

Lesson Plan: War on Waste - waste management and the environment (Science, Yr. 4: ACSHE062)

Note: Also can be adapt for Science, Yr.2 ACSHE035; Science, Yr.3 ACSHE051

Lesson: 1 of 1

Grade: 4

Date:

Teacher:

Background

Australians use over 10 million new plastic bags each day. Plastic bags are problematic for the environment; they take a long time (up to 1,000 years to breakdown) and end up in landfill, or worse, in our creeks, rivers and oceans.

Most Australian states have banned single-use supermarket bags.

Since households no longer have as many supermarket plastic bags, they may buy plastic bin liners! This lesson will explore this issue and have students create and make organic bin liners out of old newspapers using a variety of cognitive and co-operative tools.

See a video of this lesson at <https://www.youtube.com/watch?v=ELLMGo9H4zw>

To see how to make the organic bin liner, visit <https://www.youtube.com/watch?v=cWWIHGLxTNM>

Curriculum Standards

Chemical sciences: Processed materials have a range of physical properties that influence their use (ACSSU074)

Science knowledge helps people to understand the effect of their actions (ACSHE062)

Lesson Intention and Success Criteria

In this lesson you will:

Explain the causes and effects of high plastic bag use

Apply the steps to making a bio-degradable (organic) bin liner

Analyse the bio-degradable (organic) bin liner

Re-design the bio-degradable (organic) bin liner

Success Criteria

You will have succeeded in this lesson if, by the end of this lesson, you can:

1. **Explain** at least 3 reasons why we use so many plastic bags
2. **Explain** at least 3 reasons why plastic bags are an environmental problem
3. **Create** and **construct** a bio-degradable bin liner from newspaper

Vocabulary

Resources

Differentiation

High-Density Polyethylene (HDPE)

Bio-degradable

Human Impact

Causality

1 x plastic bag (single-use, supermarket bag)

4 x sheets of broadsheet

newspaper per pair of students

2 or 3 scissors

Opportunity for DI in Cause-Effect map and PCQ

See optional activities

Starting Activity

1. True / False

Give students a list of 10 x statements of the use of plastic bags in Australia and their impact. How? Think:Pair:Share

See <http://www.cleanup.org.au/au/Campaigns/plastic-bag-facts.html>

Middle Activity

1. **List** the causes and effects of high plastic bag use in Australia and list the impacts on the environment. How? Cause & Effect Map
2. **List** master Cause & Effect Map on WB with teacher instruction and class dialogue
3. **Construct** a bin liner from newspaper. How? Pairs
4. **Analyse** the bin liner. How? PCQ
5. **Re-design** a bin liner. How? MAS

Hint: A problem is that the liner is quite small. This can be overcome by using about 7 sheets

of paper, and placing them slightly apart to form a large square. Students may require a stapler for extra strength! However, it is best to see if the students discover these issues in their analysis. Can the students problem solve?

Optional Activities

- Students research the price of a roll of plastic bin liners. How many are used per week in their households? What are the savings per day/week/month/year? (Maths, Yr.4: ACMNA081)
- Students plan, draft and publish a role-play to persuade their parents to give them some regular pocket money for making the liners! (English, Yr.3-6: ACELY1694)
- Students film an instruction guide to create their bin liner and post on the school intranet (English, Yr.3-6: ACELY1697)

Closing Activity

Reflection: How? 321:RIQ
(3 x Recalls, 2 x Insights and 1 x Question)

Homework

Assessment

Formative

- Cause-Effect
- PCQ
- Bin Liner

Teacher Reflection

What went well?

What needs improvement?

Teacher reflection:

New ideas, resources to add: