

Name:

Date:



Oceans

Complete each section using your prior knowledge and resources. Remember to apply all your proper conventions (capitalization, punctuation, spelling, grammar, etc.).

Week #1

Due by April 17th (email a picture to your teacher)

Read the article "Ocean Habitat" and answer the comprehension questions, "Oceans".

Week #2

Due by April 24th (email a picture to your teacher)

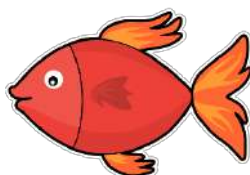
Go through the PowerPoint and take notes. Complete the activity "Ocean Notes".

Week #3

Due by May 1st (email a picture to your teacher)

Read the article "Ocean Currents" and record your answers below.

1. _____
2. _____
3. _____
4. _____



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<https://kids.nationalgeographic.com/explore/nature/habitats/ocean.html>

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Ocean Habitat

From outer space Earth looks like an awesome blue marble. That's because most of Earth's surface—more than 70 percent—is covered by oceans.

BY AVERY HURT

EARTH UNDERWATER

Oceans are areas of salty water that fill enormous basins on the Earth's surface. Even though Earth has one continuous body of saltwater, scientists and geographers divide it into five different sections. From biggest to smallest, they are the Pacific, the Atlantic, the Indian, the Antarctic (sometimes called the Southern), and the Arctic Oceans.

Oceans are deep as well as wide. On average an ocean is a little over two miles deep. But about 200 miles southwest of Guam in the Pacific Ocean, the water in the Mariana Trench is almost seven miles deep. That's the deepest part of the ocean.

CLIMATE CONTROL

Oceans help keep Earth's climate habitable. By moving water around the globe, the oceans help to keep places from getting too hot or too cold.

Oceans also help keep the planet warm. In the same way that hot water in a bathtub stays warm longer than hot chocolate in a small cup, the vast amount of warm water stores heat in the ocean. Then ocean currents carry that heat around the planet. Without oceans, the Earth would be an icy rock.

OCEAN OR SEA?

The words "ocean" and "sea" are often used to mean the same thing. A sea, however, is a small area of an ocean, usually with land on several sides. The Mediterranean, nestled between Africa and Europe, the Baltic in northern and central Europe, and the Caribbean between North, Central, and South America are all seas.

WATER CYCLE

Trees and other plants release water into the atmosphere—something called transpiration—then the water falls back to Earth as rain. Rain forest trees can release a lot of water, up to 200 gallons each year. The water forms a thick cloud-cover over the rain forest, so it is always warm and humid.

In some rain forests it rains more than an inch every day! Rain forests help to stabilize the climate of the world not only by making rain but also by absorbing carbon dioxide. That's good because too much carbon dioxide in the atmosphere can make the planet too warm.

OCEAN LIFE

Scientists estimate that about one million species of animals live in the ocean. But most of them—95 percent—are invertebrates, animals that don't have a backbone, such as jellyfish and shrimp. The most common vertebrate (an animal with a backbone) on Earth is the bristlemouth, a tiny ocean fish that glows in the dark and has needlelike fangs.

Some of the smallest animals on Earth can be found in the ocean. Sea animals like zooplankton are so small you can see them only with a microscope. Big fish swim through these waters too, such as great white sharks, manta rays, and ocean sunfish.

The largest animal ever to live on Earth is an ocean mammal called the blue whale. It's as long as two school buses! Dolphins, porpoises, and sea lions are also ocean-dwelling mammals.

The ocean teems with plant life. Most are tiny algae called phytoplankton—and these microscopic plants have a big job. Through photosynthesis, they produce about half of the oxygen that humans and other land-dwelling creatures breathe. Bigger algae like seaweed and kelp also grow in the ocean and provide food and shelter for marine animals.

WATERY HABITATS

Temperature, ocean depth, and distance from the shore determine the types of plants and animals living in an area of the ocean. These regions are called habitats.

Coral reefs are one type of habitat. When tiny animals called polyps die, their skeletons harden so other polyps can live on top of them. Then those polyps die, and more move in. After thousands of years, this becomes a complex structure called a coral reef that provides food and shelter for many kinds of ocean animals. In fact, corals reefs have been called the rain forests of the sea because of the wide variety of animals found there. Animals such as seahorses, clownfish, and sea turtles all live on coral reefs. And corals themselves are animals! They grab food from the water using tiny tentacle-like arms.

Kelp forests found along the coastlines of the Pacific and Antarctic Oceans also provide food and shelter for marine life. These large, brown, rubbery plants have hollow, globe-shaped growths on the leaves called pneumatocysts that help the plants rise to the surface. Sea lions, whales, shore birds, and other ocean animals make meals of the smaller critters that hide in the leaves.

Other ocean habitats aren't actually in the ocean, such as estuaries. Estuaries are areas where rivers and oceans meet and have a mix of saltwater and freshwater. Oysters, crabs, and many birds like great herons and egrets live in estuaries.

Scientists estimate that we've only explored 5 percent of the ocean. Maybe you'll be the next person to discover a new species of fish or a deeper underwater trench!

Name: _____



Oceans

1. What are the five different sections of the oceans?
2. Explain the deepest part of the ocean.
3. Why is water important to help control the environments?
4. What does the word sea mean?
5. Describe the different types of life in the ocean. Use text evidence to support your answer.
6. Explain the different types of environments in the oceans.

Name: _____

Date: _____

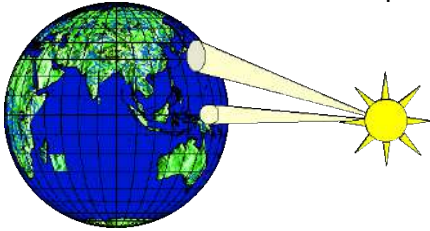


Oceans Notes

1. Name the 5 oceans.
2. How much of the earth is covered by water?
3. What are the main elements in the ocean?

Surface Ocean Currents

4. Using the diagram at the right, explain why the ocean waters are warmer at the equator than at higher latitudes.



5. Name and define as many seafloor features as you can.
6. What ways do the following items impact the ocean?

Unsustainable Fishing

Pollution

Tourism/Development

Climate Change

Read It!
(M)

Ocean Currents

When used in connection with water, the term "current" explains the motion of the water. Some currents you may be used to are the motion of rainwater as it flows down the street. There is also the motion of the water in a creek, stream, or river flowing from higher height to lower height. This motion is begun by gravity. The speed and direction (velocity) of currents can be measured and taped.

An ocean current is a constant, directed movement of seawater. This is made by forces acting upon it.

Oceanic currents are pushed by several issues. One is the rise and fall of the tides. They are driven by the gravitational pull of the sun and moon on Earth's oceans. Tides make a current in the ocean and near the shore. This also includes the bays and estuaries along the coast. These are called "tidal currents." Tidal currents are the only type of currents that change in a very regular pattern. These currents can be guessed for future dates.

A second factor that drives ocean currents is wind. Winds drive currents that are at or near the ocean's surface. These currents are generally measured in meters per second or in knots (1 knot = 1.15 miles per hour or 1.85 kilometers per hour). Winds drive currents near coastal areas on a localized scale. They drive currents in the open ocean on a global scale. Wind is made by the uneven heating of the Earth by the Sun. Remember, the Earth rotates on its axis. The Sun can only heat part of the Earth at any given time.

A third factor that drives currents is thermohaline circulation - a process driven by density differences in water. These changes are due to temperature (thermo) and salinity (haline) in different parts of the ocean. Currents driven by thermohaline flow happen at both deep and shallow ocean levels. They move much slower than tidal or surface currents.

Read It!
#1

Which title would best describe this passage more effectively?

- A. The 3 Main Factors which Cause Ocean Currents
- B. Ocean Currents vs. Flowing Water
- C. Everything You've Wanted to Know about Ocean Currents
- D. The Sun's Impact on Ocean Currents

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Read It!
#3

How does the moon impact ocean currents?

- A. The light from the moon causes oceans to heat up and flow.
- B. A full moon causes ocean currents to slow down.
- C. The gravity of the moon causes ocean tides and tidal currents.
- D. The moon doesn't play a role in ocean currents.

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Read It!
#2

How does the Sun play a role in the flow of ocean currents?

- A. The ocean currents have no relation to the Sun.
- B. The Sun transfers electrons to the ocean and causes it to flow.
- C. The Sun's radiation directly pushes the ocean currents.
- D. The Sun heats our planet unequally which creates convection currents in the atmosphere that cause ocean currents..

Read It!
#4

Which factor is not involved in the creation of ocean currents?

- A. The salinity of the seawater
- B. The unequal heating of the earth
- C. Ships traveling through the ocean
- D. The rise and fall of ocean tides created by the moon.

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