

Recycle right

It all starts with you and me!

This learning opportunity is aimed at Levels 3 & 4 of *The New Zealand Curriculum*. However, there are a number of ways that the properties of materials, sorting of materials, and subsequent recycling outcome, can be explored at Levels 1 & 2. Understanding how materials can be grouped is a step towards safe and efficient recycling practices.

The focus of the opportunity is to:

- explore and discuss kerbside recycling: its purpose and our responsibilities
- identify the materials that can and cannot be recycled
- discuss why “recycling right” is good for the safety of workers and the efficiency of the process
- understand that students can become ambassadors for great recycling practices.

Possible achievement objectives

Science Levels 1 & 2: Material world

Properties and changes of matter:
Observe, describe, and compare physical and chemical properties of common materials and changes that occur when materials are mixed, heated, or cooled.

Social Studies: Level 2

Understand that people have social, cultural, and economic roles, rights, and responsibilities.

Science Level 3: Material world

Properties and changes of matter:
Group materials in different ways, based on the observations and measurements of the characteristic chemical and physical properties of a range of different materials.

Social Studies: Level 3

Understand how people make decisions about access to and use of resources.

Science Level 4: Material world

Properties and changes of matter:
Group materials in different ways, based on the observations and measurements of the characteristic chemical and physical properties of a range of different materials.

Social Studies: Level 4

Understand how producers and consumers exercise their rights and meet their responsibilities.

Materials

Before you begin to explore this learning opportunity with students, gather appropriate materials from the list below, depending on the level at which you are working.

Levels 1 & 2

Examples of clean materials, (for example, glass jars, tins, soda cans, plastic milk bottles, newspapers)

Magnet, to help sort steel from aluminium

Photo set 1A: *Recycling bin/recycling truck and worker*

Levels 3 & 4

Multiples of clean materials, (for example, glass, tin, aluminium, plastic, paper)

Examples of other materials: (wood, cloth, a piece of fruit, a mobile phone)

Graphic Organiser 1A: *It starts with you and me*

Graphic Organiser 1B: *Safe recycling rules*

Video: *Visy Recycling Education Video*

Picture Set 1B: *“Yes or no?” game*

Learning Opportunity: Levels 3 & 4

Begin this learning opportunity by watching [video 1: Auckland recycling - Learning Opportunity 1](#) with the students.

As they watch, have them take note of the key messages in the first section of the Graphic Organiser: *It starts with you and me*.

- Our efforts will determine how clean and green our city is.
- As the city grows, people create more waste.
- Recycling can divert waste from landfills.
- All of the city's kerbside recycling goes to one place for sorting – the "materials recovery facility" (MRF).
- Both people and machines help sort and bale the recyclable material.
- More than 200 truckloads are delivered to the Auckland MRF each day.
- The first step is the "pre-sort" process.

Invite several students to share questions or make observations from their notes. You could prompt responses by asking, for example:

- *Who is responsible for making sure recycling happens?*
- *Why do we need to divert waste from landfills?*
- *What would happen if nobody recycled?*
- *How does plastic, glass, metal, and paper get to the MRF?*
- *Why can you put all kinds of material into your recycling bin?*

Next, spread all the materials out on a table so students can see each item.

Have students take turns to pick up an item and say whether it fits the description of something that can be recycled at the kerbside, and why.

It's important for students to understand that some items can be recycled in other ways:

- Some food scraps can be composted at home.
- Clean cloth can be recycled in community bins to raise money for charity.
- Soft plastic can be recycled at collection points in many supermarkets.
- Tech items such as mobile phones and computers can be taken to e-Waste centres.

Now ask students to recall the "pre-sort" process from the video. If necessary, watch that section of [Visy Recycling Education Video](#) again.

- *What does "safe" recycling mean? (Materials are clean, empty, and not dangerous)*
- *If you were one of the workers, what rules would you want people to follow to keep you safe and to make sure the recycling process happened?*

Have the students work in pairs using the Graphic organiser: *Safe recycling rules* to create guidelines that contribute to safe working conditions, For example, no dirty items (such as nappies or old food); no dangerous items (such as broken glass, batteries, or gas cylinders); no containers with liquids remaining.

To reinforce ideas from this learning opportunity, you could have students use the Picture Set 1B: *"Yes or no?" game*. This game can be played in pairs, or as a class, with one student being the quiz master.

1. The quiz master holds up a card and names the item.
2. A chosen student says yes whether it can or cannot be recycled at the kerbside.
3. If not recyclable at the kerbside, the quiz master asks how the material can be recycled in another way.

Independent Student Inquiries

As a result of watching the video and discussion, students may want to know more about the recycling process or their roles in this. Work with them to form rich questions that can form the basis of independent enquiries. For example:

- Why don't companies all use one kind of plastic to put food in? Wouldn't that make recycling easier?
- At the MRF, the process ends with the sorted materials being baled or packaged and sent to other factories. What happens to them there? What new items do they make?
- How many times can material, such as glass or paper, go around the "recycle cycle"?
- What happens to material that's not recycled? Who takes care of it? Show students the video [Sea cleaners - educational animation](#).

Encourage students to present back to the class in innovative ways, (for example, a rap, a TV interview, or a short skit filmed on a mobile phone).

Jusy ask Binny!

Students can use this bot to ask any question about recycling in Auckland, and get an instant response – no looking up required! They can connect with *Binny: Your Auckland recycling buddy* on Facebook messenger or by downloading Binny from the App Store. Type or speak your question and get the answer straight away.



Working with Levels 1 & 2

Have the students work in pairs or small groups, and provide each with a selection of the clean materials. Ask them to explore the materials.

- *What do they sound like? (paper rustles, clink or clank when you hit them)*
- *What do they feel like? (smooth/rough, crinkly/bendy, heavy/light)*
- *What do they look like? (shiny, see-through)*

Have the students group the items according to the materials type. Clarify the difference between tin cans and fizzy drink. Both are metal, but one is steel and one is aluminium. They can use a magnet to check which is which.

Hold up a glass jar and ask for ideas:

- *What happens to this when you've eaten all the jam or peanut butter?*

Listen and accept all suggestions. Then show students the Picture set 1A: *Recycling bin/ recycling truck and worker*.

- *Have you seen one of these bins? What is it used for?*
- *Have you seen a truck like this? What does it do?*

Introduce the idea that trucks like this collect plastic, glass, tins, and paper from our houses.

They are taken away, sorted, and made into new things. Key ideas to talk about include:

- When we recycle, we are making sure things like glass and paper are used again.
- This is a good thing to do. It stops waste. Instead of going to landfills (the dump), material is made into other things that we can use.
- This glass jar might end up being part of a new jar, or a glass bottle.

Reflect on Learning

The focus of this opportunity was to:

- explore and discuss kerbside recycling: its purpose and our responsibilities
- identify the materials that can and cannot be recycled
- discuss why "recycling right" is good for the safety of workers and the efficiency of the process.

Briefly discuss these three learning outcomes and address any points that are still unclear.

Explain that the next learning opportunity will look at how the materials we recycle at the kerbside will be handled at a "materials recovery facility" (MRF).

