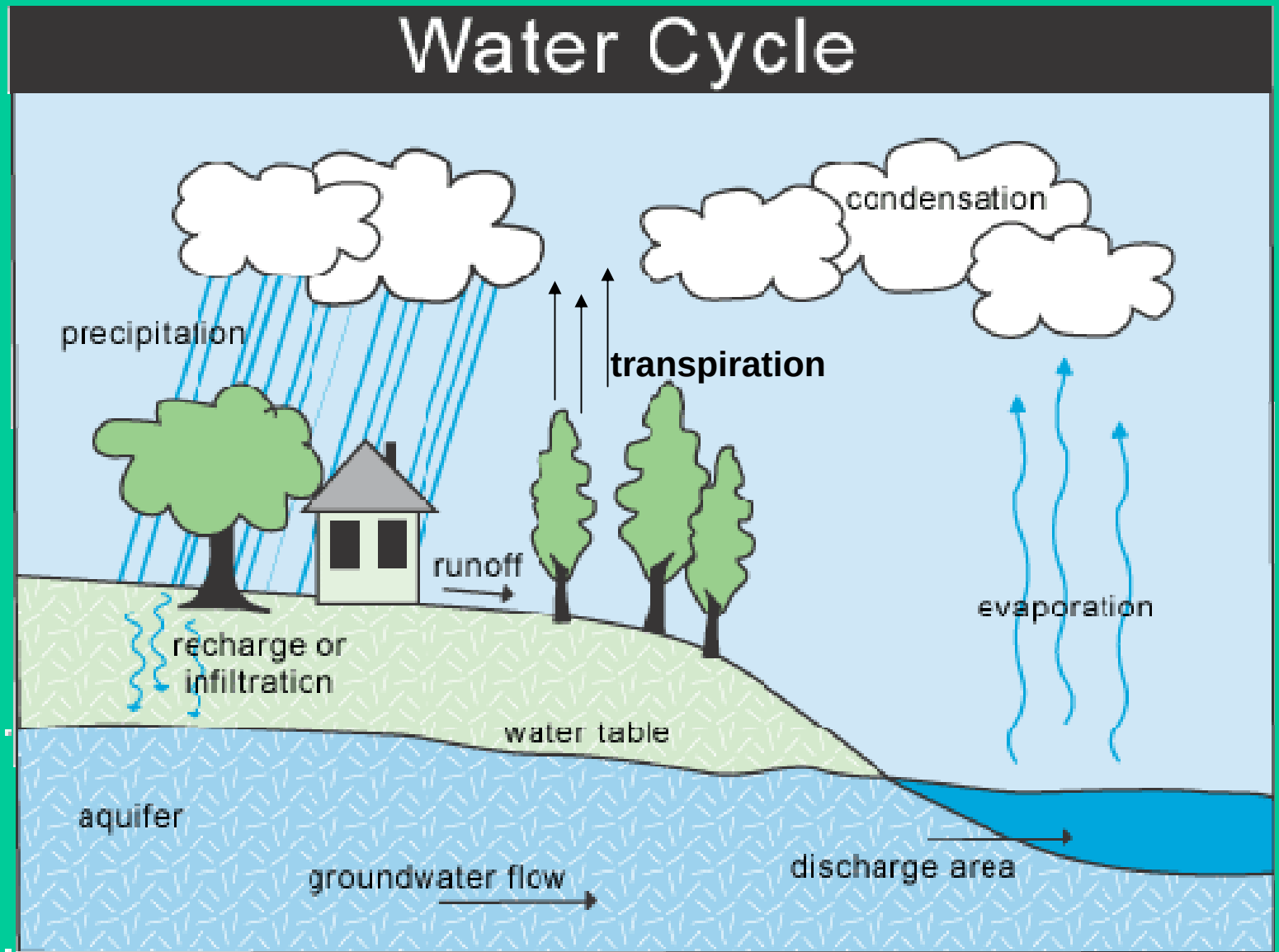
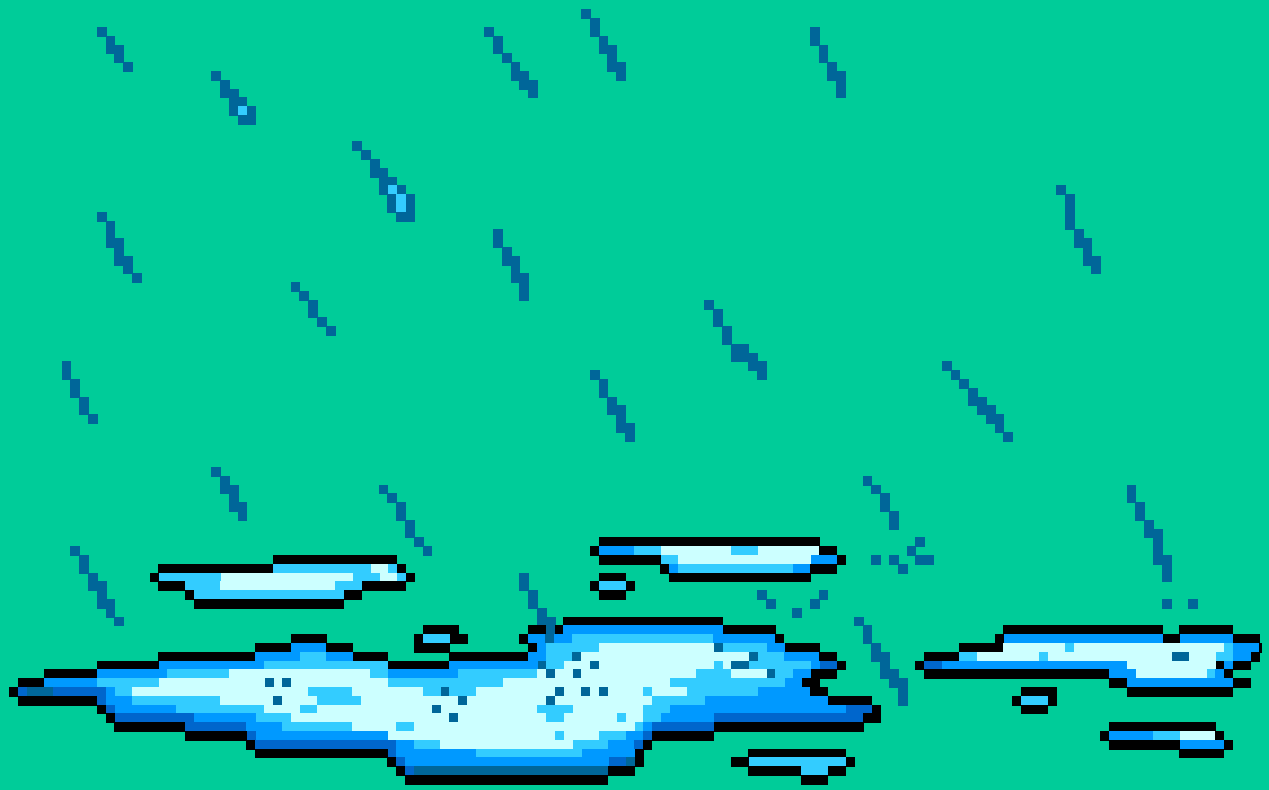
Water & Watersheds

The Water Cycle

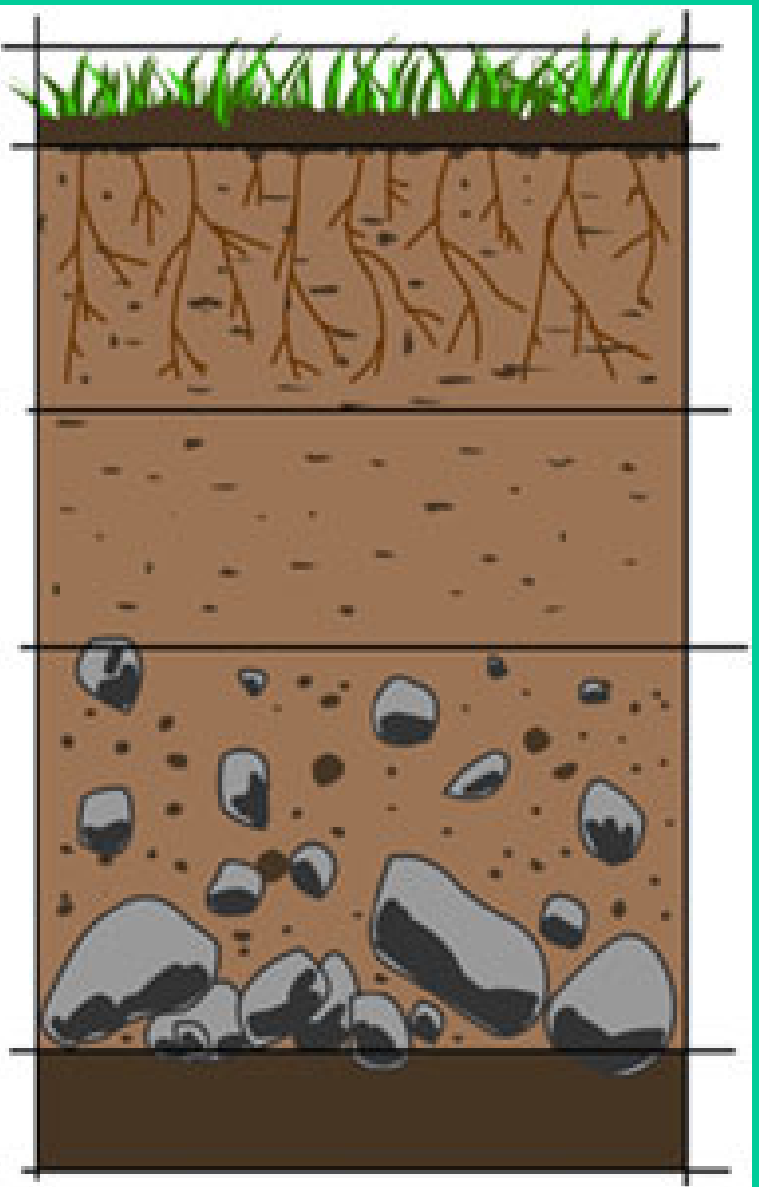


Precipitation



Rain
Snow
Sleet
Hail

Recharge or Infiltration

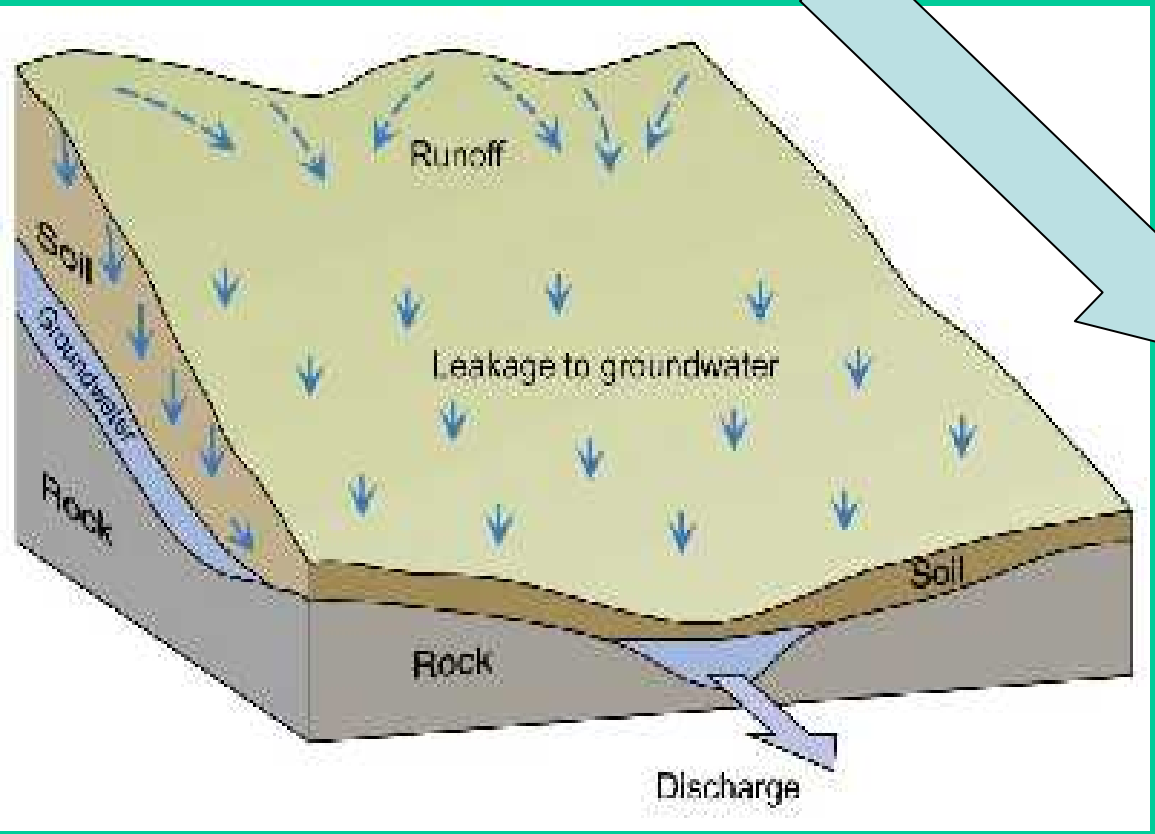


Precipitation can soak into the soil where it may be absorbed by plants or becomes

GROUNDWATER!

Recharge Areas

Runoff



When precipitation cannot infiltrate it runs off the land and becomes

SURFACE WATER!

Poor Recharge Areas

Surface Water

Lakes

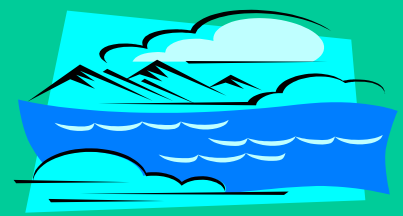
Rivers

Streams

Ocean

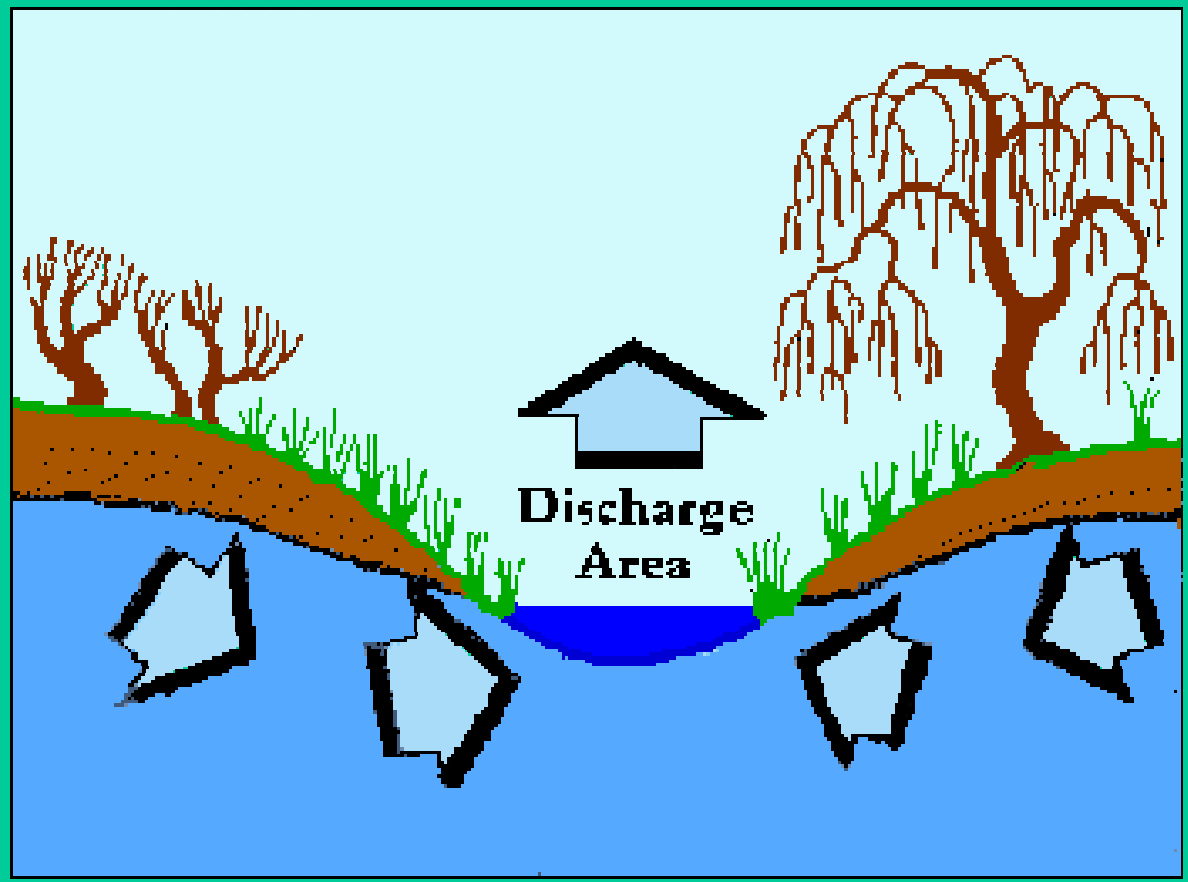
Reservoirs

Puddles

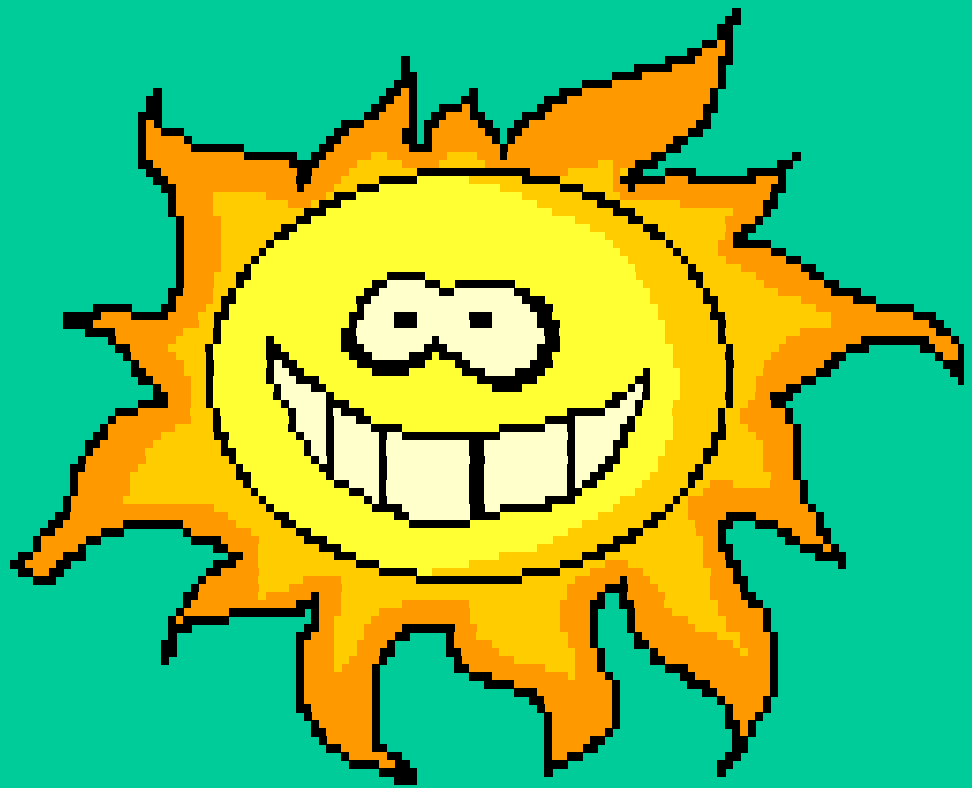


Discharge Areas

Where groundwater becomes surface water



Evaporation

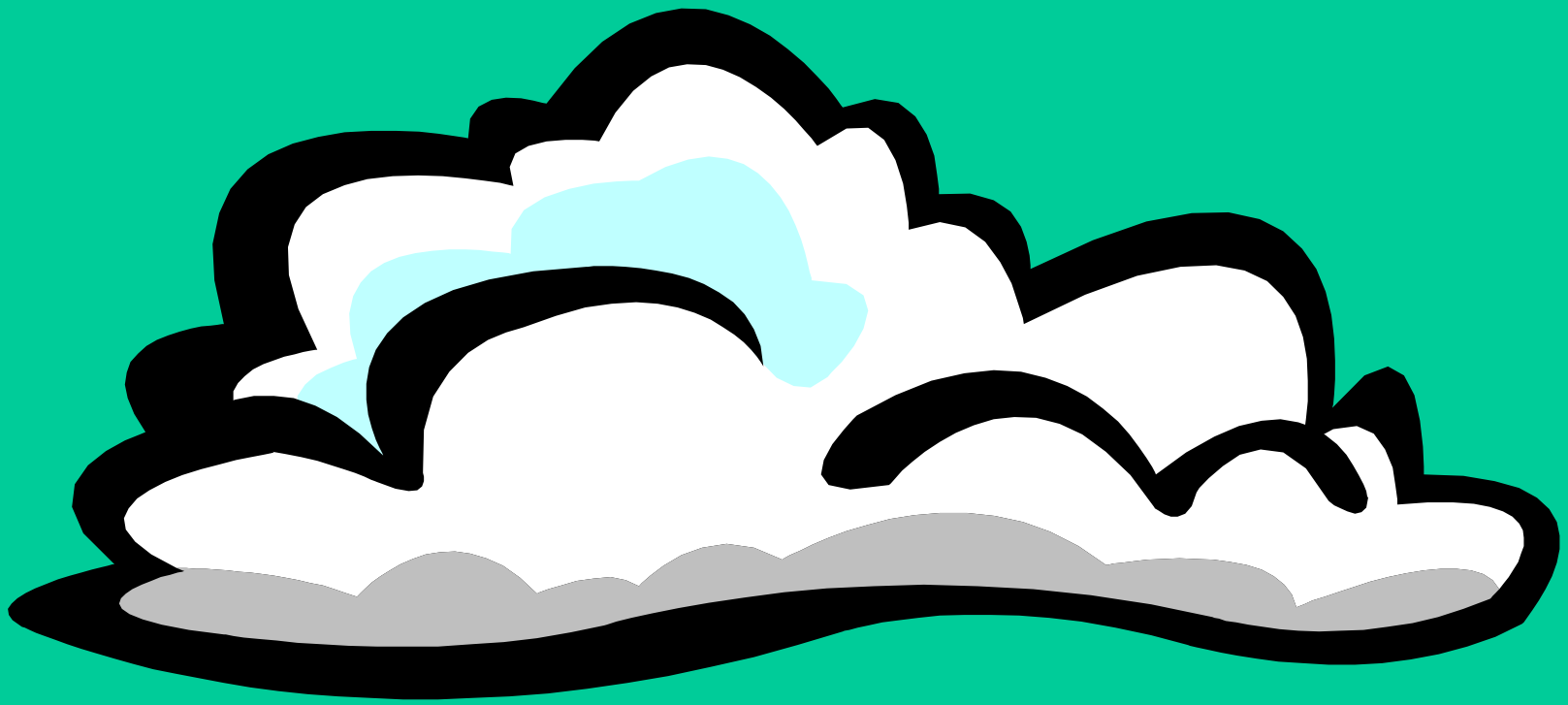


A process where the water is heated and turned into a water vapor. The sun is the main heat source.

Transpiration

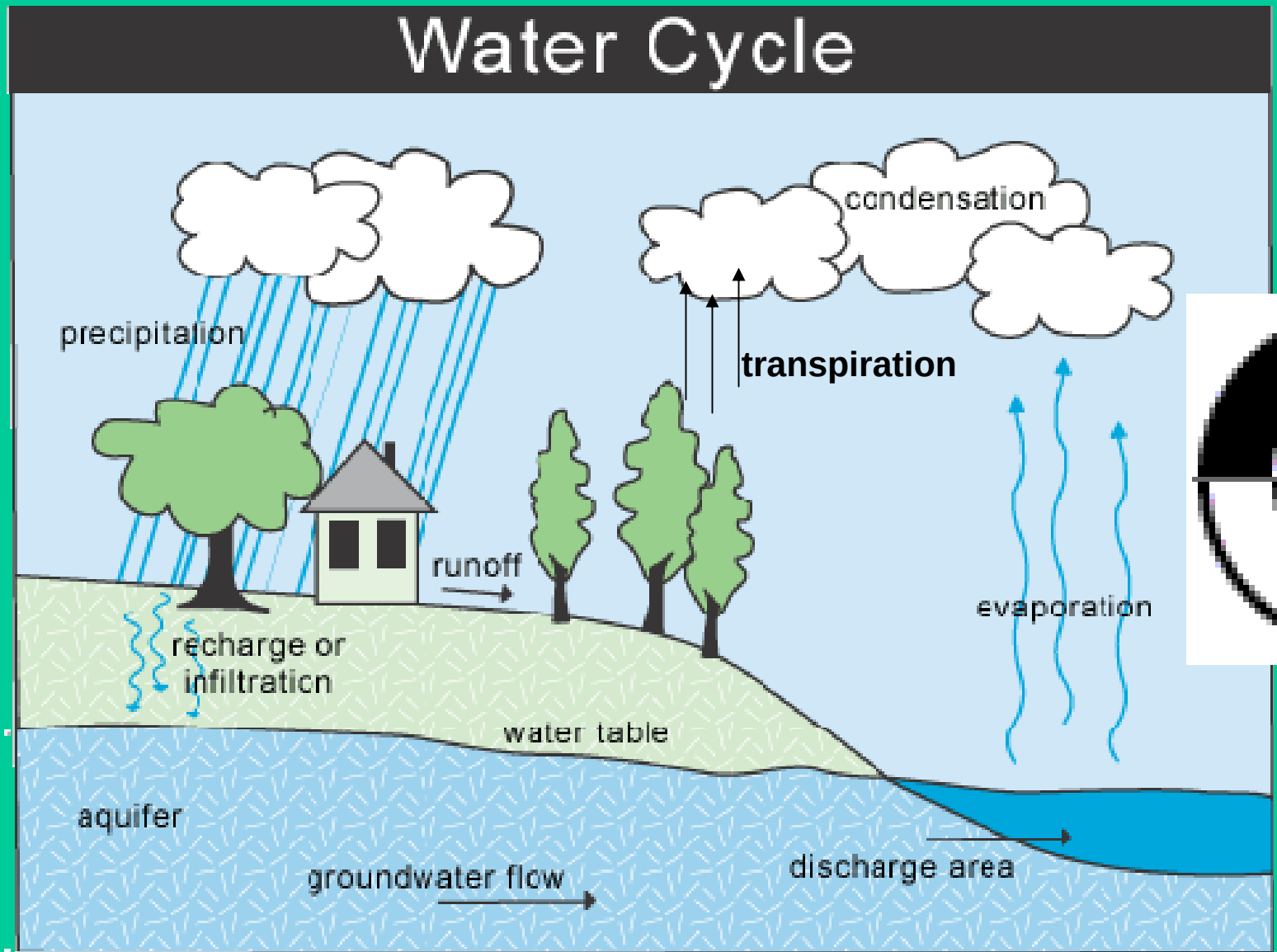
Process in which the water in plants become vapor

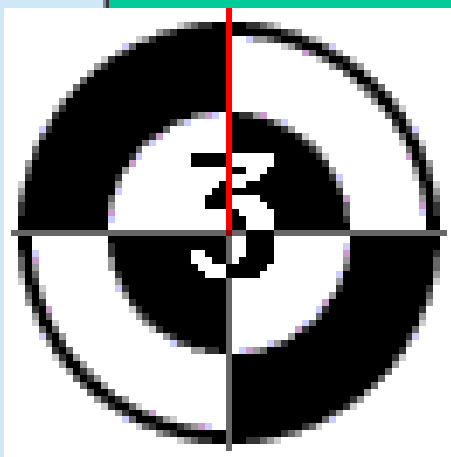
Condensation



Where warm and cold air collide and form ice crystals that condense and form droplets of water, which eventually fall as precipitation.

Water Cycle Begins All Over Again!





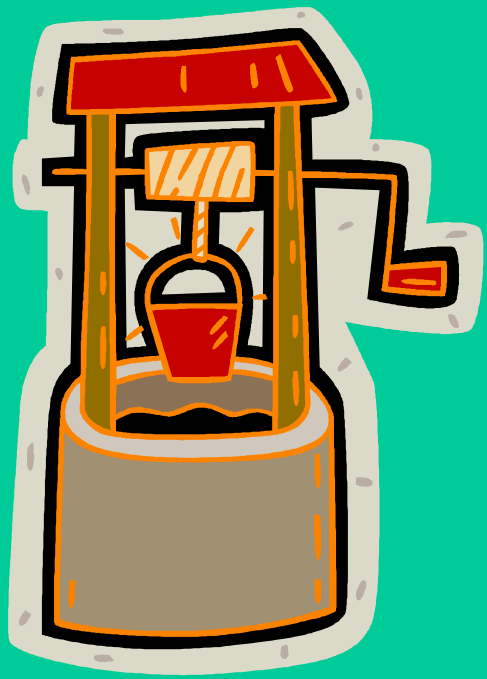
Groundwater

Why is groundwater so important?

Groundwater

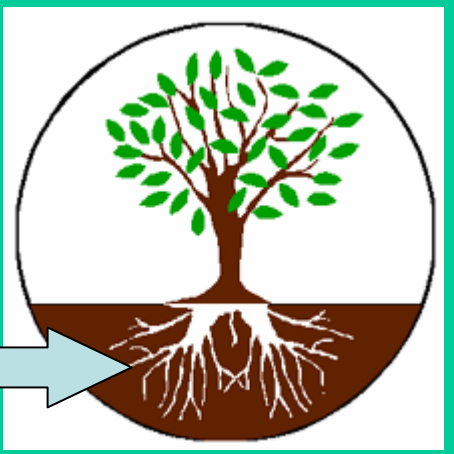
A.

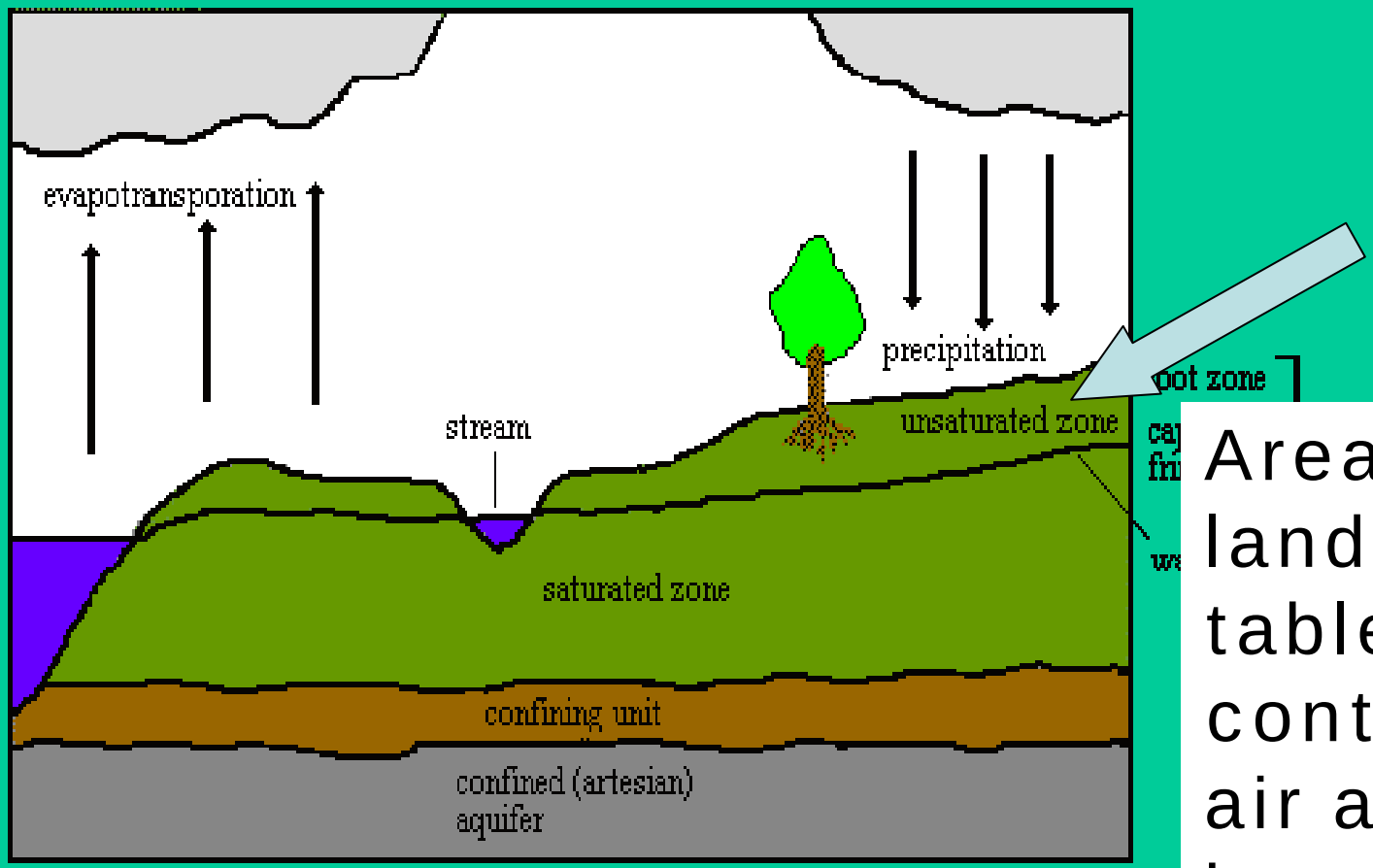
- Drinking Water Supply



* Provides the Base Flow for our Surface Waters

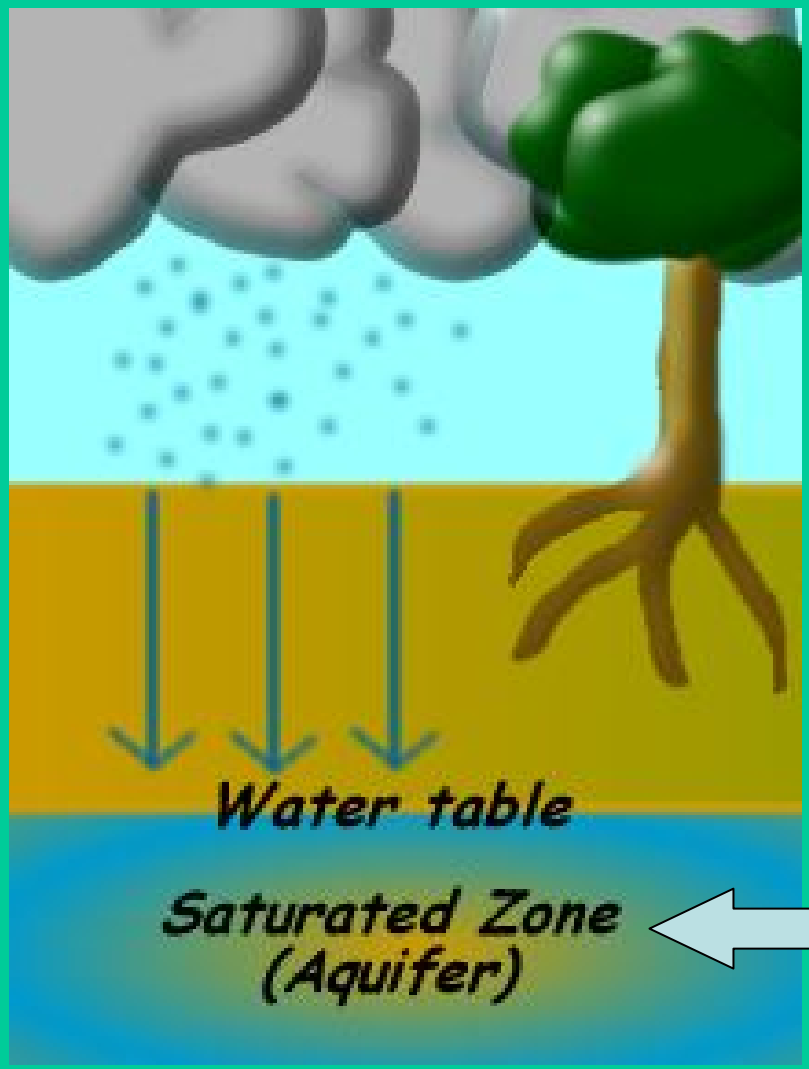
Unsaturated Zone





Area between land and water table that contains both air and water in pore spaces

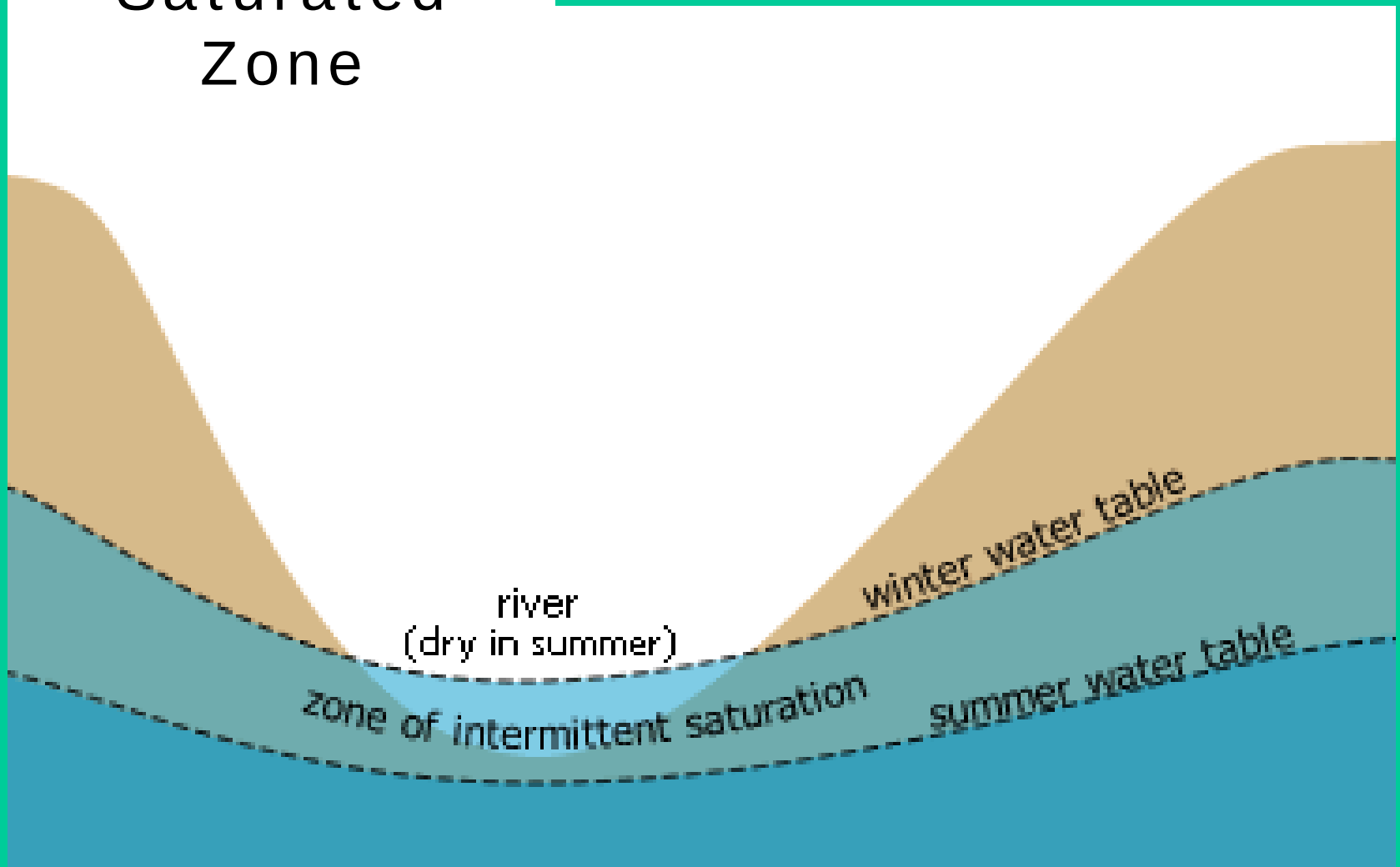
Saturated Zone



Area below the water table where all available pore space is filled with water

Water Table

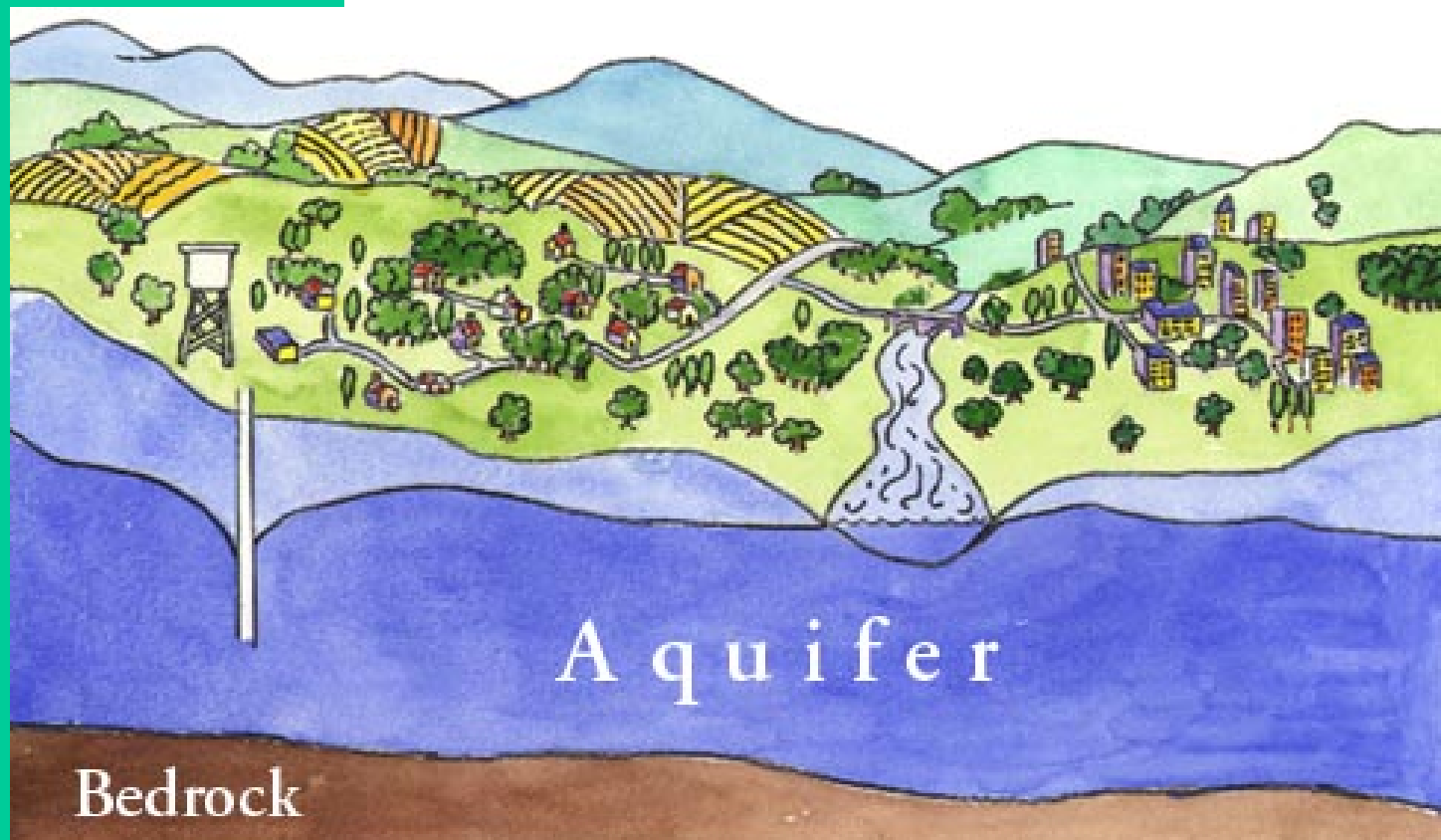
Top of the Saturated Zone



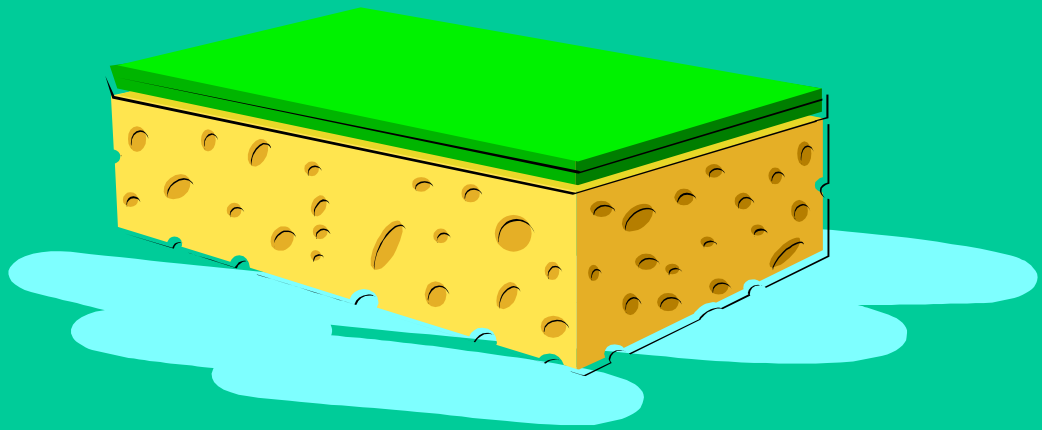
Aquifer

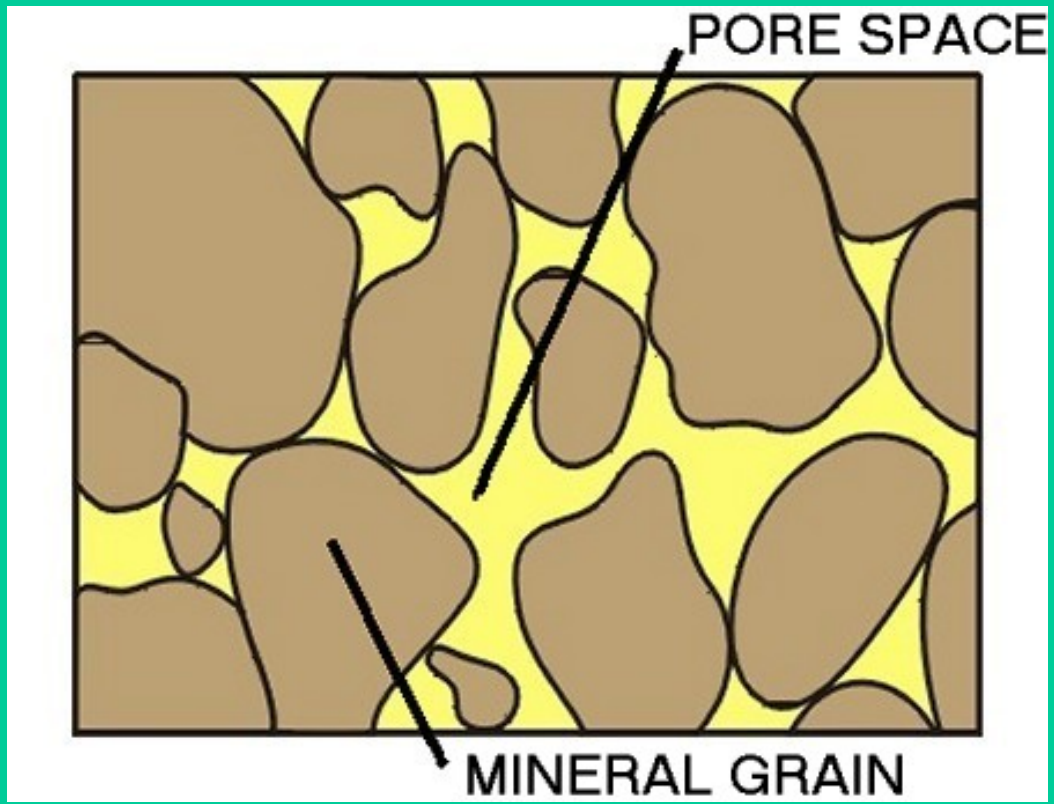
Formation capable of supplying useable amounts of water

Depends on 2 properties



Porosity

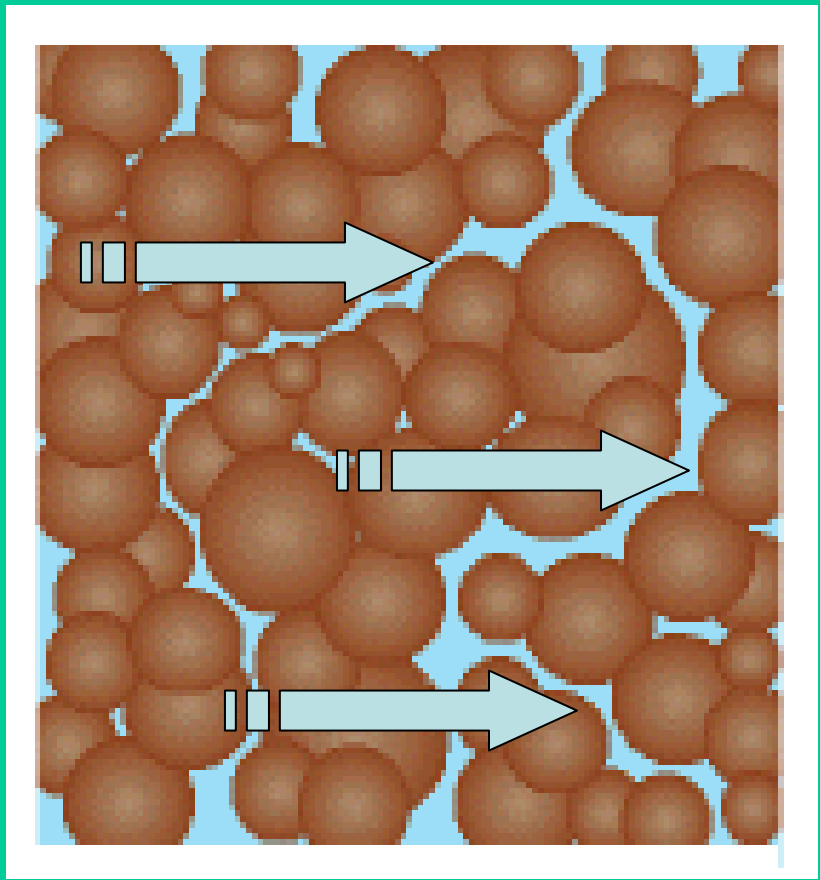




Amount of open spaces with rock or soil

Permeability

Relative ease with which water can flow through rock and soil



Wetlands

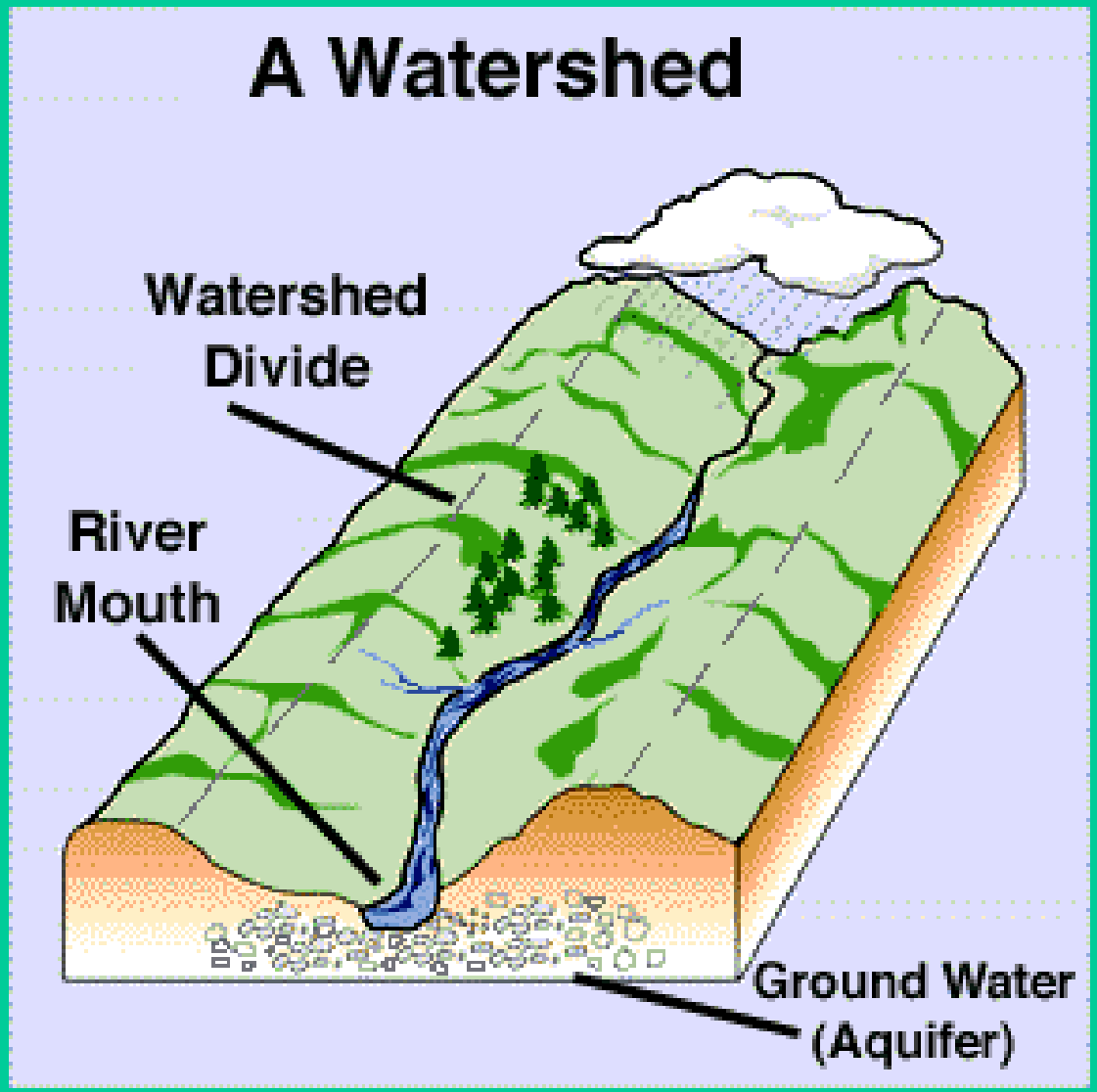
Wetland Benefits

Helps Reduce Flooding

Acts as a Filter

Provides Habitat

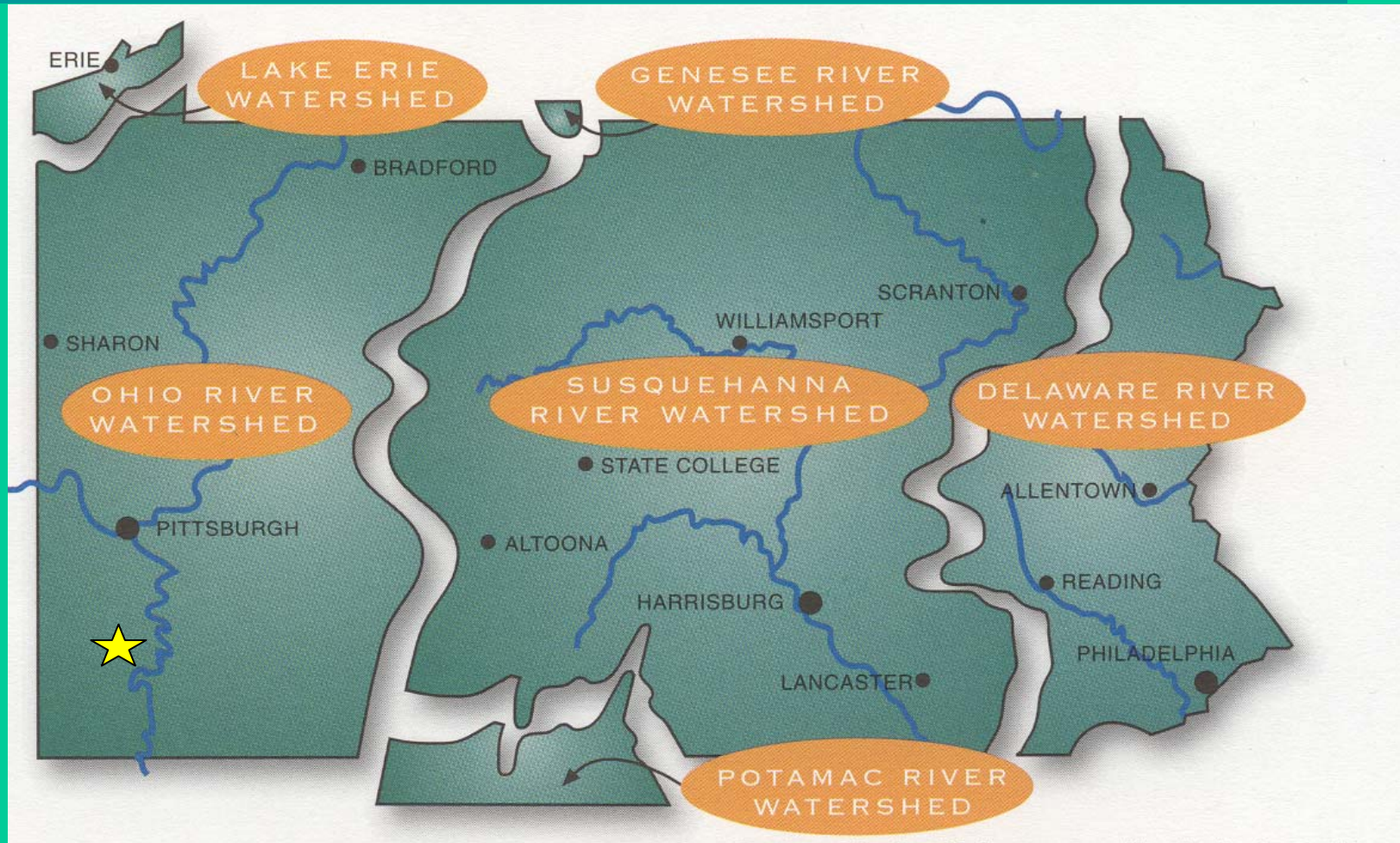
Watershed



An area of land in which all water drains to one common point

Watersheds

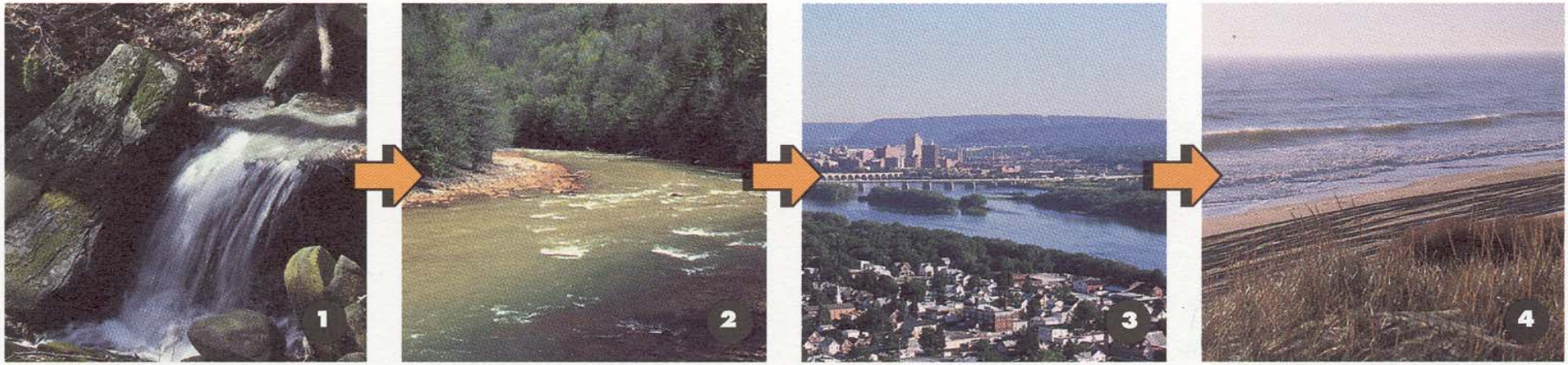
- PA has 6 major watersheds & every watershed is unique.



Pennsylvania contains parts of six major watersheds, all of which eventually drain into the Atlantic Ocean. Locate the major watershed that you live in.

Water Movement

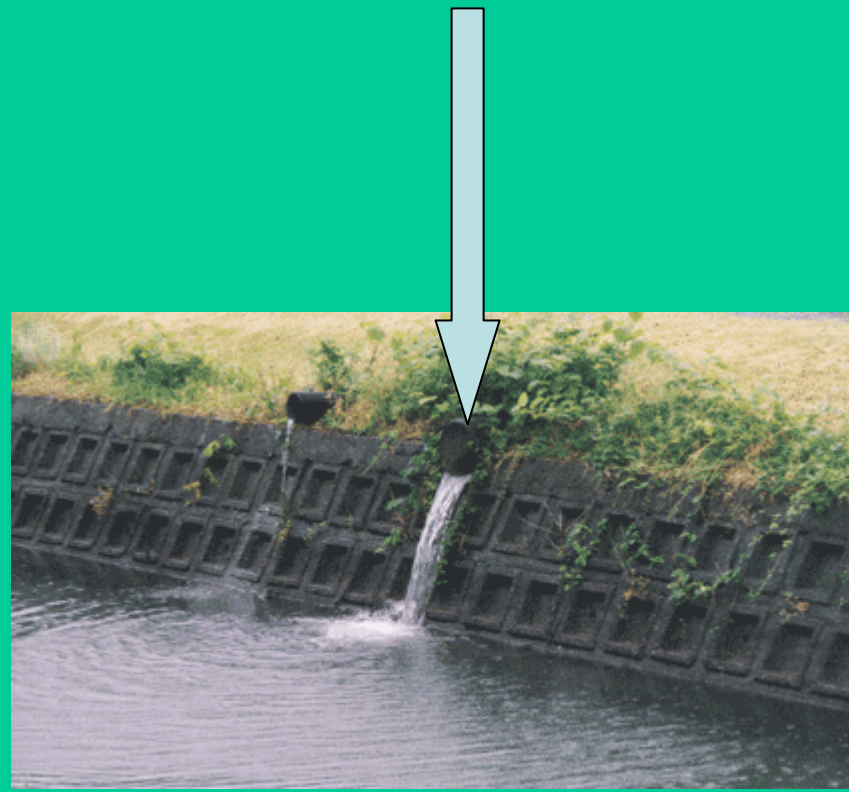
Water movement through a watershed

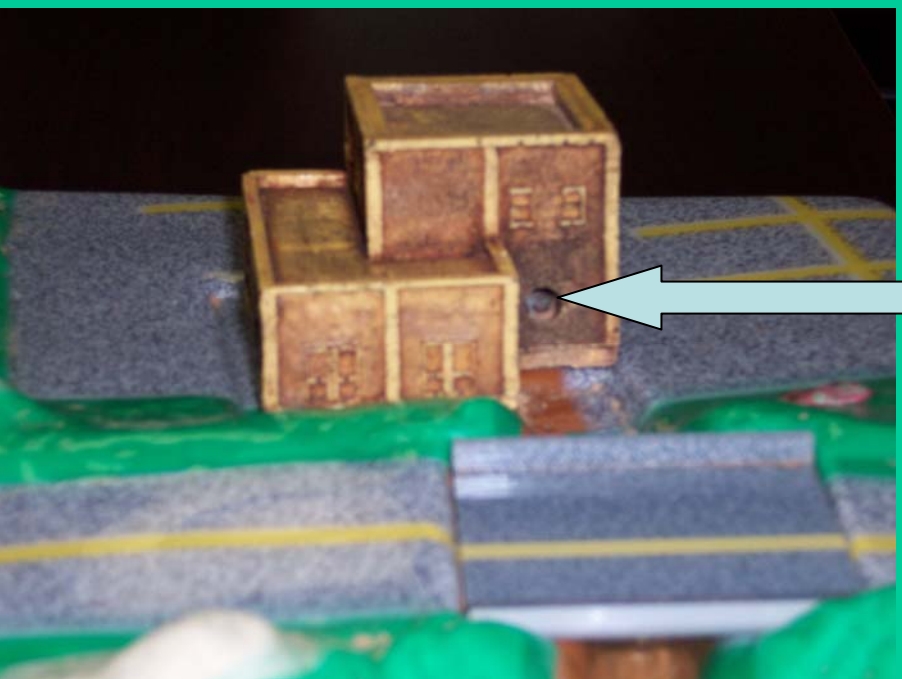


Within all watersheds, small streams (1) join together to form larger streams (2) and larger streams join together to form rivers (3). Rivers eventually empty into the ocean (4) where the water may stay for some time or evaporate and form precipitation. Some of this precipitation falls on the land and the process repeats itself endlessly.

Point Source Pollution

A single identifiable source

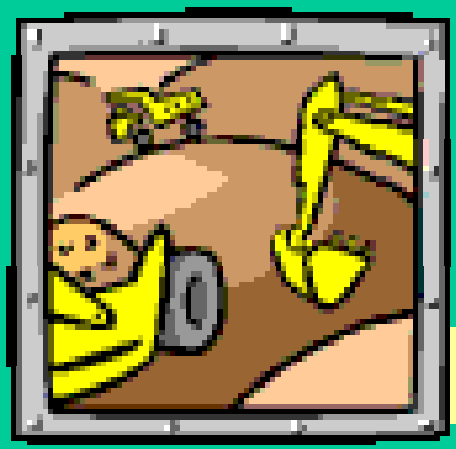




FACTORY

Non-point Source Pollution

FARMLAND



CONSTRUCTION

Non-point Source Pollution

FOREST DESTRUCTION

Non-point Source Pollution

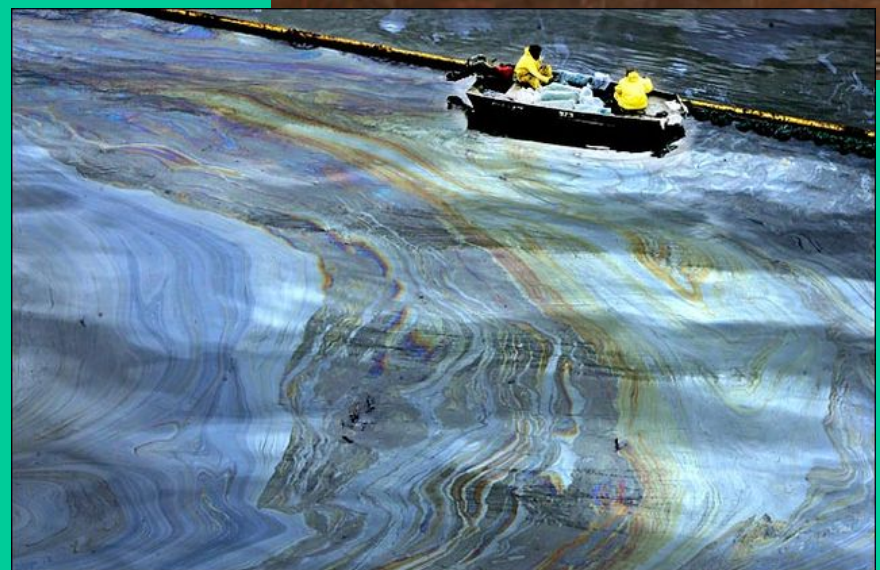
PESTICIDES

FERTILIZERS

Non-point Source Pollution

OIL

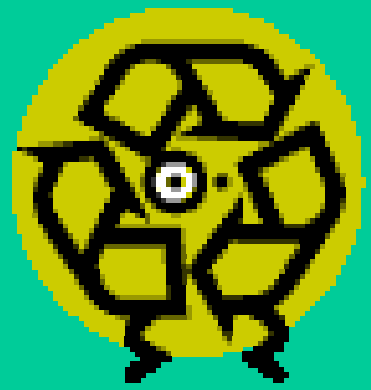
We Don’t Want This!



What Can You Do?

Recycle

Reuse



Conserve Water and Energy

Replant

Protect

Get Involved!

The End