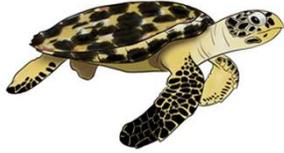


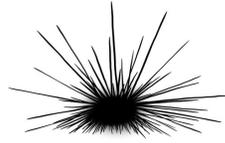
Common Caribbean Reef Species



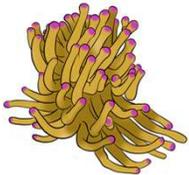
Lionfish



Hawksbill turtle



Long-spined sea urchin



Sea anemone



Common sea fan



Yellow tube sponge



Lettuce coral



Pillar coral



Great star coral



Elkhorn coral



Staghorn coral



Symmetrical brain coral



CCMI
REEFS GO LIVE

Reefs Go Live Booklet

Name: _____

School: _____

2024

Definitions List

The CCMI educator and host will refer to several key terms, which will be defined throughout each broadcast.

Adaptation - any physical or behavioural characteristic that allows an organism to survive

Biodiversity - the variety of living things in a given place

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 - when water is too warm, corals expel the algae (zooxanthellae) living in their tissues causing the coral to turn completely white

Coral reef - marine structure composed of a layer of living coral atop coral skeletons, minerals, and organic matter

Ecosystem - naturally occurring system made up of organisms and their like environment

Morphology - different forms or structures within one kind of organism, causing individuals of the same species to look different

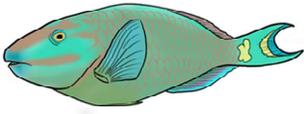
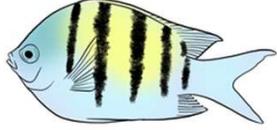
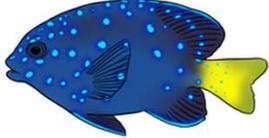
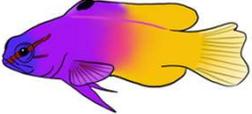
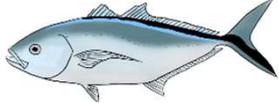
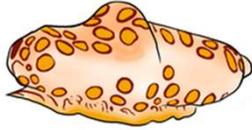
Photosynthesis - process by which green plants convert carbon dioxide and water into organic chemicals using the energy of light, with oxygen released as a by-product

Reproduction - process of creating offspring through sexual or asexual processes

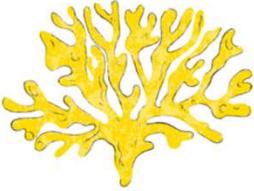
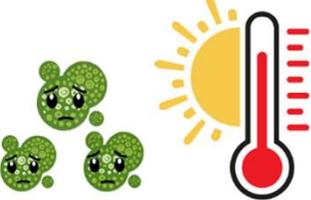
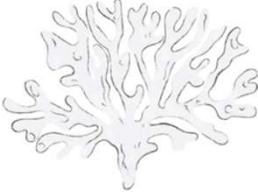
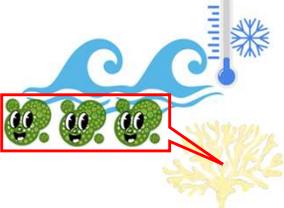
Restoration - renewal of a damaged, degraded, or destroyed ecosystem by active human intervention

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 analysing the results

Threat - something with the intention to cause harm

Common Caribbean Reef Species		
		
Nassau grouper	Stoplight parrotfish	Princess parrotfish
		
Sergeant major	Yellow-tail damselfish / Disco fish	Foureye butterflyfish
		
Fairy basslet	Bar jack	Black durgon
		
Flamingo tongue	Lettuce slug	Headshield slug

The Story of Corals in a Changing Climate

	
<p>Hello, I'm ACER the staghorn coral. Scientists call me <i>Acropora cervicornis</i>, but you can call me ACER for short. I live very happily on the reefs of Little Cayman with my algae buddies - also known as zooxanthellae.</p>	<p>Life is good on the reef - I give my algae buddies a home, and in return, they provide me with food that they make from the sun's energy through photosynthesis. They also give me my bright colours - like putting on a fun colourful outfit! This is why the reef is so vibrant.</p>
	
<p>Unfortunately, last year it got very hot down here on the reef. I can't even remember the last time it was this warm! My algae friends did not enjoy it at all - they can't cope in such high temperatures and so they had to leave me.</p>	<p>Without my algae buddies, I struggle to feed myself and I'm more prone to diseases. I'm also stripped of my colourful outfit. My skin is translucent, so all that's left to see is my white coral skeleton. This phenomenon is called coral bleaching - because it looks like I've been dipped in bleach!</p>
	
<p>While this looks pretty bleak, I'm still alive, and I'm resilient! I know that my algae friends will come back to me, and I'll slowly start to regain my colour if the water cools down fast enough. I'm determined to become healthy again, but I need help from people like the researchers at CCMI who will help me adapt - and you!</p>	<p>Us corals need clear, clean water to survive. By reducing the amount of water you use, you reduce the amount of run-off and wastewater that eventually finds its way to the reef. You can also make sure that you are not polluting the water locally by always putting any waste in the bin and never throwing it in the ocean. Both of these things will help us recover faster.</p>

Reefs Go Live Pledge

Right here, right now!

What can you do right here, right now in your classroom to help the corals? Right now, I pledge to...

R

Going Forward

What can you pledge that you will do this month to reduce your impact on the environment? Going forward, I pledge to...

G

Lifetime

Now for the big one! What are you going to pledge to do for the rest of your life to help the environment?

L

Completed your pledge?
We would love to hear from you!
Share on social media with
#RGLPLEDGE

reefresearch.org
info@reefresearch.org



 @reefresearch

Episode 1: Our Physical Ocean

Are molecules closer together or further apart in water than in air?

*Circle the correct answer

Closer together Further apart

Complete the list below with how these conditions change underwater

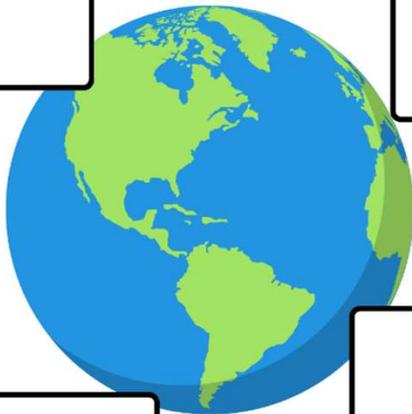
- Temperature - _____
- Sound - _____
- Colour - _____

Keywords:

Favourite Fact:

The Ocean: Our Life Source

Label the earth below with the ways the ocean helps to make the earth habitable for humans.



Episode 4: World Ocean Day!

What happens when the ocean waters get too warm for corals?

Your mission for World Ocean Day!

You have learnt how climate change impacts the reefs and how the team at CCMI is working very hard to protect them. But we need YOUR help. We need you to make a poster for World Ocean Day. Your poster should include:

- Why should people care about the reefs?
- How does climate change threaten our reefs?
- Why you LOVE the ocean!
- As well as lots of your favourite facts about the ocean!

Some facts to help you get started!

Coral reefs cover less than 1% of the ocean but are home to more than 25% of marine life!	Some corals can live up to 5,000 years, making them the longest living animals on Earth.	Little Cayman was designated a Mission Blue Hope Spot in 2020 due to its healthy reefs.
More than 80% of the world's oceans remain unexplored.	CCMI has collected 25-years of data on Little Cayman's reefs.	Oceans cover 70% of the Earth's surface.
Corals only spawn once a year - in the Cayman Islands, this is in September around a full moon.	There are 44 species of hard coral in the Cayman Islands.	Corals are brightly coloured because of the symbiotic algae living inside their cells.

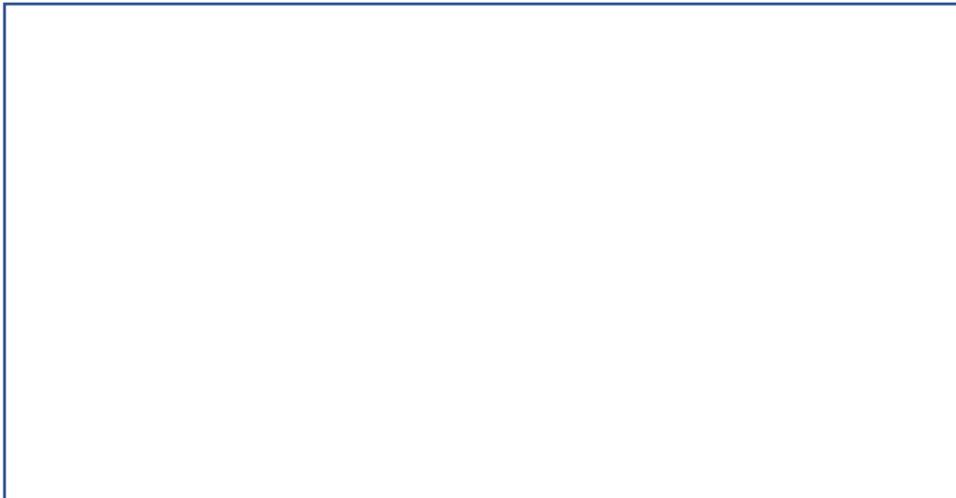
Episode 3: Reproduction on the Reef

How many ways can corals reproduce?
Can you name them?

Match the organism with the classification:

Starfish	Fish (animals that have a backbone, gills, and fins)
Grouper	Plant (living things that grow from the ground and turn light from the sun into food)
Algae	Invertebrate (animals without a backbone)

In this episode you will learn about coral spawning. Can you draw a spawning coral on the reef and list the external pressures that could negatively impact coral reproduction?



Keywords:



Episode 2: Research on the Reef

Why is scientific research important?

The following statements describe the steps for scientific investigation. Rank the statements by numbering them from 1 to 6 in the order you think they go in.

- Record results and draw conclusions _____
- Gather supplies and conduct an experiment _____
- Develop a prediction or hypothesis _____
- Communicate your results with others _____
- Come up with a question you want answering _____
- Research your topic and make observations _____



“What we don’t know can’t hurt us”

Is this statement true or false?

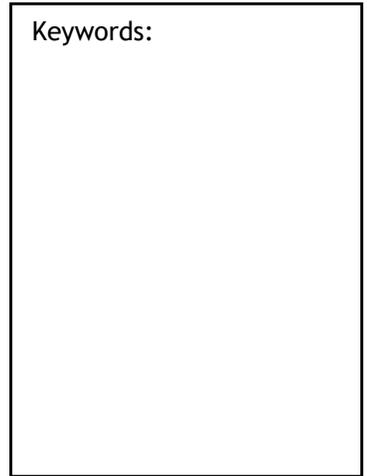
Circle the correct answer:

True False

In episode 2, we learned that 80% of the world’s oceans remain unexplored. This only leaves us with 20% that we currently know about. Colour in 20% of the ocean to the right to try and visualise what this might look like.



Keywords:



One side of this picture shows coral bleaching and a less healthy coral reef, where the corals have lost their colours because the ocean is too warm. Colour in the **other side** to show the corals regaining their colours and recovering from bleaching!

