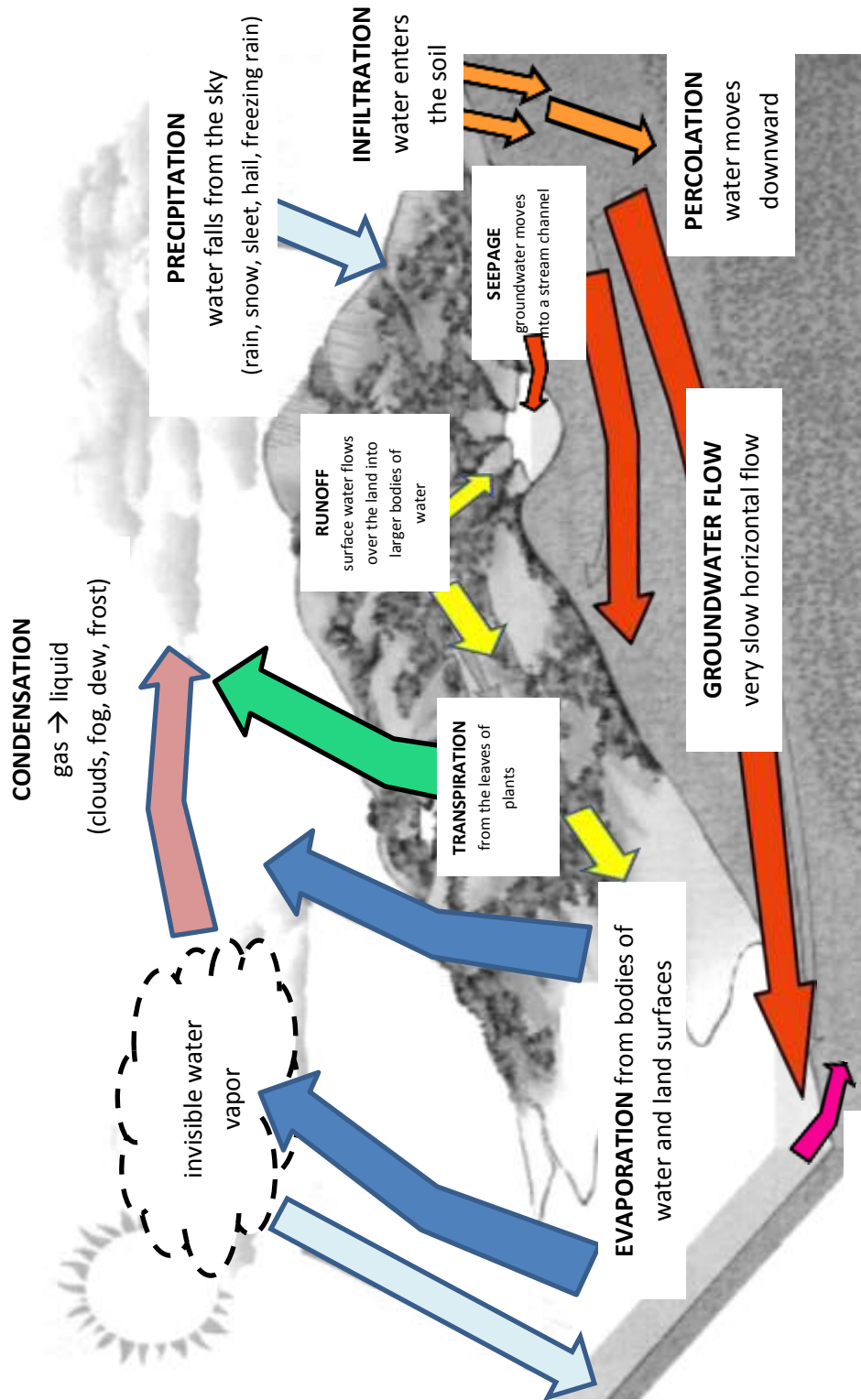


Aim: How is water cycled through the ecosphere (biosphere)?

The hydrologic cycle is driven by:

- a. energy from the Sun
- b. the force of gravity

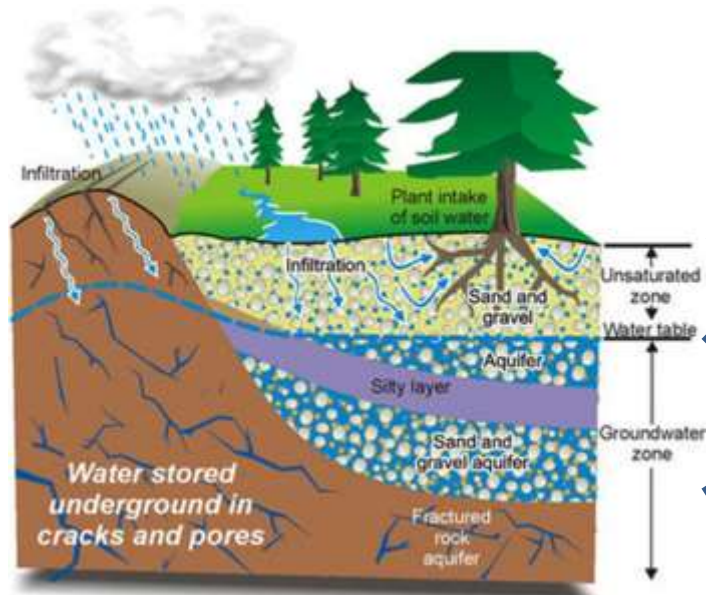


Distribution of Water on the Earth:

- 71% of the Earth is covered by water
- Of all the water on the Earth:
 - 97% is saltwater
 - 2% freshwater is trapped as ice
 - 1% is liquid at the surface and underground (only .3% is attainable and usable)

Aquifers:

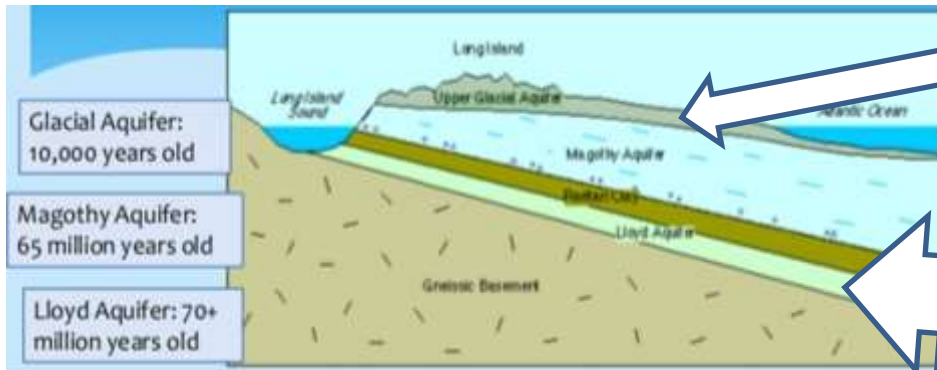
underground rock formations in which groundwater is stored and can be extracted



zone of aeration
(soil + air + some water)

upper boundary of
groundwater
(fluctuates with amount
of precipitation)

zone of
saturation
(soil and water)

Long Island Aquifers:

unconfined aquifer
wells can be drilled – but must have a
motorized pump to extract water

confined aquifer
aquifer surrounded by layers of
impermeable material (bedrock / clay)
that is under pressure

artesian well
a well from which water flows under
natural pressure without pumping

Human Influence on the Hydrologic (Water) Cycle:

1. withdrawal of large quantities for heavily populated or irrigated areas
(can also lead to saltwater intrusion in coastal areas)
2. land-clearing leads to more runoff and less recharge of groundwater by infiltration
3. modification of water quality – addition of nutrients (fertilizers)
and pollutants (pesticides and other chemicals)