

Chapter 3 Section 3 Notes

The Hydrosphere (all of the water on or near Earth's surface)

Water Cycle

Evaporation – the process in which liquid water is heated by the sun and then rises into the atmosphere as water vapor

Precipitation – rain, snow, sleet, or hail that falls from clouds

Earth's Oceans

World Ocean – single, large, interconnected body of water that covers 70% of Earth's surface; main role of the ocean is to regulate temperatures in Earth's atmosphere.

Pacific Ocean (largest ocean and has deepest point "Challenger Deep" in the Mariana trench)

Atlantic Ocean (2nd largest)

Indian Ocean

Arctic Ocean

Ocean water (contains more salts than fresh water)

Salinity – the total quantity of dissolved salts in the ocean.

The average salinity of seawater by weight is 3.5%

The most important dissolved elements in ocean water are sodium and chlorine.

Temperature zones

Surface zone – the warm, top layer of ocean water

Thermocline – boundary between warm and cold water in an ocean or lake

Deep zone – bottom layer of ocean from base of thermocline to the bottom of the ocean.

Ocean Currents

Surface currents are water movements in the ocean that are driven by the wind.

Deep currents are stream-like movements of cold, dense water that flow along the ocean floor.

Fresh Water - Most is locked up in icecaps and glaciers

River systems – a network of streams that drains an area of land

Tributaries are smaller streams or rivers that flow into larger ones

Ground Water – water used for drinking and agriculture

The Biosphere – the narrow layer of Earth where life-supporting conditions exist

Energy Flow in the Biosphere

Organisms obtain the energy they need from the biosphere

Green plants need sunlight to produce their food

Phytoplankton are tiny, free-floating, marine algae

With respect to matter, Earth is mostly a closed system. (Matter doesn't typically enter or leave the planet.)

With respect to energy, Earth is an open system. (Energy enters and leaves the planet.)