

OCEANS AT RISK



Teacher resources - Lesson plan



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Australian Curriculum Objectives



Years 5 & 6 (Stage 3) - Maths

- [AC9M5ST03 / AC9M6ST03](#)

Plan and conduct statistical investigations by posing questions or identifying a problem and collecting relevant data; choose appropriate displays and interpret the data; communicate findings within the context of the investigation

Extension Activities

- [AC9M6ST02](#)

Identify statistically informed arguments presented in traditional and digital media; discuss and critique methods, data representations and conclusions





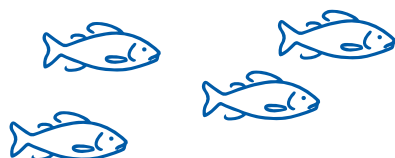
In this 40-60 minute lesson for learners aged 10+ students consider how the ocean is essential for life on earth. Learners discover how the oceans are at risk from overfishing, and discuss what they can do about it.

Key terms

- Overfishing
- Ecosystem
- Species
- Marine populations
- Sustainable fishing
- Marine Stewardship Council
- Survey
- Graphs
- Data

You will need

- Access to the clip [Overfishing](#)
- Printed or shared digital copies of the Supermarket Survey (p 5 - 8)
- Access to the [What is the MSC video](#)
- Printed or shared digital copies of the Oceans at Risk factsheet (p 9 - 10)



Key questions

- What does the ocean mean to us?
- Why is the ocean essential to life on earth?
- What does 'overfishing' mean?
- What is sustainable fishing?
- How does the Marine Stewardship Council prevent overfishing?
- What is a method to gather data?
- How can we represent data as a graph?

Class Activities

- Learners watch a video to understand the concept of Overfishing
- Learners undertake a Supermarket Survey to determine how many seafood products are MSC-certified
- Learners create graphs to visually represent data from the survey





LESSON PLAN: OCEANS AT RISK

Starter (5-10 mins)

Introduce students to the concept of **overfishing** by showing students the video clip [Overfishing](#) (2:55) from the short film [My Dad the Fisherman](#).

Discuss as a class

- *What does overfishing mean?*
- *What impact does overfishing have?*



Main activity (30-40 mins)

Learners work in pairs to complete the Supermarket Survey on pages 5 - 8, using online supermarket websites to document the different types of seafood products. Learners then create a hand drawn or digital graph ([Canva graphmaker](#)) of products that have the MSC Blue Fish Tick Label. As a class, compare and analyse results to highlight how representing data in graphs can be more beneficial than as a simple table.

Discussion (5-10 mins)

Get learners to pick a seafood product (for example, fish sticks) and find the cost of a product that is not MSC-certified and one that is MSC-certified. As a class, compare these costs and discuss the cost of sustainability to the consumer.

Extension Activities

1. As a class, create a tally of the different types of seafood the class eats. For example,
Tuna - |||| ||
Squid (Calamari) - ||||
Sardines - ||

Learners then visually represent these data sets as a column graph. They may draw their graphs, or use an online tool such as [Canva graphmaker](#).

2. Learners read through the Oceans at Risk fact sheet on pages 9 - 10 and choose a piece of data to visually represent as a graph.

3. Learners access the webpage [Living Planet Report 2020](#) and analyse the data presented. Discuss as a class how the presented data helps us understand the information





SUPERMARKET SURVEY

Focussing Question

What does the Marine Stewardship Council blue fish tick mean?

You will need

- Copies of supermarket survey
- Pen
- Access to supermarket online store websites

Instructions

Did you know?
Today, over 15% of fisheries catch is MSC-certified!

1. In pairs, navigate to the seafood section on a supermarket website like [Coles](#) or [Woolworths](#).
2. Complete the top part of the survey sheet with name(s), the date and time and the name of the supermarket (see the example below).
3. Look for fish and fish products (including tinned fish, frozen fish products and fresh fish). There is a column for flavour varieties to avoid spending hours recording many different flavour varieties of the same product!
4. Record findings on the table. Make sure you take note if the product has the MSC Blue Fish Tick label!
5. Create a simple graph to compare the number of Marine Stewardship Council Blue Label products that were found with the number of products that came from non-certified sources.
6. Compare and analyse results as a class and discuss how the graphs help us interpret the data more easily than as a table.





SUPERMARKET SURVEY SHEET



Your name(s):	Date & time:	Name of Supermarket:
Michael Parker & Susan Abrahams	4th March 2022, 10am	Coles Online

EXAMPLE:

Company or brand	Product name & description eg. flaked tuna	Fish species and country of origin	Product category 1. Tin 2. Frozen 3. Fresh 4. Other	# of different flavour varieties	MSC Blue Fish Tick label ✓
John West	Mackerel Fillets	Scottish mackerel (Atlantic mackerel)	1	2	✓
Goolwa Pipi Co.	Cooked pipis	Australian pipi	4	1	✓





SUPERMARKET SURVEY SHEET



Your name(s):	Date & time:	Name of Supermarket:
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Company or brand	Product name & description eg. flaked tuna	Fish species & country of origin	Category 1. Tin 2. Frozen 3. Fresh 4. Other	# of different flavour varieties	MSC Blue Fish Tick label ✓



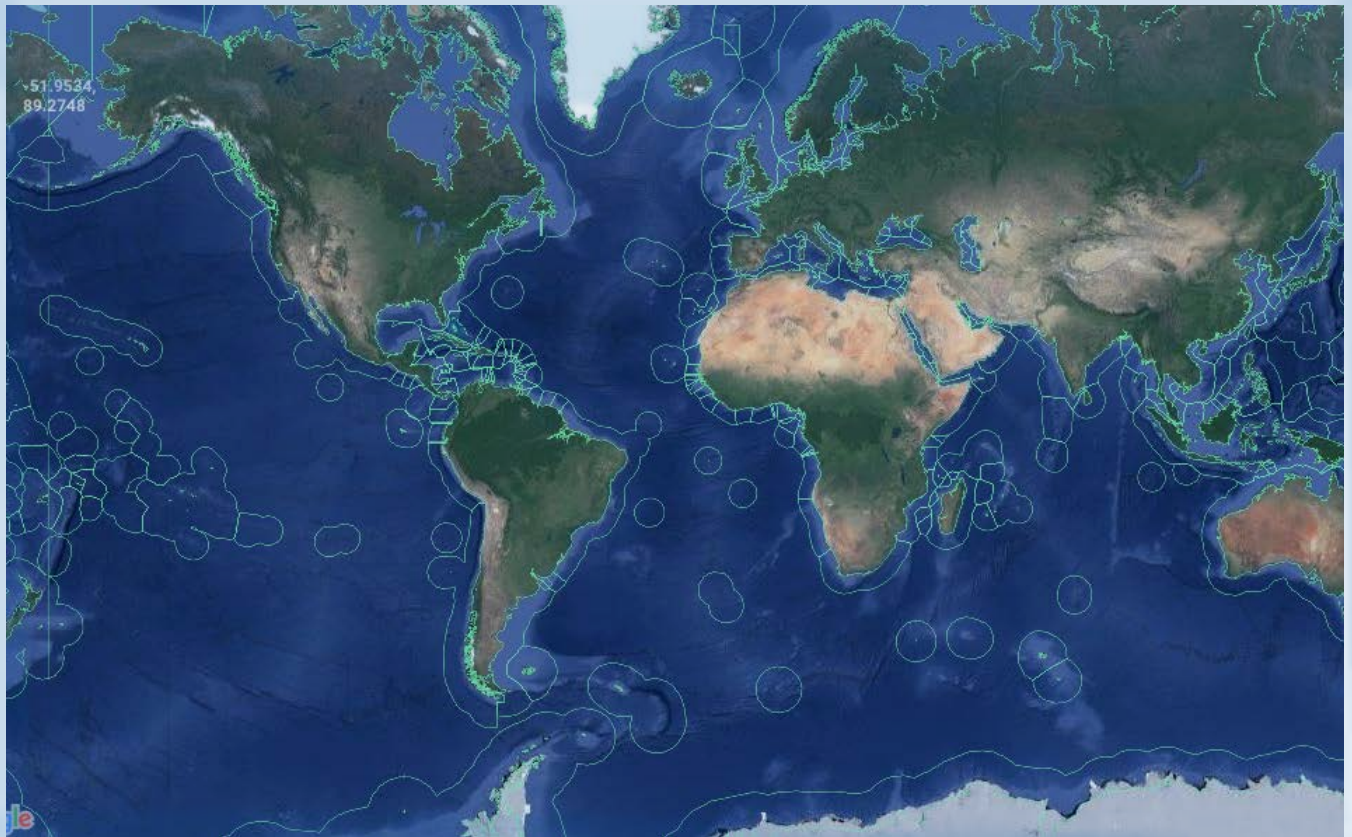


Company or brand	Product name & description eg. flaked tuna	Fish species & country of origin	Category 1. Tin 2. Frozen 3. Fresh 4. Other	# of different flavour varieties	MSC Blue Fish Tick label ✓





OCEANS AT RISK FACTSHEET

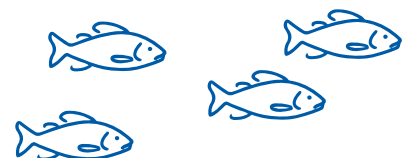


Map of the oceans

Source: Global fishing watch

Oceans are essential to life on Earth.

They cover more than 70% of the planet's surface. They regulate the climate, and supply more than half of the oxygen we need to survive. Every second breath we take comes from the ocean.





Oceans at Risk

1. The Problem of Overfishing

The oceans are home to a huge variety of life. We currently know of at least 226,400 different marine species that live in our oceans, however there are likely to be many more - perhaps millions - that we have not yet discovered. In fact, scientists believe that 95% of the ocean is still undiscovered today. This marine life is interconnected in an **ecosystem** and is essential both to life below the water and on land.

The marine ecosystem is important to sustaining people's **livelihoods** (jobs) and ensuring that people have food to eat. Millions of people around the world rely on fish as a main source of **protein**. Seafood is also our last major **wild** food source. The stakes are high when we consider how closely linked the health of our oceans is to our environmental, social and economic wellbeing. According to the United Nations, **33.1% of global fisheries have been fished beyond sustainable limits**. That's almost one third of fisheries that are being **overfished**. Between 1970 and 2012, the size of **marine populations declined by 49%** (that's almost half!) Key factors contributing the problem are overfishing, illegal and destructive fishing as well as climate change and pollution. It's not just the loss of marine creatures and environments, the problem has a serious impact on communities.

Activity

Consider the best way to visually represent the data discussed in this factsheet. Choose a piece of data from the factsheet and hand draw it as a graph (for example, show how marine populations declined by nearly half as a graph)

2. What is the Marine Stewardship Council doing?

The Marine Stewardship Council (MSC) is a Non-Profit Organisation that works with fisheries, scientists and industry to prevent overfishing, and make sure our oceans are fished sustainably. The MSC's vision is for oceans teeming with life, and seafood supplies that are safeguarded for future generations! The MSC makes sure that it's easy for everyone to find and buy certified sustainable seafood. That means seafood that is caught in such a way that it can continue being caught for generations to come, without the fish populations being depleted. Fisheries that are certified as sustainable are given a blue fish tick label by the Marine Stewardship Council.

