

# CHRISTMAS PRAWNS IN AUSTRALIA

Classroom Lessons for a *Sustainable Christmas*  
Teacher resources - Secondary

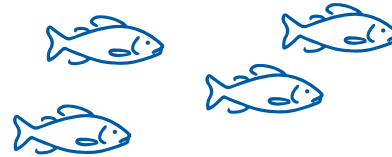






## Australian Curriculum Objectives

### Cross-Curriculum Priority - Sustainability



#### Years 7 & 8 (Stage 4) - Science

- [ACSSU111](#)  
Classification helps organise the diverse group of organisms
- [ACSSU150](#)  
Multi-cellular organisms contain systems of organs carrying out specialised functions that enable them to survive and reproduce
- [ACSHE120 / ACSHE135](#)  
Solutions to contemporary issues that are found using science and technology, may impact on other areas of society and may involve ethical considerations
- [ACSHE121 / ACSHE136](#)  
People use science understanding and skills in their occupations and these have influenced the development of practices in areas of human activity
- [AC SIS125 / AC SIS140](#)  
Collaboratively and individually plan and conduct a range of investigation types, including fieldwork and experiments, ensuring safety and ethical guidelines are followed
- [AC SIS130 / AC SIS234](#)  
Use scientific knowledge and findings from investigations to evaluate claims based on evidence
- [AC SIS133 / AC SIS148](#)  
Communicate ideas, findings and evidence based solutions to problems using scientific language, and representations, using digital technologies as appropriate

#### Years 9 & 10 (Stage 5) - Science

- [ACSSU175](#)  
Multi-cellular organisms rely on coordinated and interdependent internal systems to respond to changes to their environment
- [AC SIS170 / AC SIS204](#)  
Use knowledge of scientific concepts to draw conclusions that are consistent with evidence
- [AC SIS171 / AC SIS205](#)  
Evaluate conclusions, including identifying sources of uncertainty and possible alternative explanations, and describe specific ways to improve the quality of the data
- [AC SIS174 / AC SIS208](#)  
Communicate scientific ideas and information for a particular purpose, including constructing evidence-based arguments and using appropriate scientific language, conventions and representations
- [AC SHE228 / AC SHE230](#)  
Values and needs of contemporary society can influence the focus of scientific research

#### Years 7 & 8 (Stage 4) - Mathematics

- [ACMNA174](#)  
Investigate and calculate 'best buys', with and without digital technologies
- [ACMNA189](#)  
Solve problems involving profit and loss, with and without digital technologies





## Years 7 & 8 (Stage 4) - English

- [ACELY1725](#)  
Plan, draft and publish imaginative, informative and persuasive texts, selecting aspects of subject matter and particular language, visual, and audio features to convey information and ideas
- [ACELY1736](#)  
Create imaginative, informative and persuasive texts that raise issues, report events and advance opinions, using deliberate language and textual choices, and including digital elements as appropriate
- [ACELY1810](#)  
Experiment with text structures and language features to refine and clarify ideas to improve the effectiveness of students' own texts

**The Marine Stewardship Council is on a mission to End Overfishing. In this 45-60 minute lesson for ages 12+ learners will discuss the Australian Christmas tradition of eating prawns, and the importance of sourcing sustainable seafood.**

### Key terms

- Prawn (Shrimp)
- Christmas tradition
- Species
- Anatomy
- Overfishing
- Sustainable fishing
- Consumption

### You will need

- Access to the video [news clip Channel 9](#)
- 10+ sustainably-sourced prawns for dissection (Science)
- Printed copies of the dissection worksheets pages 7-9 (Science)
- Access to the video [Skull Island](#) and [Born Free, Caught Wild](#) (English)
- Access to internet - supermarket online store and recipe pages (Maths)

### Key questions

- What is a Prawn?
- Where do the prawns we eat at Christmas time come from?
- Can we tell from a dissection whether a prawn is sustainable or not?
- What might the ocean look like in the future if we continue to overfish?
- Is sustainable seafood more expensive?
- How can we ensure that we have sustainably caught prawns in the future?

### Class Activities

- Learners the Australian Christmas tradition of eating prawns
- Learners consider the risks that overfishing pose to future seafood supplies
- Learners conduct an anatomical dissection of a prawn
- Learners calculate the cost of a sustainable Christmas seafood lunch
- Learners explore creative writing techniques to reflect on the future of seafood





# CHRISTMAS PRAWNS IN AUSTRALIA



## Starter (5-10 mins)



Start the lesson by asking students

- What Christmas traditions do they have in their families?
- What are the typical foods they eat at Christmas?
- How many people eat prawns at Christmas time?
- Does anyone know what species of prawn they usually eat at Christmas time?

Next, show students this [news clip from Channel 9](#) (1.55) highlighting the shopping habits that could be putting the tradition of eating Christmas prawns at risk.

Discuss as a class,

- What is the problem being discussed in this news clip?
- Why might our Christmas prawn supplies be at risk in the future?

## Prawn Consumption in Australia

Australia's yearly prawn consumption is **15 million kg** (15,000 tonnes) of prawns. Approximately **40%** (6 million kg) of these prawns are eaten every **Christmas**.

In 2019, research from the Marine Stewardship Council revealed some interesting facts about prawn consumption in Australia.

- Two thirds of Australians (65%) buy prawns at Christmas time
- Over half of Aussies (56%) believe that Christmas wouldn't be the same without prawns
- Queenslanders are the most likely to eat Christmas prawns, with 71% purchasing prawns at this time of year
- Almost 7 million Australians (42%) who eat prawns are not aware of where their seafood comes from
- **Almost half of Australians (49%) do not know what sustainable prawns are**
- One in four Aussies (25%) cannot differentiate between the species of prawns that they are purchasing

For more details, see the [YouGov survey](#)





## Main Activity (30-45 mins)

### Science

#### Prawn Dissection

Conduct a dissection activity with your class using [sustainably-sourced prawns](#) from a supermarket or other retailer. If possible, you could provide students with two or more different species of prawns to compare.

Students then work in groups to dissect their prawn and complete the worksheet on pages 7-9.

After completing the dissection activity, share some of the Australian prawn consumption statistics (page 3) with students. Discuss, could anyone tell whether the prawn they dissected was sustainable or not? What are some of the **other** ways we can tell if a prawn is sustainable?

### Maths & Economics

#### Sustainable Christmas Lunch

Ask students to design a sustainable prawn Christmas lunch for TEN people using [one of these recipes](#), or creating one of their own!

Ask students to find an Australian supermarket of their choice which has an online store. Students research the different prawn products available and calculate the following scenarios:

- What is the total cost of all the ingredients for their recipe?
- What is the cost per person to make this dish?
- How many prawns will each guest get if everyone eats prawns?
- How many prawns will each guest get if only seven of the guests eat the dish?
- Three surprise guests show up to Christmas lunch, how many prawns will each guest get now?
- Find an MSC-certified sustainable supplier for your prawns from [this list](#). What is the cost difference of buying a sustainable prawn product?
- What time are your guests arriving? When do you need to start preparing the dish?
- Is it more expensive to buy sustainable prawns?

Share some of the Australian prawn consumption statistics (page 3) with students to reflect on. Consider, **What other types of costs might we have to consider when calculating which prawns to buy?** (eg. social, environmental)





## English

Show students this video from a sustainable [prawn fishery at Skull Island](#) in the Gulf of Carpentaria, NT (2:42).

Students write a creative one-paragraph reflection from the perspective of one of the characters as they are shown in the clip.

- The story should be set in present day
- What is this character's connection to the ocean, and to Skull Island?
- How does this character feel about prawn fishing?

Next, ask students to write a second one-paragraph reflection from the perspective of the same character. This time, students should imagine a future where, due to overfishing, there are almost no prawns left in the ocean to catch.

- The story should be set in a future without prawns
- What does the ocean look like? What do people eat?
- What is the character's situation now? Where do they live? Do they have a job?

Following this exercise, show students the story '[Born Free, Caught Wild](#)' from the Northern Prawn Fishery which is responsible for catching Skull Island prawns.

## Discussion (10-15 mins)



Discuss as a class,

What can we all do to make sure that we have prawns this Christmas and **every** Christmas into the future?





## MSC Christmas Prawn Treasure Hunt 2020

Be in the running to win a box of Skull Island Tiger prawns by playing the Christmas Prawns Treasure Hunt!

[Click here to join the Treasure Hunt](#)

Kahoot Game Pin: 07518289



## Extension Activities

### 1. The Mantis Shrimp

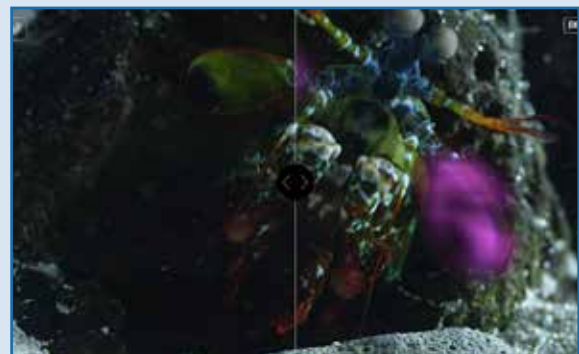
A special species of shrimp found in Queensland's Great Barrier Reef is the Mantis Shrimp. Mantis Shrimp see the ocean environment in a very different way to us. They can detect light that no other living creature we know of can.

Show students this video about the mating rituals of [Mantis Shrimp](#) (1:36)

Students can also explore this amazing example of [Mantis Vision](#) from David Attenborough's Reef.

### 2. Students explore these resources from the Australian Wild Prawns

- A [map](#) of Australia's Wild Prawn Fisheries
- A guide to the [Prawn Species](#) most commonly fished in Australia
- An [interactive 3D](#) or AR experience on board a prawn trawling vessel





## Prawn Dissection Activity

(1) Find the scientific classification for your prawn

Common name : \_\_\_\_\_

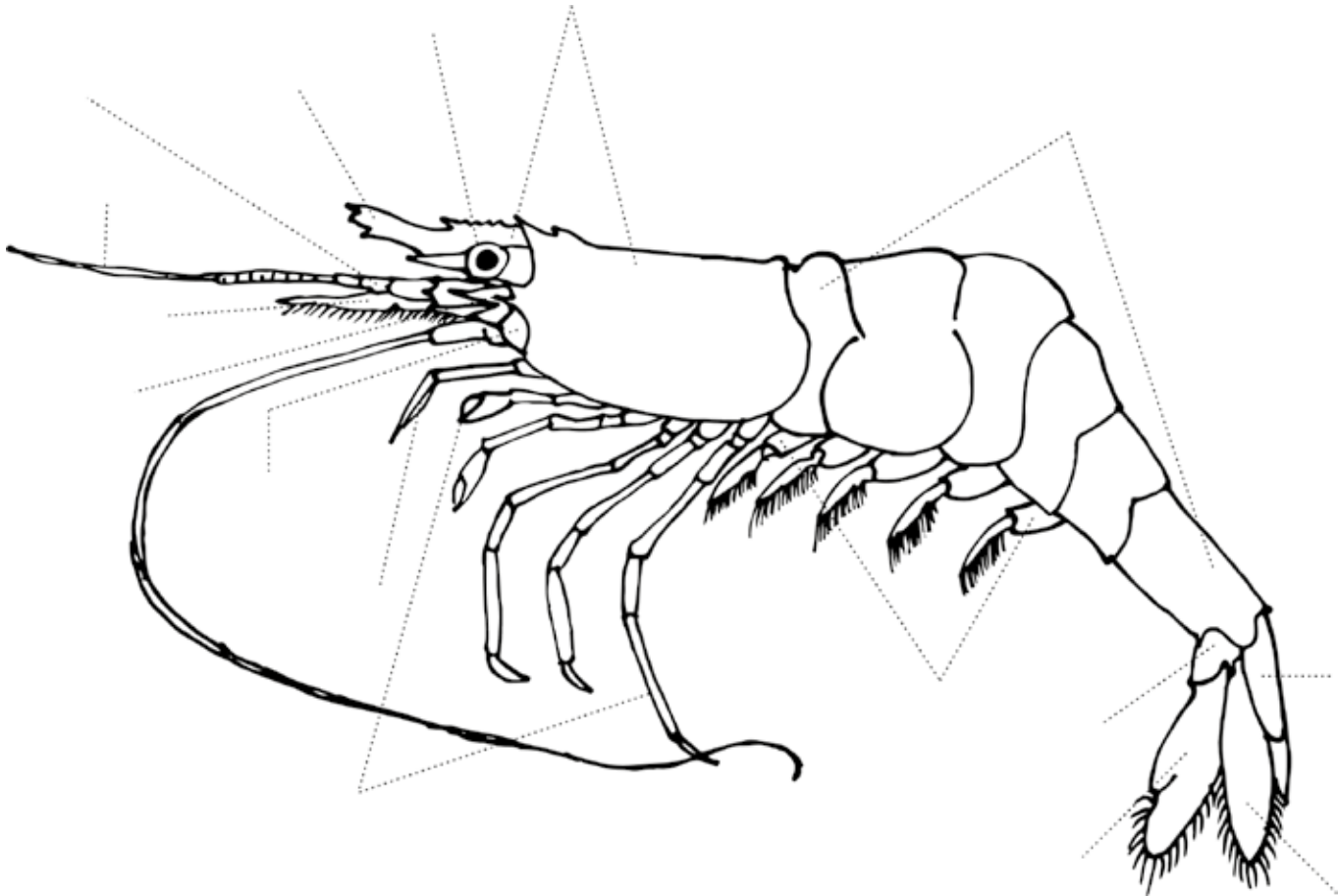
Species name : \_\_\_\_\_

Scientific name for prawn : \_\_\_\_\_

Scientific order: \_\_\_\_\_

(2) Prawn Anatomy

Before cutting your prawn, observe it from the outside and fill in the anatomical labels using scientific terms



(3) Begin your dissection, following the instructions on page 8







## Directions for Prawn Dissection

1. Place your prawn on the dissecting tray with its **dorsal** (back) side facing upwards.
2. Using a sharp knife or scissors, carefully cut under the top of the prawn **carapace** (shell) up the middle of its back to the **rostrum**
4. Cut across the carapace just behind the eyes and remove the two pieces of the carapace. Note and remove the exposed **gills** (feathery structures)
5. Remove the prawn's **legs**, noting the difference between the front legs (walking legs) and back swimmerets
6. Just below the carapace along the prawn's back you will find its **heart**.
7. Remove the heart to find two light colored masses extending on each side of the body into the head. These are the prawn's **digestive glands**.
8. Between the digestive glands, you will find either a small pair of white **reproductive organs** (male) or a large mass of dark colored eggs (female).
9. To locate the **intestine**, insert the point of the scissors under the dorsal side of the shell of the abdomen and cut back to the telson (tail). Spread the shell, and the intestine will be found as a vein on the top side of the muscles of the abdomen. Note the colour of the intestine.
10. Trace the intestine forwards to the prawn's head is its **stomach** in the front part of the cephalothorax.
10. Now clean out the remaining tissue in the head so that the green glands (**kidneys**) are exposed.
12. In the front part of the head between the eyes you will find the prawn's **brain**. Trace the nerves that connect the brain to the **antennae** and eyes.
14. Spread the shell apart and pull out the large white muscle.

Credit: These directions are adapted from [Mr Murray Science](#) class resources





## Questions

(4) Where is the prawn's skeleton?

(5) Which part of the prawn do we eat?

(6) List THREE features of the prawn that might help it to live in an underwater environment

i)

ii)

iii)

(7) Can you tell after dissecting this prawn whether or not it is sustainably caught?

(8) What might be some uses for parts of the prawn that we **do not** eat?





## Prawn Body Parts - Answers

