Teacher Resource

Reef Report

Focus Questions

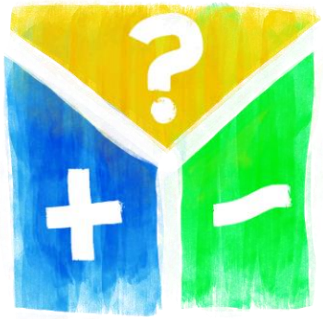
Discuss the BTN story as a class and record the main points of the discussion. Students will then respond to the following:

1. Where is the Great Barrier Reef? Locate on a map.
2. What is the biggest threat to the Great Barrier Reef?
3. What impact do rising sea temperatures have on the coral?
4. What is being done to help the reef? Give two examples.
5. Why is it important to protect the Great Barrier Reef?

Activity: Note Taking

Students will practise their note-taking skills while watching the BTN Reef Report story. After watching the story, ask students to reflect on and organise the information into three categories. What information in the story was...?

- Positive
- Negative or
- Interesting



Activity: Class Discussion

After watching the BTN Reef Report story, hold a class discussion using the following discussion starters.

- Have you ever visited the Great Barrier Reef? What did you see there? Describe your experience.
- What is a reef? List some of the main features. What does a reef look like?
- Where is the Great Barrier Reef? Find on a map.
- What do you know about the health of the Great Barrier Reef?
- Why is the reef important to Australia and the rest of the world?
- What do you want to learn about the Great Barrier Reef?

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KEY LEARNING
Students will learn more about the threats to the Great Barrier Reef.

CURRICULUM
Science – Year 4
Living things depend on each other and the environment to survive.

Living things have life cycles.

Science – Year 5
Living things have structural features and adaptations that help them to survive in their environment.

Scientific knowledge is used to solve problems and inform personal and community decisions.

Science – Year 6
The growth and survival of living things are affected by physical conditions of their environment.

Scientific understandings, discoveries and inventions are used to solve problems that directly affect peoples' lives.

Science – Year 7
Classification helps organise the diverse group of organisms

Interactions between organisms, including the effects of human activities can be represented by food chains and food webs.

Activity: Glossary

Students will brainstorm a list of key words that relate to the BTN Reef Report story. Here are some words to get them started.

CORAL	WARMING OCEANS	CORAL BLEACHING
CROWN-OF-THORNS STARFISH	BIODIVERSITY	THREATS

Ask students to write what they think is the meaning of each word (including unfamiliar words). They will swap definitions with a partner and ask them to add to or change the definition. Check these against the dictionary definition.

Further activities for students:

- Students will add to their glossary by downloading the transcript for the BTN Reef Report story and highlight all the words that relate to the topic.
- What other words relate to this issue? Students will choose additional keywords and concepts to add to their class glossary. For example, ecosystem, climate change, global warming, overfishing and conservation. Students will find a definition and add to their Great Barrier Reef glossary.

Activity: Inquiry based-learning

After watching and discussing the BTN Reef Report story, what questions do students have? The following KWLH organiser provides students with a framework to explore their knowledge on this topic and consider what they would like to know and learn.

What do I **know**?	What do I **want** to know?	What have I **learnt**?	**How** will I find out?

Questions for inquiry

Students will develop their own question/s for inquiry. Students will collect and record information from a wide variety of sources. Students may develop their own question for inquiry or select one of the questions below.

- Why is the Great Barrier Reef important? Think about the social, cultural, economic and ecological importance of reefs.
- Where is the Great Barrier Reef? Find on a map. What is the size of the reef? How old is the reef? How does it compare to other reefs around the world?
- What makes the Great Barrier Reef unique?

- What is the Goldilocks Principle and how does it relate to coral? Explore how coral reefs function and their dependence on temperature.
- What are some threats to the Great Barrier Reef? (For example, climate change, crown-of-thorns starfish, plastic pollution). Choose one to explore in more detail and create a fishbone diagram to highlight the cause of the problem and its effects.
- Why should we protect the Great Barrier Reef? Write a persuasive piece of writing explaining your reasons.
- What is the difference between soft coral and hard coral? Give some examples of each type.

Activity: Cause and Effect Diagram

In this activity students will work collaboratively to identify and understand the decay of coral reefs using a fishbone cause and effect diagram. The fishbone diagram resembles the skeleton of a fish, with the "head" representing the problem (decaying Great Barrier Reef) and the "bones" representing different categories of causes. The fishbone diagram helps to develop a more in depth understanding of a problem. It is a tool that can be used during brainstorming sessions to sort and record student's ideas into useful categories.

Before starting this activity, facilitate a class discussion using the following questions:

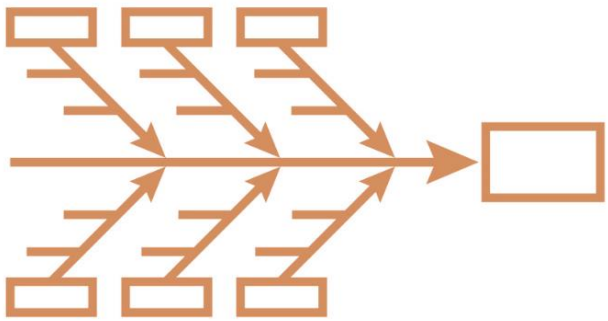
- Have you heard that the Great Barrier Reef is in decay? What do you know?
- Have you seen anything in the news about the health of the Great Barrier Reef? Discuss.
- Find pictures of reefs that are both healthy and in decay. What do you notice about the difference between healthy and decaying coral reefs? Write down your observations.
- What do you think might cause a reef to decay? (Explain to students that reef decay can have natural or human causes).

What you'll need: Butchers paper (large), sticky notes (to record minor causes), a range of coloured markers.

Problem: As a class decide on a single statement that describes the problem. Write the problem statement in the "head" of the fishbone diagram. For example, coral reef decay. Refer to the NSW Government website for more information about Fishbone Diagrams.

Major causes: In small groups, students will brainstorm the major causes of the problem. They will write these as the main categories, which are represented as "bones" off the main arrow. Major causes relating to the decay of the Great Barrier Reef could include:

- Climate Change (rising sea levels, extreme weather like cyclones, rising ocean temperatures)
- Natural Factors (crown-of-thorns starfish outbreaks)
- Human Activities (pollution, overfishing, mining)
- Coastal Development (habitat destruction from construction)



Minor causes: Students will then identify additional causes related to the issue as minor causes. These can be represented as small "bones" on the diagram. Students will record as many causes as possible relating to the problem.

Activity – Choose a Project

Individually or in small groups, students will choose one of the following projects to work on and then present their findings to the class.

Reef Animals
Imagine you are snorkelling on the reef. Draw what you might see underwater. Include marine animals that call the reef their home. Make a diorama of the reef.

Reporter for a Day
Investigate some of the threats to the Great Barrier Reef. Write a newspaper article or online news report for kids.

Haiku Poetry
Write a haiku poem about the Great barrier Reef! Use this graphic organiser to help brainstorm a list of words about the topic.

Campaign
Design a public education campaign to raise awareness about the reef. Think about your campaign's aim, your target audience, and the value of raising awareness. Create a poster using Canva.

Useful Websites

- Reef Reprieve – BTN
- Reef Bleaching – BTN
- Coral Bleaching – BTN
- UNESCO Great Barrier Reef – BTN
- Great Barrier Reef – Australian Museum
- Great Barrier Reef on one-way path to decay thanks to climate change with no end in sight, report says – ABC News
- Life Below Water (interactive) – UN Environment Programme