

OCEANS UNIT STUDY WORKBOOK

Five ready-to-use activities generated through HomeTrail's Nest pack system for a fourth-grade learner. Print the pages you need and use the separate audio episode alongside the workbook.

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Deep Dive

From Sunlit Water to the Deep Sea

The ocean is not the same everywhere. Scientists compare places by studying depth, water conditions, currents, and living things. The research sources for this guide focus on ocean ecosystems, adaptations, currents, and deep-sea communities. They also show why careful observation helps us understand ocean life.

Depth Creates Different Habitats

Depth is one way scientists compare ocean habitats. The sources describe both surface topics, such as coral reefs and tides, and deep habitats, such as deep-sea corals and communities on the ocean bottom. These habitats contain different conditions and different living things. The supplied sources do not give enough information to state exactly how sunlight, temperature, or pressure change at each depth.

Physical Conditions Matter

Sunlight, temperature, pressure, and depth are physical, or nonliving, parts of an environment. Scientists study these conditions because they can affect which organisms are able to live in a place. The sources explain that students can examine relationships between environmental factors and organism adaptations. An adaptation is a body feature or behavior that helps an organism live in its environment.

Currents Move Through the Ocean

Ocean currents are moving water. The research sources include lessons about tracking currents and studying how they transport marine debris, spilled oil, and other pollutants. This shows that currents can move materials from one place to another. A current can therefore connect different ocean habitats.

Living Things Form Communities

Ocean life includes corals, fish, sharks, rays, and organisms that live on the seafloor. Scientists study how living parts of an ecosystem interact with nonliving parts. The sources also describe deep benthic communities, meaning groups of organisms living on or near the ocean bottom. Different organisms have different diets, behaviors, and adaptations.

Remember these

- Depth helps scientists compare different ocean habitats.
- Sunlight, temperature, pressure, and depth are nonliving environmental factors.
- Adaptations help organisms live in particular environments.
- Currents can carry marine debris, spilled oil, and other pollutants.

- Ocean communities include many kinds of organisms and their interactions with the environment.

Try this

Make a four-column chart labeled depth, physical conditions, currents, and living things. Use the research ideas in this guide to add what you know. Mark sunlight, temperature, and pressure with a question mark if you need more evidence before describing how they change. Then discuss why scientists should collect data instead of guessing.

Think about it

If you were studying a deep-sea community, what information would you want to collect about its environment and living things, and why?

Sources

- [National Ocean Service Education](https://oceanservice.noaa.gov)oceanservice.noaa.gov
- [Educators' Corner | Smithsonian Ocean](https://ocean.si.edu)ocean.si.edu



From Ocean Surface to the Deep Sea

Instructions: Read each question carefully and select the best answer. When you're ready, tap Submit to see your results.

0 of 10 answered

1. Which change usually happens as you travel deeper into the ocean?

- ☐ A. Plants grow more easily
- ☐ B. There is more sunlight
- ☐ C. The pressure becomes weaker
- ☐ D. The water becomes colder and darker

2. Why do most ocean plants live near the surface?

- ☐ A. They cannot live in moving water
- ☐ B. They need the strongest pressure
- ☐ C. They need sunlight to make food
- ☐ D. They only eat deep-sea animals

3. What happens to water pressure as depth increases?

- ☐ A. It increases because more water is above
- ☐ B. It decreases because there is less sunlight
- ☐ C. It disappears below the sunlight zone
- ☐ D. It stays exactly the same

4. Which statement best describes ocean currents near the surface?

- ☐ A. They move only from the bottom to the top
- ☐ B. They are caused only by animals swimming

☐ C. They are often moved by wind

☐ D. They stop whenever sunlight fades

5. How can deep-sea animals survive where there is little or no sunlight?

☐ A. They swim to beaches every night

☐ B. Some use food that sinks from above or make food using chemicals

☐ C. All deep-sea animals grow leaves

☐ D. They store sunlight inside their shells

6. Which animal feature would be most useful for living in very dark deep water?

☐ A. A need for strong sunlight

☐ B. Thin wings for flying in air

☐ C. Very large eyes or the ability to make light

☐ D. Bright green leaves

7. Why are deep ocean currents important?

☐ A. They carry sunlight to the ocean floor

☐ B. They keep all ocean water at the same temperature

☐ C. They prevent any animals from living near the bottom

☐ D. They move water and help spread heat and nutrients

8. True or false: Sunlight reaches all the way to the deepest parts of the ocean.

☐ True

☐ False

9. True or false: The pressure at the deep-sea floor is greater than the pressure at the ocean surface.

☐ True

☐ False

10. True or false: Most deep-sea animals live exactly like animals near the surface because the conditions are the same.

☐ True

☐ False

Word Search: ocean zones, sunlight, depth, pressure, currents, tides, salinity, plankton, coral reefs, and marine food webs

Dive beneath the waves to explore ocean zones, changing sunlight, deep pressure, moving currents, tides, salty water, plankton, and colorful coral reefs. Find the words that reveal how ocean life connects in marine food webs.

12 words left to find.

T	I	D	A	L	R	S	C	B	B	C	C
R	C	D	H	V	K	U	U	S	Y	O	F
F	O	T	Q	P	X	N	R	F	U	N	S
T	R	H	Y	L	P	L	R	E	E	F	S
D	A	T	B	A	R	I	E	P	P	E	D
R	L	W	H	N	E	G	N	H	J	E	Y
L	A	I	X	K	S	H	T	O	P	X	U
F	T	L	V	T	S	T	S	T	Y	C	M
P	O	I	H	O	U	P	H	I	Z	Y	E
U	Z	G	I	N	R	I	J	C	Z	N	U
Y	R	H	V	P	E	L	A	G	I	C	H
A	S	T	X	S	A	L	I	N	I	T	Y

Find these words:

- SUNLIGHT
- PRESSURE
- CURRENTS
- SALINITY
- PLANKTON
- TWILIGHT
- PELAGIC
- PHOTIC
- DEPTH
- TIDAL
- CORAL
- REEFS



Instructions: Tap a clue, then fill each box with one letter. Tap again to switch between Across and Down.

8 clues left.

										1
					2					
3		4								
					5					
		6								
			7							
			8							

ACROSS

2. A small ocean animal that builds a hard skeleton and can live in large colonies.

3. The distance from the ocean surface down to a certain place.

6. Light from the Sun that reaches the upper ocean and helps plants and algae make food.

7. The regular rise and fall of ocean water, mainly caused by the Moon's pull.

8. Describes the very deep ocean zone, where it is dark, cold, and under great pressure.

DOWN

1. Tiny ocean organisms that drift with the water and provide food for many animals.

4. The strong force caused by the weight of water pressing down in the deep ocean.

5. The amount of dissolved salt in water.

