

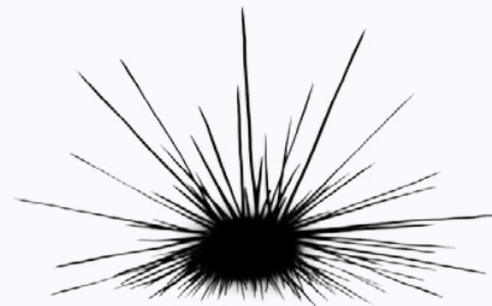
CARRIBEAN SPECIES



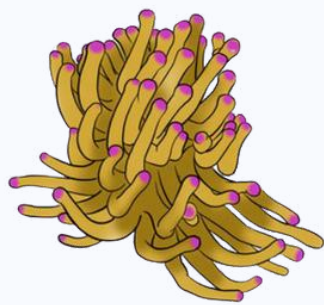
Lionfish (invasive)



Green sea turtle



Long-spined sea urchin



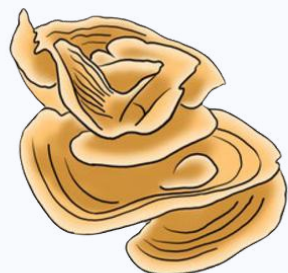
Sea anemone



Sea fan



Yellow tube sponges



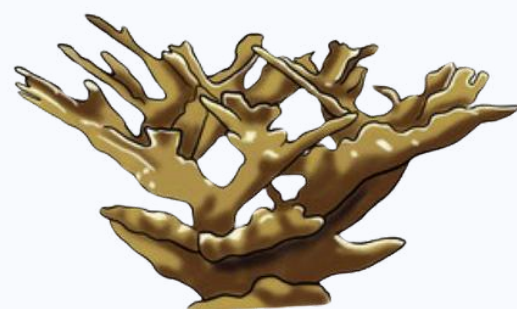
Lettuce coral



Pillar coral



Great star coral



Elkhorn coral

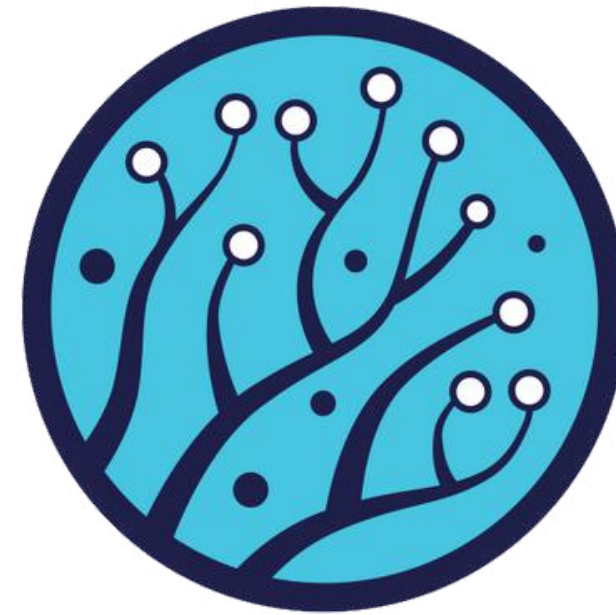


Staghorn coral



Symmetrical brain coral

TEACHER VERSION



CCMI

REEFS GO LIVE

2025 BOOKLET



NAME: _____

SCHOOL: _____

KEY TERMS

CCMI educators and hosts will refer to important key terms in each episode, which will be explained throughout each broadcast.

Adaptation - changes in a living being's shape or behaviour that improves its ability to survive; these changes are passed on to future generations through the organism's genes

Benthic - bottom of the ocean or the bottom of any other large body of water

Camouflage - colour and/or patterns of an organism that helps it to blend in with the surrounding environment

Climate change - change in global weather patterns over time, largely due to increased carbon dioxide in the atmosphere as the result of human activities

Coral bleaching - process of corals appearing white, due to the loss of the algae living inside of them

Coral nursery - place where scientists grow corals underwater on specialized structures, with the goal of replenishing depleted coral reefs from what is grown in these places

Ecosystem - community of living organisms interacting with their physical environment within a specific area, forming a complex network

Endemic - native to and only found in a limited geographic region

Keystone species - a species that has a big impact on its ecosystem because if it were to disappear, it would cause major changes and problems for the rest of the system

Marine Protected Areas (MPAs) - sections of the ocean which are partitioned off from certain human activities for the protection of resources

Mesophotic reef - coral ecosystem that exists in tropical and subtropical waters between shallow, well-lit areas and the ocean's deepest, darkest depths

Nutrient cycle - movement and exchange of living and non-living material through one or more organisms and into the environment, as it contributes to continued production of living matter

Restoration - renewal of a damaged, degraded, or destroyed ecosystem by active human intervention

Scientific method - the process of discovering facts through testing and experimentation. The basic process involves making an observation, forming a hypothesis, making a prediction, conducting an experiment and analyzing the results.

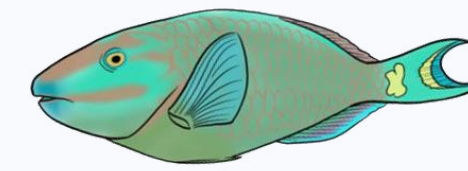
Seamount - underwater mountain formed by volcanic activity; rises from the ocean floor but does not reach the water's surface

Threat - something with the intention to cause harm

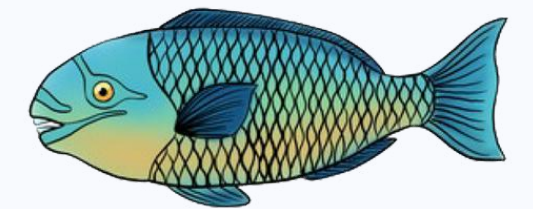
CARRIBEAN SPECIES



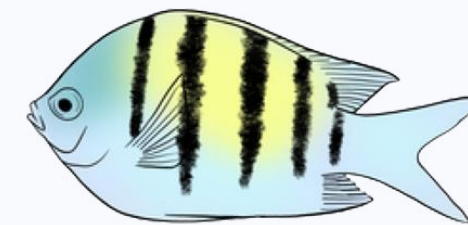
Nassau grouper



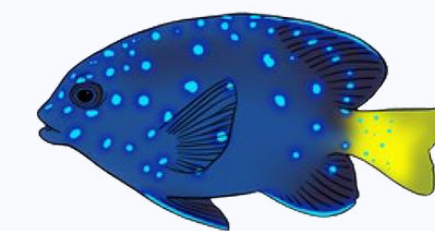
Stoplight parrotfish



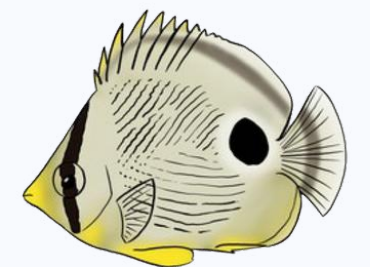
Princess parrotfish



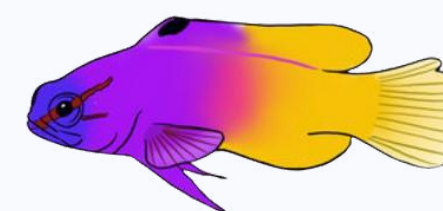
Sergeant major



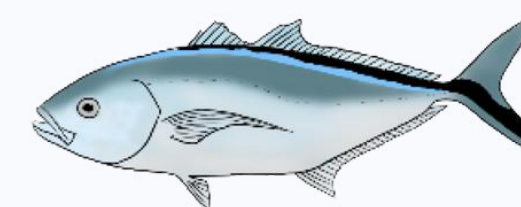
Yellowtail
damselfish



Foureye
butterflyfish



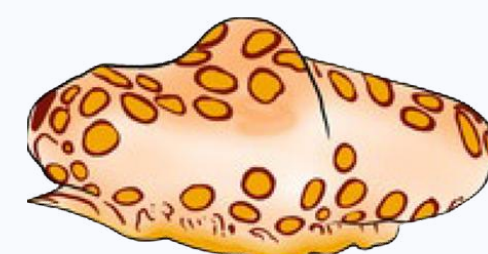
Fairy basslet



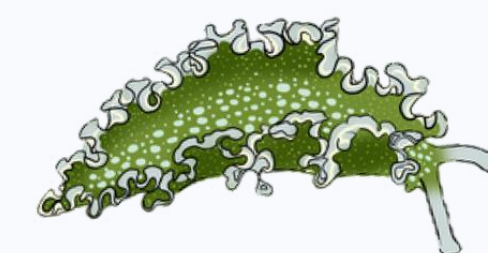
Bar jack



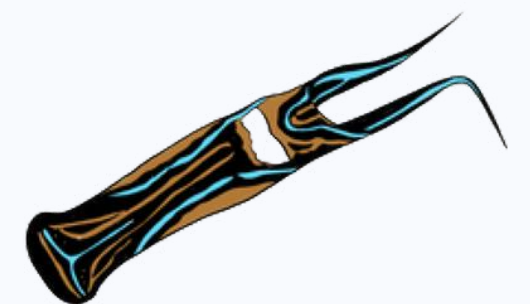
Black durgon



Flamingo tongue

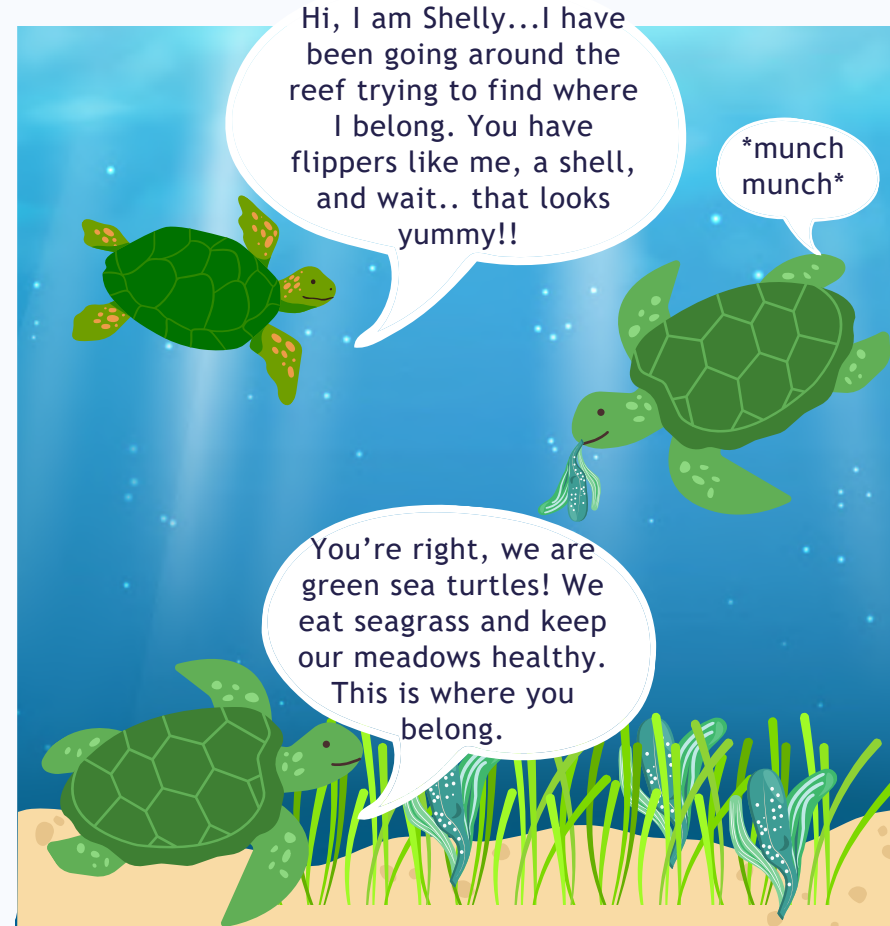
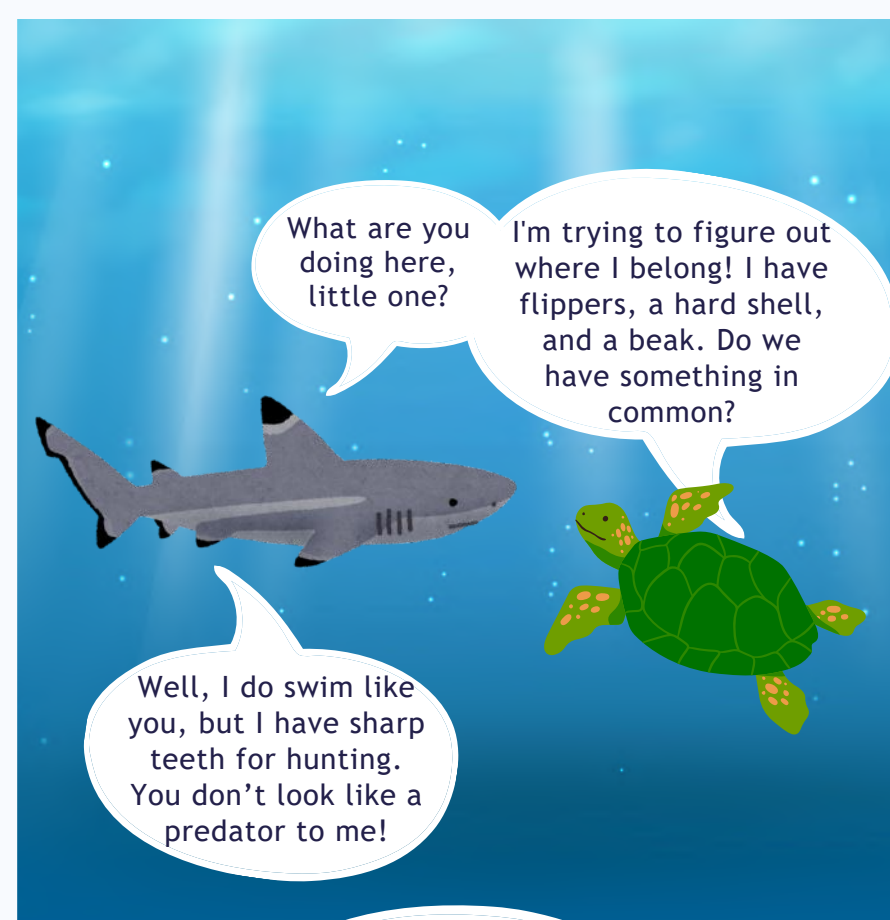
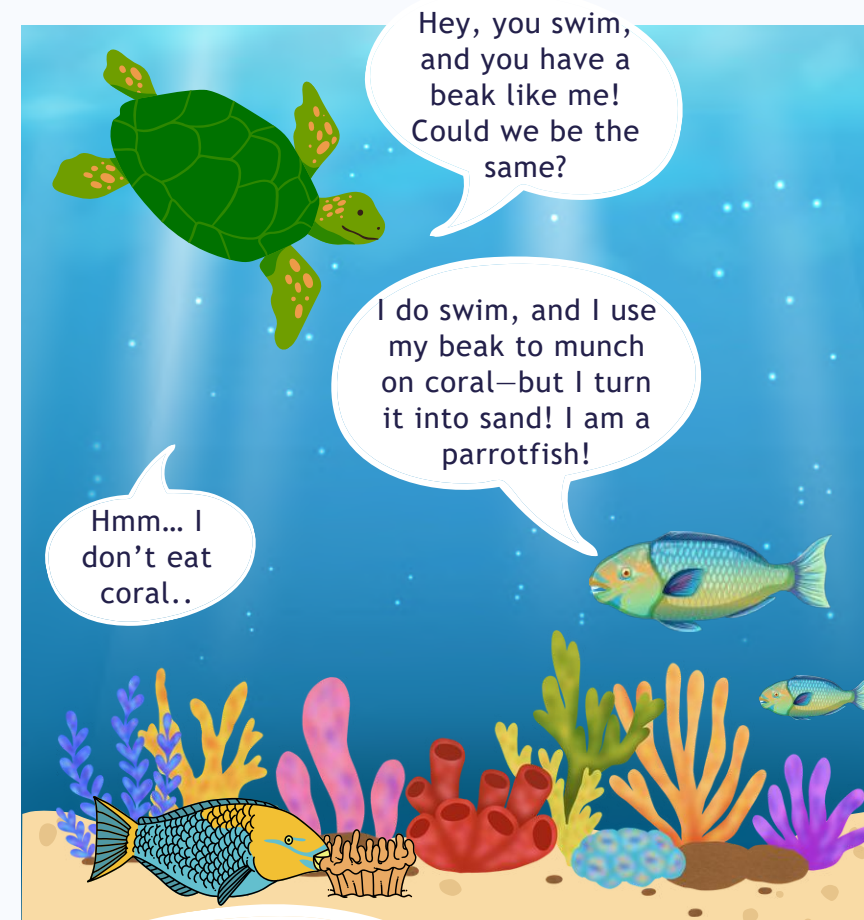
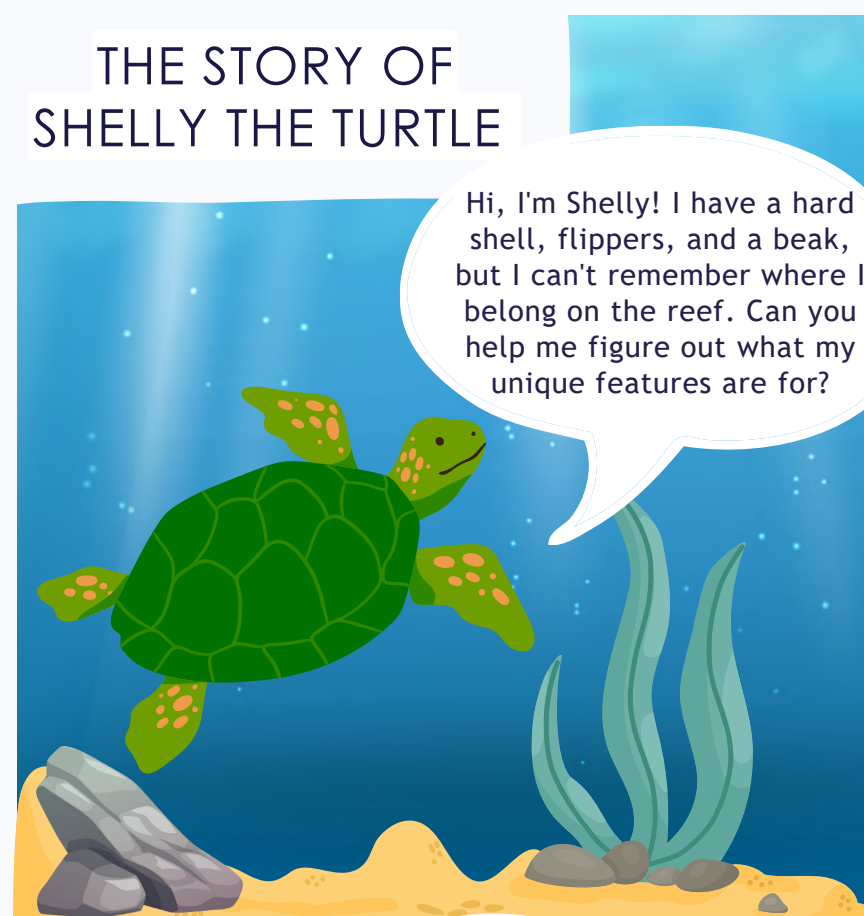


Lettuce slug



Headshield slug

THE STORY OF SHELLY THE TURTLE



DEAR TOMORROW...

YOUR MISSION!

Inspired by the DearTomorrow campaign, write a letter to your future self or to someone very important in your life about how you promise to help the ocean and fight climate change!

Think of a person important in your life - your child, a friend, a family member or your future self. Imagine it is the year 2050, and they receive a message from you, which was written today. In the box below:

- Share your thoughts about climate change and
- Your hopes for the future of the oceans and
- Your promise to take bold climate action today to ensure they have a safe and healthy world

DEAR _____



COMPLETED YOUR PLEDGE?
WE WOULD LOVE TO HEAR FROM YOU!
SHARE ON SOCIAL MEDIA AND TAG
@REEFRESEARCH #DEARTOMORROW

reefresearch.org
info@reefresearch.org
@reefresearch



EPISODE 1 - SEAMOUNTS

How are seamounts formed?

Seamounts form through volcanic activity. When magma from pushes through the oceanic crust, creating an underwater volcano. Some seamounts are remnants of ancient volcanoes that have been eroded over millions of years

What is a biodiversity hotspot? What features of a seamount make them good hotspots?
Regions that contain a high level of species diversity, many endemic species and a significant number of threatened or endangered species.

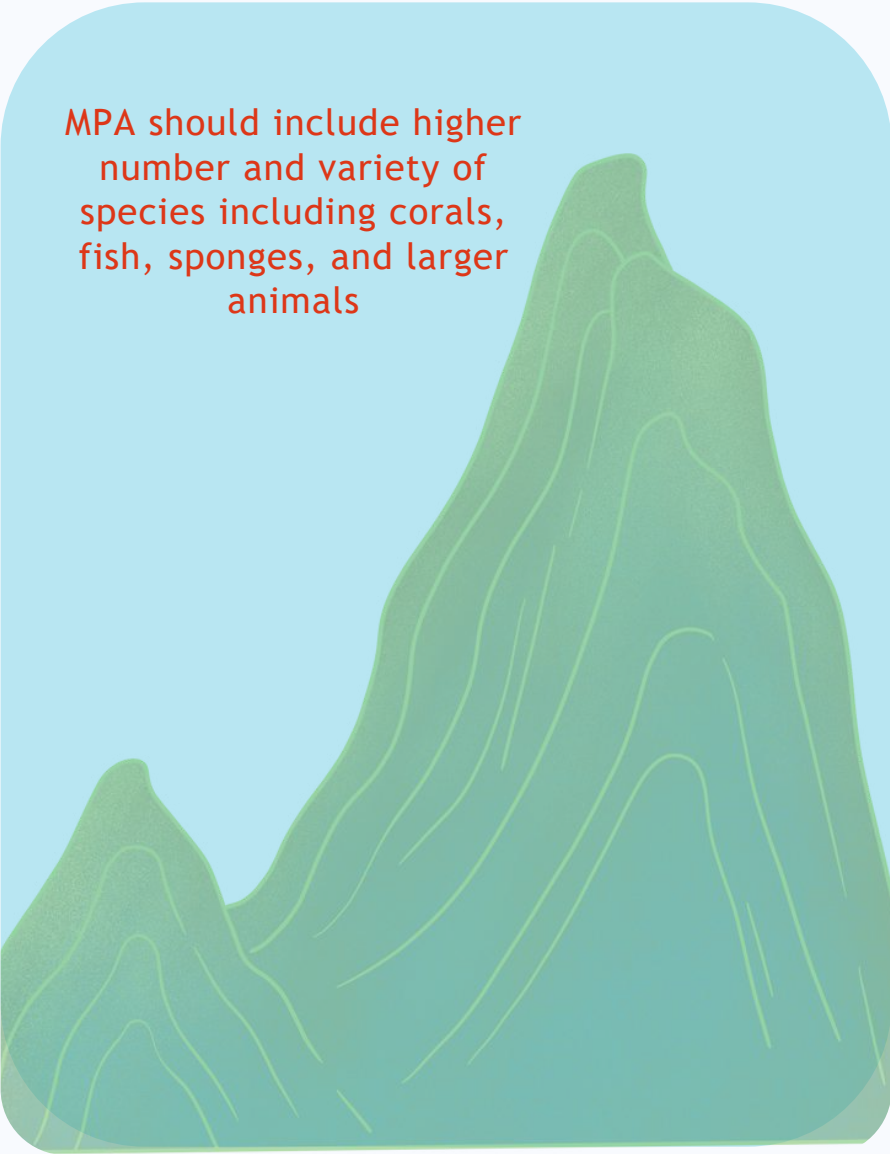
Complete the sentences by filling in the blanks with the correct word from the list below.

overfishing sponges protect upwelling hotspots mountains

Seamounts are underwater mountains that don't quite reach the surface. The process of upwelling brings nutrient rich water to these areas. This attracts small plankton feeding animals such as fish, corals, sponges. In turn this attracts larger fish and other creatures even sharks, turtles and whales. The variety of life makes these areas biodiversity hotspot. MPAs can help protect seamounts from threats such as overfishing.

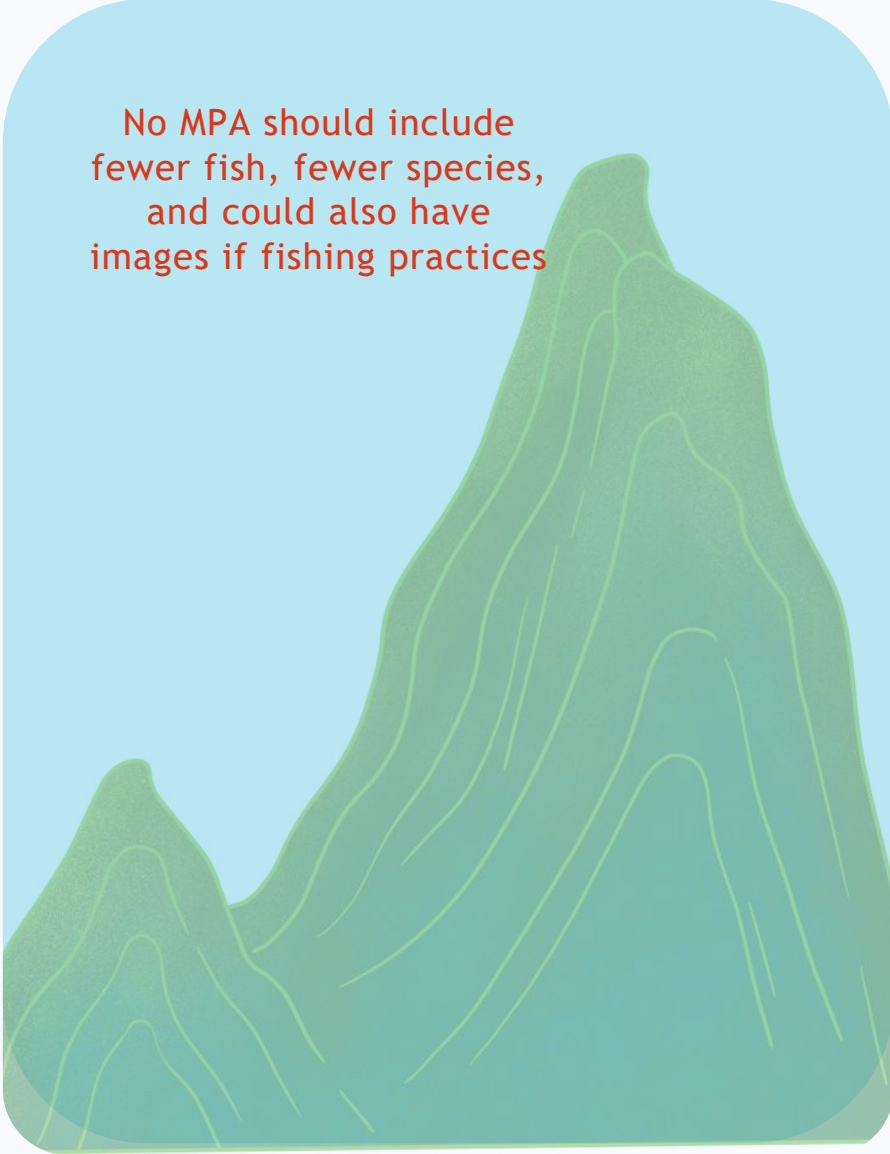
As explained in the episode, Marine Protected Areas can be a very important way to protect our ocean habitats. Use the boxes below to draw a seamount ecosystem that is inside an MPA and one that is not to show how the environment might be different. you can include animals and plants as well as potential threats.

MPA



MPA should include higher number and variety of species including corals, fish, sponges, and larger animals

No MPA



No MPA should include fewer fish, fewer species, and could also have images if fishing practices

EPISODE 4 - WORLD OCEAN DAY: CLIMATE CHANGE AND OUR OCEAN

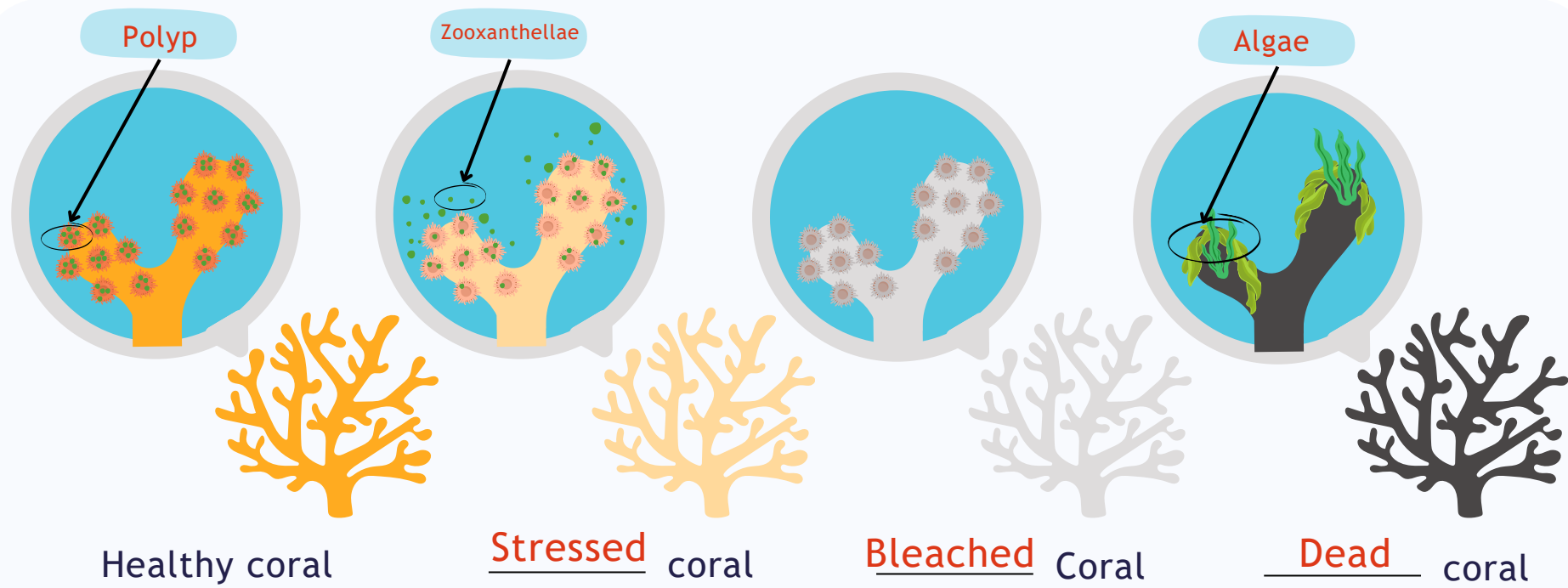
What is climate change and what causes it ?

change in global weather patterns over time, largely due to increased carbon dioxide in the atmosphere as the result of human activities. These activities include: burning fossil fuel through transportation (cars, planes, ships), plastic pollution, pollution from factories (manufacturing goods), overfishing, over consumerism, generating power, deforestation

How can you, along with the rest of the world, work together to address the factors contributing to climate change? Add one more environmental issue to the list at the end of the table!

	What I can do	What the world can do
Pollution from fossil fuels	Walk, bike, or use public transport; save electricity; choose energy-efficient appliances	Make public transport more available, invest in renewable energy like wind and solar; create stricter pollution laws for industries
Plastic pollution	Use reusable bags, bottles, and containers; recycle properly; join beach cleanups	Ban single-use plastics and help make recycling easier for everyone
Habitat destruction & overfishing	Support conservation efforts! avoid buying products linked to deforestation or that can degrade the environment. Choose sustainable seafood; eat less fish; spread the word	Protect and restore coral reefs; enforce conservation laws. Set fishing limits; establish marine protected areas; promote sustainable fishing practices
Water pollution	Avoid using harmful chemicals; reduce water waste; participate in cleanups	Regulate industrial waste disposal; improve wastewater treatment facilities

EPIISODE 3 - ENDANGERED CORALS: FINDING AND RESTORING RARE CORAL SPECIES






Fill in the blanks using the correct word below:

algae polyp bleached zooxanthellae stressed dead

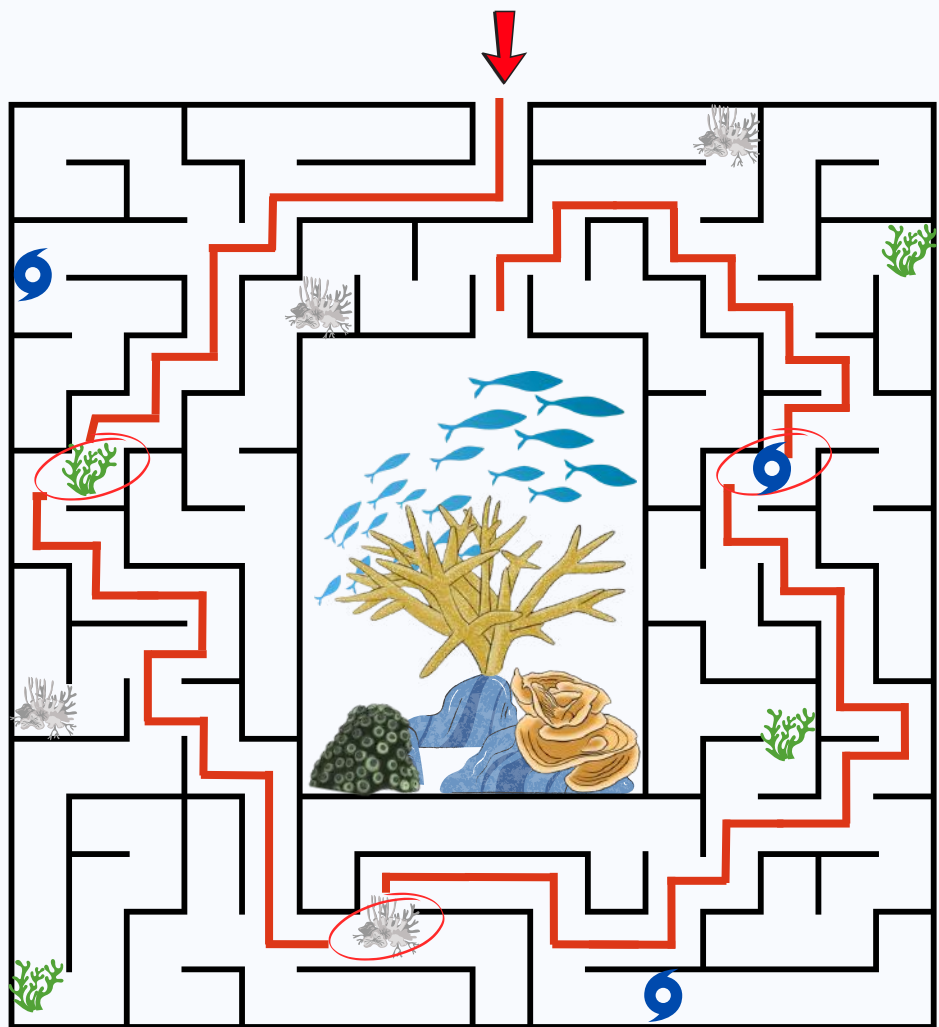
What is a coral nursery?


place where scientists grow corals underwater on specialized structures, with the goal of replenishing depleted coral reefs from what is grown in these places

CORAL RESTORATION MAZE


1. Follow the correct path through the maze to help a baby coral fragment travel from the nursery to the reef.
2. Along the way, you will encounter obstacles like
 -  hurricanes
 -  algae overgrowth
 -  coral disease


If you hit one, you must explain how scientists help corals overcome these challenges before continuing. Only explain the ones on the right path! 🐠 • Scientists can conduct a survey straight



 : Scientists can conduct a survey straight after the storm to assess damage!

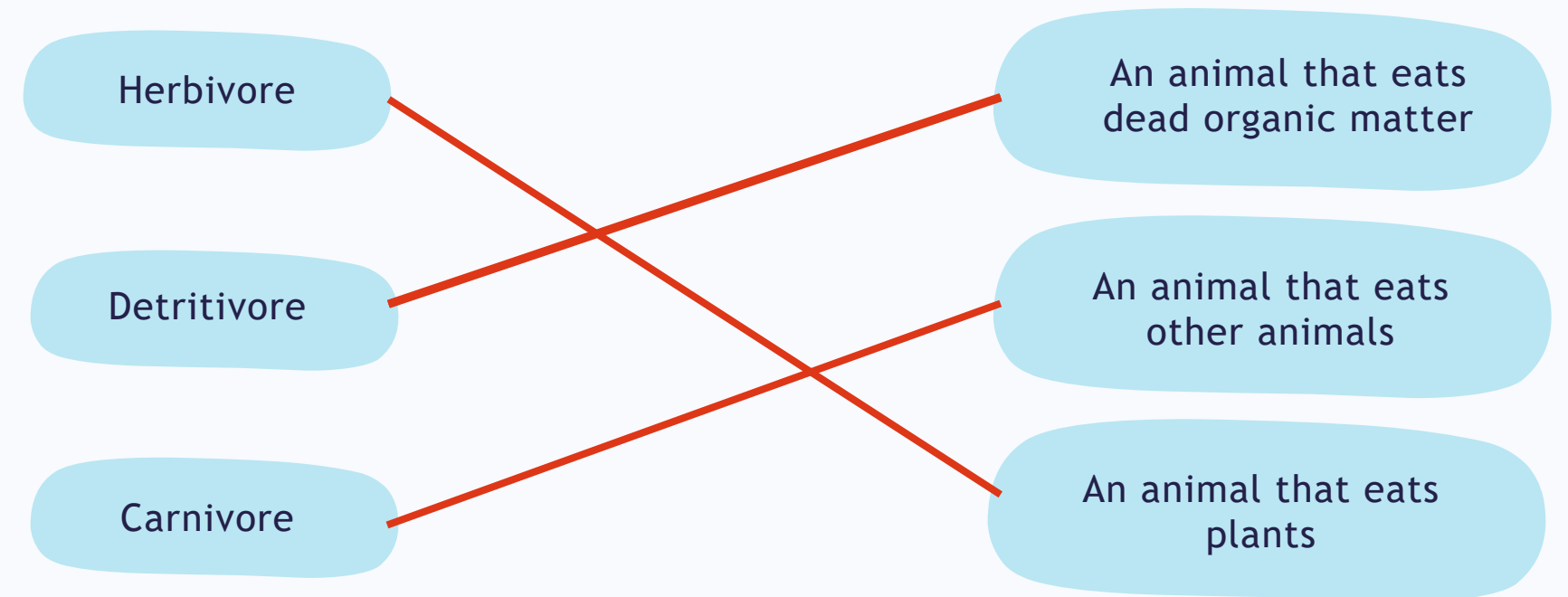
They can remove debris, repair the nursery structures and collect broken fragments (or detached fragments) and re-attach them.

 : Scientists should regularly survey coral nurseries to track growth and success. In areas with fewer herbivores (fish that eat algae), algae can quickly overgrow, limiting coral growth. To support healthy coral development, divers must frequently clean the nurseries, removing excess algae and giving young corals the best chance to thrive!

 : Scientists closely monitor reefs for early signs of disease, removing infected corals to prevent the spread. They also select resilient coral fragments for restoration, helping to build stronger, more disease-resistant reefs.

EPISODE 2 - CRYPTIC CREATURES OF THE REEF

The creatures in the ocean have many different adaptations to their environments. This includes the things they eat. Draw lines between the boxes below to match the type of feeding strategy to the definitions.



D. Octopus

Can change colour to match their environment



B. Sea slug

Toxins and bright colours to prevent being eaten



A. Scorpionfish

Camouflaged to look like a rock or coral



C. Sea cucumber

Move slowly along the sand with similar colours

All these creatures have adaptations to make them camouflaged on the reef. Write the name of each animal below the picture of that animal in the top bubble. Then write the adaptations of that animal in the second bubble.

- A. Scorpionfish
- B. Sea slug
- C. Sea cucumber
- D. Octopus

1. Toxins and bright colours to prevent being eaten
2. Can change colour to match their environment
3. Move slowly along the sand with similar colours
4. Camouflaged to look like a rock or coral

