

LAND LITTER AND MARINE POLLUTION

- TEACHER'S NOTES



KEY MESSAGES

When our waste escapes into the environment it becomes litter. Litter is having a serious effect on the environment. By changing what we buy and what we throw away we will help the health of the planet

CURRICULUM LINKS- NSW

- **This program explicitly teaches GEOGRAPHY Stage 2**

The Earth's Environment: Protection of Environments

A student:

GE2-2 describes the ways people, places and environments interact.

Students investigate sustainable practices that protect environments e.g. discussion of ways waste can be managed sustainably.

GE2-4 acquires and communicates geographical information using geographical tools for inquiry.

INQUIRY QUESTION/S

- How can people use places and environments more sustainably?

- **This program supports parts of the SCIENCE Stage 2**

A student:

ST2-2VA demonstrates a willingness to engage responsibly with local, national and global issues relevant to their lives, and to shaping sustainable futures.

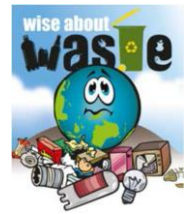
ST2-11LW describes ways that science knowledge helps people understand the effect of their actions on the environment and on the survival of living things.

CROSS CURRICULUM PRIORITIES

- 1) Sustainability
- 2) Civics and Citizenship

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BACKGROUND INFORMATION

Litter that is not reused or recycled can easily become marine litter. Even if your school seems like it is nowhere near the ocean, litter dropped in the playground can end up in the sea. When it rains, litter is most likely washed from your school grounds into storm water drains and gutters.... this water and rubbish can then make its way to rivers, lakes and oceans. Once there, the litter can be extremely harmful to plant and animal life - plus it's no fun for humans to drink or swim in!

Polluted waterways aren't the only problem arising from litter. If a person throws an apple core from a bus onto the roadside, it can promote the spread of weeds and affect animal habitat and diet. If people throw a lit cigarette from a car window, it can cause a bushfire or grassfire. Australia's economy is also affected as litter can affect tourism, the seafood industry and sport and leisure activities.

Plastic litter is particularly damaging to the marine environment as it does not break down at all (it just breaks into smaller pieces) and we produce a huge amount of litter through single use plastic products like plastic bags and drink bottles. Australians throw away over 7,000 plastic bags in just one minute.

Of the 41 million tonnes of waste being created by Australians each year:

- 40% is being sent to landfill or dumped in the environment
- 60% is being recycled or recovered for reuse Source: National Waste Reporting 2013



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LEARNING ACTIVITIES

Students will be investigating the impact of waste on the environment, thinking about litter in their school and community and coming up with ways that they can make a difference.

1) **Introduction – TRASHVOCA BEACH - Discussion stimulus.**

Image made by school students, inspired by the work of local environmental artist, Judith Price.

The Trashvoca Beach image was made by the students at Avoca Beach Public School. It was inspired by the artwork of local environmental artist, Judith Price. The image is created using a painted canvas, overlaid with objects of marine debris.

Hold up the marine debris artwork. Give time for the students to look deeply at the image. Ask the students the following focus questions

a) **Class Discussion Focus questions:**

- i) **What do you see?**
- ii) **What do you think about this?**
- iii) **What does it make you wonder?**

2) **Facilitated class discussion about litter in their own lives.**

a) **Focus questions:**

- i) **What is litter?**
- ii) **Where does it come from?**
- iii) **Why is it a problem?**

Definitions:

| | |
|--------|-------------------------------|
| Waste | Unwanted or unusable material |
| Litter | Illegally disposed of waste |

b) **Focus questions:**

Ask the students to share some of their stories about seeing litter in the environment. Show a map of the school grounds and discuss the litter 'hotspots'.

- i) **Where do the school stormwater drains lead to?**
- ii) **What harm could be done by litter that leaves the school grounds?**
e.g. could be eaten by marine life or land animals?



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3) Group work – Problems & Solutions

Students work in groups of 3 or 4. Each group chooses one of the two activities to investigate the issue of waste in the environment. After their investigation, students will report back to identify the problems and their own solutions.

Investigating Phase

a) Task 1 – Info Graphic 1 or Info Graphic 2

The student groups choose one of the infographics provided. In their small group, students discuss the infographic. On a piece of scrap paper, they draw two columns headed, 'Problem' & 'Solution'. Students gather as much information and facts and figures from the infographic as they can and write that in the 'Problem' column. They then brainstorm their own ways of dealing with this issue in the 'Solution' column.

b) Task 2 – Role Play

The student groups choose a role play scenario involving littering. They then act out the waste problem and develop a solution and include it in their performance.

Reporting Back

Students re assemble for the role play performances and the reporting back on problems and solutions from the infographic groups.

c) Task 3 – Twitter Feed – Inspiring others to make a difference.

Students prepare a Twitter post using the twitter slip provided. Using 140 characters or less they are to write a post to inspire others about what they can do to reduce land litter and marine pollution. This may include a statement of a problem discovered in their info graphic, or it may be a solution they have developed to reduce the problem.

Student twitter posts are taped to the board as they are completed to represent a live Twitter feed.

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REFLECTION - Head/Heart/Hands

Ask students the following questions to facilitate a reflection of the lesson;

- Head – What have you learnt about litter in the environment?
- Heart – How are you feeling now about the impact of waste on the environment?
- Hands – What is one thing you are going to do differently now?

GOING FURTHER

- Obtain a map of your school building and playground. Walk around the school and identify where the storm water drains are. Mark these on your map and state whether they have visible rubbish inside.

ROLE PLAY SCENARIOS

- 1) Play any human or animal affected by the rubbish. If the bird could talk, what would it say? Consider solutions.
Eg. at the beach a seagull gets it's leg caught on a bit of fishing line.
- 2) Sports ground training. You've been to a game or training and you bought some sports drink from the canteen. You can't see a bin so you just leave the bottle on grass. Consider solutions.
- 3) You are driving along with your family. You have just finished your McDonalds. Someone in the car decides to throw the rubbish out the window. What do you do?

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SOURCES

- 1) www.coolaustralia.org (2015). Education Resources. Retrieved from <http://www.coolaustralia.org/>
- 2) <http://www.take3.org.au/>
- 3) <http://www.boomerangalliance.org.au/>

RESOURCES

- 1) Trashvoca Beach marine debris poster
- 2) Map of school grounds and the school in the local catchment
- 3) We want less litter Infographic (Greenpeace) x 4 copies
- 4) Journey of Trash Infographic x 4 copies
- 5) Problem/solution student worksheets
- 6) Role play scenario cards
- 7) Twitter slips