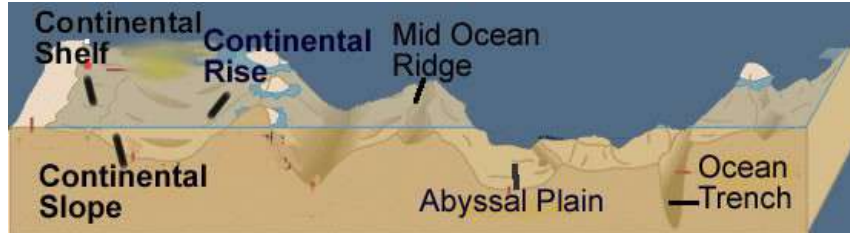
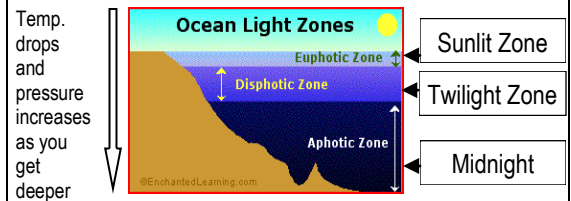


Parts of the Ocean

- **CONTINENTAL SHELF**— Shallow (not deep) part of the ocean on the edges of the continents. Hold the greatest variety of different animals and plants.
- **CONTINENTAL SLOPE**— Steep drop off of the **CONTINENTAL SHELF**
- **CONTINENTAL RISE**— Gently sloping area that connects the steep walls of the **CONTINENTAL SLOPE** to the ocean floor
- **MID OCEAN RIDGES**— Underwater mountains caused by plate movements
- **TRENCH**— Deepest part of the ocean similar to canyons on land
- **ABYSSAL PLAIN**— flat area of the ocean



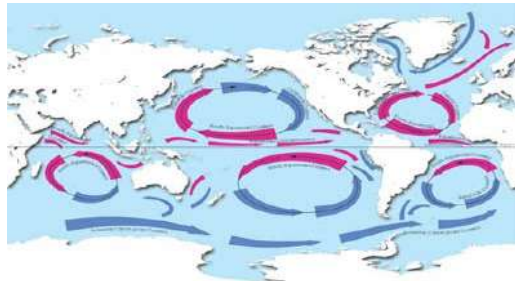
Layers of the Ocean



- Sunlit Zone**— Sunlight helps the plankton to produce food. Therefore many animals live in this area, as plankton often start the food chain.
- Twilight Zone**— Not enough sunlight for plants, and therefore not many animals live here.
- Midnight Zone**— Intense pressure and freezing temperatures means that barely any animals live here.

Ocean Currents

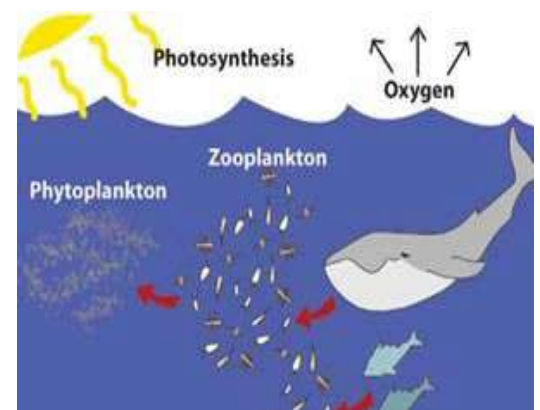
- Caused by wind, temperature, and salinity
- Can be warm or cold currents, depending on what part of the world they come from
- Can run along the surface (wind currents) or churn deep within the ocean (temp. and salinity)
- Mixes up the ocean water



WIND	TEMPERATURE	SALINITY
<ul style="list-style-type: none"> - Caused by winds that blow in the same direction year round - Gulf Stream is one example and runs along the east coast of the United States bringing warmer water up from the tropics 	<ul style="list-style-type: none"> - Warm water from near the Equator rises to the surface - Cold water is heavier than warm water and sinks to the bottom 	<ul style="list-style-type: none"> - Salinity is the amount of salt in the water - As water heats up near the Equator, it evaporates and leaves behind the salt, making that water have more salinity. - More salinity means it is denser (heavier) and the water sinks. Less salty water rises.

Ocean Food Webs

- As with any food chain, the key types are the **PRODUCERS, CONSUMERS, and DECOMPOSERS**
- **PRODUCERS**— often phytoplankton which are tiny plants that produce food from sunlight. **PRODUCERS** start the food chain.
- **CONSUMERS**— larger organism that eat other organisms in order to survive, such as zooplankton, fish, and whales.
- **DECOMPOSERS**— live on the ocean floor and feed off of dead or dying organisms that sink to the ocean floor, such as crabs and Lobsters



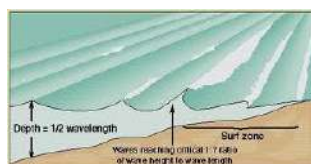
Example of a Food Web

The phytoplankton make food from the sun and are eaten by the zooplankton which are eaten by the fish which are eaten by the whale.

Effects on Ocean Environments

- **DEPTH** affects where organisms live because most organisms need sunlight. Most organisms live in the upper, sunlit zones.
- **TEMPERATURE** Colder water animals have a thick layer of fat or blubber to keep them warm. Organisms needing warmer water often live near the Equator.
- **SALINITY** -the amount of salt in the ocean varies from place to place and during the times of the year. Runoff from fresh water (such as rivers) also affects how much salt is in the water.

- **WAVES** are caused by the water being pushed upon the shore. When the water hits the shallow beaches and land, the water builds up and falls over itself, often causing **EROSION** of the beaches.



- **TIDES** are caused by the pull of the Moon's gravity. Tides occur every 12 hours. There are high tides (lots of water) and low tides (lower water levels).

