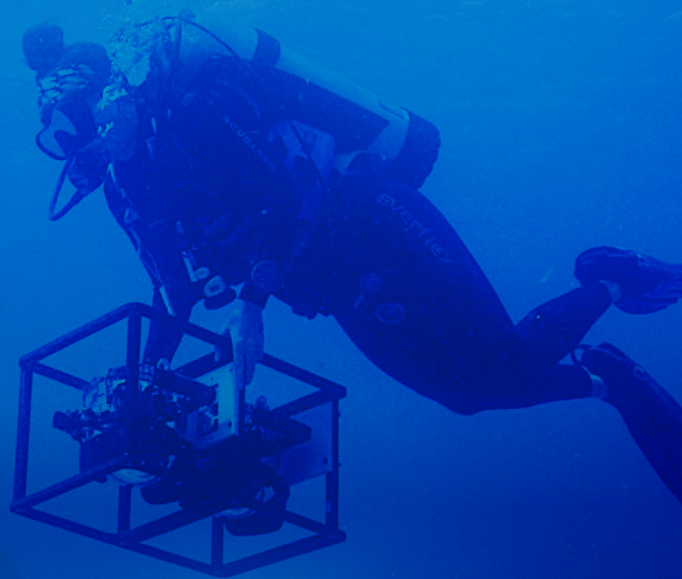


OCEANX



OCEANXPERIENCE



INSTRUCTIONAL SEQUENCE

WORKING WITH THE OCEAN (PRE-VISIT)

Careers in the Community

GRADE LEVEL: PP-2



Never stop wondering.
Never stop imagining.™

Presented for Australian audience by:



PURPOSE

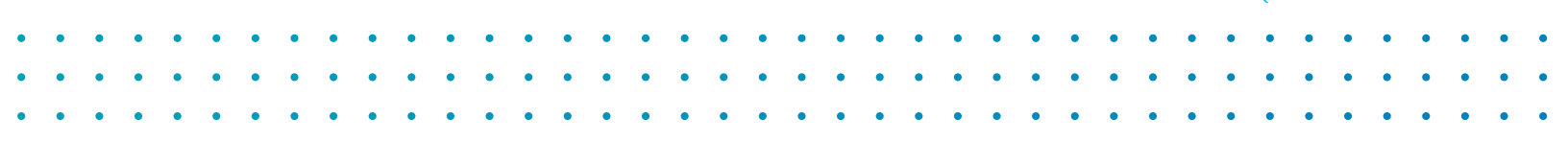
Early childhood students have a natural interest in the world around them and are beginning to recognize the various roles people play in creating a functioning community. As students learn about various places on our planet, including the ocean, they can benefit from learning about the careers that interact with those places and how individuals in those careers have helped the natural world as well as society.

EXHIBITION LEARNING GOAL

Visitors feel an appreciation for the majesty of the oceans and the life within them.

OBJECTIVE

Students will discover different community members who are working to help our ocean habitats and animals.



PRE-PRIMARY

SCIENCE

Science Inquiry Skills - Questioning and predicting:

WA1SSIQ1 - Pose questions and make predictions based on knowledge and experiences.

Science Inquiry Skills - Planning and conducting:

WAPSSIPL2 - Make observations using comparison.

Science Inquiry Skills - Communicating:

WAPSSICM1 - Share questions, predictions, observations and ideas with others.

Science Inquiry Skills - Collaborating and applying:

WAPSSICL1 - Use the senses to learn about the natural and physical world and develop scientific ideas.

YEAR 2

SCIENCE

Science Inquiry Skills - Questioning and predicting:

WA1SSIQ1 - Pose questions and make predictions based on knowledge and experiences.

Science Inquiry Skills - Communicating:

WA2SSICM1 - Communicate observations, ideas, and findings using everyday and scientific vocabulary.

YEAR 1

SCIENCE

Science Understanding - Biological Science:

WA1SSUB1 - Plants and animals have external features that serve a purpose and by which they can be grouped.

Science Inquiry Skills - Questioning and predicting:

WA1SSIQ1 - Pose questions and make predictions based on knowledge and experiences.

Science Inquiry Skills - Evaluating:

WA1SSIE1 - Compare observations to predictions and identify further questions for investigation.

VOCABULARY

OCEANOGRAPHY

The science of studying the oceans

MARINE BIOLOGIST

A scientist who studies any living plant or animal in the sea

MARINE CHEMIST

A scientist who studies the chemical make-up of water

MARINE ENGINEER

A scientist who designs and builds things which will operate in water

ECOLOGIST

A scientist who studies the relationships between living things and their surroundings, or environment

MARINE GEOLOGIST

A scientist who studies the history, and the processes, of the ocean floor

OCEANOGRAPHER

A scientist who studies the ocean

MARINE MAMMALS

Mammals that depend on the ocean and other marine habitats to live

MAMMAL

A mammal is an animal that breathes air, has a backbone, and grows hair at some point during its life

POLLUTION

Happens when trash, chemicals, or other substances contaminate the Earth's air, water, or land

MARINE

Relating to the sea

MATERIALS

OCEAN SORTING IMAGES

OCEAN SORTING MAT

OCEAN SORT ANSWER KEY

MARINE MAMMAL SORT

"OCEANOGRAPHERS IN OUR COMMUNITY"
READ ALOUD SLIDESHOW

ONLINE RESOURCES

[THE BRILLIANT DEEP READ ALOUD](#)

LITERARY CONNECTIONS

Marine Biologists on a Dive by Sue Fliess

Marine Science for Kids: Exploring and Protecting Our Watery World, Includes Cool Careers and 21 Activities by Bethanie Hestermann

Shark Lady: The True Story of How Eugenie Clark Became the Ocean's Most Fearless Scientist by Jess Keating

Marine Biology: Cool Women Who Dive
by Karen Bush Gibson

Keepers of the Reef by Sharon Wismer

ENGAGE

Ocean Objects Sort

Today we are going to investigate different ways that people can work with the ocean. Hand out the various sorting images to groups of students. Keep a teacher set for yourself.

Teacher Note: You may want to review what the images are of before having students work on sorting them.

Inform students that they have a group of images from the ocean, and they will need to sort them into groups based on things that they think go together, on the sorting mat. (Review the sorting labels.)

Once student groups have completed their sorts, have them come together with the whole group. Have students share how they grouped images and why. As a whole class agree on where the “teacher” images should go.

EXPLORE

Now that we have grouped these items together, are any of the images showing a problem?

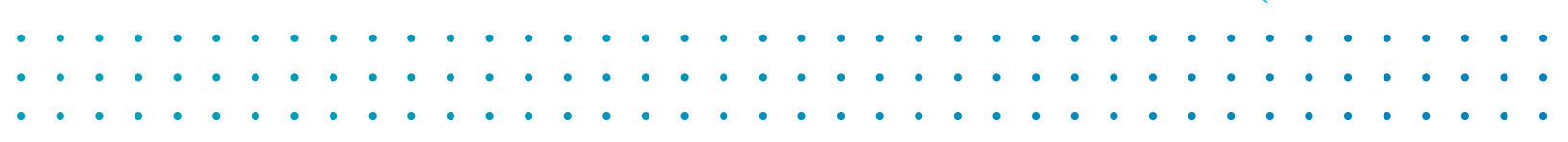
Have students discuss what problems they might see... volcanoes erupting, animals with trash, dirty water, broken ships.

Did you know that there are problems that arise in the ocean, and there are people who have jobs that help the ocean community, either by fixing a problem or by exploring and learning about different animals or places in the ocean?

Let’s learn a little about each of these community members and then decide which of our image groups they might work with to study and help.

Present the slideshow [“Ocean Scientists in our Community”](#)

As you go through the slides, pause and ask students to help you determine which of the groups of images each scientist would help and write in the types of scientists on the sort (Some scientists will go in multiple spots).



EXPLAIN

There are so many different jobs that community members can have that work with our oceans to help us understand and care for them better! Now that we have learned about the different scientists who work with our oceans, we are going to engage in a scenario to see if we can help some ocean animal friends!

SCENARIO:

Today you are going to take on the role of a marine biologist. You are leading a team that is working with marine mammals. You and your team have been studying groups of marine mammals, and determining which types of marine mammals they are.

To do this, you need to look at the various animals and decide, based on their body structure, which ones are grouped together.

Give students the Marine Mammal Sort and have them sort them into 4 groups based on the structures of their bodies. Once the class has done this, check their answers and tell them the names of the 4 groups cetaceans (whales, dolphins, porpoises), pinnipeds (seals, sea lions, and walruses), sirenians (manatees and dugongs) and marine fissipeds (polar bears and sea otters).

As your team was sorting through the different marine mammals, you realized that each group had a problem! As the leader of the team, you need to hire a new scientist who can help one of the groups of marine mammals based on what that scientist does and how they can help that animal.

Here are the problems that each group is facing:

Cetaceans: They are getting sick because they eat plastic thinking it is a food source like squid.

Pinnipeds: They are getting injured because they keep swallowing fish that have hooks left in them when the fish are thrown back by the fishermen for being too small. When they eat the fish with the hook stuck in it, the hook is going into their bodies.

Sirenians: Boat motors keep cutting them in the shallow waters that they swim in.

Marine Fissipeds: The ice that floats in the cold waters they live in are melting, and they have no place to rest and leave their babies safely.

Select one group to help, which scientist would you hire to help that group and why?
Have students share their choices and why.

EXTEND

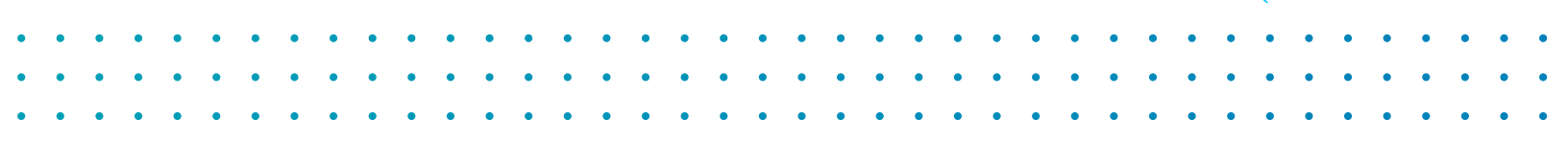
After visiting *OceanXperience* as a class, discuss the different roles of scientists from the exhibition and their corresponding jobs on 'OceanXplorer'.

Allow students to learn about famous marine scientists by listening or reading some of the 'Literary Connections'.

EVALUATE

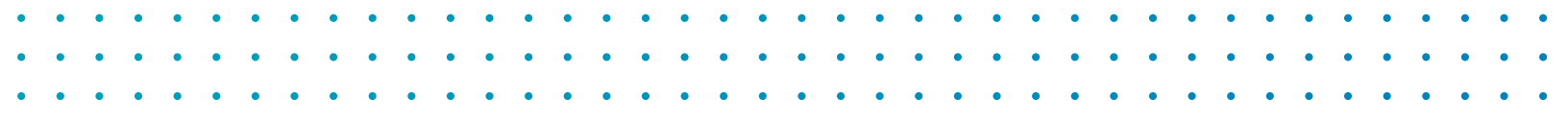
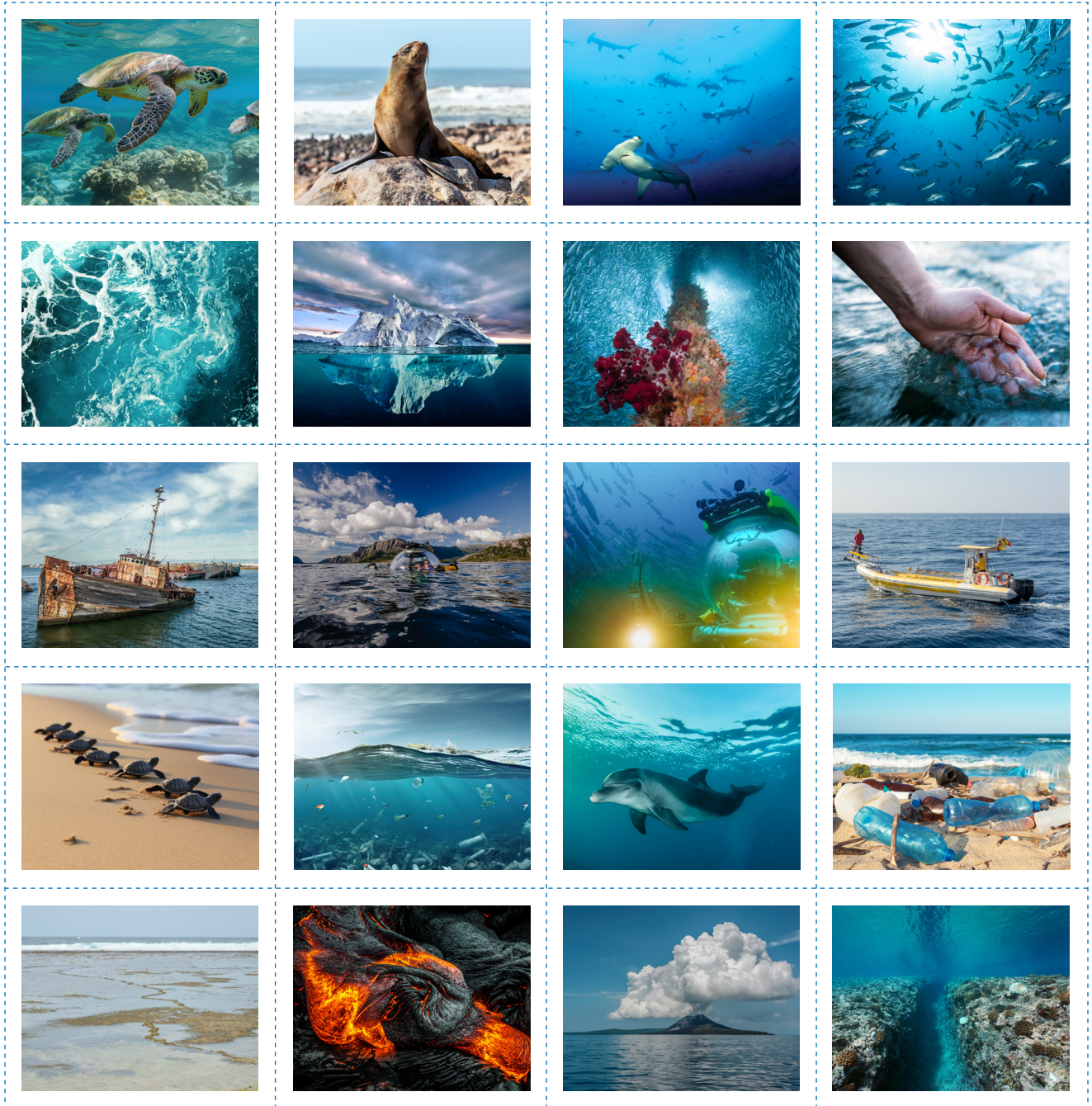
Now that we have learned about the various community members who have made it their job to help our oceans, which one would you choose?

Ask students to write or draw about which career they'd like to do and how they can help the ocean through it.



OCEAN SORTING IMAGES

CUT ALONG THE DOTTED LINES



OCEAN SORTING MAT

GROUP	IMAGES	SCIENTISTS
ANIMALS		
WATER		
LANDFORMS		
POLLUTION		
TECHNOLOGY		



MARINE MAMMAL SORT

CUT ALONG THE DOTTED LINES



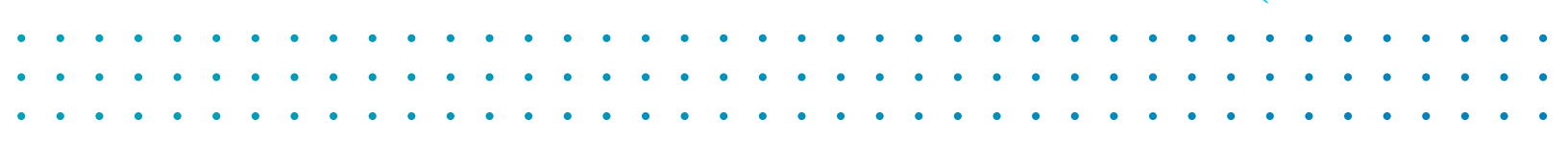
OCEAN SORTING MAT

ANSWER KEY

GROUP	IMAGES	SCIENTISTS
ANIMALS	TURTLE, SEA LION, TROPICAL FISH, HAMMERHEAD	MARINE BIOLOGIST
WATER	WAVE, ICEBERG, OIL SPILL, GREEN POLLUTED WATER	MARINE CHEMIST
LANDFORMS	TIDE POOL LAND, LAVA IN WATER, VOLCANIC ISLAND, TRENCH	MARINE GEOLOGIST
POLLUTION	OIL SPILL TURTLE, TURTLE EATING PLASTIC, PLASTIC BAG BIRD, TRASH ISLAND	MARINE ECOLOGIST, MARINE CHEMIST, MARINE BIOLOGIST
TECHNOLOGY	CAPSIZED SHIP, SUBMARINE, SUBMERSIBLE, BOAT	MARINE ENGINEER

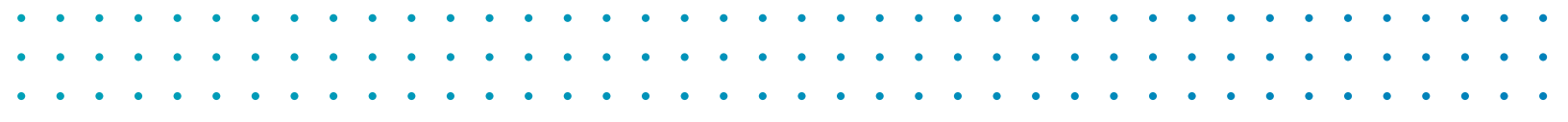
WHAT IS AN OCEANOGRAPHER?

Oceanography is a type of science that focuses on the ocean. This includes learning about the living and nonliving parts. The scientist who studies Oceanography is an Oceanographer. There are many types of scientists working with our oceans. Let's learn a little about them!



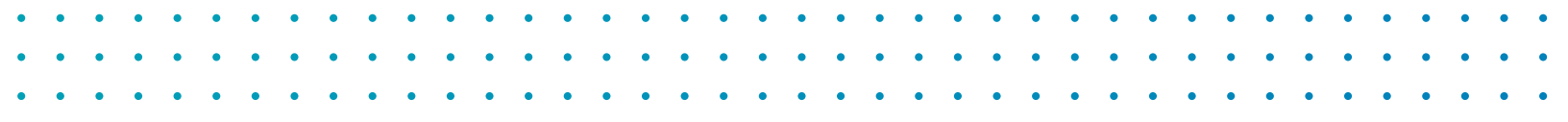
WHAT DOES A MARINE BIOLOGIST DO?

A marine biologist is a scientist who studies animals and plants in the ocean. Marine Biologists may help sick and injured animals or study a type of animal to learn all about it.



WHAT DOES A MARINE CHEMIST DO?

A Marine Chemist studies what is in the water. They will look at what chemicals might be in the water and how that can affect the animals and plants living there. They work to keep water safe for the animals by trying to keep it clean from pollution.



WHAT DOES A MARINE ENGINEER DO?

A Marine Engineer designs, builds and operates equipment that is used to study the ocean. This can include submersibles and boats. Marine engineers create the tools that help scientists to explore the ocean more.



WHAT DOES AN ECOLOGIST DO?

An ecologist studies the environment. They will focus on how humans are affecting the environment and the plants and animals in it. Their goal is to protect the natural environment.

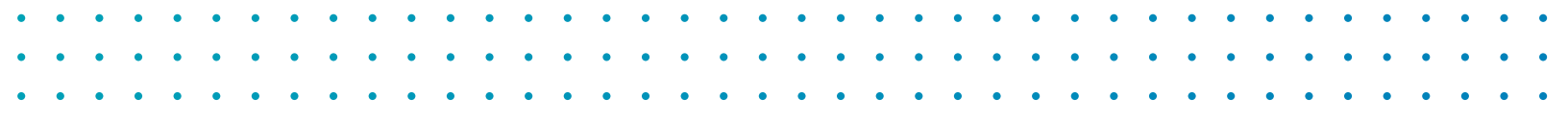


WHAT DOES A MARINE GEOLOGIST DO?

A marine geologist focuses on the ground. They are scientists who are studying the Earth itself and looking at how the movements of Earth's crust (the surface of the Earth that we live on) affects the ocean environment. This includes learning more about natural disasters such as tsunamis (big waves) that are created when the crust moves and makes an earthquake.



All of these different scientist study oceans and they are a big part of helping our oceans stay healthy! We appreciate all they do as a part of our community!



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