

Unit 4 - Ch 6

THE WATER CYCLE

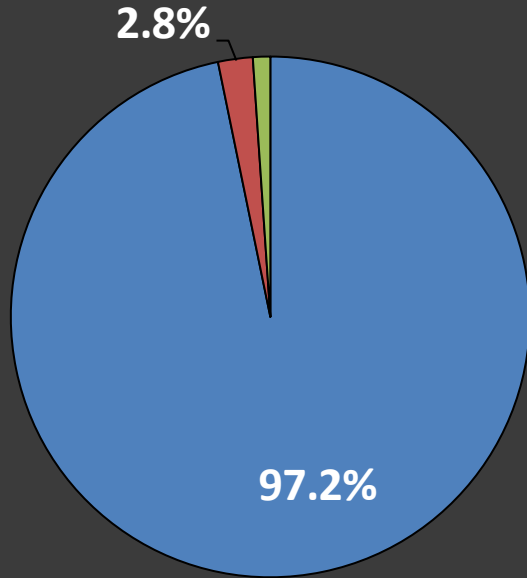
(HYDROLOGIC CYCLE)

Water Cycle Objectives

- **Identify** all important stages
- **Describe** all important stages
- **Label** all important stages
- **Illustrate** all important stages

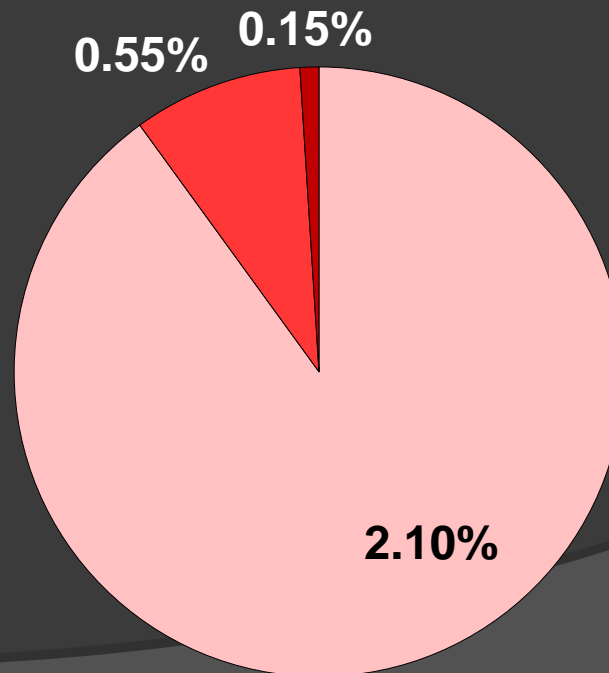
Where is the Water?

Hydrosphere



- Oceans
- Freshwater
- Other

Fresh Water



- Ice Caps & Glaciers
- Groundwater
- Lakes, Rivers



Where is the Water?

◎ **Highest** % of *fresh water* is used for **agriculture**

◎ **WHY?**

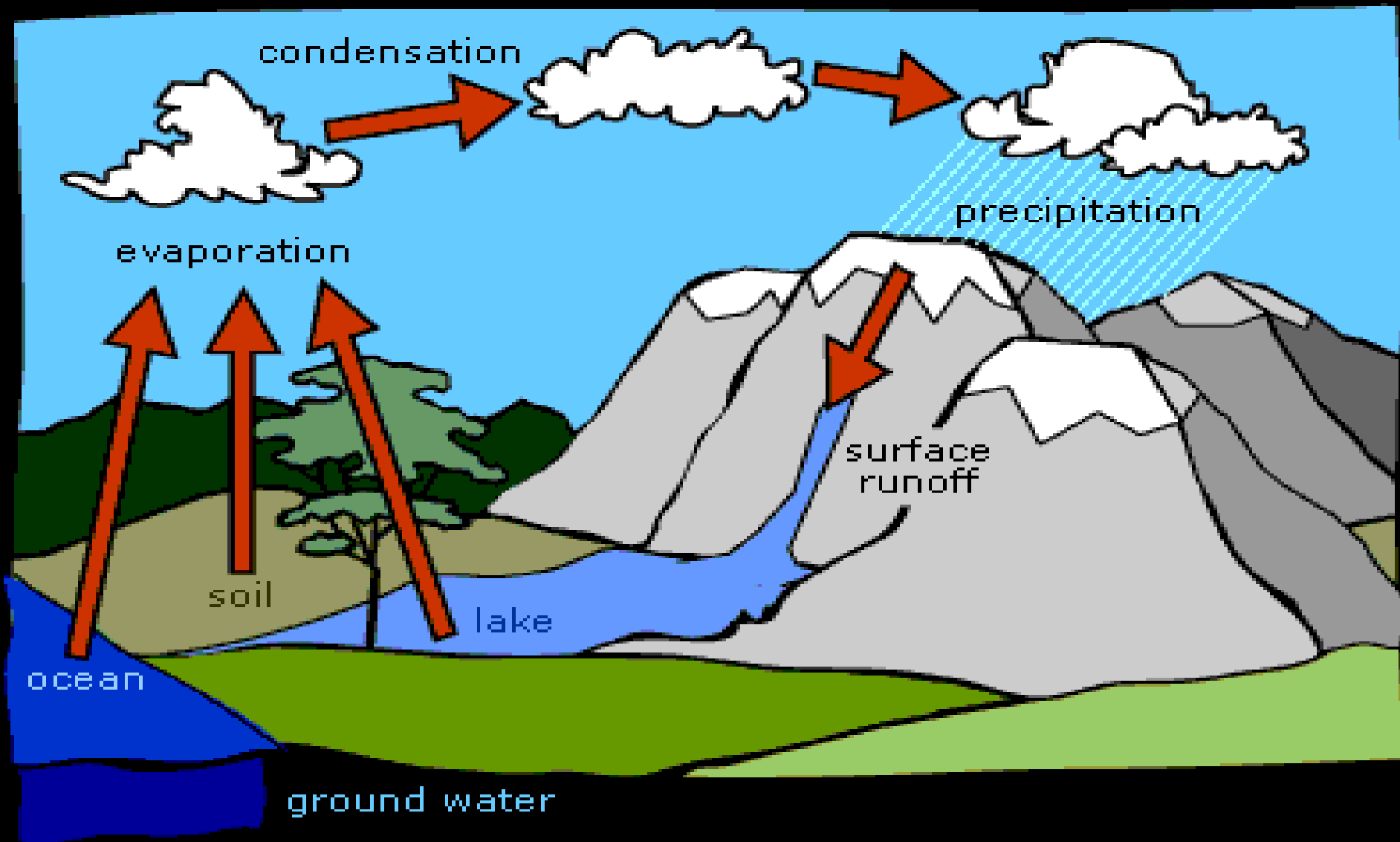
- More **underdeveloped** countries rely on **farming**

◎ **Importance of Water:**

- Single most **EROSIVE** agent on Earth

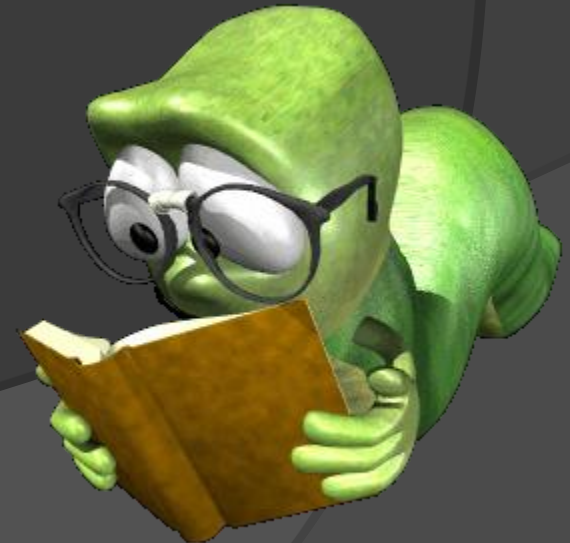


Water Cycle



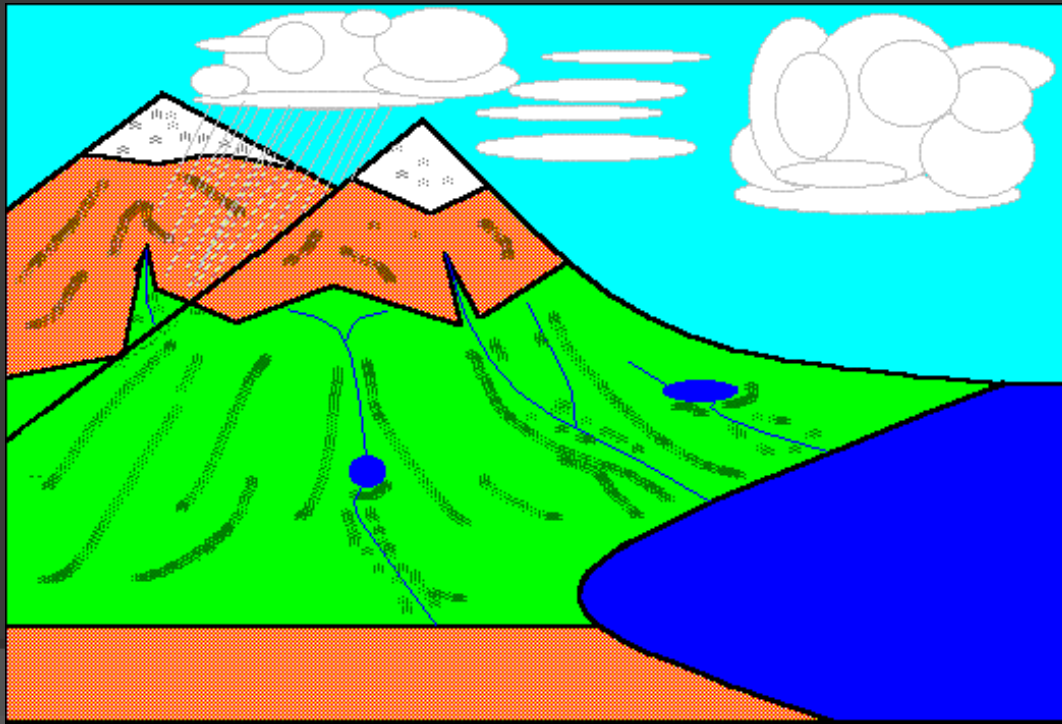
Water Cycle

- ❖ DEF: **Continuous** process in which Earth **uses** and **recycles** its water supply
- ❖ Powered by **energy** from Sun
- ❖ Four (4) Major Components:
 - ❖ **Evaporation**
 - ❖ **Condensation**
 - ❖ **Precipitation**
 - ❖ **Collection**



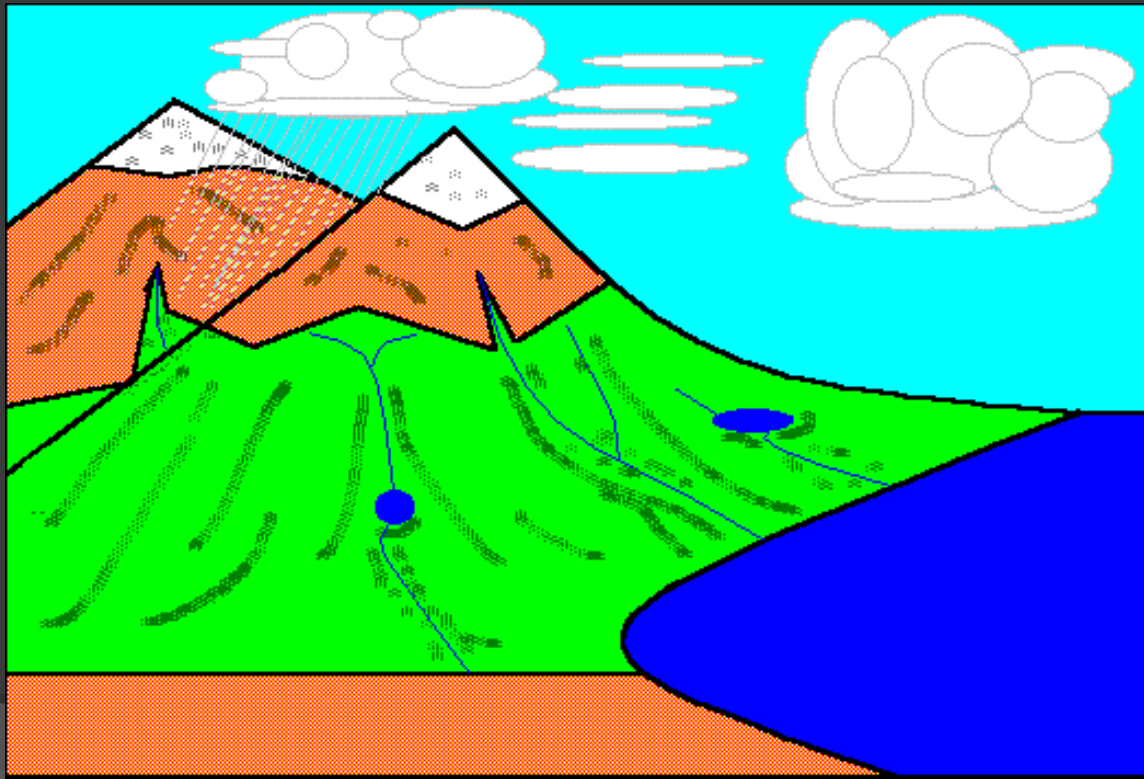
1. Evaporation

- Water **evaporates** (goes back into atmosphere) from oceans, lakes, rivers ($l \rightarrow g$)
 - **Transpiration**: Evaporation through **loss** of **water vapor** from parts of **plants** and **trees**



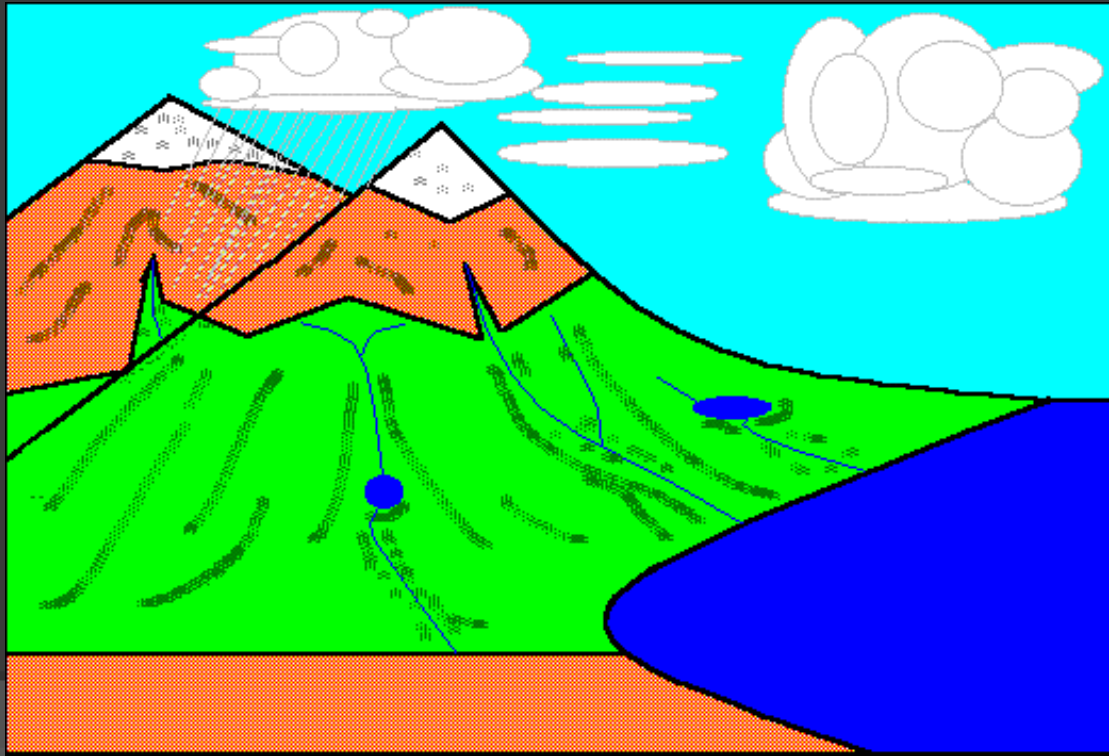
2. Condensation

- As water vapor **rises** and **cools**, it **condenses** (*comes together*) into water **droplets**, forming **clouds** ($g \rightarrow l$)



3. Precipitation

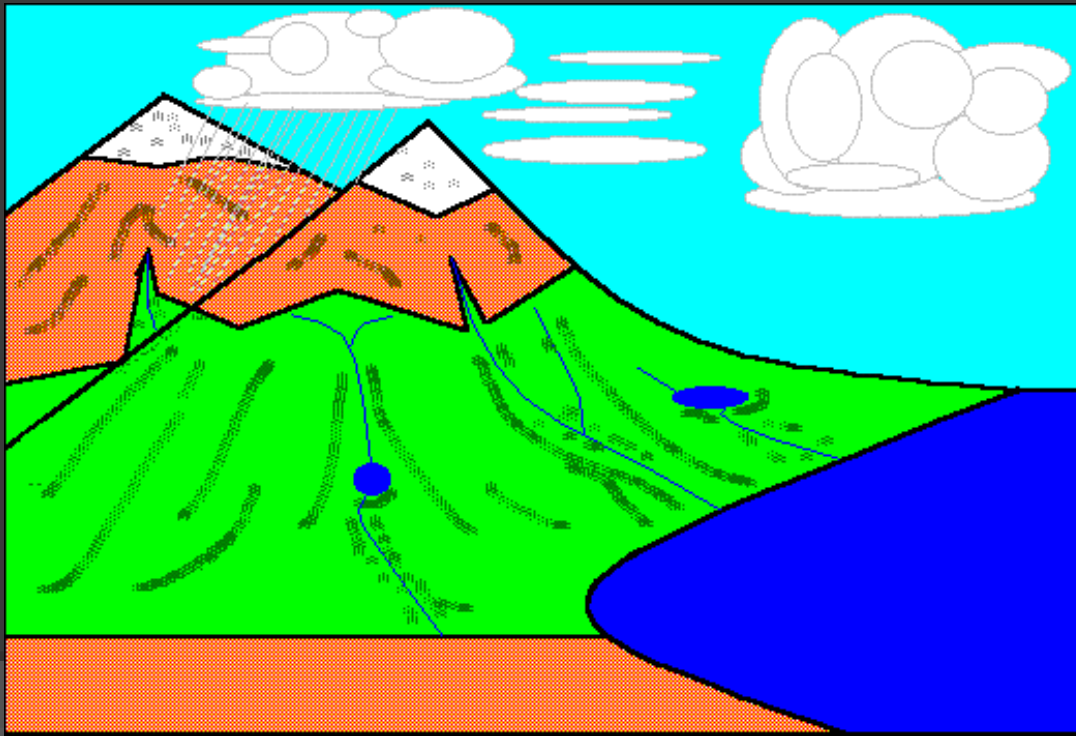
- When *clouds* have enough **water droplets** in them and **cannot** hold any more
 - **Precipitation**: Water returns to **surface** in form of **rain**, **snow**, **sleet**, **hail**



4. Collection

Three (3) Options:

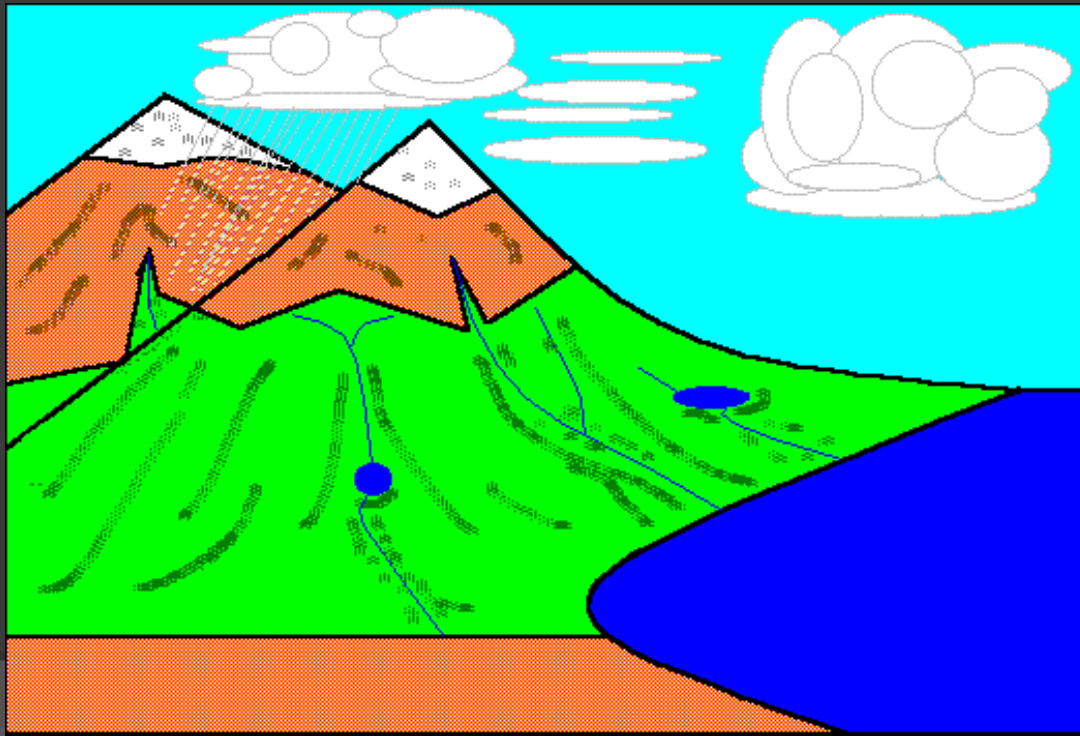
1. **RUNOFF**: Water flows **down-slope** along Earth's **surface** (*streams, rivers, surface*) and eventually flows into ***lakes*** and ***oceans***



4. Collection

Three (3) Options:

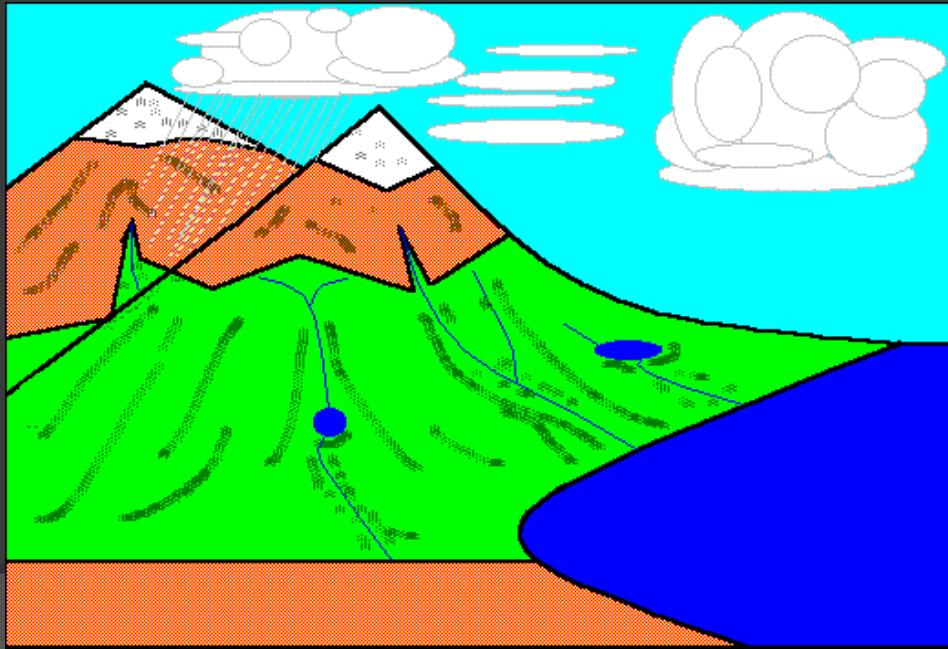
2. **INFILTRATION**: Water **permeates** into ground through open **pore** spaces to become **groundwater**



4. Collection

Three (3) Options:

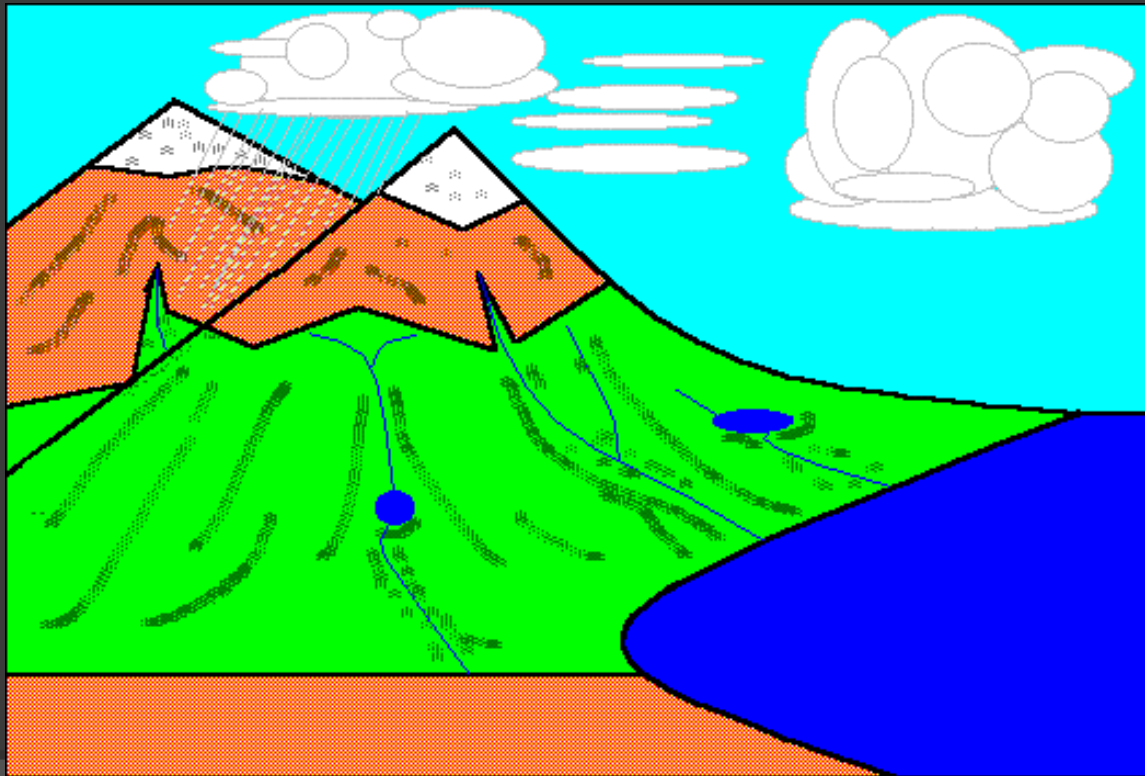
3. **GROUNDWATER**: Water is collected **underneath** surface and **stored** within **aquifers** (potable H_2O)
 - ❖ Continues to **flow** underground and will eventually return above as **surface water**



4. Collection

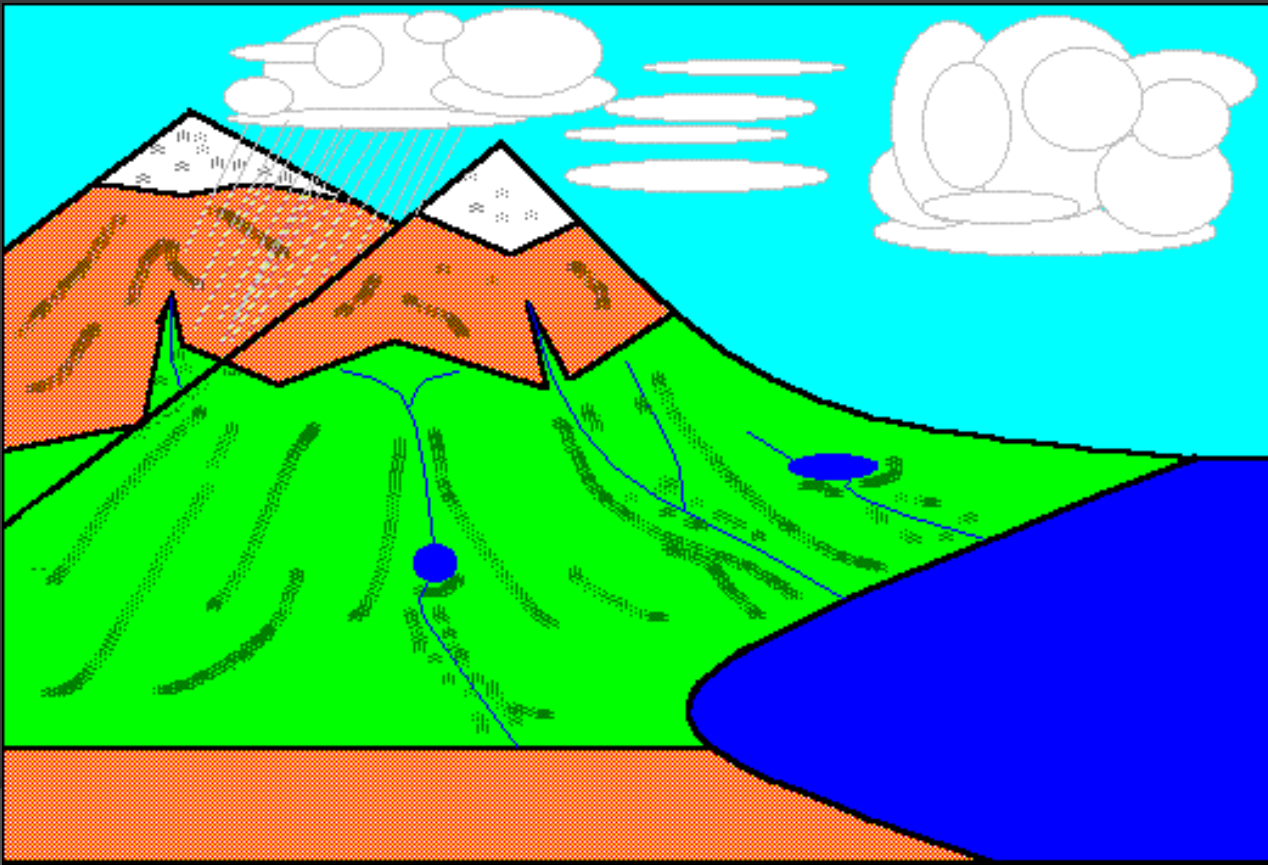
Water Cycle Repeats:

4. Some *evaporates* back into *atmosphere*



Areas of *Accumulation*

Most water *accumulation* is found in *clouds*, *groundwater*, and *oceans*



Water Cycle Activity

- Illustrate **AND** color a **DETAILED** water cycle by **labeling ALL** major components from below:
 - 1) Evaporation
 - 2) Transpiration
 - 3) Condensation
 - 4) Precipitation
 - 5) Surface Runoff
 - 6) Infiltration
 - 7) Groundwater
- On the back of your drawing, write a **concise summary/description** of **EACH** step above!