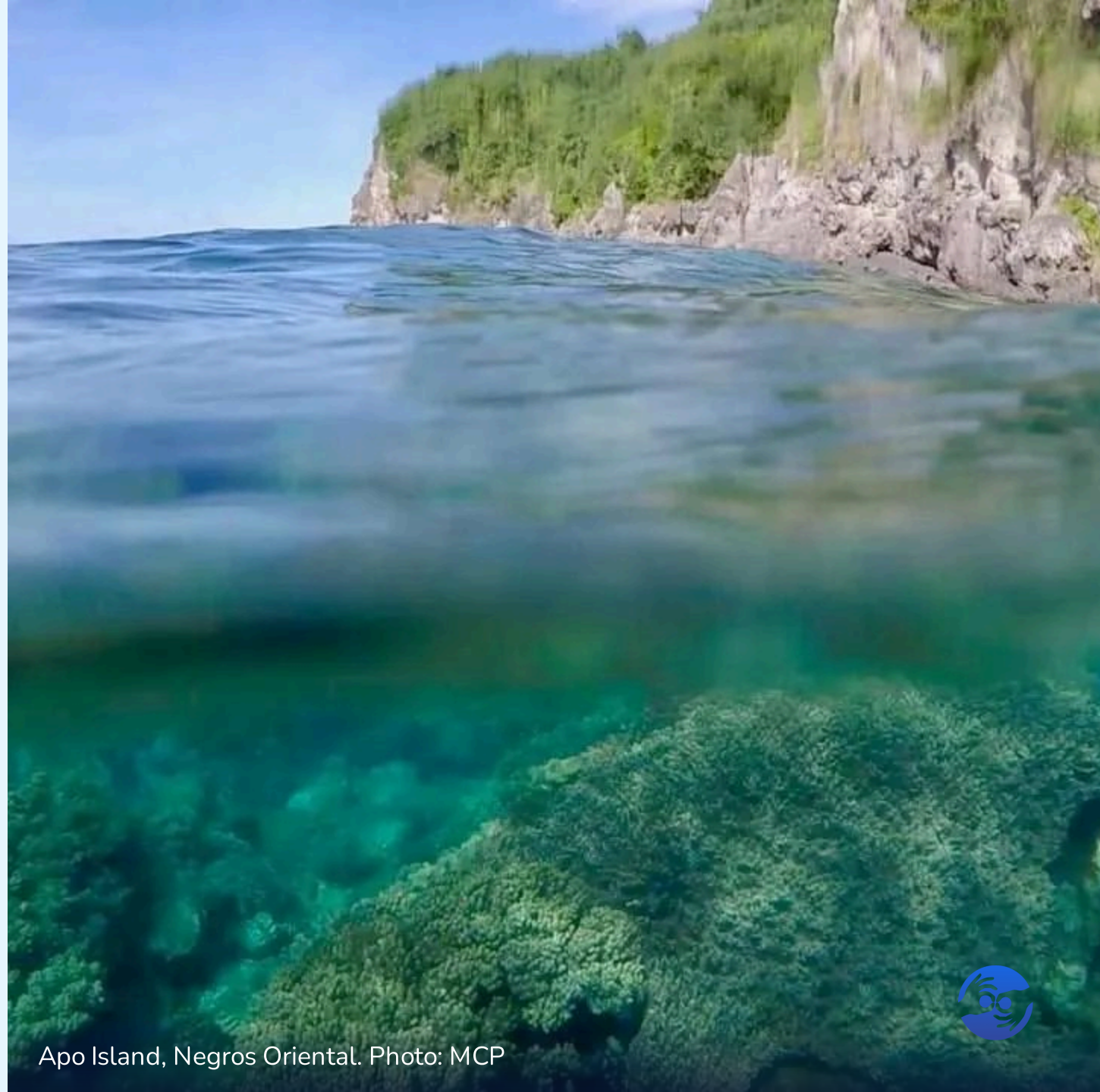


Coral reefs: lesson 1 of 4

Welcome to the reef

Coral reefs, the Coral
Triangle and a virtual dive



Apo Island, Negros Oriental. Photo: MCP



What is a coral reef?

A coral reef is built by tiny animals called coral polyps. Over hundreds and thousands of years, their limestone skeletons pile up into huge structures.

Reefs cover only about a tenth of one percent of the ocean floor, yet around a quarter of all known ocean species depend on them.

What do you already know about coral reefs?



Coral reef in Negros Oriental. Photo: MCP



Where do coral reefs grow?

- In warm water, mostly in the tropics
- In clear, shallow water, where sunlight can reach
- Along coasts and around islands, like the Philippines
- Some corals live in cold, deep water too, but they don't build the big, bright reefs



Reefs from the air, Negros Oriental. Photo: MCP



The Coral Triangle

The Philippines is part of the Coral Triangle, the ocean area with more kinds of coral than anywhere else on Earth. It covers six countries: the Philippines, Indonesia, Malaysia, Papua New Guinea, the Solomon Islands and Timor-Leste.

76%

of the world's coral species
(605 of 798) live here

37%

of the world's reef fish
species, more than 2,200
kinds

6 of 7

of the world's sea turtle
species

More than 100 million people rely on these reefs for food and income.

How we know: WWF, Coral Triangle facts



Our reefs

MCP divers survey reefs in Zamboanguita, Siaton and Santa Catalina in southern Negros Oriental, and help look after local marine protected areas.

They count fish, corals and other animals along measuring tapes, and repeat the surveys year after year to see how the reefs are changing.

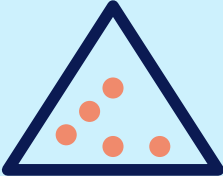
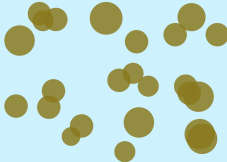
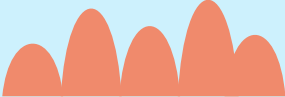
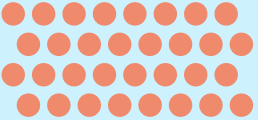


MCP survey divers. Photo: MCP



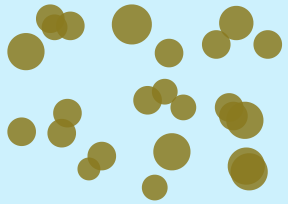
From tiny to huge

Put these in order, from smallest to biggest. Your teacher has cards for each group.

				
?	?	?	?	?

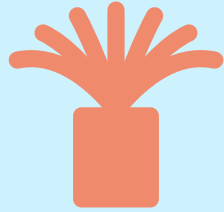


From tiny to huge: answers



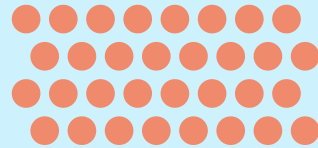
1
Zooxanthellae

tiny algae living
inside coral



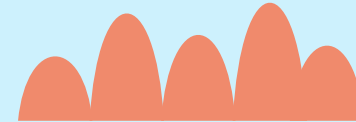
2
Coral polyp

one tiny coral animal



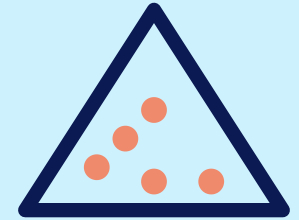
3
Coral colony

thousands of polyps
living together



4
Coral reef

many colonies built
up over time



5
Coral Triangle

a whole region of
reefs



Dive signals

Underwater, divers can't talk, so they use hand signals. Learn these before our virtual dive.



OK

Are you OK? I am OK.



Go up

Not 'good'! It means go up.



Go down

Let's descend.



Stop

Stay where you are.



Something is wrong

Rock your flat hand side to side.



Look

Point two fingers at your eyes, then at the thing to see.



Our virtual dive

1. Buddy up: stand next to a partner.
2. Check your buddy is ready with the OK signal.
3. Signal go down, and slowly crouch as we descend.
4. Watch for animals. Write each one in your dive log.
5. When your teacher signals go up, rise slowly.
Never rush to the surface.

Dive rules

Stay with your buddy the whole time.

Look, but never touch coral or animals.

Use signals, not words.



On the dive



Photo: MCP

Parrotfish

Scrapes algae off rock and dead coral with a beak made of fused teeth. It grinds up bits of coral, and much of the white sand on tropical beaches has passed through parrotfish.



Photo: MCP

Anemonefish

Also called a clownfish. It lives among the stinging tentacles of a sea anemone, protected by a special slimy coating.



On the dive



Photo: MCP

Aoibheann Gillespie-Miles

Flamboyant cuttlefish

Flashes waves of colour across its skin and walks along the sand on its arms.



Photo: Kuba Naum

Frogfish

A master of disguise. It waves a lure on its head like a fishing rod and swallows fish that come too close.



On the dive



Photo: MCP

Ghost pipefish

A relative of seahorses that hides by looking like a drifting leaf or piece of weed.

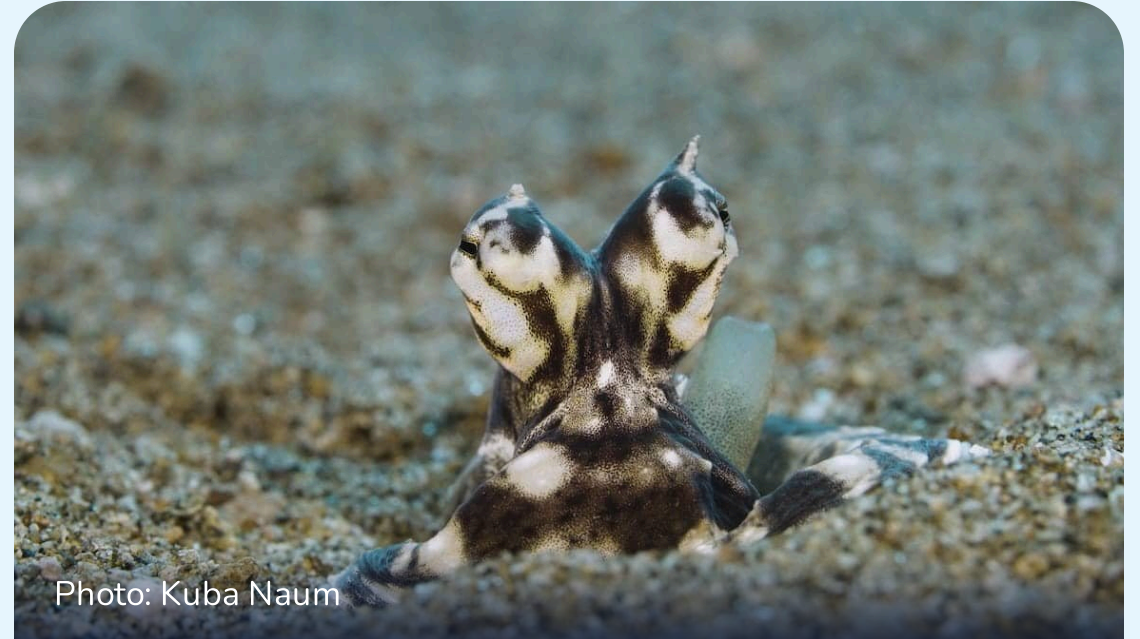


Photo: Kuba Naum

Mimic octopus

Can copy the shape and movement of other animals, such as flatfish, lionfish and sea snakes.



On the dive



Photo: MCP

Lizardfish

Sits very still on the sand, then shoots up to grab passing fish.



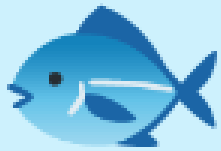
Photo: MCP

Green turtle

Grown-up green turtles mostly eat seagrass and algae.



Why reefs matter



Food

Reef fish feed millions of families in the Philippines.



Protection

Reefs break up waves and help protect coasts from storms.



Jobs

Fishing, diving and tourism give people work.



Medicines

Scientists study chemicals from reef animals to make new medicines.



Talk about it

Which animal from our dive was your favourite, and why?

Why do corals need clear, shallow water?

How do reefs help people who never go in the sea?

What would you like to find out about coral next?

Next time: amazing polyps, the tiny animals that build a reef



Photos and sources

Photos: Apo Island, reef, survey divers and marine life by MCP, Negros Oriental. Frogfish and mimic octopus by Kuba Naum. All illustrations drawn for this lesson by Marine Conservation Philippines.

Sources:

- NOAA, Florida Keys National Marine Sanctuary. Coral reef biodiversity.
- WWF. Coral Triangle facts.
- Coral Triangle Initiative (UN Partnerships).
- NOAA National Marine Sanctuaries. Coral reef background for teachers.
- E.O. Wilson Biodiversity Foundation (2024). Coral lesson background.
- Marine Conservation Philippines.

Full links are in the teacher reading. Free to use and share for education. Made by Marine Conservation Philippines. More free lessons: marineconservationphilippines.org/resources/teachers-resources/

