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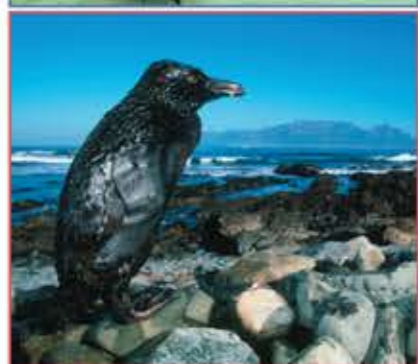
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# Ocean Planet

Earth is mostly covered in water. That is why it is known as the blue planet. There is a whole world to explore beneath the seas.



# Seas and Oceans

Most of the water covering our planet is salt water.  
This includes Earth's seas and oceans.

## Oceans

Oceans are the vast bodies of salt water that cover our planet between the continents. The Atlantic Ocean lies between Europe and the Americas. The other oceans are the Indian, the Pacific, the Arctic, and the Southern.

Earth's oceans cover more than 70 percent of its surface.



## Seas

A sea is a body of water that is mostly surrounded by land. For example, the Mediterranean Sea is surrounded by southern Europe and northern Africa. It is connected to the Atlantic Ocean by a small opening called the Strait of Gibraltar.

The Mediterranean Sea is surrounded by land.

## Clouds

The sun causes ocean water to evaporate. Air currents move that vapor into the atmosphere, where it condenses into clouds. Water droplets collide with one another in the clouds and combine to form larger drops. Then they fall to the ground as rain or snow.

Clouds that will bring rain or snow mainly form over oceans. The wind pushes them toward land.



# Floating and Moving

To move forward in water, you have to cut through it by being hydrodynamic.

## Floating on the Surface

How does a seabird rest on water without sinking? It can float because it is very light relative to its size. If the bird were dense, or heavy for its size, it would sink like a rock.

This gull is floating on the surface of the water.



## Floating Just Below

People are denser than birds, but not dense enough to sink in salt water. A diver can float effortlessly just below the surface. To sink to the bottom, the diver would have to wear a weighted belt!

If you lie very still in the sea, you will float just below the surface, but you won't sink!

## How to Dive

The human body is not designed to cut through water. When we dive, we use flippers to help us move forward. To avoid being slowed down by our arms, we hold them flat against the body or straight above the head.

This diver stretches out her arms and straightens her body to glide through the water.



## Just the Right Spot

Fish are able to float in the sea at the exact depth they want. That's thanks to a pocket of gas in their bodies that acts like a small buoy. Water easily glides past either side of their streamlined bodies.



Tuna are fast swimmers. Their tails act like motors and push them forward.



Dolphins can swim as fast as 30 mph (48 km/h)!

## Gliding Along

Any aquatic animals that can swim fast have streamlined shapes that cut through water. For example, dolphins have pointy noses and smooth bodies.

# Low Tide, High Tide

Tides are the constant changes in the level of oceans. These changes may be a little or a lot. They are caused by the gravitational pull of the moon and the sun on Earth.



## Low Tide

When the sea level goes down, it's called low tide. This is a good time to discover the small animals that live under rocks and in puddles.

At low tide, people can catch crabs and other shellfish.

## Out of the Water

It's hard for aquatic animals to survive at low tide! Those that can move hide in holes or stay cool under algae. Those that are attached to rocks or other hard surfaces close their shells tightly to retain their water.



This green crab was surprised by the low tide. It will quickly try to hide under some seaweed.

At high tide, the leaves of the algae float and stand up straight. Aren't they pretty?

## Open Up

During high tide, shellfish that are attached to hard surfaces open their shells halfway to take in fresh water. Mussels and barnacles can once again breathe and eat.



## High Tide

When the water covers the rocks once again, algae begin to float and stand up straight. With their roots firmly attached to rocks, they sway in the waves. Together they create a sort of underwater forest.

## Come Back Out

The animals that had hidden come back out. Crabs and lobsters look around for something to eat.



Blennies come out of their holes and climb up on rocks to survey their surroundings. What strange fish!

After having kept their shells closed for many hours, mussels can finally open up and breathe.

