

# Waste and Waterways Lesson Plan

## Plastic in Oceans Poster



years  
7 and 8

### AUSTRALIAN CURRICULUM LINKS:

#### Year 7 Geography

- Water in the World: Classification of environmental resources and the forms that water takes as a resource ([ACHGK037](#))
- Water in the World: The way that flows of water connects places as it moves through the environment and the way this affects places ([ACHGK038](#))
- Place and Liveability: The influence of environmental quality on the liveability of places ([ACHGK045](#))
- Place and Liveability: Strategies used to enhance the liveability of places, especially for young people, including examples from Australia and Europe ([ACHGK047](#))

#### Year 8 Geography

- Landforms and Landscapes: Human causes and effects of landscape degradation ([ACHGK051](#))

#### 7/8 Design and Technology

- Processes and Production Skills: Generate, develop, test and communicate design ideas, plans and processes for various audiences using appropriate technical terms and technologies including graphical representation techniques ([ACTDEPO36](#))

#### Objectives:

##### Students will be able to:

- Explain the relationship between waste and waterways
- Identify the impacts of plastic in waterways
- Propose solutions in response to plastic in waterways

#### POST & PRIOR LEARNING:

Prior Learning: Students should be able to write structured sentences and use critical thinking skills to develop solutions to problems. They can describe the location of places and explain characteristics of places in different locations. Students can locate, collect and organise useful data, present their findings using geographical terminology and digital technologies in a range of communication forms.

#### TIME REQUIRED:

Time will vary according to tasks completed by students in class or fieldwork.

### Resources Required

- <https://www.youtube.com/watch?v=fGQOKERpUhU&t=51s>

## TEACHING AND LEARNING STRATEGIES:

### 1 Introduction

#### Understanding Marine Waste:

Students think about everyday household items they use that could be harmful to the environment. They should consider which items have the most impact on waterways. The teacher should facilitate class discussion and introduce the concept of marine waste.

Play the video below to introduce the concept of marine debris to students. [1]

*What is Marine Debris? | A Cartoon Crash Course (1:54)*

<https://www.youtube.com/watch?v=fGQOkERpUhU&t=51s>

#### Questions:

- What is marine debris?
- What are some impacts of marine debris?
- How does this affect the overall human–environment relationship?

### 2 Body

#### Fieldwork (optional)

Students visit a local river/lake/creek to examine the pollution in the waterways. The teacher should direct students to assess the shores of the river/lake. Students should take photographs of the shores. They should create a short presentation from this fieldwork answering the following questions.

#### Questions:

- What type of waste is on the shore?
- What is the most common waste on the shore? Provide reason.
- Describe how the waste ends up in the marine environment.
- Describe the impacts of marine waste.
- How can marine waste be reduced?

**OR**

#### Class activity

Teacher should fill a large clear bowl with water and gravel to create a shoreline. Tell the students that the bowl represents a lake. Ask students to brainstorm a list of land and water uses and types of pollution that might end up in the lake. Teachers should facilitate class discussion and write student responses on the board.

Explain to students the different sources of pollution. This may include runoffs such as oil and gas washed off city streets from cars, or human activity pollution such as non-recyclable plastic.

Place some oil and plastic in the bowl of water to illustrate the result of waste in waterways.

## Case Study

Students look at the marine waste in the Great Barrier Reef.

Play the video below to show students the impacts of marine debris in the Great Barrier Reef. [2]

*Threats to the Reef – marine debris (4:00)*

<https://www.youtube.com/watch?v=L2ON1Y4XcwQ>

The teacher should facilitate class discussion after the video. Focus on how marine debris has affected turtles in the Great Barrier Reef.

Further reading [3]: [https://www.abc.net.au/triplej/programs/hack/reef\\_plastics/9373448](https://www.abc.net.au/triplej/programs/hack/reef_plastics/9373448)

## Letter to the Government

Students write a (hypothetical) letter to the Queensland government, responsible for the Great Barrier Reef. Students should address the issue of marine waste and propose solutions to decrease waste in waterways. This could be written electronically or on paper. The teacher should provide a scaffolded letter format for the students to use.

## 3 Conclusion

**Exit Ticket:** On a piece of paper, students should write down three things they learned in this lesson, two things they want to learn more about and one question about the lesson. They should hand the paper back to the teacher before leaving the classroom.

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## REFERENCES

1. Pew. *What is Marine Debris? | A Cartoon Crash Course* [web-streaming video]. YouTube: PEW; 2016 [cited 2020 October 9]. Available from: <https://www.youtube.com/watch?v=fGQOkERpUhU&t=51s>
2. Great Barrier Reef Marine Park. *Threats to the Reef – marine debris* [web-streaming video]. YouTube: Great Barrier Reef Marine Park; 2016 [cited 2020 October 9]. Available from: <https://www.youtube.com/watch?v=L2ON1Y4XcwQ>
3. McKeith, S. Great Barrier Reef could be at risk from billions of pieces of plastic trash [Internet]. ABC; 2018 [cited 2020 October 9]. Available from [https://www.abc.net.au/triplej/programs/hack/reef\\_plastics/9373448](https://www.abc.net.au/triplej/programs/hack/reef_plastics/9373448)