

## EARTH'S OCEANS

### Oceans as a Natural Resource

**Oceans** are a natural resource for the salt (that you eat on your fries) and the fish and other sea animals we eat (like tuna fish sandwiches).

### Ocean Currents

Oceans are ALWAYS moving because of currents and tides. Currents on the surface of the ocean are caused by wind. Currents move large amounts of water great distances.

### Ocean Tides

**Tides** are the periodic rising and lowering of the ocean levels.

Tides are created because the Earth and the Moon are attracted to each other. The Moon pulls the water on Earth towards it, causing the tides. The Moon travels around the earth, the Earth and Moon travel around the sun, and their gravity causes the tides to rise and fall. There are two types of tides, high tide and low tide. High tide is always moving back and forth.



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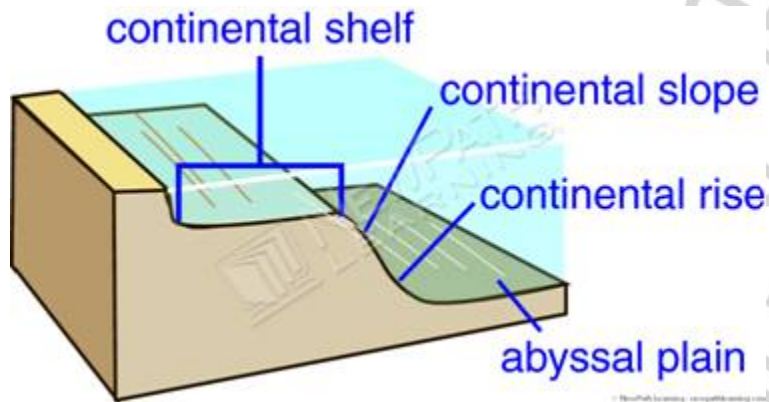
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**Lesson Checkpoint:**  
*What causes ocean currents?*

## The Continental Shelf



The sandy beach extends from the area you build sandcastles upon into the ocean onto an area called the **continental shelf**. The water above the continental shelf is most often shallow. The continental shelf gradually goes downward and eventually leads to a sharp drop, known as the **continental slope**.

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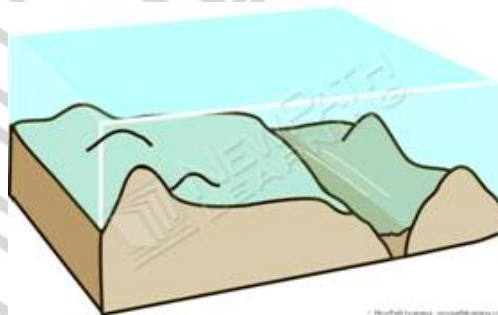
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## The Flat Abyssal Plains

Sounds spooky but it is just the flat seafloor area WAY below the ocean's surface, very, very DEEP in the ocean!! Deep meaning up to 6,000 meters deep! A thick layer of sediment covers most of the plain's surface.



## Seamounts

A **seamount** is a mountain rising from the ocean seafloor that does not reach to the water's surface. It is a mountain under water.

## Trenches

An **ocean trench** is a long depression in the ocean floor that has steep sides.

*Lesson Checkpoint: What is a seamount?*

## Mid-Ocean Ridge

The **mid-ocean ridge** is a series of long, underwater mountain ranges on the ocean floor. The mid-ocean ridge extends through the North and South Atlantic, the Indian Ocean, and the South Pacific.

## How do scientists explore the ocean?

Remote controlled submarines can go places where humans can't...way BELOW the ocean's surface. There are a lot of DEEP ocean zones to explore, and oceanographers need these submarines and other special tools to explore these

## Which Ocean

The **epipelagic** something mo this zone bec homes and fo lobsters, turtl

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As you go deeper into the ocean, there is little to no light which means it is **COLD** and that there are no plants for food and not many other organisms to eat either!

*Lesson Checkpoint:  
Why do most sea organisms live  
in the epipelagic zone in the ocean?*

## Ocean pollution

Oil spills, toxic waste, litter, and other harmful materials dumped into the ocean in some way are all major causes of water pollution. Pollution in the ocean harms and kills ocean organisms. Ocean pollution can also indirectly affect our health and take away our resources – like the ones we mentioned at the very beginning of this tutorial—the salt and the food sources in the ocean.



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