



Australian Government
Great Barrier Reef
Marine Park Authority

Be a Marine Biologist for a Day

Activity Booklet
Year 5



ANSWERS

How can I help the Great Barrier Reef?

One way I can help the reef is to be a citizen scientist.

I can help to count animals for the Great Barrier Marine Park Authority.

They have a citizen science initiative called Eye on the Reef.

I can conduct an Eye on the Reef activity on my excursion called a Rapid Monitoring survey.

When I conduct a Rapid Monitoring survey on my excursion, I will be counting animals that will help the Great Barrier Reef Marine Park Authority look after and protect them.

The Great Barrier Reef Marine Park Authority will tell me which animals to count. There are 10 animals to count. I have 10 minutes to count them. But I don't need to count them all. I only have to count one (or the ones that my teacher tells me to count), with my buddy pair. I don't need to get wet either. We are counting them from a place where we can all stay dry.

I will record my count on a tally sheet in this activity book. I am counting the (animal/name). When we all finish counting, our reef guide will help me and my friends and the teacher fill in the Rapid Monitoring survey form on the day of our excursion. That form is also in this activity book.

When we get back to school, my teacher will help us to login to the Great Barrier Reef Marine Park Authority *Eye on the Reef* website so we can let them know how many we all counted.

I can also download the Eye on the Reef app and record what I saw on my excursion. Or I can use it to check out some of the really cool animals I saw!

What is citizen science?

Citizen science is when citizens participate in scientific research.

The Great Barrier Reef is a very big place to monitor.

Data from citizen science helps to monitor and manage the Reef.

The Great Barrier Reef Marine Park Authority (GBRMPA) has a citizen science program called Eye on the Reef.

I will be collecting data for Eye on the Reef during a Rapid Monitoring Survey.

The Rapid Monitoring survey includes a 10 minute timed swim.

But, because we are not getting in the water to snorkel, it will be a modified 10 minute timed survey.

We still count 10 indicator animals over a 10 minute time frame, but instead of being in the water snorkelling, we are staying dry.

We are counting these animals in particular for several reasons. They could be a reef health indicator, endangered, contribute to reef health, iconic, commercially valuable and/or popular with tourists.

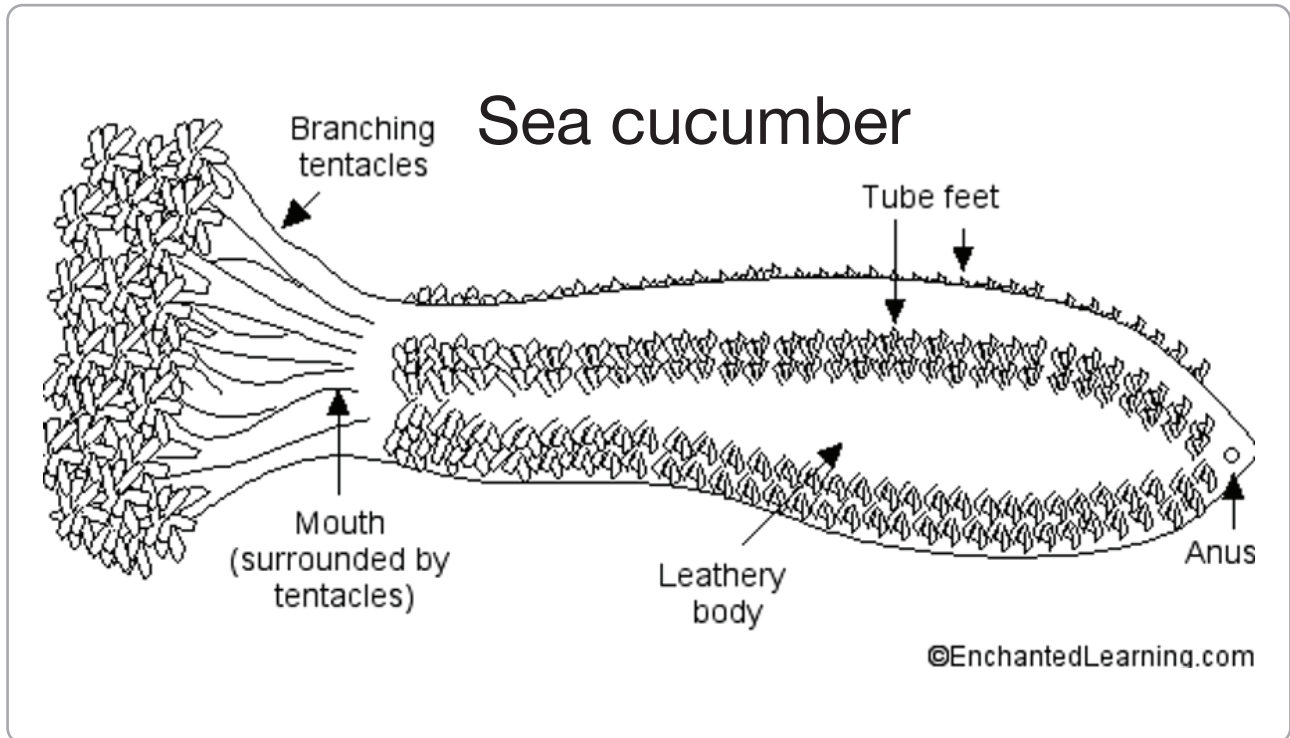
I need to bring this activity book on the excursion. There are lots of questions to answer about the animals we are counting. The questions are very similar to what we are learning this year at school. The Great Barrier Reef Marine Park Authority made sure these activity books aligned with the syllabus for my grade. I am allowed to answer some of the questions before the excursion, some during the excursion and some after the excursion. We get to check all our answers when we get back to school after the excursion. My teacher calls it 'Part 3' of the *Be a Marine Biologist for a Day* program. Part 1 is before the excursion, Part 2 is during the excursion and Part 3 is after the excursion. This activity book is used across all 3 parts.

When I get older, or when I visit the reef again, I will be able to do a Rapid Monitoring survey all on my own! Because I will know what to do.

I am a citizen scientist and I am helping the Great Barrier Reef!

Sea cucumber

Draw a sea cucumber in the box below.



<https://www.enchantedlearning.com/subjects/invertebrates/echinoderm/seacucumber/printout.shtml>

How do they move?

With their tube feet and rhythmic contractions of their bodies.

Why do they have tough skin?

To avoid being eaten.

How do they breathe?

By taking in water through their anus!

How do they eat? Do they have teeth?

No teeth. They have branching tentacles around the mouth.

Sea cucumber



© Commonwealth of Australia GBRMPA. Photographer: K.Goudkamp

Names

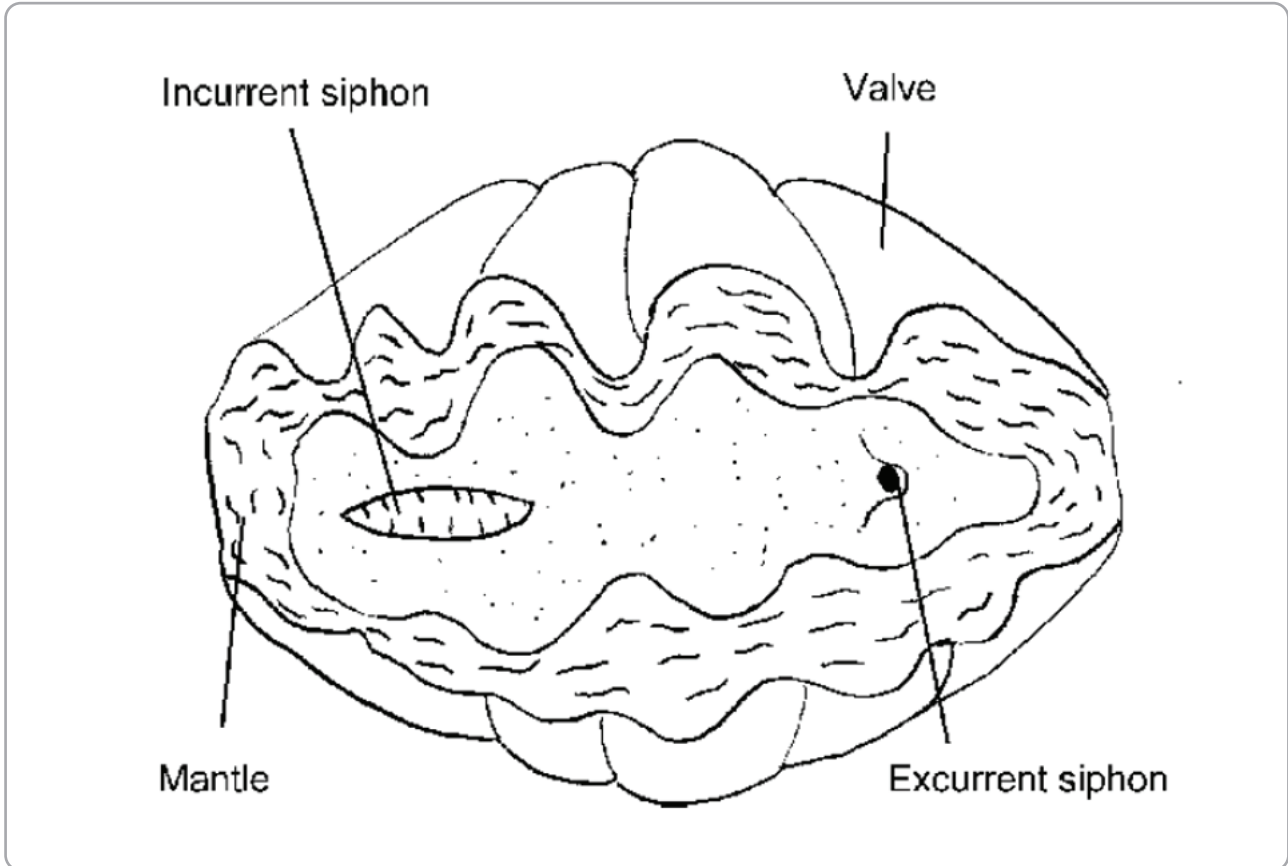
Tally

Total

Giant clam

>30cm

Draw a giant clam in the box below.



<https://meilin5giantclam.wordpress.com/2016/10/20/is-this-i-think-it-is-no-wait-what/>

How many holes (siphons) does the mantle have?

2

How does the algae that lives in the mantle help the clam?

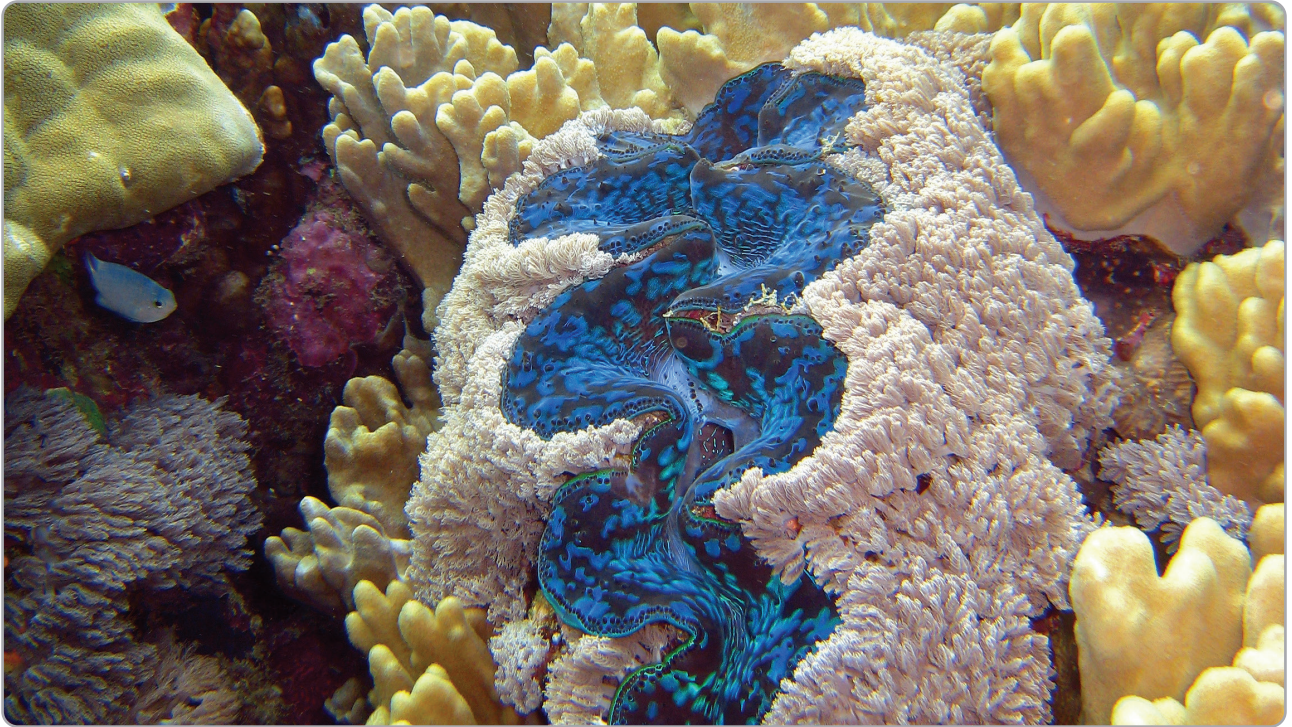
It feeds the coral.

Via photosynthesis turning sunlight into food and energy.

How does the giant clam help the algae in return?

The algae (zooxanthellae) has a safe place to live.

Giant clam



© Commonwealth of Australia GBRMPA. Photographer: C. Jones

Names

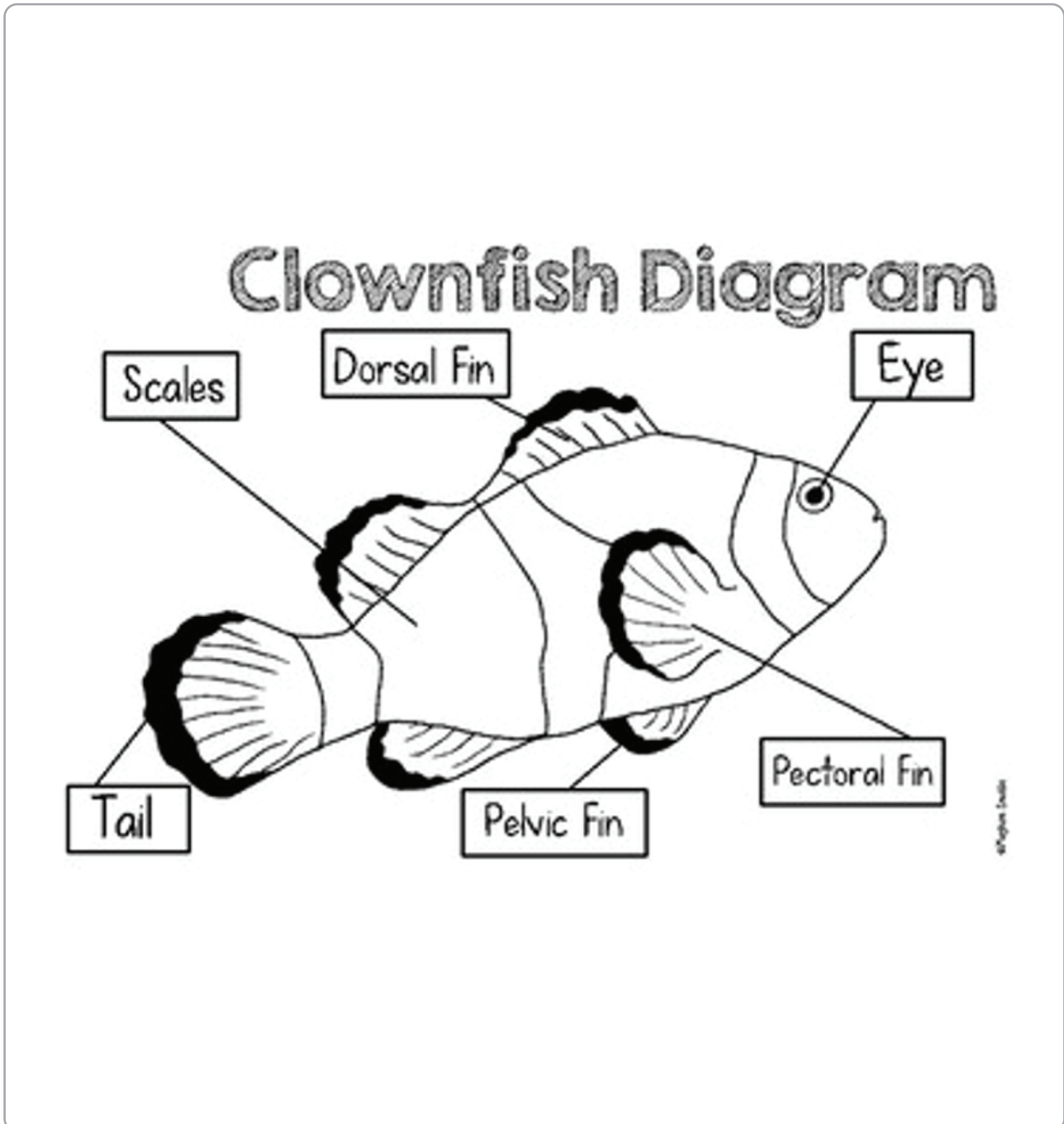
Tally

Only those bigger than 30cm

Total

Anemonefish

Draw an anemonefish in the box below.



<https://www.teacherspayteachers.com/Product/Clownfish-Diagram-Freebie-3134585>

What is a behavioural adaptation that stops the anemonefish being stung by their anemone?

Constantly swimming IN the tentacles of the anemone.

Anemonefish



© Commonwealth of Australia GBRMPA. Photographer: J. Sumerling

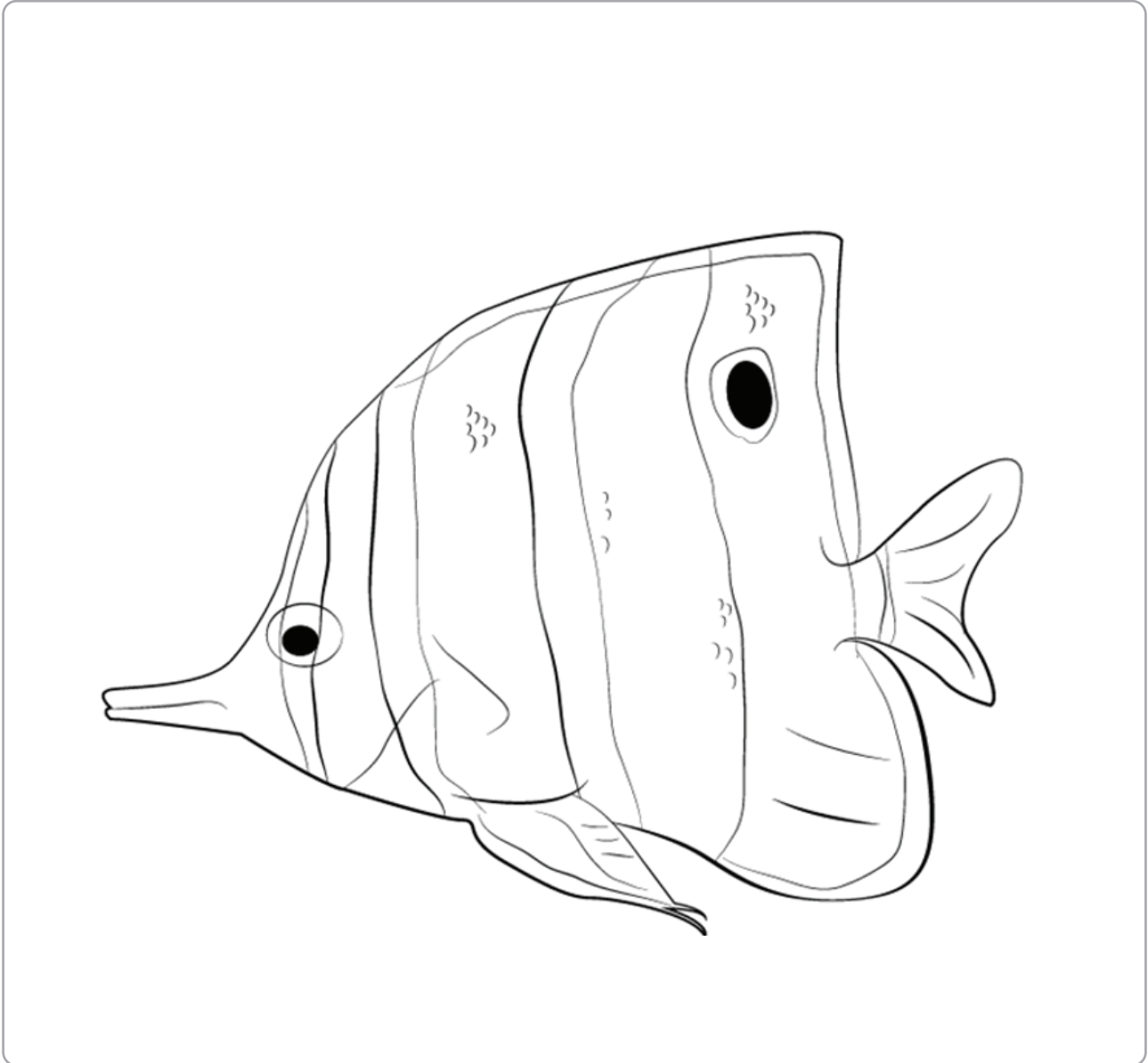
Names

Tally

Total

Butterflyfish

Draw a butterflyfish in the box below.



<https://www.drawingtutorials101.com/how-to-draw-a-butterflyfish>

Why do butterflyfish have small compressed bodies?

To easily manoeuvre around corals (which they eat).

Some butterflyfish have a fake eye spot. Why?

To trick their predators.

Butterflyfish



© Commonwealth of Australia GBRMPA. Photographer: J. Jones

Names

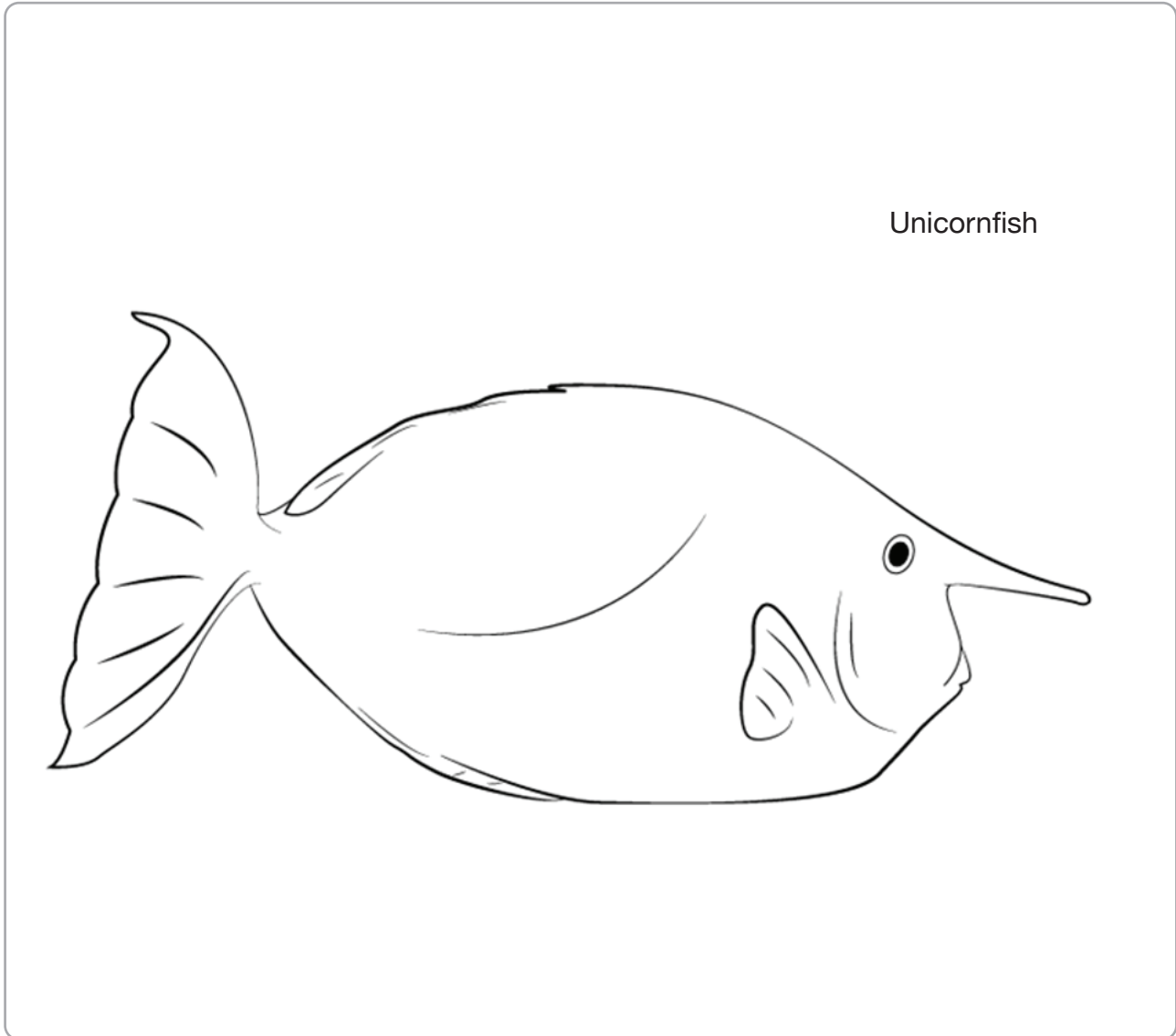
Tally

Total

Grazing herbivores

Parrotfish / Surgeonfish / Unicornfish / Rabbitfish

Draw a grazing herbivore in the box below.



<https://www.drawingtutorials101.com/how-to-draw-a-whitemargin-unicornfish>

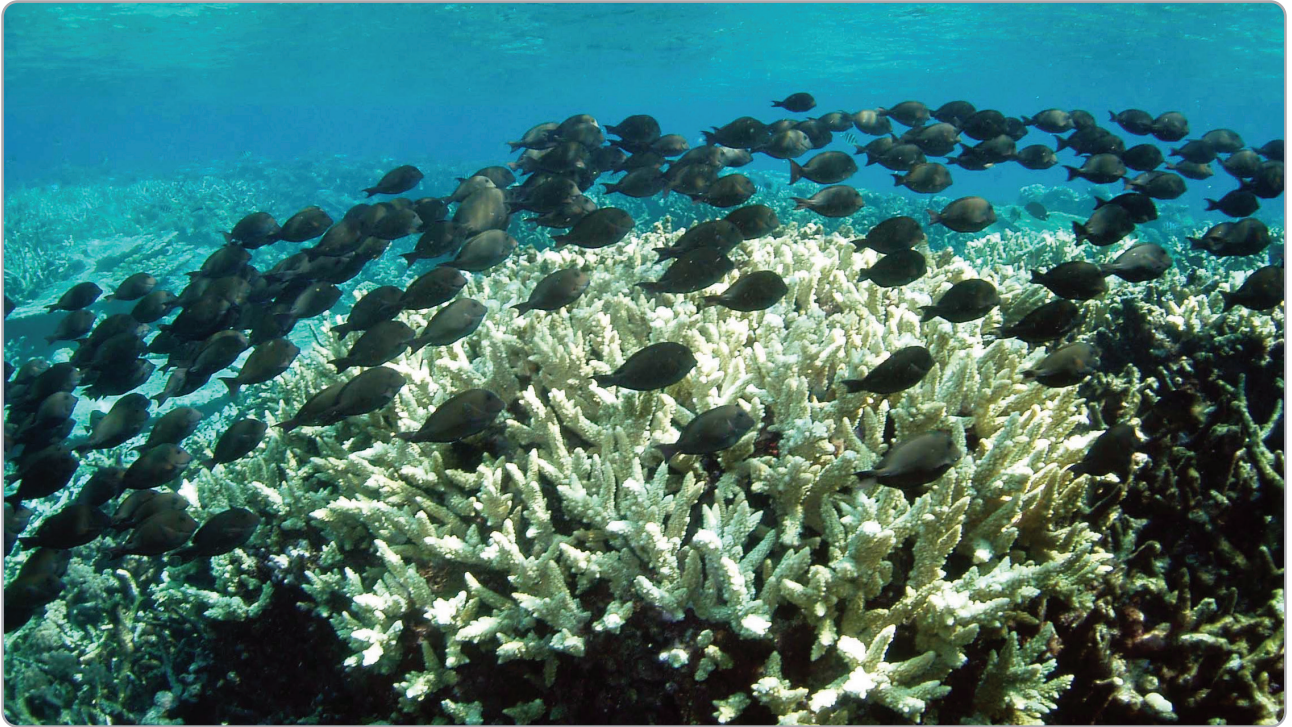
Why are they called the lawnmowers of the Reef?

Because they graze on so much algae.

How is the digestive system of a herbivore (e.g. teeth, mouth size, length of intestine) different to a carnivore?

Herbivores have molar-like teeth, smaller mouths and longer intestines.

Grazing herbivores



© Commonwealth of Australia GBRMPA. Photographer: C. Jones

Names

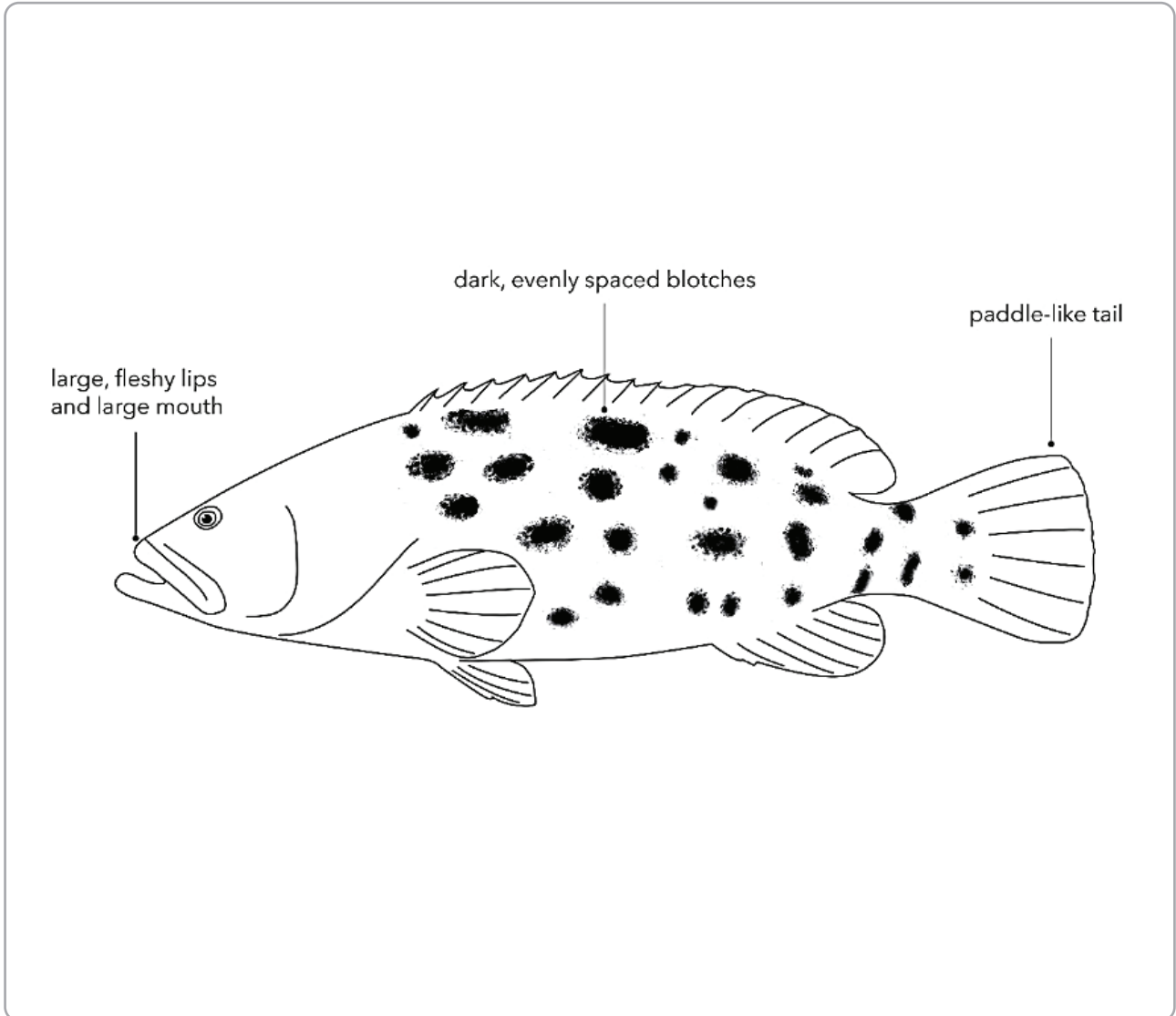
Tally

Total

Cods and groupers

>50cm

Draw a cod or grouper in the box below.



<https://marinewaters.fish.wa.gov.au/resource/potato-cod/>

What is a structural adaptation of a cod or grouper?

Large upturned mouth with protruding lower jaw.

Multiple rows of teeth.

Stout, torpedo-shaped body.

Thick and strong caudal peduncle (where the tail attaches to the body).

Cods and groupers



© Commonwealth of Australia GBRMPA. Photographer: P. McGinnity

Names

Tally

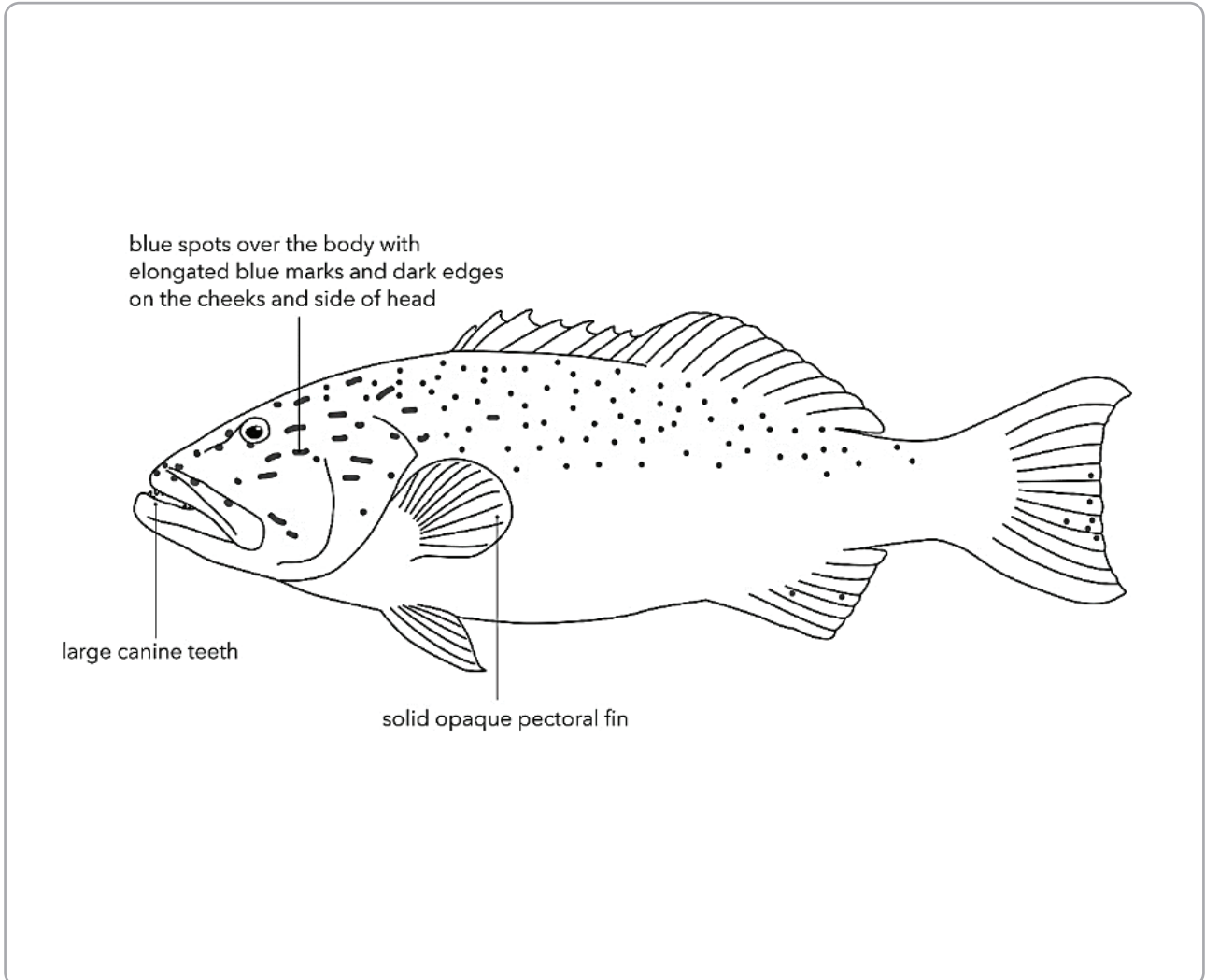
Only those bigger than 50cm

Total

Coral trout

<38cm / >38cm

Draw a coral trout in the box below.



<https://marinewaters.fish.wa.gov.au/resource/fact-sheet-barcheek-coral-trout-2/>

Why do coral trout change from female to male when approximately 42cm?

Increased reproductive success.

Large males, because of their superior competitive ability (in fights and contests with smaller males), are able to monopolize females and prevent smaller males from mating with them.

Coral trout



© Commonwealth of Australia GBRMPA. Photographer: G. Goby

Names

Tally

< 38cm

Tally

> 38cm

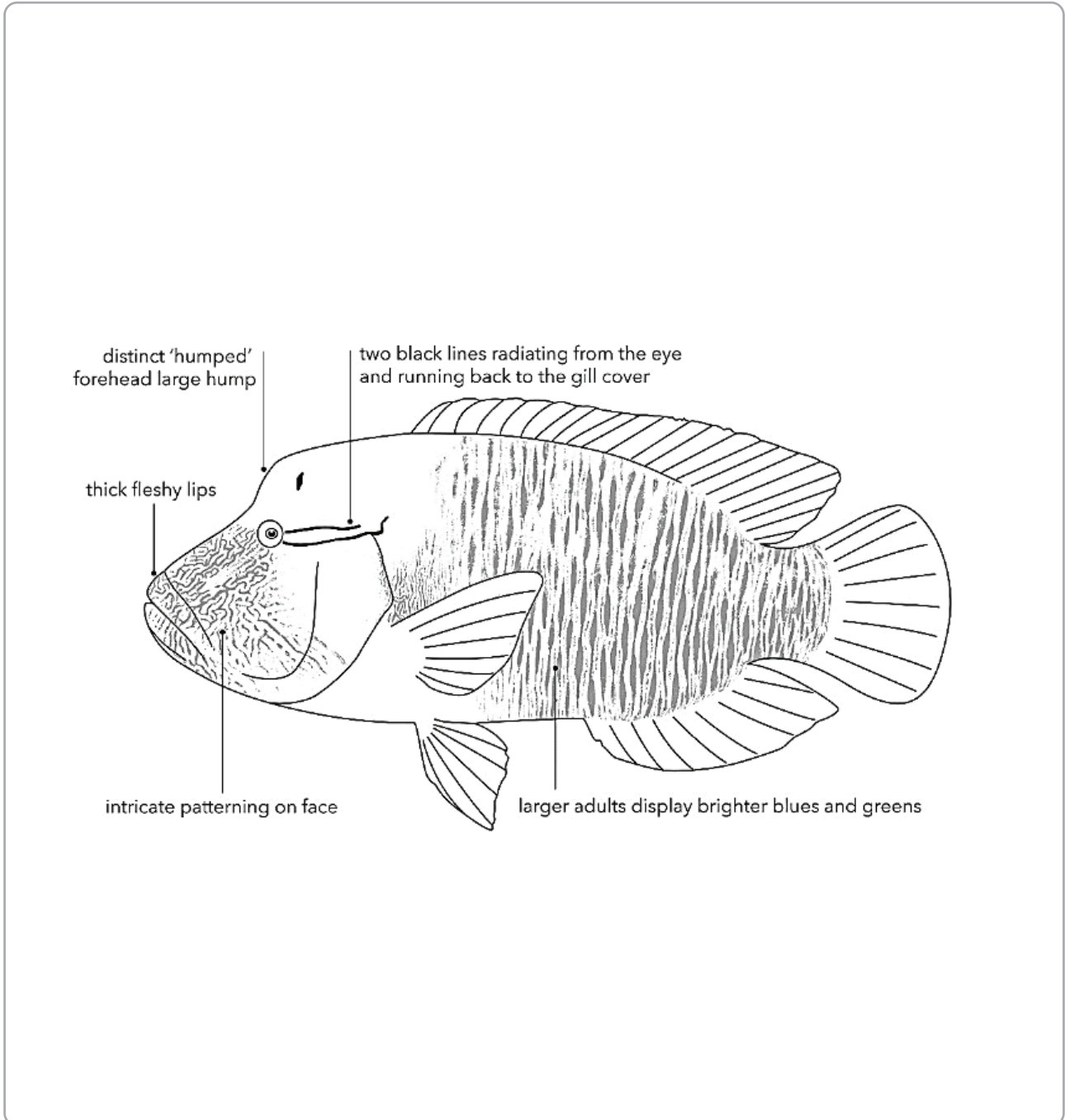
Total

Total

Maori wrasse

Male / Female

Draw a male Maori wrasse in the box below.



<https://marinewaters.fish.wa.gov.au/resource/humphead-maori-wrasse/>

What structural adaptation does a male have, that a female doesn't?

Hump.

Maori wrasse



© Commonwealth of Australia GBRMPA. Photographer: U. Engelhardt



© Commonwealth of Australia GBRMPA. Photographer: C. Jones

Names

Tally

Female

Tally

Male

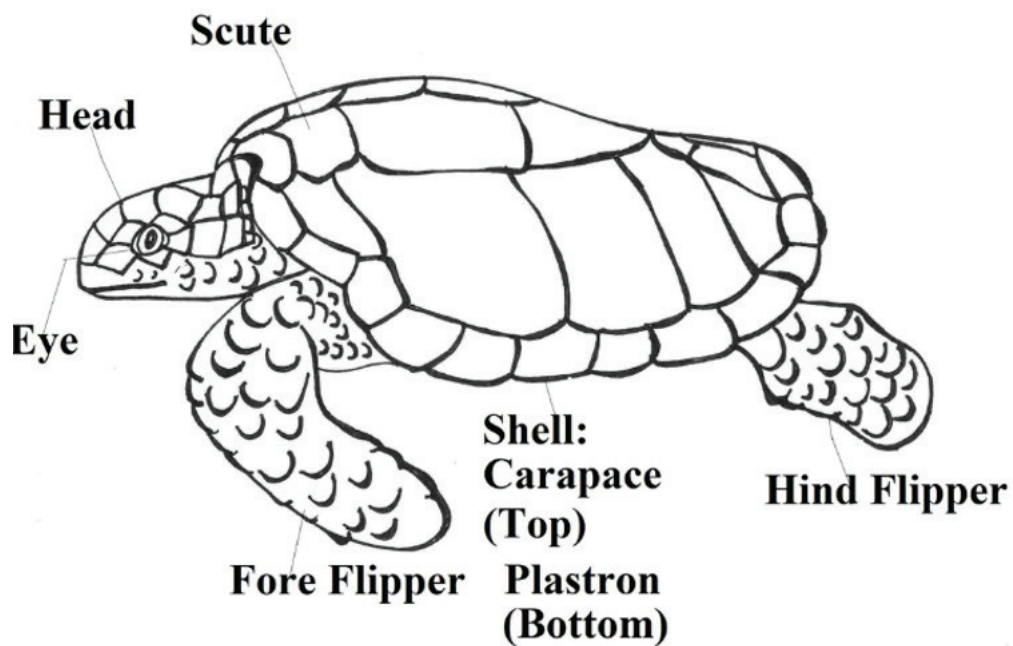
Total

Total

Sea turtles

Green / hawksbill / other

Draw a sea turtle in the box below.



<https://seaturtles5.weebly.com/parts-of-a-sea-turtle.html>

What do sea turtles eat that look like jellyfish?

Plastic bags.

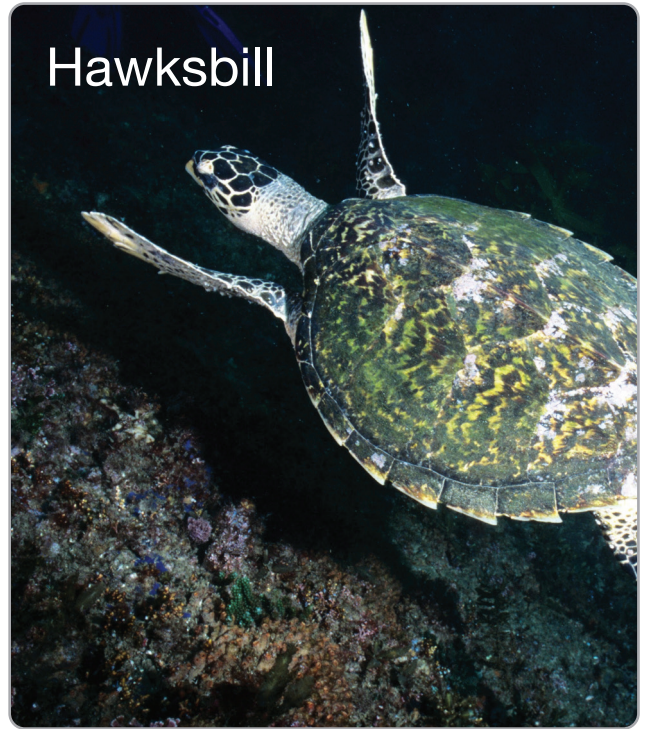
How many sea turtles are threatened with extinction?

All 6 found on the Great Barrier Reef.

Sea turtles



© Commonwealth of Australia GBRMPA. Photographer: K. Hoppen



© Commonwealth of Australia GBRMPA. Photographer: K. Hoppen

Names

Tally

Tally

Tally

Total

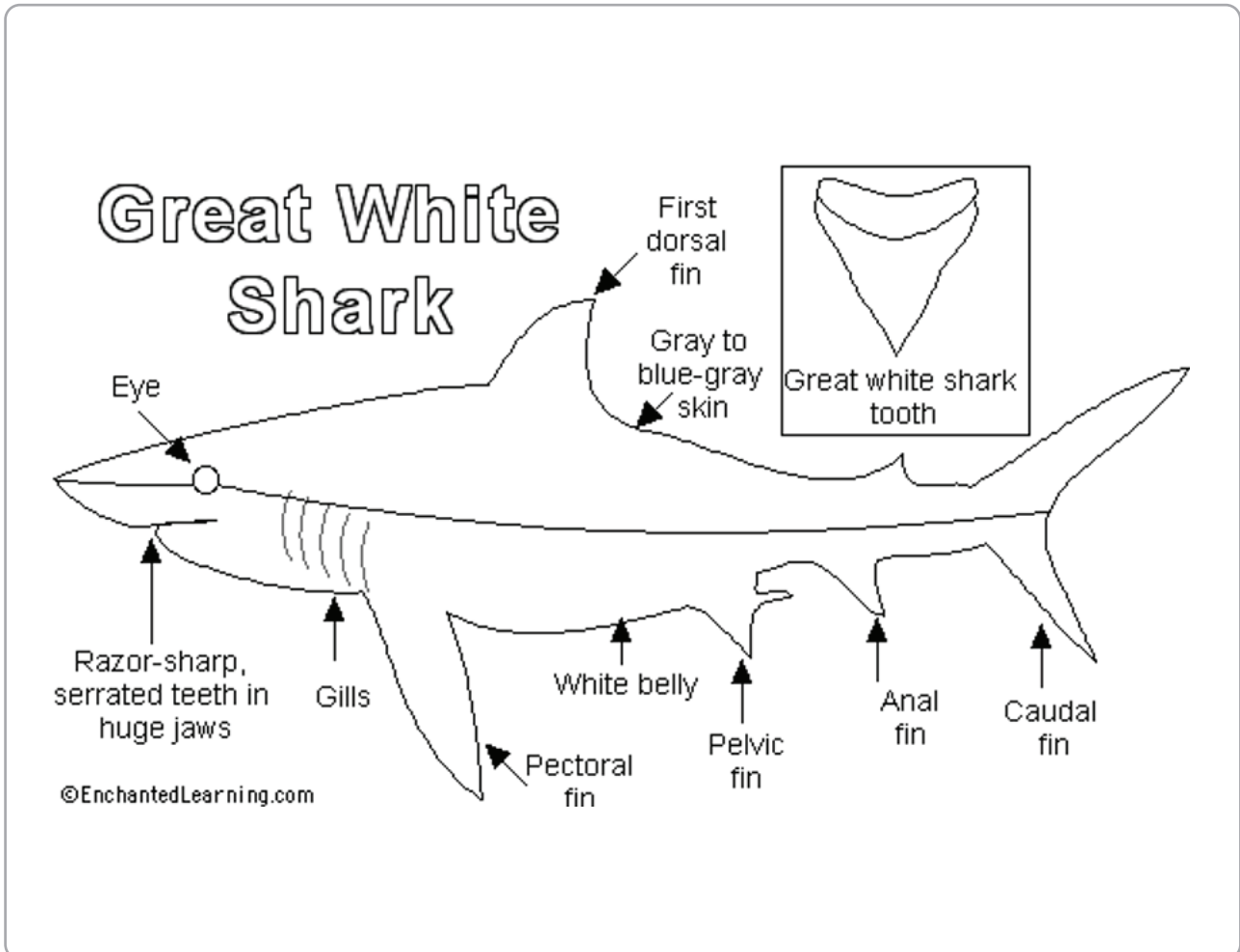
Total

Total

Sharks

Whitetip / Blacktip / other

Draw a shark in the box below.



<https://www.enchantedlearning.com/subjects/sharks/classroom/sharktemplates/Gws.shtml>

What can sharks sense, that we can't?

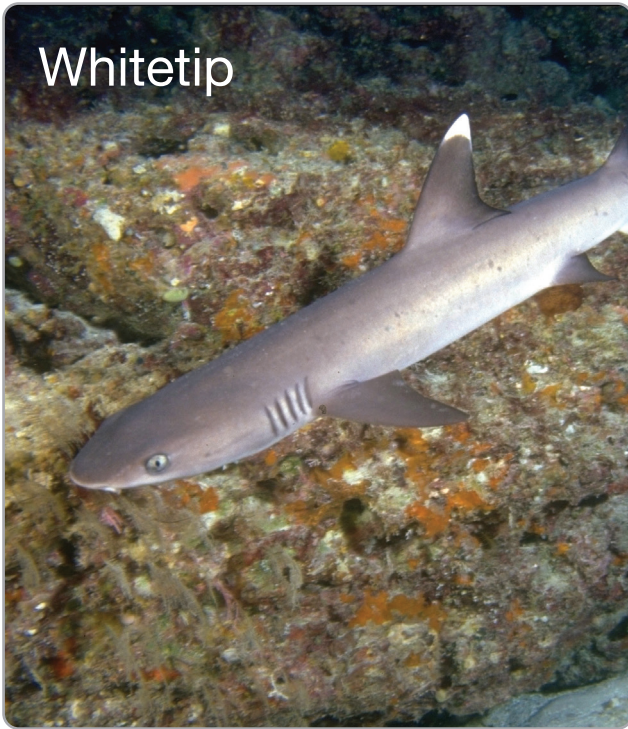
Electro-receptors (tiny dots) on a shark's nose sense electricity and vibrations to detect prey (e.g. heart beats).

Why count sharks?

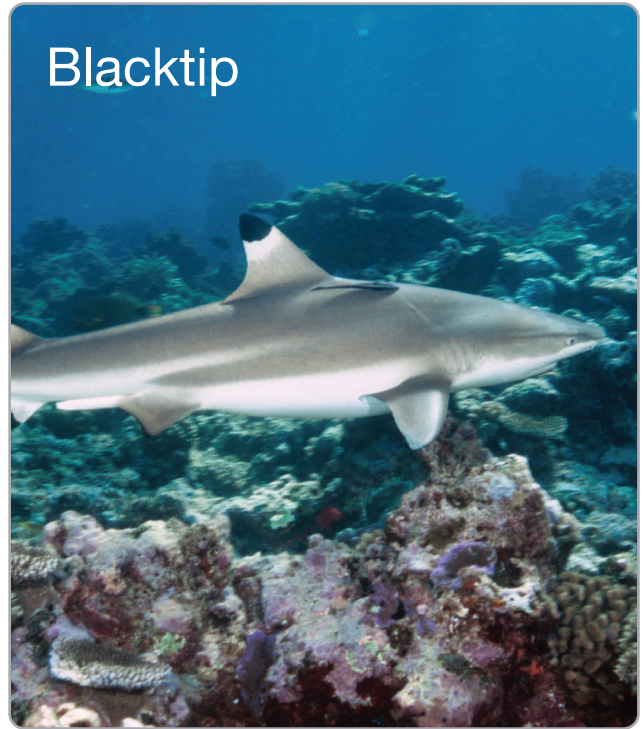
Sharks keep the reef balanced and healthy.

Many sharks are threatened with extinction.

Sharks



© Commonwealth of Australia GBRMPA. Photographer: T. Mayne



© Commonwealth of Australia GBRMPA. Photographer: K. Hoppen

Names

Tally

Whitetip

Tally

Blacktip

Tally












Other

Total

Total

Total

Complete this table with your Reef Guide after counting the animals on the reef.

Timed swim (10 minutes)			See over page for survey methodology			
ANIMALS	TALLY	TOTAL	ANIMALS	SIZE	TALLY	TOTAL
Sea cucumber (all species) 			Coral trout (all species) 	<38cm >38cm		
Giant clam (larger than size of hand) 			Maori wrasse 	SEX Male Female		
Anemonefish (all species) 			Turtle (all species) 	TYPE Green Turtle* Hawksbill Turtle* Other (please name)		
Butterflyfish (all species) 			Shark (all species) 	Whitetip reef shark Blacktip reef shark Other (please name)		
Grazing herbivores See definition over page 			Crown-of-thorns starfish 	Juvenile Adult		
Cods and groupers (over 50cm in length) 						

Complete back at school after your excursion.

***How did I help the
Great Barrier Reef?***

Below, draw a picture or write about your day on the Reef!

A large, empty rectangular box with rounded corners, intended for a student to draw a picture or write about their day on the reef. The box is completely blank and occupies most of the page's vertical space.