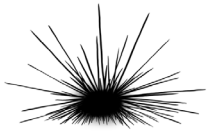
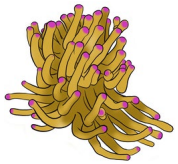
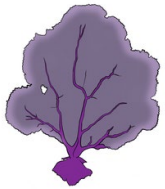
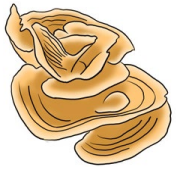
Caribbean Reef Species		
		
Lionfish (INVASIVE)	Hawksbill Turtle	Long-spined Sea Urchin
		
Sea Anemone	Sea Fan	Yellow Tube Sponge
		
Lettuce Coral	Pillar Coral	Great Star Coral
		
Elkhorn Coral	Staghorn Coral	Symmetrical Coral

REEFS GO LIVE 2023

Name:_____

School:_____

Definitions List

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

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

Climate change - change in global weather patterns over time because of increased carbon dioxide in the atmosphere

Coral nursery – place where scientists grow corals underwater on specialized structures, with the goal of replenishing depleted coral reefs

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

Endangered – in great danger or at risk of becoming extinct

Fragmenting – method of coral reproduction where pieces of coral are broken off from the parent coral, with each new piece growing into a new individual coral

Global warming – The current rise in the average temperature of Earth's air and oceans caused by human activities primarily the burning of fossil fuels

Macroalgae – large algae with thick blades, that often live attached to a substrate in dense beds

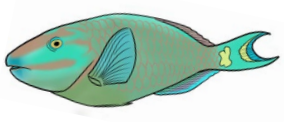
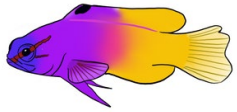
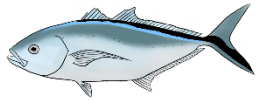
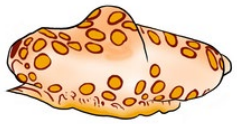
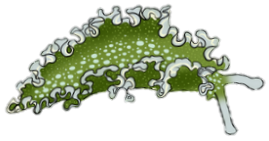
Outplanting – transplanting of corals from a nursery onto a reef or other structure in the ocean

Resilience - ability of an ecosystem or species to bounce back from negative environmental influence

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

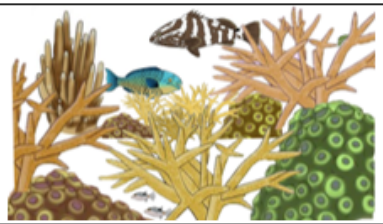
The Scientific Method – the process of discovering facts through testing and experimentation. The basic process involves making an observation, forming a hypothesis, making a prediction, conducting an experiment and analysing the results.

Caribbean Reef Species

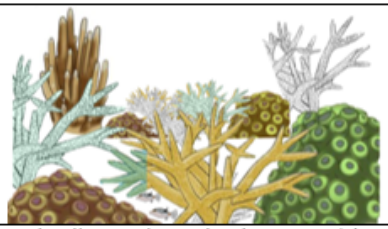
		
Nassau Grouper	Stoplight Parrotfish	Princess Parrotfish
		
Sergeant Major	Yellowtail Damselfish / Disco Fish	Foureye Butterflyfish
		
Fairy Basslet	Bar Jack	Black Durgon
		
Flamingo Tongue	Lettuce Slug	Headshield Slug

The Story of ACER
The Staghorn Coral!

Hello, my name is ACER, I am a staghorn coral. The scientists call me *Acropora cervicornis* (now I bet you can't say that three times fast!) but you can call me ACER for short. I want to tell you all about my life on the reefs of Little Cayman!

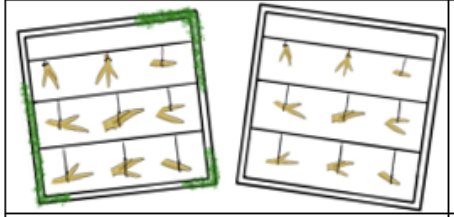


For a long time, life was great! I had lots of staghorn friends around me along with other corals, fish and so many different creatures. The water was comfortable, and the reef was in balance. Unfortunately, in the 1980s lots of my friends died from a disease called White Band Disease.

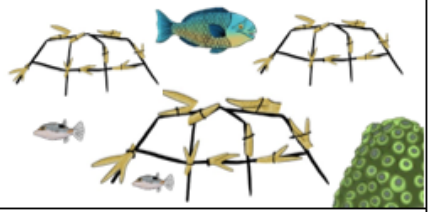


After the disease, it was hard to grow. A lot of my energy went to recovering, but the water I live in was getting warmer, due to global warming. Macro algae was trying to take over- we compete for space, and predators, like small crabs and slugs, were picking on me.

Thankfully, the CCMI scientists saw me on the reef and helped me out! They took a small fragment and made me into two corals! We're clones- genetically identical! One ACER stayed on the reef and one ACER went to the Coral Nursery.



The Coral Nursery is awesome! The scientists help keep me safe from predators by removing snails and fireworms. They keep annoying macro algae away by cleaning the frame I live on. This frame is suspended above the reef, which allows more water to flow past my polyps. This means more food for me, which has allowed me to grow really fast!



Now the scientists are putting me back onto the reef on a cool dome structure, with some of my new friends from the nursery. I will have to keep macro algae away and deal with predators without the scientists' help, but I am bigger and more resilient and have friends around me. I am happy I can now provide shelter for lots of my fish friends!

Reefs Go Live Pledge

R

Right here, right now!

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

G

Going forward

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

L

Lifetime

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

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

reefresearch.org
info@reefresearch.org
@reefresearch

Episode 1: Finding Hope on Our Reefs

What is a coral?
*Circle the correct answer

Plant Animal Rock

List some threats to coral reefs

- _____
- _____
- _____

Keywords:

Favourite Fact:

How can you help coral reefs?
Below write a list of the different ways you can help save our coral reefs!

Episode 4: World Ocean Day!

What does the ocean mean to you?

_____

_____

Your Mission for World Ocean Day!
You have learnt all about how the team at CCMI work very hard every day to keep our reefs healthy! But we need YOUR help. We need you to make a poster for World Ocean Day. Make sure to put you poster up where everyone can see it and share with CCMI @reefresearch. We want your poster to include:

- why people should care about the reefs,
- how people can help protect our reefs,
- why you LOVE the ocean, and
- 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!	Corals can live for 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!
14 million tons of plastic enter the ocean every year!	100% of plastic ever manufactured still exists!	Coral reefs absorb up to 97% wave energy, protecting our coastlines!
About 70% of the oxygen we breath is from the ocean!	There will be more plastic in our ocean than fish by 2050!	CCMI has conducted research & education in the Cayman Islands for 25 years

Episode 3: Reef Resilience & Restoration

Keywords:

Favourite Fact:

What is a coral nursery?

_____

_____

What are the two characteristics CCMI select for when choosing which corals to outplant?

1._____

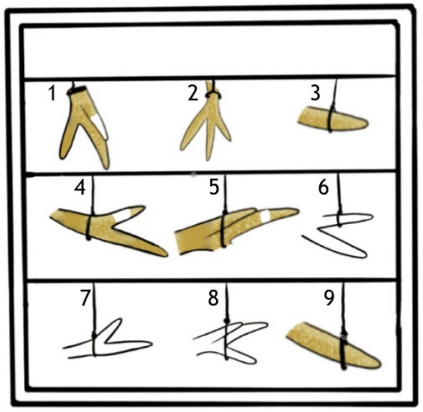
2._____

Become a CCMI Marine Biologist: Identify Super Corals!

Below we have a frame from our coral nursery after an outbreak of White Band Disease in 2018. Please sort the coral fragments into the categories:

- Dead Corals - (All white skeleton)
- Resistant - (Has signs of White Band Disease but survived!)
- Resilient - (No sign of disease)

*Use a different colour crayon, pen, pencil or marker for each category and circle the fragments.



- Which corals do you think are the most resilient?

_____

Episode 2: Adaptation on Coral Reefs

Keywords:

Favourite Fact:

What does the word adaptation mean?

_____

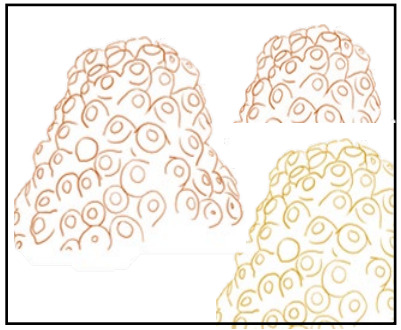
_____

_____

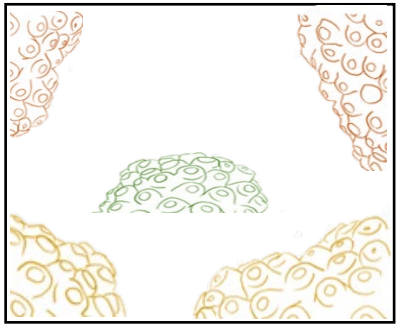
Become a CCMI Marine Biologist: Observe Coral Adaptation!

Below we have the great star coral at two different depths- a shallow site at 10 m and deep site at 40 m. Scientists observed *morphological* adaptations (changes to an organism's form and structure) between the sites. Can you work out which description belongs to the deep / shallow site?

- Great star corals have adapted to a _____ environment by having a flatter, more plating shape to maximise their exposure to sunlight.
- Great star corals at a _____ environment have adapted to have a large dome shape to capture sunlight throughout the day. Coral can grow to a larger size at this depth.



Shallow site: 10 m deep

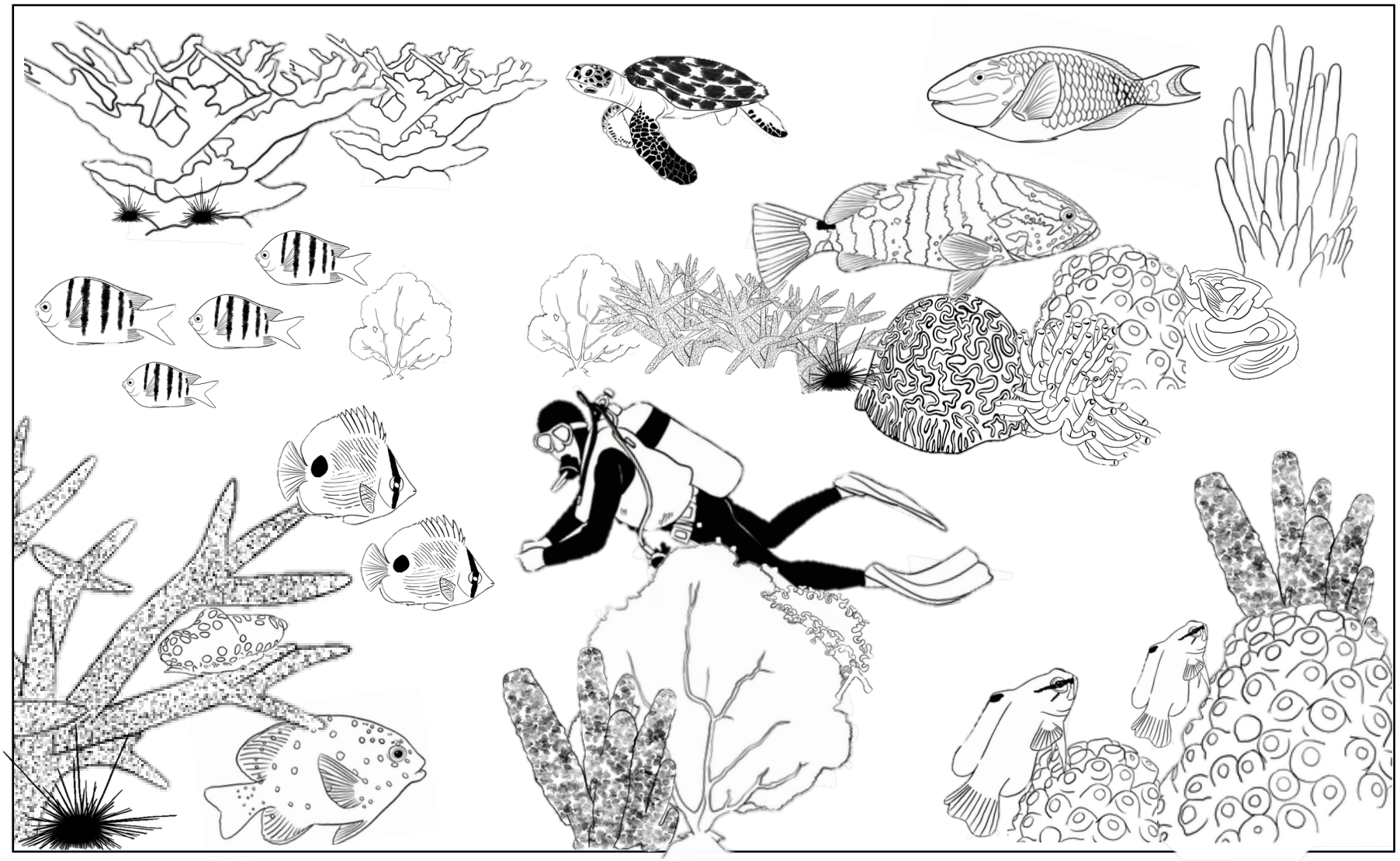


Deep site: 40 m deep

At CCMI our scientists have been conducting surveys on the reefs of Little Cayman since 1999! To conduct these surveys, our researchers require a good knowledge of the different fish and coral **species** that we may see in Little Cayman.

Colour in the reef using the back of this booklet to help you learn the **species** names and colours you need.

1. How many different species of fish can you identify?
2. How many different species of coral can you identify?
3. What is your favourite species?



* Bonus: can you spot a sea slug?