



Lesson 3: Litter and the Environment

NetWaste Teacher Resource for primary schools

Teacher overview

Litter is defined as any material that is discarded, directly or indirectly, into the environment. Direct littering refers to items that are intentionally discarded by the user, whilst indirect littering refers to items that are spread by natural systems including the movement of litter by birds, other animals, and weather patterns such as wind and rain. Litter can include materials that are dropped or left behind, materials that are placed beside an overflowing bin, or trailer loads that are poorly secured. Illegal dumping refers to material that is actively driven to an isolated location and dumped.

Litter is not restricted to one environment type, but can be present in all environments, from footpaths, roads, train stations, beaches, parks, waterways, natural areas and vacant blocks. Litter often travels from urban environments into creeks and rivers before making its way into the ocean. Littering around the world is having such a large impact that it is predicted that there will be more plastics than fish in our international oceans by 2050. (Source: World Economic Forum, Ellen MacArthur Foundation, McKinsey & Company, A New Plastic Economy: Rethinking the Future of Plastics (2016) http://www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf) A range of littered materials have the ability to harm terrestrial and marine animals through a range of different impacts, including suffocating the animal as it attempts to digest it, or immobilising the animal by becoming tangled around its limbs.

Litter also has a range of societal impacts, including destroying the aesthetics of an area by making it look dirty and uncared for, as well as having the potential to cause harm to the individuals who try to use the area. Broken bottles and aluminium cans are especially likely to cause injuries in places such as parks, pathways, beaches and sporting grounds. Discarded cigarette butts and glass containers pose the risk of causing fires when not appropriately disposed of.

The economic impacts of litter are significant. Most councils employ litter and street cleaning teams to remove litter before it travels into rainwater systems. Large volumes of waste trapped in stormwater drains can lead to flooding. In addition to clean up costs, many Councils also spend money on litter prevention, compliance and disposal. In NSW, litter costs at least 180 million every year to clean up. (Source: <https://www.nsw.gov.au/improving-nsw/premiers-priorities/keeping-our-environment-clean/>)

We all have a choice when it comes to the way we generate and dispose of waste materials. The State Government's vision is to create a state free from litter and illegal dumping and everyone can do their bit to support this vision and take action to prevent and minimise litter.

Note: This lesson outline is suitable for delivery to all primary school year levels. Teachers can extend or simplify the content and activities to suit the age and ability of their students.



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Learning Outcomes

- Develop an understanding of what litter is and where it comes from
- Be able to identify the different types and source of litter, as well as develop an understanding of the duration of time litter can remain in the environment
- Recognise different littering behaviours and the reasons why people litter
- Appreciate the detrimental environmental and social effects of litter and what steps can be taken to prevent and minimise litter

Lesson Outline

To be used in conjunction with the Litter and the Environment PowerPoint presentation (PPT)

An introduction to litter

- Refer to slide 2. Introduce the term 'litter'. Ask students what they consider to be the definition of litter.
Definition: Litter is any material that is dropped or discarded, either directly or indirectly, into the environment by its owner.
- Refer to slide 3. Ask students to identify common litter items and where these items can be found. Common places include parks, beaches, roadsides and schools. Discuss why litter is often found in these places.
- Refer to slide 4. Ask students if they think litter normally remains in one place, or if it moves through the environment. Ask the students to think about how litter might move through our environment. Some examples of how litter moves include wind, rain, animals and birds etc.
- Refer to slides 5, 6 and 7. See if students can guess how long some of the most commonly littered material types may stay in the environment before they begin to breakdown. Write their guesses on the board and discuss their answers and the actual timelines. Discuss some of the potential environmental and social issues associated with litter remaining in the environment for such long periods.

Why do people litter?

- Refer to slide 8. Ask students to consider why they think people litter and what actions could be taken to prevent or minimise littering behaviours, such as those outlined in the table below:

Reason for littering	Actions to reduce littering
No bins	Waste can be taken home or to an area where bins exist.
Available bins are full	Waste can be taken home or to other bins. Leaving waste on the ground near the bin, or overflowing from the bins is still considered littering.
Available bins are dirty or smelly	If you do not feel comfortable using the available bins ask an adult to assist. Otherwise, waste can be taken home or to other bins.
Litter can already be seen in the area	Litter already visible in the area does not mean it is ok to add more litter. By properly disposing of their waste students are demonstrating the correct behaviour and may help to educate others in the community.
People are lazy	Considering the impacts of littering can help to change the actions of those who may commonly litter.
Lack of education- people didn't realise their behaviour was littering	Students can help to educate their friends and family to ensure they are aware of the impact of littering.



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Common littering behaviours

- Refer to slide 9. Ask students to consider how people litter. Have they seen people littering? Who litters the most: Boys or girls? Older people or younger people?
- While all different types and ages of people litter, often there are differences in littering behaviours. Ask the students if they recognise any of the following littering behaviours:
 - Wedgers – those who press their waste into small gaps (e.g. in tables and beside chairs),
 - Foul shooters – those who throw their rubbish towards a bin and miss, leaving the waste on the ground close to the bin,
 - Inchers – those who very slowly move away from their waste until it appears that it doesn't belong to them, and
 - Undertakers – those who bury their waste underground, e.g. those who bury their waste under the sand when at the beach.

The impacts of littering

- Refer to slide 10. Have a class discussion and ask the students to think about some of the potential environmental and social impacts of litter as per the examples provided:
 - Litter is dangerous for the environment and can endanger a number of different animals and birds before it properly decomposes
 - Litter attracts litter. An area in which litter already exists can tempt people to be lazy and dispose of their rubbish unthoughtfully.
 - Litter can block drains and cause flooding – litter naturally flows towards rainwater drains during rain events. Large volumes of litter in these systems can cause blockages and flash flooding.
 - Litter can be a fire hazard – littered cigarette butts and pieces of glass can easily cause fires.
 - Litter is expensive – local governments employ people to clean-up litter before it harms our communities or environment.

The journey of litter with Lionel the Litterbug

- Refer to slides 11 – 22. Read the story of Lionel the Litterbug and watch the journey of the plastic bags as it travels through the environment.

Lionel the Litterbug ate his lunch in his local park. At the end of his lunch, he went to put his rubbish in the local bin. When he got to the bin he realised it was full and his rubbish would not fit inside. Lionel thought that if he put his rubbish beside the bin, it would be collected and would not be a problem. Therefore, Lionel dropped his plastic bag full of rubbish on the ground next to the bin and left.

Did Lionel litter? What could Lionel have done with his rubbish instead, so as not to litter?

Soon afterwards Lionel left the park and a group of Ibis found the bag of rubbish next to the bin. Curious about what was inside, one Ibis removed all items from the bag. After the Ibis left, a light breeze swept through the park and picked up the now empty and light bag. The bag was carried away from the park and into the surrounding environment.

That afternoon it begins to rain. The rain carries the plastic bag further away from the park and into the storm water drains. The plastic bag travelled through the storm water drains,



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along with other pieces of litter until it made its way into the local creek system. A small family of ducks live in the creek system.

How does the creek look with so much litter? Do you think it is healthy for the ducks to live with so much litter? Would they like to have so much litter around their habitat?

The bag continues its journey further downstream until it makes its way to the river mouth. From here the plastic bag is carried out into the ocean. As plastic bags take a very long time to decompose the plastic bag is left to float around the ocean on many currents, impacting many animals. Plastic bags look a lot like a common marine animal when they are floating in the ocean.

What animal does the plastic bag remind the students of as it is floating in the ocean?

One of the turtle's favourite foods is jellyfish. Unfortunately, turtles are not good at telling the difference between plastic bags and jellyfish, and commonly eat plastic bags by mistake. Plastic can make animals, including turtles, very sick.

Did Lionel litterbug mean for his plastic bag to end up being eaten by a turtle? What could he have done instead to prevent his rubbish from becoming litter?

What can I do to minimise and prevent litter?

- Refer to slide 24. Discuss some of the actions that can be taken to minimise and prevent litter such as always putting litter in a bin or taking it home, or joining a litter clean up activity such as Clean Up Australia Day.
- Refer to slide 25. Explain to students that people caught littering can be fined and, in serious cases, some litterers can face court.
- Refer to slides 26 - 28. Ask students to describe how litter makes them feel. Do they like it when they can see litter in an area they visit? Discuss litter at your school. Is litter at your school a problem? Do you wish there was less litter at your school? Where is litter most commonly seen at your school?
- Refer to slide 29. Focussing on the school environment, discuss the most likely sources of litter at the school. E.g. lunchboxes, tuckshops, classrooms
- Ask students to brainstorm how to pack their school lunch to reduce waste and litter. Introduce the terms "low waste", "litter-less lunch" and "nude food". Examples include:
 - Use reusable containers when packing lunch
 - Take "nude food" such as fruit that does not require wrapping
 - Pack a reusable drink bottle

Summarise the presentation: using focus questions, ask students to identify things they have learned and clarify their understanding of key terms and concepts.

Accompanying lesson resources

- Litter and the Environment PowerPoint Lesson

Activity suggestions

1. Littering behaviours – role play

Divide students into small groups. Ask students to role-play some key littering behaviours. The students can present their role-play to the rest of the class and the



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students have to guess which behaviour is being depicted (e.g. wedger, foul shooter, incher or undertaker).

2. Litter free lunches – letter to parents

Ask students to write a letter to their parents/ caregivers about the importance of packing a litter-free lunch. Ask the students to include the following points in their letter:

- Name an impact that litter can have on the environment
- Explain the benefits of packing a lunch that does not contain litter
- What types of food the student would prefer in their lunchbox
- Packing a 'nude food' item such as fruit that does not need wrapping
- Why reusable bottles are better than poppers for example

For younger students, ask them to draw and label a litter free lunchbox.

3. School litter audits

Divide students into small groups and send them to areas of the school to conduct a litter audit. The location that litter is found in the school should be marked on a map.

As a class, sort and separate the litter items and ask students to collate and tabulate the results of the litter audit.

Discuss the findings from the litter audit. What types of materials are being littered? Where are the source/s of the litter? Discuss the idea of holding a litter-free lunch day one day a month at the school.

Write up the activity and the results.

Note: For OH&S reasons, provide students with gloves, buckets and tongs to collect the litter and reminded students to wash their hands thoroughly at the end of the activity.

Suggested activity resources

- Litter and the Environment PowerPoint Lesson – Slide 9 – Litter Behaviours
- Buckets, gloves and tongs