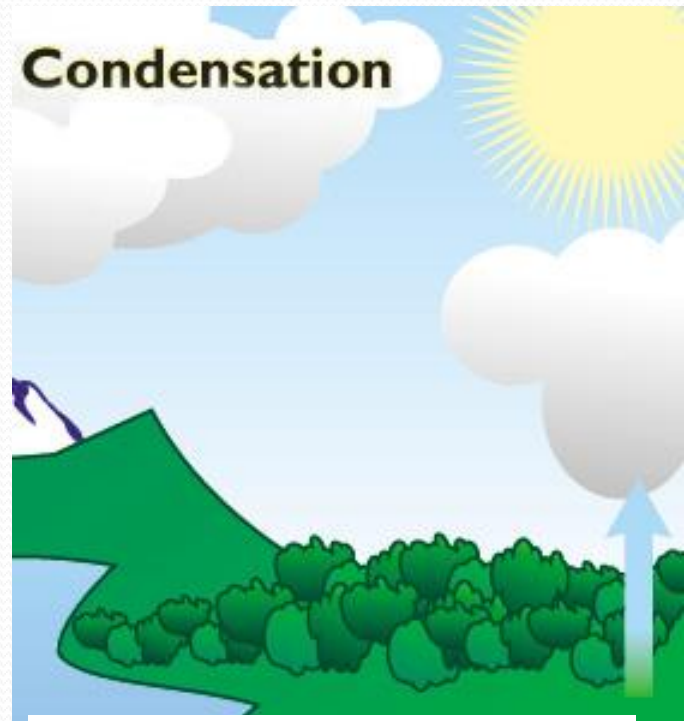
Four Main Processes

- 2) **Transpiration**
 - Leave the liquid state to go gaseous
 - When plants/animals lose water through their open pores

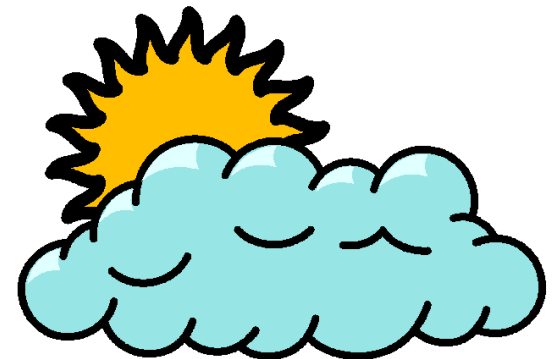


Four Main Processes

- 3) **Condensation**
 - Goes from gaseous to liquid phase



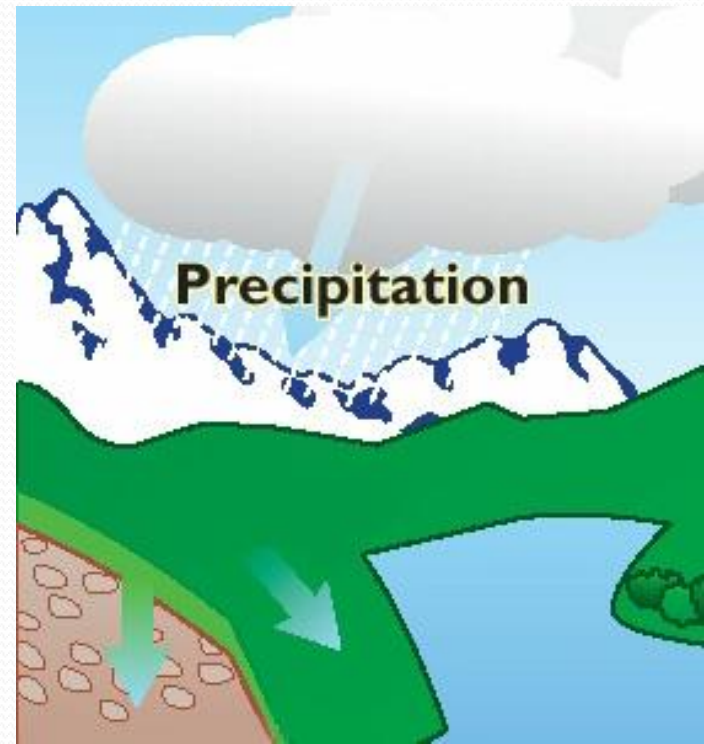
Condensation



Four Main Processes

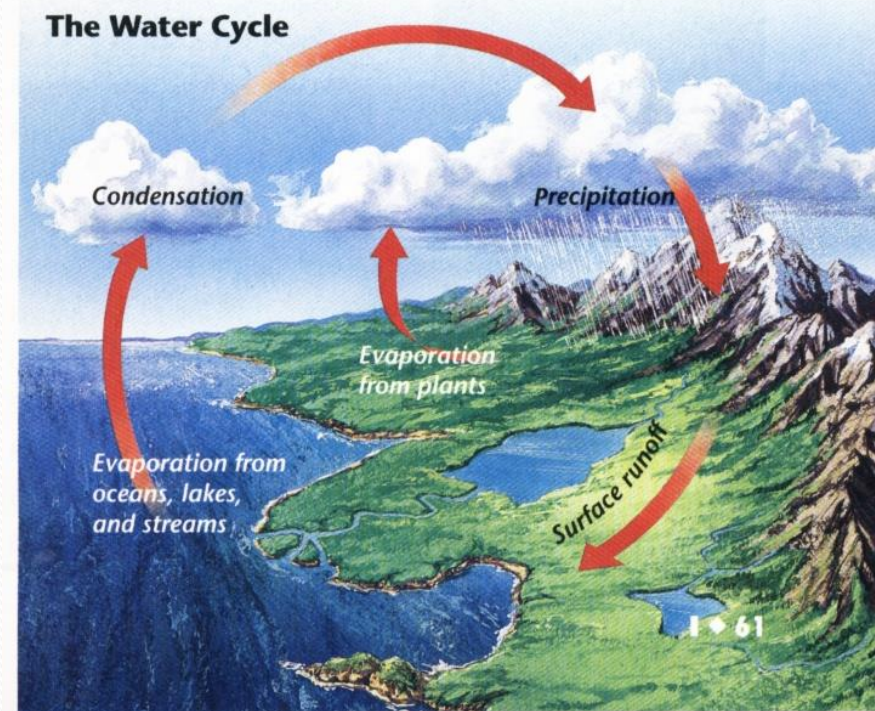
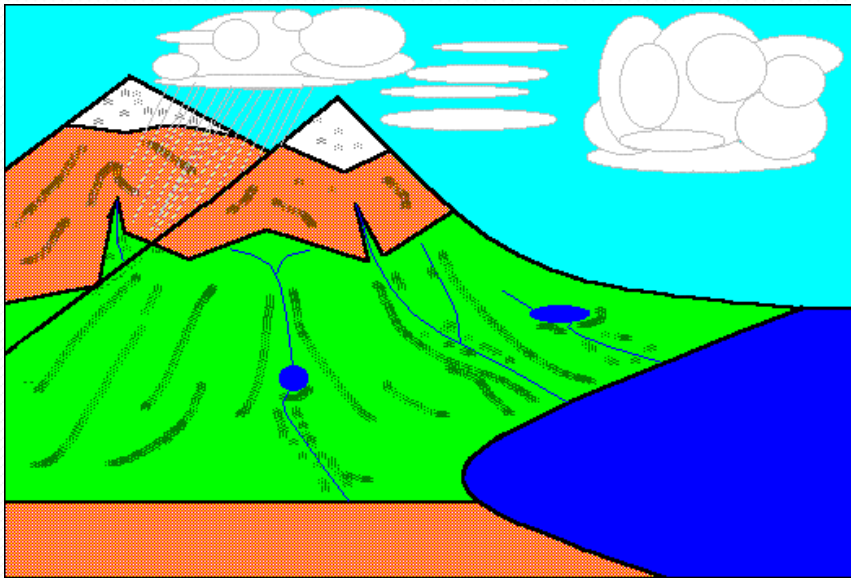
4) Precipitation *(Rain, Snow, Sleet, Hail, Freezing Rain)*

- Water vapor molecules condense to form droplets of liquid heavy enough to fall to earth



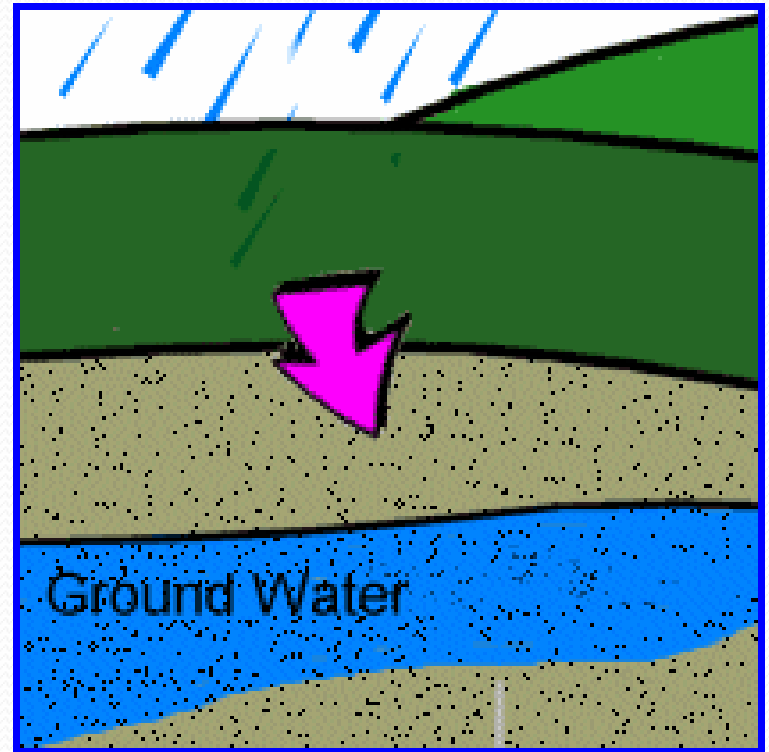
Other Parts to the Water Cycle

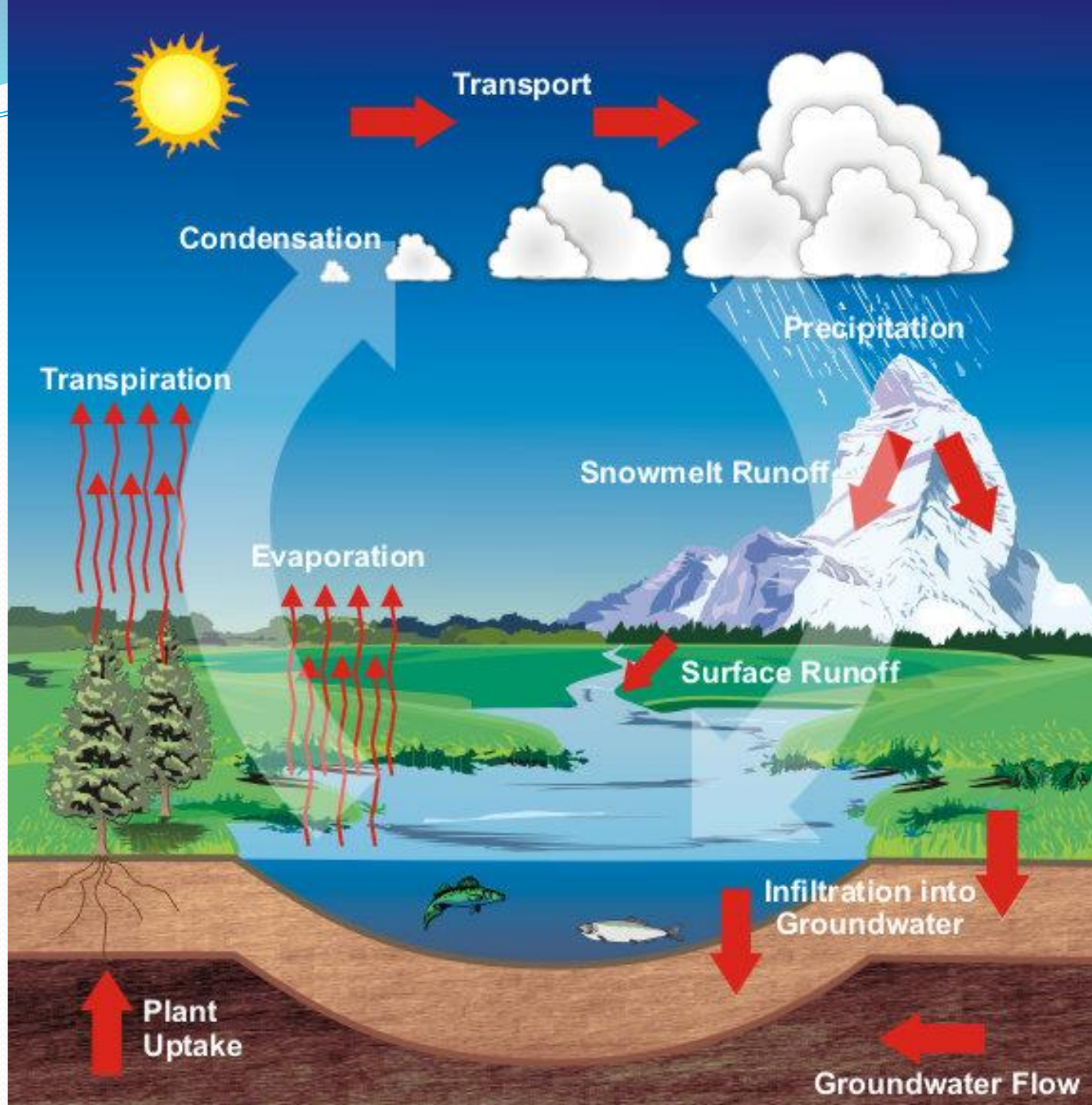
- 5) **Surface runoff**
 - Water that flows over land before reaching surface water



Other Parts to the Water Cycle

- **6) Infiltration**
 - Water that soaks into the surface.

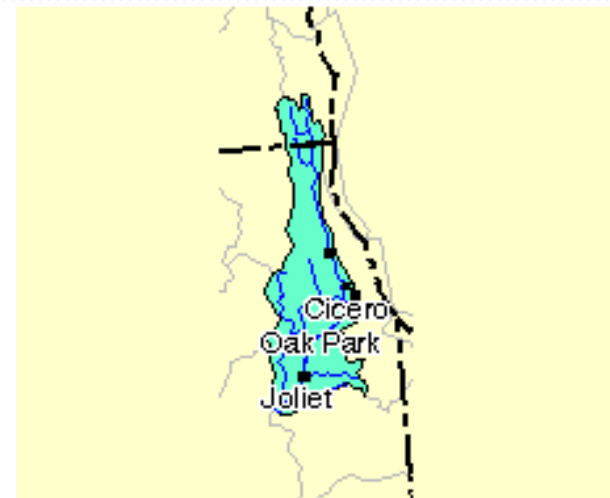
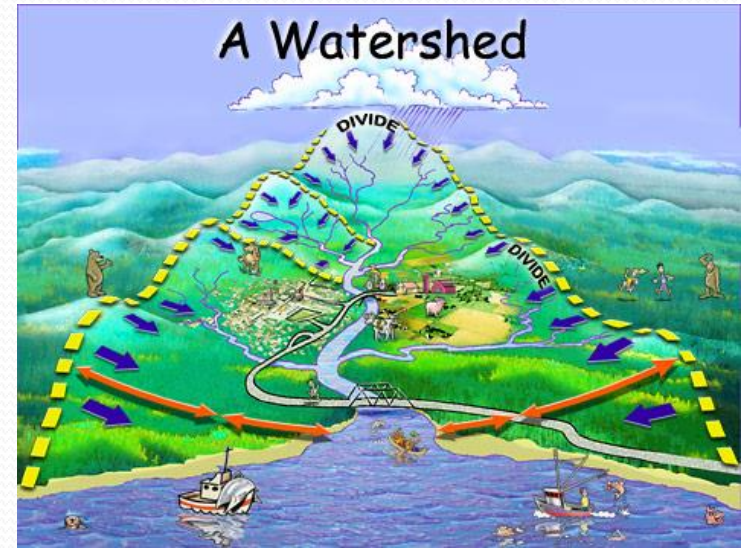




Water Cycle Cont.

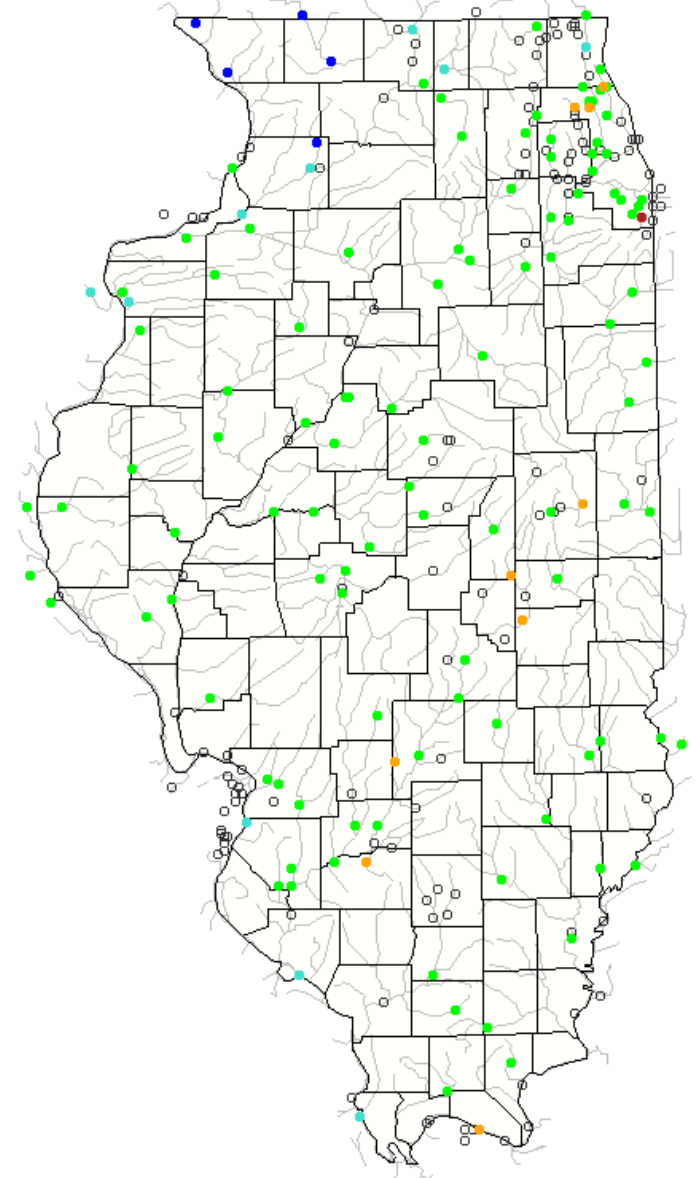
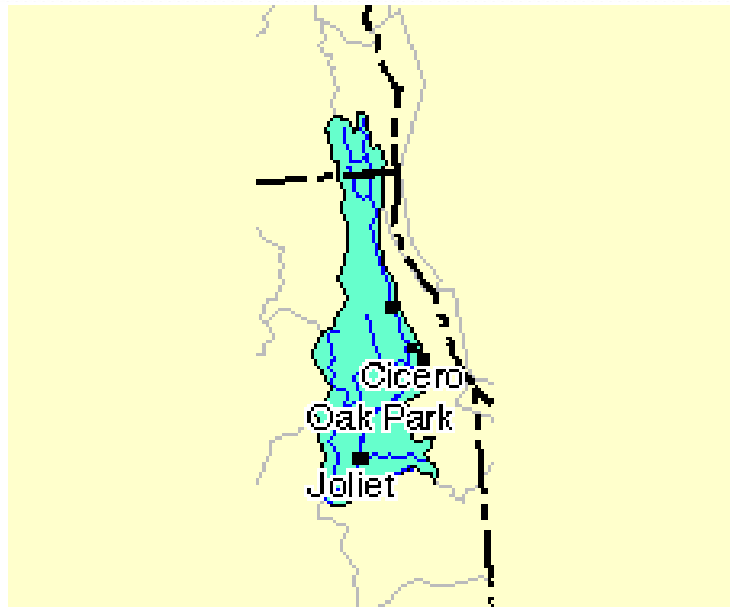
- **Watershed**

- An area of land that catches all rain and snow and collects it in one place (ex. a river)
- *Provide habitat for plants and animals, areas of natural beauty, and bodies of water for recreation*



Local Watershed

- Des Plaines Watershed



USGS

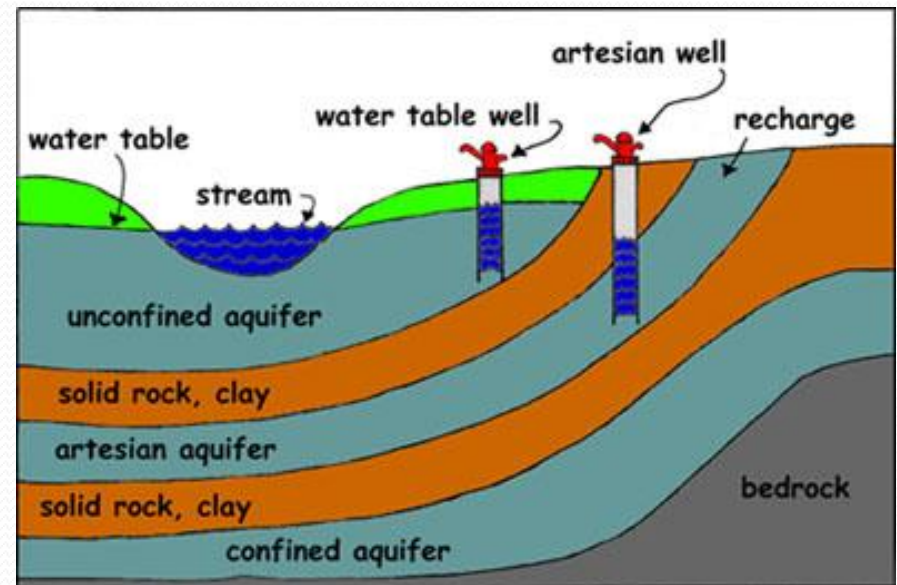
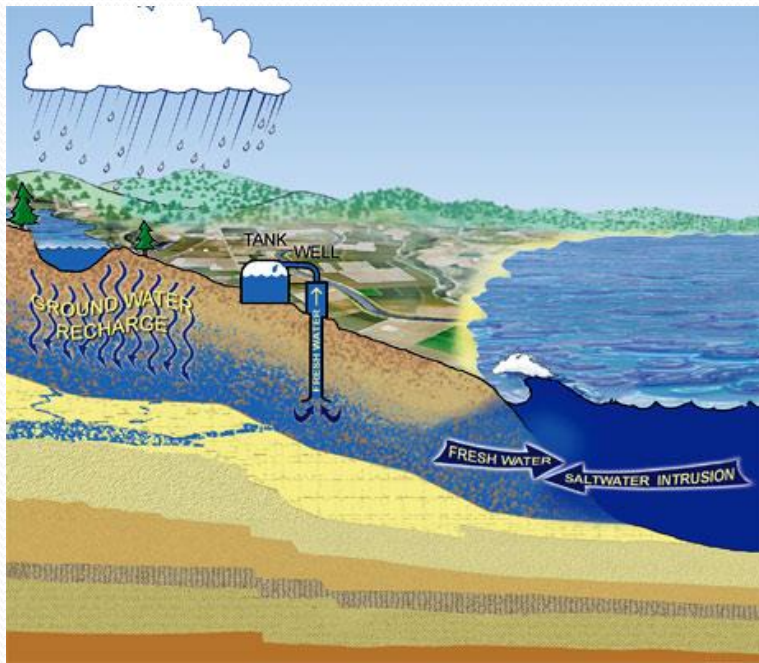
Explanation - Percentile classes

●	●	●	●	●	●	●	○
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

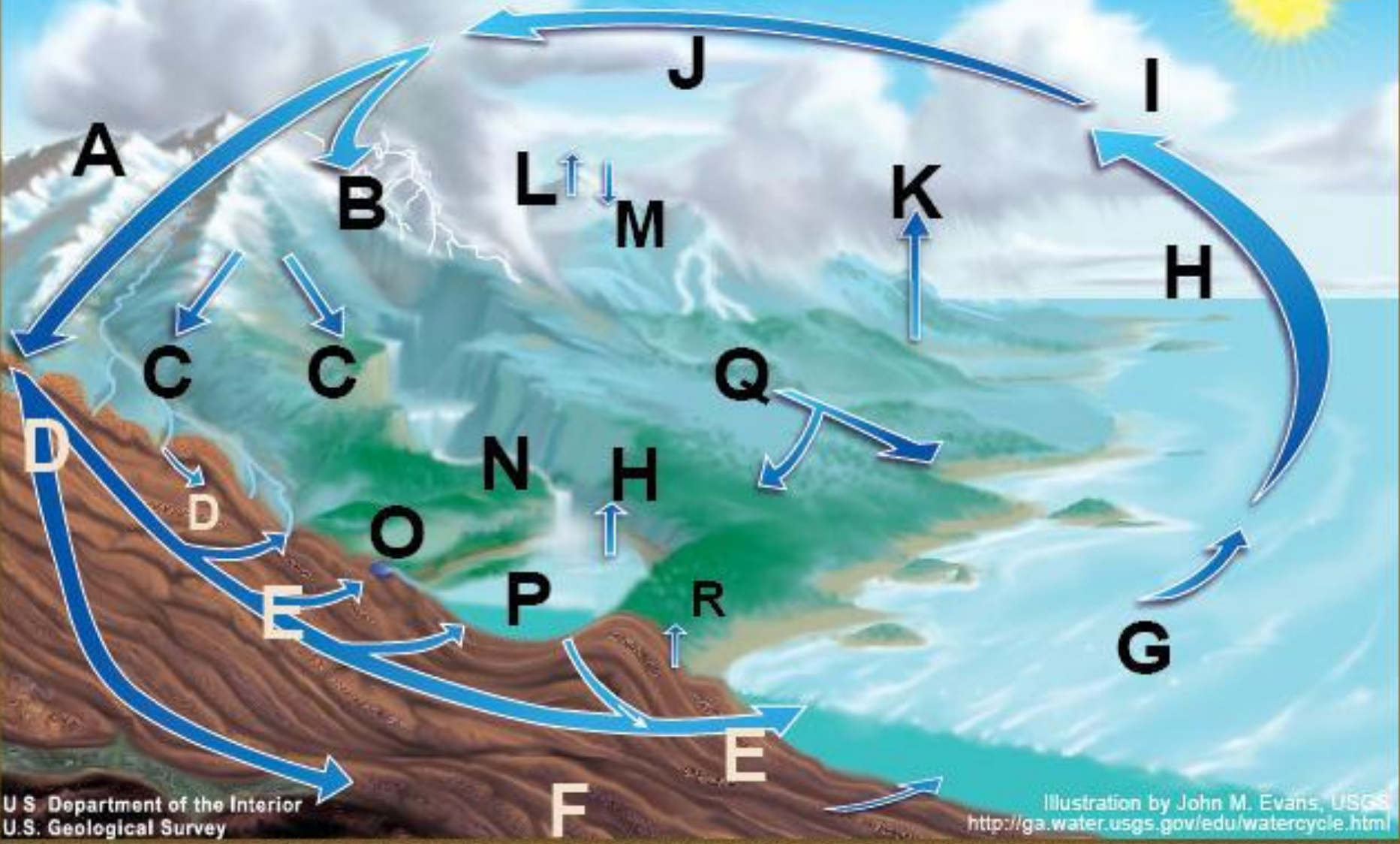
Water Cycle Cont.

- **Aquifer**

- An underground area of sediment and rocks that contains groundwater



The Water Cycle



The Water Cycle

