CITY OF
TEA TREE GULLY
Naturally Better

Lift the right lid

Teaching & learning resource

Upper primary (Years 3 to 6)

Welcome

This teacher and learning resource has been developed by the City of Tea Tree Gully to support teachers and educators in fostering sustainable waste management practices among students.

We extend our sincere thanks to the education institutions, industry partners, government agencies, peak bodies, and Council staff who contributed their time and expertise to the development of this resource.

While every effort has been made to ensure the accuracy of the information at the time of publication, the City of Tea Tree Gully does not guarantee its completeness or accuracy and accepts no liability for any errors or omissions.

MORE INFORMATION

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Introduction

Waste is a growing global issue, with significant environmental, economic and social consequences. Educating the youngest members of our community about its impact is an important step in building a more sustainable future.

This teaching and learning resource supports upper primary educators to deliver purposeful and engaging waste education that builds curiosity, critical thinking and problem-solving, while deepening students' understanding of waste and its impact on their community and environment.

Through a structured sequence of inquiry-based activities, students will explore the lifecycle of waste, the scale of waste generation, and the consequences of everyday choices.

Hands-on investigations and real-world examples enable students to identify the amount of waste unnecessarily being sent to landfill and apply practical strategies to reduce, reuse and recycle more effectively. Clear, consistent messages reinforce correct behaviours and prompt students to reflect on and improve not only their own habits, but those of their families and school community as well.

Aligned with the Australian Curriculum, this resource provides practical lesson ideas, adaptable teaching strategies and guided discussion prompts to support seamless classroom integration.

This initiative supports the City of Tea Tree Gully's commitment to a more sustainable future, one where waste is minimised, resources are recovered, and impacts on the environment and community are reduced. By embedding waste education in primary schools, we aim to build informed, responsible behaviours and contribute to a broader culture of sustainability.

Together, we can rethink waste, conserve resources and move towards a more circular future, where materials are valued and kept in use for as long as possible.

Why waste matters

Every time we throw something away, we rarely stop to consider its impact. But waste isn't just waste. Many discarded items - glass, plastic, paper, batteries, electronics, food and garden waste - hold untapped value. Often these items, when recovered, can be transformed into new products, reducing our reliance on natural resources and minimising environmental harm.

From a young age, children begin to learn about the world around them. One of the most valuable lessons we can teach them is how to care for the environment. Waste plays a significant role in this.

Our waste management practices directly impact our community and the environment. By teaching children about the life cycle of waste and responsible resource use, we can help them build lifelong sustainable habits.

Waste isn't just rubbish, it holds value. Discarded materials, like glass, plastic, paper, metal, batteries, and food scraps, can be recycled, composted or repurposed to make new products. Recycling common waste items helps conserve natural resources, reduces water and energy consumption and minimises pollution.

If waste isn't managed properly, it can have serious environmental consequences:

- Recyclable and compostable materials often end up in landfill due to incorrect disposal. When these materials are sent to landfill, they take up valuable space and contribute to pollution.
- Plastics can end up in our rivers and oceans, posing a threat to wildlife and ecosystems.
- Food waste in landfill creates methane, a powerful greenhouse gas that contributes to climate change.

The actions students take every day, such as sorting waste correctly, composting food scraps, and choosing to reduce, reuse and recycle, may seem small, but they are part of a much larger solution. By developing these habits early, students begin to understand how their choices can reduce environmental impacts and contribute to positive change both locally and globally.

The local context

As our community grows and changes, so does the amount of waste and recycling they create. More people, busier lifestyles, and new habits all affect how much waste we produce.

City profile

Total land area:

9,521 hectares

- 66% urban area
- 33% rural area

Open space:

1,305 hectares

Parks and reserves:

606

Trees:

500,000+

Sealed roads:

578 km

ECONOMIC PROFILE

Registered businesses:

5,499

Jobs in CTTG:

25,879

Residents employed

50,906

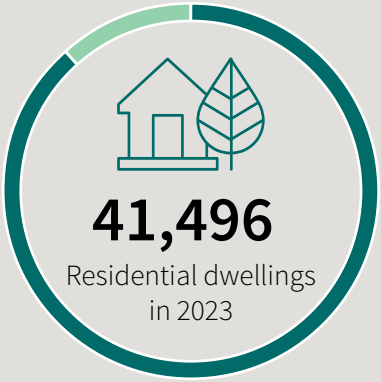
Community profile



- 0–14 years (17.3%)
- 15–34 years (22.6%)
- 35–59 years (32.7%)
- 60–84 years (24%)
- 85+ (2.4%)



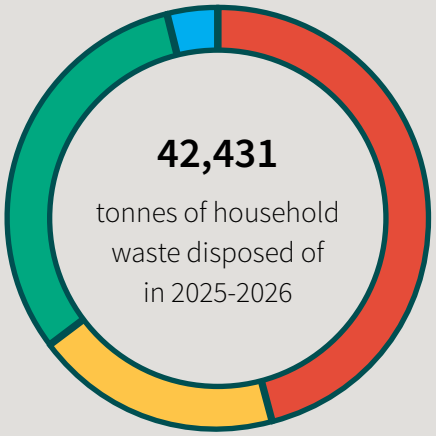
- Couple family with children (12,389)
- Couple family no children (11,535)
- Lone person household (9,292)
- One parent family (4,480)
- Multiple family (1,068)
- Group household (757)
- Other family (328)



- Separate house (36,721)
- Medium density (4,734)

Understanding waste in the city of tea tree gully

In 2025-2026, households disposed of about 42,431 tonnes of waste. Alarmingly, nearly half of this waste was sent to landfill.



- Landfill - 18,680 tonnes
- Recycling - 7,204 tonnes
- Organics - 15,321 tonnes
- Hard waste - 1,132 tonnes



404 kg
of waste disposed of per person in 2025-2026.



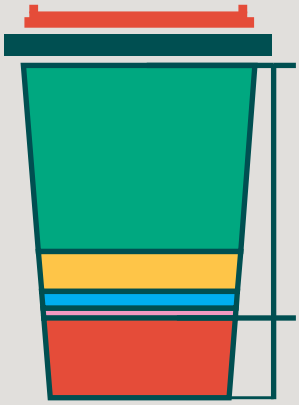
44%
of household waste was sent to landfill.



9.0 kg
The average weight of the red-lid landfill bin per collection.

The red-lid landfill bin

Many items found in the red-lid landfill bin could be recycled or do not belong in the bin at all. In fact, about 72% of the items found in this bin could be diverted from landfill.



72%
of what goes in the general waste bin does not belong in this bin.

28%
of what goes in the general waste bin belongs in this bin.

- 54% Food an organics
- 16% Recyclables
- 1% Hazardous items
- 1.5% Other items
- 32% Landfill items

This means around 13,450 tonnes of reusable resources were sent to landfill unnecessarily in 2025-2026. The disposal of this organic, recyclable and hazardous material cost our community about $2.2 million in solid waste levy charges. That's money that could have been invested in improving our city.

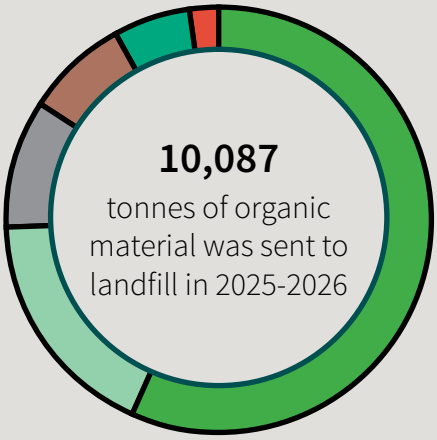
The organic opportunity

While all recycling is an important part of reducing waste, the greatest opportunity for impact lies in food and organic waste.

In 2025-2026, about 54% of the red-lid landfill bin was organic material such as food scraps, uneaten food, pet waste, garden waste and compostable paper. That's 10,087 tonnes of organic material that could have been placed in the green-lid food and organics bin and used to make compost.

Putting these items in the green-lid food and organics bin could have saved the community about $1.7 million is solid waste levy fees.

By focusing on food and organic waste first, we can make the biggest and fastest impact. Simple actions like using the green-lid bin for food scraps can significantly reduce landfill reliance, lower waste management costs and return valuable nutrients to the soil through composting.



- 29% Food scraps
- 9% Uneaten food
- 5% Compostable paper
- 4% Pet waste
- 3% Garden waste
- 1% Compostable food and drink ware

The green-lid food and organics bin

In 2025-2026, about 15,321 tonnes of organic material was collected through the green-lid food and organics bin. That's about 146 kg of organic material per person.

Garden material makes up about 92% of the organic material recycled through the green-lid food and organics bin. Just over 4% is food waste.

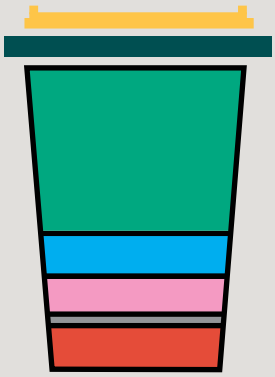


- 92% Garden organics
- 4% Food waste
- 2% Compostable paper
- 2% Contamination

The yellow-lid recycling bin

In 2025-2026, about 7,204 tonnes of recyclable material was collected through the yellow-lid recycling bin. That's about 69 kg of recyclable material per person.

About 14% of what is placed in the recycling bin does not belong in this bin. This mainly includes plastic bags and clothing.



- 56% Paper & card
- 19% Paper
- 13% Glass
- 13% Plastic
- 4% Metal
- 14% Contamination

While this resource focuses on waste in our local community, it is important for students to understand that waste is a global issue. The way we manage waste has far-reaching impacts on the environment, economies and communities around the world.

South Australian context

In 2022-2023, South Australia produced approximately 5.16 million tonnes of waste. However, through strong recycling and resource recovery efforts, 82.3% of this waste was diverted from landfill (Green Industries SA, 2023). This resulted in significant environmental benefits, including:

- Avoiding approximately 1.67 million tonnes of greenhouse gas emissions
- Saving 19.4 thousand terajoules of energy
- Conserving 6.4 thousand megalitres of water.

Despite these achievements, 914,000 tonnes of waste was still went to landfill in 2022-2023, much of which could have been avoided or better managed. Additionally, even the recovered materials could be processed more efficiently to support a truly circular economy. For example, glass bottles can be recycled indefinitely into new glass products, yet not all glass waste is being captured effectively.

South Australia is also leading the nation in banning single-use plastics, with legislation phasing out plastic straws, cutlery, and polystyrene food containers (Green Industries SA, 2023). However, continued efforts are needed to improve plastic recycling infrastructure and encourage businesses to adopt more sustainable alternatives.

Global context

As the world's population approaches 10 billion, the demand for resources continues to grow, and global waste generation is projected to increase by around 70% (World Bank, 2018). This puts increasing pressure on natural systems, contributes to greenhouse gas emissions and accelerates environmental degradation.

Service provision

The City of Tea Tree Gully provides one of the most comprehensive waste and recycling services in metropolitan Adelaide.

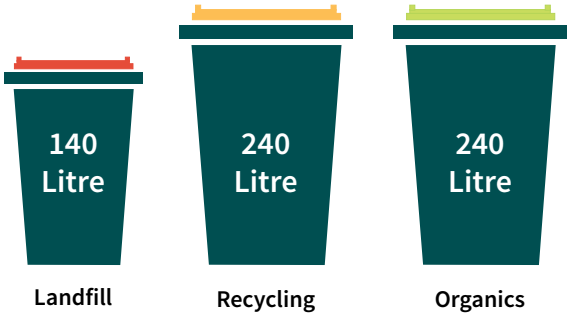
Beyond the three-bin kerbside system, Council provides a range of waste management services, including hard waste collection, drop-off facilities, illegal dumping removal, litter management in public spaces, waste planning for new developments and community waste education.

Waste management is among Council's most expensive services, representing around 10% of total revenue. A significant cost is the Solid Waste Levy, a state government fee Council must pay for landfill disposal. This levy accounts for approximately 30% of the total annual cost of collecting and processing household waste. Much of this expense could be avoided by correctly sorting waste into the appropriate bins.

Importantly, Council does not pay the Solid Waste Levy on materials placed in the yellow-lid recycling or green-lid food and organics bins.

Kerbside collection services

Residential properties and some businesses receive a three-bin kerbside collection as part of their standard rateable entitlement.



The red-lid general waste bin is collected weekly, with alternating fortnightly collections for the yellow-lid recycling bin and green-lid food and organics bin.

Additional bins are available upon request.

Mini munchers

Households can request a free Mini Muncher kitchen caddy with a year's supply of compostable liners. Extra liners are available for free at the City of Tea Tree Gully Civic Centre. All new dwellings receive a kitchen caddy and liners as part of their bin system.

Hard waste and mattress service

Residents are entitled to two free hard waste or mattress collections per year for bulky items unsuitable for kerbside bins. A limit of two cubic metres per collection applies.

Enviro care

Council runs about 20 Enviro Care events annually, offering free green waste drop-off for leaves, lawn clippings, and branches (up to 20 cm in diameter) on select Wednesdays and Sundays.

Hazardous household waste

Residents can dispose of hazardous waste like paints, chemicals, gas cylinders, and oils at free metropolitan drop-off locations. The nearest sites for City of Tea Tree Gully residents are:

- NAWMA Resource Recovery Centre
- Campbelltown Works Depot

Batteries, mobile phones and printer cartridges can be recycled at the Tea Tree Gully Civic Centre.

Public place services and litter

Council maintains more than 500 public waste bins in streets, parks and reserves. To enhance waste management, compactor bins have been introduced at certain locations. Council also provides regular street sweeping and cleaning of parks, reserves and sporting fields.

Illegal dumping

Illegal dumping includes large waste items such as mattresses, furniture, white goods and building materials, often found at parks, charity bins and public spaces. This issue harms the environment and public amenity. Each year, Council cleans up numerous incidents, ensuring as much material as possible is recycled.

Incentives and rebates

To promote waste reduction and reuse, Council offers rebates on cloth nappies, reusable sanitary products and composting equipment.

Waste education

Council provides waste education programs to help residents, schools, and businesses reduce waste and recycle effectively. These workshops, school visits, community events and hands-on activities promotes efficient resource use and responsible waste management.

Council's waste and resource recovery strategy

The City of Tea Tree Gully's Waste and Resource Recovery Strategy outlines our 10-year journey toward a more sustainable future, aiming to reduce waste, divert valuable materials from landfill, and protect both the environment and the community.

This strategy aligns with our vision for a strong, vibrant city and supports the state government's commitment to divert all waste from landfill where it is feasible to do so.

Central to the strategy is the need to redefine our community's relationship with waste. Shifting away from waste being viewed as an inevitable consequence of modern living to an opportunity for innovation and resource conservation is key to realising the kind of change we seek to make.

The strategy is built on the waste management hierarchy, which prioritises actions based on their environmental impact. This includes waste avoidance, reduction, reuse, recycling and energy recovery, with landfill disposal being the least preferred option. It is also informed by the national commitment to a circular economy and our state's progressive transition toward this model.

Key to the success of this strategy is education and community engagement. Our approach will support and empower learning institutions and students alike with the knowledge and tools needed to make informed choices about waste and resource use, ensuring a more sustainable future for the community.

Waste principles

Our Waste and Resource Recovery Strategy is guided by two principles that we believe best capture what our community has told us they want, what our City needs and what the national and state policy frameworks are driving towards. These principles are the waste hierarchy and circular economy.

Waste hierarchy

The waste hierarchy serves as an aspirational guideline for efficient and sustainable resource utilisation and underpins waste management policy, decision making and practice in Australia.

It places the highest priority on waste avoidance and reduction, with landfill disposal considered the least preferable option. Disposal should therefore only occur where other waste management options, such as recycling, are not possible.

In applying the waste management hierarchy and protecting the environment, Council seeks to:

- Encourage the best use of recovered resources.
- Reduce the amount of waste going to landfill and ending up in our environment.
- Reduce environmental harm.



More information: www.epa.sa.gov.au/environmental_info/waste_recycling

Circular economy

A circular economy focuses on maximising resource efficiency and minimising waste by keeping products, materials, and resources in use for as long as possible. Instead of being discarded, resources are continuously recycled, reused, or re-purposed.

The circular economy is based on three key principles, which are internationally recognised:

- Design out waste and pollution
- Keep products and materials in use at their highest value
- Regenerate natural systems

This approach contrasts with the traditional linear economy, which follows a 'take, make, dispose' model of production.

By closing the loop on resource use, the circular economy aims to reduce environmental impacts, conserve natural resources, and foster a more sustainable and resilient economy. It also creates opportunities for economic growth, job creation, and long-term environmental sustainability.

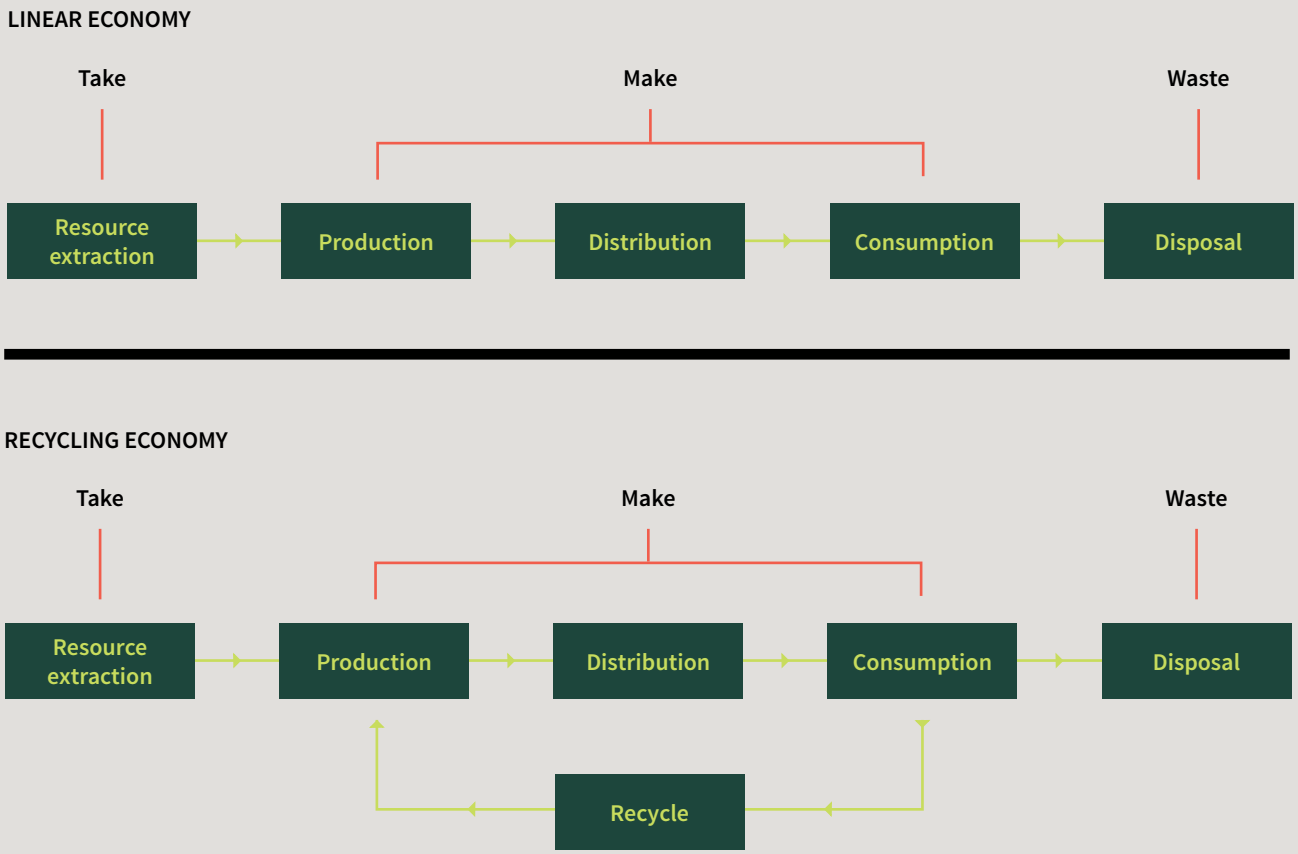
Transitioning to a circular economy involves the following actions:

- Developing and implementing policies, regulations, and incentives that promote circular practices.
- Creating circular business models and supply chains that optimise resource use, encourage transparency, and share best practices.
- Using renewable resources and materials that are easy to recycle or re-purpose.
- Designing products for durability, repairability, and recyclability to extend their life cycle.
- Promoting systems of sharing and reusing to reduce demand for new products.
- Developing effective recycling systems and technologies to recover valuable materials from waste.
- Designing energy-efficient processes and systems that minimize resource use.
- Implementing sustainable production and consumption practices to reduce waste generation.
- Encouraging behaviour change to support more sustainable consumer habits.

By embracing these principles and strategies, the transition to a circular economy can drive environmental, social, and economic benefits on a global scale.

More information: www.greenindustries.sa.gov.au/driving-the-circular-economy

Figure 4: *Linear, recycling and circular economy models*





Inquiry based learning and the Australian Curriculum

Communities across Australia, and the planet we share, face increasing challenges related to waste and resource use. Educators and students play an important role in responding to these challenges by building knowledge, shaping behaviours and contributing to more sustainable communities.

This waste education resource is grounded in an inquiry-based learning approach, encouraging students to ask questions, investigate real-world issues and develop their own understanding of waste and its impacts. Rather than simply being told what to do, students are guided to explore why waste matters, how it is generated, what happens to it after disposal and what practical actions can make a difference.

Through hands-on activities, discussions and investigations, students examine the journey of waste, analyse local data, and consider the environmental, social and economic consequences of their choices. This approach supports deeper learning by building curiosity, critical thinking and problem-solving skills, while empowering students to take ownership of their learning and apply it in meaningful ways.

The program is aligned with the both the Australian Curriculum and South Australian Curriculum. It provides opportunities to integrate learning across key areas such as Science, Humanities and Social Sciences (HASS), English and Mathematics. Students engage in data interpretation, persuasive communication, scientific observation and systems thinking, while connecting their learning to real-life contexts within their community.

This flexible program supports educators to deliver engaging, relevant and purposeful learning experiences. It also enables students to build the knowledge, skills and behaviours needed to make informed decisions and contribute to a more sustainable future.

The learning journey

A flexible framework of engaging, age-appropriate, hands-on learning experiences that helps primary students understand waste and take practical action at school and at home.

Pick, mix and adapt

This program is designed to be flexible, allowing teachers to pick and mix activities to suit their students' interests, prior knowledge and learning needs, along with the available time, learning priorities and school context. Use an individual activity, combine several into a short investigation, or explore the full program.

The activities are grouped by learning purpose to help you plan. They do not need to be completed in a fixed order. Revisit or adapt activities as students develop their understanding.

Unit learning intentions

Depending on the activities selected, students have opportunities to:

- Understand waste systems (linear vs circular).
- Explore environmental, financial and social impacts of waste.
- Investigate behaviours that drive waste.
- Collect, interpret and present waste data.
- Develop and communicate ideas that encourage positive change.
- Demonstrate behaviour change and personal responsibility.

1

Tuning in

Discover what students already know, explore their attitudes towards waste and build practical sorting skills.

Lesson 1: Where I stand

Lesson 2: Waste sorting relay

Council led incursion combines these two activities.

2

Finding out

Explore what we throw away, why it happens, where it goes and what it costs. Choose the investigations that best support your class's focus.

Lesson 3: Waste walk

Lesson 4: Waste audit

Lesson 5: State of waste

Lesson 6: The journey of waste

Lesson 7: Why we waste

Lesson 8: The cost of waste

3

Sorting out and taking action

Turn learning into practical action. Students can draw on a selected investigation, existing knowledge or a waste issue they have noticed at school.

Lesson 9: Changing behaviour

4

Reflecting.

Make time to reflect after an activity, an investigation or project. Consider what students have learned and what they could do next.

Lesson 10: Where I stand now

Assessing student learning

Assessment is embedded throughout the program to help teachers identify what students already know, respond to their learning needs and recognise what they have learned.

Planning learning and assessment

Before you start teaching:

- Select and sequence the activities to suit your students' interests, prior knowledge and learning needs, considering available time, curriculum priorities and school context.
- Use the selected activities' learning intentions and success criteria to identify the knowledge, understanding and skills you will assess.
- Where evidence will contribute to school assessment, identify the relevant year-level achievement standards.
- Decide how students will demonstrate learning through what they say, write, make or do. Include opportunities to check progress, provide feedback and assess achievement.
- Select a manageable number of criteria for each task and discuss them with students. Use examples to clarify what successful learning looks like.

Each task should assess its selected learning focus. Students do not need to demonstrate every program outcome in every activity.

Assessment at a glance

Use the table on the following page to select the assessment opportunities for your learning focus.

- Before teaching, use diagnostic assessment to establish existing knowledge, experiences and misconceptions.
- During learning, use formative assessment to monitor progress, provide feedback and adjust subsequent learning.
- At the end of a selected activity or sequence, use summative assessment to judge achievement against selected learning intentions and success criteria.
- Use self assessment, peer feedback and reflection throughout to help students explain their learning, recognise progress and identify next steps.

Select options that provide meaningful evidence without unnecessary repetition. A separate summative task is not required for every activity.

Consider what students say, write, make and do, across more than one opportunity where practical. For formal reporting, use relevant program evidence alongside other work to make holistic, on-balance judgments against applicable curriculum achievement standards.

Activity	Diagnostic and formative assessment	Summative assessment options	Key evidence of successful learning
Where I stand	Record initial explanations and KWL responses. Identify misconceptions, question reasoning and clarify vocabulary.	Primarily a baseline activity. Retain responses for comparison with later learning.	Expresses ideas clearly, explains reasoning and identifies questions for further learning. Assess explanations rather than agreement with a statement.
Waste sorting relay	Observe sorting decisions and reasons. Model how to check unfamiliar items, address misconceptions and allow students to retry.	Individual sorting task with explanations of selected choices and how to check unfamiliar items. Assess accuracy and reasoning, not speed or team scores.	Sorts accurately, recognises unsafe items and justifies decisions using relevant guidance. Relay speed and team scores do not determine achievement.
Waste audit	Check categories, measurements and recording methods. Discuss what the sample shows and what it cannot establish.	Completed audit record with an individual explanation of a finding and an evidence-based recommendation.	Records data accurately, uses consistent categories and units, and draws a conclusion supported by the audit sample.
Waste walk	Review maps, keys and observation records. Ask students to distinguish what they observed from what they think caused it. Prompt further investigation where evidence is incomplete.	Annotated school map and observation record identifying a waste issue, an evidence-based improvement and a way to check whether it works.	Maps relevant features clearly, records specific observations and links a practical recommendation to evidence about the issue.
State of waste	Review calculations, graphs and draft infographics. Check that claims match the data and projections identify assumptions.	Infographic with supporting calculations and an explanation of the main findings. Assess mathematical reasoning and communication against their respective criteria	Represents data accurately, identifies meaningful patterns and supports recommendations with relevant findings.
The journey of waste	Review draft lifecycle maps. Question missing stages, differences between linear and circular pathways, and opportunities to prevent waste.	Annotated lifecycle map explaining pathways and impacts, with a justified improvement. Include design evidence if assessing Design and Technologies.	Connects production, use and disposal; explains relevant impacts; identifies how resources could remain in use.
Why we waste	Trial questions and research tools. Provide feedback on clarity, neutrality and suitability for the inquiry and audience.	Research plan and trialled tool with a justification of the method. Include findings and conclusions if research is undertaken.	Develops a focused question, selects a suitable method and distinguishes evidence about behaviour from assumptions.

Activity	Diagnostic and formative assessment	Summative assessment options	Key evidence of successful learning
The cost of waste	Check prices, units, calculations and assumptions. Distinguish measured quantities from estimates and discuss what calculations include.	Cost analysis showing the method, findings and a justified opportunity to reduce waste or recover value.	Uses realistic values and accurate calculations, explains assumptions and supports a practical recommendation.
Changing behaviour	Review campaign plans and drafts. Use feedback to strengthen the connection between evidence, the behaviour or barrier, the audience and the proposed action.	Persuasive campaign supported by investigation evidence and an individual justification. Assess practical designs separately where relevant.	Uses evidence accurately, addresses a relevant cause or barrier and communicates a clear, achievable call to action.
Where I stand now	Revisit initial responses, probe explanations and address remaining misconceptions. Use self-assessment to identify progress and next steps.	Individual reflection using specific examples to explain current understanding and a justified next action. Consider alongside other evidence; changed opinions alone do not establish learning.	Explains current understanding, recognises how thinking has developed and justifies a realistic next step. A changed opinion is not required.

Cross-curriculum assessment

Sustainability provides the shared cross-curriculum context. Activities also develop literacy, numeracy, critical and creative thinking, and personal and social capability.

One task may support several learning areas, but each judgment needs a clear focus. For example, the waste walk could provide evidence of:

- **HASS:** Interpreting observations about the school environment and proposing informed action.
- **Mathematics:** Representing locations using the mapping conventions taught.
- **English:** Clearly explaining the issue, evidence and recommendation.

Assess each against its own criteria.

Give feedback that moves learning forward

Listen to explanations, observe decisions and review work in progress. Use what you notice to decide whether students need clarification, modelling, further practice or extension.

Give students time to act on feedback through revision, discussion or another attempt. Invite them to use the success criteria to identify one strength and one next step in their own or a peer's work.

Formative assessment does not need to be an additional activity. A sorting explanation, a discussion during the waste walk or a calculation checked during the audit can provide useful evidence when it informs the next teaching step.

Judging the quality of learning

Use the learning progression table on the following page alongside the selected task criteria to guide observation, feedback and assessment judgments.

Select the relevant dimensions, adapt expectations to the year level and learning taught, and add subject-specific criteria where needed, such as mathematical accuracy, scientific investigation methods or English text features.

Students may demonstrate different levels across dimensions. Record “not assessed” where a dimension has not been assessed, and seek further evidence where a judgment cannot yet be made

The table is not an A–E grading scale or a substitute for curriculum achievement standards. Do not average its descriptors into a curriculum grade.

	Beginning	Developing	Applying	Extending
Knowledge and understanding	Identifies relevant waste materials, pathways or impacts.	Describes common pathways and simple links between waste choices and impacts.	Explains how waste choices and systems affect resources and relevant environmental, financial or social outcomes.	Compares pathways or choices and explains trade-offs and opportunities to prevent waste or retain resources.
Inquiry and evidence	Records some relevant information or observations.	Organises information and identifies a simple pattern or finding.	Uses appropriate methods, accurate records and relevant evidence to support conclusions.	Evaluates methods or evidence, identifies limitations and proposes improvements.
Application and solutions	Identifies a possible waste choice or action.	Makes an appropriate choice or suggests a relevant response in a familiar situation.	Uses knowledge and evidence to justify a choice or connect a practical solution to an identified cause or barrier.	Compares alternatives, considers feasibility and explains how to test or refine a response.
Communication	Shares a relevant idea or finding.	Communicates a main message using relevant information and terminology.	Clearly communicates accurate findings and reasoning in a form suited to the audience and purpose.	Selects and adapts evidence, language and presentation to strengthen explanation or persuasion.
Reflection and evaluation	Identifies something learned.	Describes new understanding or a possible next step.	Uses specific examples to explain learning and justify a realistic next step.	Evaluates a proposed or attempted action and uses that evaluation to refine next steps.

Demonstrate and apply cumulative learning

Summative assessment provides students with an opportunity to bring their learning together and demonstrate what they now know, understand and can do.

Choose a manageable focus rather than assessing everything in each task and adapt the expected complexity to the year level and learning taught.

For a shorter sequence, a separate final project is not required. Simply use a completed activity or a small selection of work from the chosen sequence.

For a longer sequence, set a separate final project to bring together the learnings from the investigations students have completed. The following examples offer options for a final project. Select or adapt a project to suit the learning undertaken, your students' needs and the assessment focus.

- **Behaviour change campaign**

  Students develop a behaviour change campaign that encourages a defined audience to change one specific waste behaviour.

  Drawing on investigation findings, they explain the issue, address a likely cause or barrier and communicate a clear, achievable call to action.

  Students select a format suited to their audience, such as a poster, video, podcast or presentation. They explain how their message and persuasive techniques support the intended change and identify how success could be measured.

  Where feasible, students trial the campaign within the school and collect comparable evidence before and after to assess changes in the targeted behaviour. They evaluate the findings, consider other factors that may have influenced the results and recommend whether to continue, refine or further investigate the approach.

- **School waste improvement project**

  Students use waste walk or audit findings to identify and improve a specific aspect of the school's waste management, such as bin locations, signage, access or routines.

  They develop a proposal explaining the issue, the evidence supporting their recommended change, who would need to help and how success would be measured.

  Where feasible, students trial the change and collect comparable evidence before and after. They evaluate the results, consider other factors that may have influenced the outcome and recommend whether to continue, adapt or investigate further.

- **Solution design**

  Students design a practical solution to a specific waste problem, such as reusable packaging or a food-scrap collection system. Drawing on investigation findings, they identify the problem, consider users' needs and establish criteria for success.

  Students develop an annotated design, model or prototype. They explain how their solution addresses the problem and justify their choices, considering usability, materials, durability and what happens to the materials when the solution is no longer needed.

  Where feasible, students test their design against the success criteria and seek feedback from potential users. They use the findings to refine their solution, explain any limitations and recommend further improvements or testing.

- **Investigation and recommendation**

  Students develop a focused inquiry question about a specific waste issue, such as why food is discarded at lunchtime or which items are commonly placed in the wrong bin. They plan and undertake an investigation, selecting suitable methods such as observations, waste audits, surveys, interviews or research.

  Students organise and analyse their evidence to identify patterns and answer the inquiry question. They distinguish findings from assumptions, consider limitations in their methods or information, and identify any questions that remain unanswered.

Students communicate their investigation through a report, infographic or presentation. They explain their method, present key findings and recommend a practical action supported by the evidence. They also identify who could help put the recommendation into practice and how its effectiveness could be checked.

Students may communicate through written, oral, visual or practical formats, provided the format allows them to demonstrate the selected learning.

What the task should reveal

Where these outcomes have been taught, the task should allow students to:

- Identify a waste issue and explain why it matters.
- Demonstrate understanding of relevant waste systems and impacts.
- Use evidence to investigate causes, barriers and opportunities.
- Develop a practical response, considering who could help implement it.
- Communicate findings and recommendations to an appropriate audience.
- Explain how effectiveness could be measured.
- Reflect on findings and identify improvements or further questions.

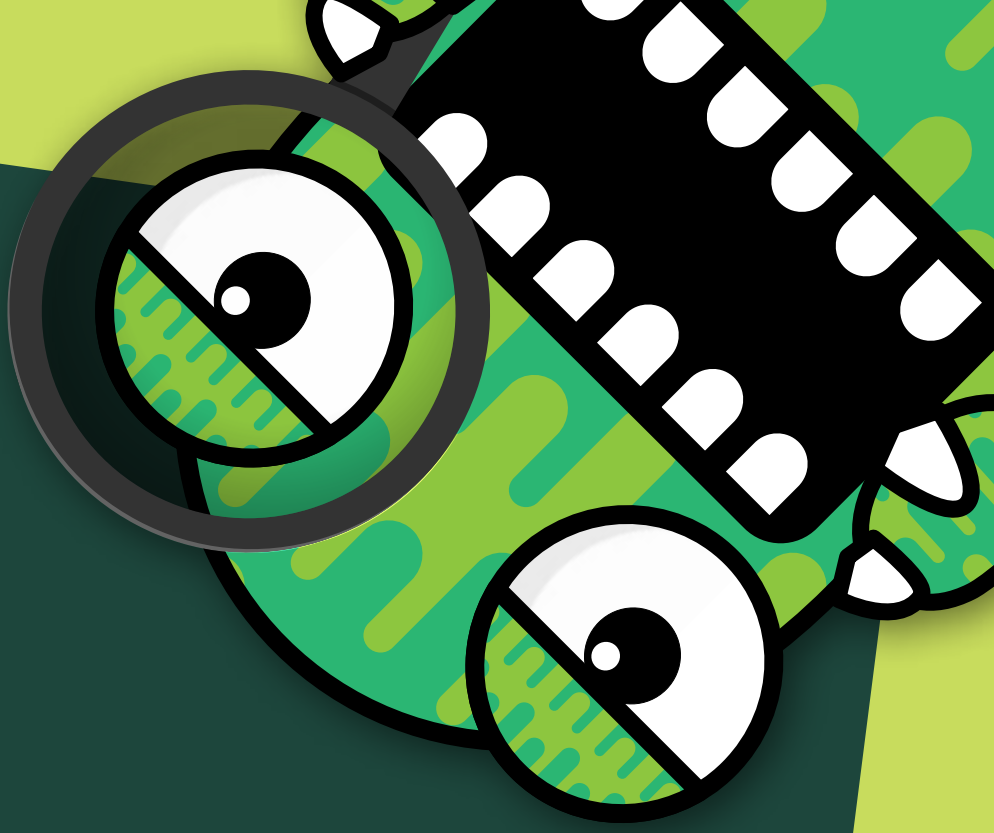
A task need not assess every outcome.

Student success criteria

Select and share the relevant criteria:

- Students can explain the waste issue and why it matters.
- Students can use evidence to support my explanation.
- Students can distinguish what we know from what we still need to investigate.
- Students can recommend a practical action and explain how it addresses the issue.
- Students can identify who could help put the action into practice.
- Students can communicate a clear message suited to my audience.
- Students can explain what we would measure or observe to check whether the action worked.
- Students can reflect on the proposal or results and identify a useful next step.

Where students propose an evaluation method, assess the quality of that plan. Where they implement an action, assess how they interpret the results, not simply what happened.



TUNING IN

This introductory phase activates students' prior knowledge and surfaces their existing attitudes, behaviours and assumptions about waste. Through short, engaging activities, students reflect on what they already do at home and school, share perspectives and begin using key vocabulary. The focus is on participation and awareness, not correctness, providing a clear baseline to inform teaching and set up deeper learning in subsequent lessons.

1 Where I stand

This engaging, movement-based activity explores students' knowledge, attitudes and behaviours around waste, encouraging participation and reflection in a safe, non-judgmental way.

Learning intentions

This area provides opportunities for students to:

- Identify and share their personal practices and beliefs about waste and recycling.
- Develop an understanding of and use terms such as recycling, re-purposing, composting, food waste, packaging and emissions.
- Listen respectfully to others and express their own perspectives clearly, without the need to debate and persuade.
- Establish a foundation for future learning and more structured discussions or debates on waste-related issues.

Success criteria

This is evident when students can:

- Clearly describe their own waste management practices and explain their thinking.
- Accurately use key vocabulary introduced during the activity.
- Actively participation in the movement activity and contribute to group discussions.
- Explain how individual choices contribute to or influence broader community and environmental outcomes.

In this dynamic positional activity students respond to opinion-based statements on waste related topics by positioning themselves along a continuum to represent their level of agreement.

The activity is designed to be engaging and non-judgmental, emphasising that there are no right or wrong opinions, only diverse perspectives shaped by individual experiences and understanding. Students are encouraged to explain their reasoning, listen to others and reflect on how and why opinions may differ.

Through guided discussion, students begin to connect their personal behaviours and beliefs to broader environmental and community outcomes.

The lesson also builds awareness, introduces key concepts and vocabulary, and establishes a foundation for deeper inquiry and future learning.

Key learning area

PDHPE and English

Duration

40-55 minutes

Essential set up items

- KWL worksheet
- Floor labels
- Opinion statement cards
- A clear, open area
- A whiteboard and markers
- Waste words worksheet (extension activity)

Instructions

Introduction

- Begin with a short open discussion about waste and why it matters to our community and the planet.
- Encourage students to share their ideas and experiences.
- To prompt discussion, ask questions like:
  - What is waste?
  - How is it created?
  - What do we do with our waste?
  - What happens after we throw it away?
  - Can we do anything useful with waste?
- Acknowledge all responses and build on them to show that waste is something we all create and can help manage better.

KWL worksheet

- Introduce the KWL worksheet.
- Explain:
  - This is about what you already know and what you want to learn.
  - There are no right or wrong answers.
- Students complete:
  - K - What I already know about waste.
  - W - What I want to learn about waste.
- Optional:
  - Ask students to share one idea with a partner or the class.
- Note:
  - This step helps identify misconceptions, knowledge gaps and areas of interest.
  - Completing the K section before movement captures true baseline thinking.
  - Completing the W section before learning increases curiosity and engagement.
  - Completing the L section after learning demonstrates measurable change.

Introducing the activity

- Explain that students will take part in a movement activity called “Where do I stand?”
- Emphasise:
  - This is a personal reflection, not a debate.
  - There are no right or wrong answers.
  - Everyone may think differently and that is okay.
  - We are here to share ideas and learn from each other.

Setting up the activity

- Arrange the space so students can move around safely.
- Place the floor labels on the ground to create a continuum from strongly agree to strongly disagree.
- Ensure that you allow enough room for students to stand comfortably at each point.

Positional activity

- Ask students to stand in the centre of the activity space.
- Read one opinion statement at a time.
  Example: All plastic packaging is bad.
- Ask students to move to the floor label that best matches their opinion.
- Once the students are in place:
  - Ask a few students to explain their thinking.
  - Use simple follow-up questions.
    Example: What made you choose that spot?
- Reinforce throughout:
  - Encourage respectful listening.
  - We are sharing, not debating.
  - It is okay to change your mind as you learn.
  - Record key ideas and responses, highlighting the diverse range of perspectives across the group.

Individual reflection

- Students return to their KWL worksheet and complete the L section - What I learned.
- You may choose to revisit the KWL worksheet at the end of the program for deeper learning capture.

Group reflection

- Bring everyone back together for a short discussion.
- Ask questions like:
  - What did you learn from this activity?
  - Did anything surprise you?
  - Did anyone change their thinking? Why?
  - How do our everyday choices about waste make a difference?
- Link back to the KWL worksheet:
  - Did anyone answer any of the questions they listed in the W section of their KWL worksheet?
- Recap the importance of understanding different perspectives on waste and how small actions can contribute to bigger community and environmental outcomes.
- Explain that in a future lesson, students will take part in a persuasion exercise, building on today's ideas.
- Closing reflection:
  - Ask students to think about one thing they might do differently at home or school to when managing their waste.

Tracking progress

- Revisit the activity later in the program to see if opinions or understanding have changed.
- Ask students:
  - Has your thinking changed?
  - What changed your thinking?
  - What have you learned since last time?

Extension activity: Fact vs opinion

- Discuss the difference between a fact and an opinion.
- Review the statements recorded during the activity.
- As a class, decide if each is a fact or an opinion.

Extension activity: Waste words

- Begin a class glossary of waste-related terms, for example recycling, landfill, compost and contamination.
- Use the waste words worksheet to record the words and a simple definition. This could be done individually or as a class.
- Add new terms throughout the program.
- You could make this visual and place them in a prominent place in the classroom.



Curriculum connections

The links provided below show how this activity aligns with the Australian Curriculum and the South Australian Curriculum. Use them to inform planning, guide teaching, and support reflective practice. Curriculum areas may overlap, use professional judgment to adapt, extend, or differentiate learning based on students' needs, interests and learning levels.

Australian Curriculum links

Year group	PDHPE	English
Year 3	ACPPS036 – Describe and apply strategies that can be used in situations that make them feel uncomfortable or unsafe (linked to expressing personal views and respectful discussion).	ACELY1676 – Participate in discussions, listening and speaking clearly.
Year 4	ACPPS042 – Describe how respect, empathy and valuing diversity can positively influence relationships (linked to sharing differing opinions respectfully).	ACELY1687 – Interpret ideas and information in spoken texts and listen for key points.
Year 5	ACPPS051 – Investigate how emotional responses vary and understand how to manage them (linked to expressing viewpoints appropriately).	ACELY1699 – Clarify understanding of content as it unfolds in formal and informal situations.
Year 6	ACPPS057 – Investigate the role of preventive health in promoting wellbeing (linked to environmental health and waste practices).	ACELY1709 – Participate in and contribute to discussions, clarifying and interrogating ideas.

South Australian Curriculum Connections

- Inquiring: Students explore personal and community practices related to waste.
- Communicating: Students share ideas, listen and reflect on others' perspectives.
- Designing and Acting: Students begin to consider actions that improve sustainability outcomes.

Cross Curriculum Priority

- Sustainability: Systems (resource use, waste management and environmental impact).

2 Waste sorting relay

This interactive game challenges students to correctly sort a variety of waste items under time pressure, testing their knowledge while reinforcing the importance of safe handling.

Learning intentions

This area provides opportunities for students to:

- Increase their awareness of different waste types, including paper, plastic, metal, glass, and food.
- Reinforce their understanding of correct waste sorting by identifying which items belong in the red-lid landfill bin, yellow-lid recycling bin and green-lid food and organics bin.
- Develop skills in safe handling by identifying which items can be handled safely and which may be unsafe or unhygienic.
- Engage in teamwork and physical activity.

Success criteria

This is evident when students can:

- Correctly sort items into the appropriate bin during the relay activity.
- Explain why items belong in a particular bin using appropriate vocabulary.
- Demonstrate safe handling practices and identify items that should not be handled
- Actively participate in the relay and contribute to team discussions.
- Describe how their sorting choices impact contamination, resource recovery and the broader environment.

This fast-paced, hands-on activity engages students in waste education through movement, teamwork and real-world decision-making. Working in teams, students complete a relay by collecting items from a mixed waste pile and sorting them into the correct bins.

Students are challenged to think critically and apply their knowledge under time pressure, reinforcing correct sorting practices and the importance of reducing contamination. A strong focus is placed on safe handling and hygiene, with some items represented by prompt cards (eg broken glass or moldy food) that require students to identify risks rather than handle them directly.

The lesson builds confidence in waste sorting while developing teamwork, communication and problem-solving skills. It reinforces how individual actions, like “lifting the right lid”, contribute to better environmental outcomes.

Key learning area

PDHPE & English

Duration

40-55 minutes

Essential set up items

- 3 bins or large baskets/boxes, one per bin for each group
- Sample waste items (clean and safe) and or item cards
- Clearly labelled bin in stations
- Cones/markers to set the relay boundaries
- Scoring card and pen
- Waste diversion guide

Instructions

Introduction

- Begin with a short discussion about the importance of sorting waste properly.
- To prompt discussion, ask questions like:
  - Why is it important to put the right things in the right bin?
  - What happens if we put the wrong thing in the wrong bin?
  - What bins do we use at home and at school?
  - Are there any differences between what you can put in your bins at home and at school?
- Explain that sorting waste correctly helps reduce landfill, improve recycling and protect the environment.

Quick knowledge check

- Hold up a few items and ask:
  Which bin does it go in? Why?
- Clarify any obvious misconceptions before starting the activity.

Setting up the activity

- Set up bin stations at one end of the space.
- Mark the starting point for each team using cones.
- Place sorting cards or boxes of mixed waste items 10-15 metres from the starting points.
- Use a balanced mix of paper, plastic, metal, food and glass items.
- Use card representations where needed.
- Ensure all items are clean and safe to handle.
- Provide enough items for each student to have at least two turns.
- Check that movement paths are clear and safe.
- Divide students into three equal teams.

Explain how the activity works

- Students work in teams to sort items into the correct bins.
- One student at a time runs to the waste pile, selects an item, and places it in the bin they think is correct.
- If an item does not belong in any bin, it should be placed to the side.
- After sorting, the student returns, tags the next teammate, and joins the back of the line.
- The next student starts once they have been tagged.
- Each student has two turns.
- Teams are encouraged to support each other in choosing the correct bin.
- Once all turns are complete and items are sorted, teams sit down.
- The class then reviews each bin together and identifies any incorrectly sorted items.

Reviewing and scoring

- The teacher examines the contents of each team's bins, calculates the scores and determines the winner.
- Scoring:
  - 2 points for the first team to finish.
  - 1 point for each correctly sorted item.
  - Points may be deducted for incorrect items.
- Emphasise
  - The focus is on learning, not just winning.
  - Mistakes are part of the process and help us improve our understanding.

Group reflection

- Bring the class together to review each bin and examine any incorrectly sorted items.
- Discuss why these items did not belong and identify the correct bin or disposal method
- Invite students to explain their thinking and decision-making during the activity to uncover assumptions or misconceptions.
- Highlight common errors and clarify the correct sorting rules, reinforcing consistent use of the three-bin system.
- Focus on any items that caused confusion and use these as teaching moments to deepen understanding.
- Conclude by prompting students to reflect on what they would do differently next time and how they can apply these behaviours at home or school.

Extension activity:
Complex sorting challenge

- Increase the level of difficulty by introducing more complex or commonly misunderstood items.
- Add materials such as disposable coffee cups, pump bottles and mixed-material packaging that require closer consideration.
- Include additional categories beyond kerbside bins, such as items that cannot be placed in household recycling, eg electronics, batteries and paint. Provide designated special disposal zones or cards to represent the drop-off locations.
- Encourage students to justify their decisions and discuss why these items require different handling.
- This extension deepens understanding, highlights real-world challenges, and reinforces the importance of knowing what can and cannot go in household bins.

Which Bin

Which Bin is a valuable resource for teachers and students to investigate how different items should be recycled or disposed of in South Australia. Teachers can use the resource when preparing sorting activities, checking less familiar items or helping students investigate items they are unsure about. Students can also use it as a research tool during the activity, reinforcing the important real-world skill of checking before disposing.

whichbin.sa.gov.au



Curriculum connections

The links provided below show how this activity aligns with the Australian Curriculum and the South Australian Curriculum. Use them to inform planning, guide teaching, and support reflective practice. Curriculum areas may overlap, use professional judgment to adapt, extend, or differentiate learning based on students' needs, interests and learning levels.

Australian Curriculum links

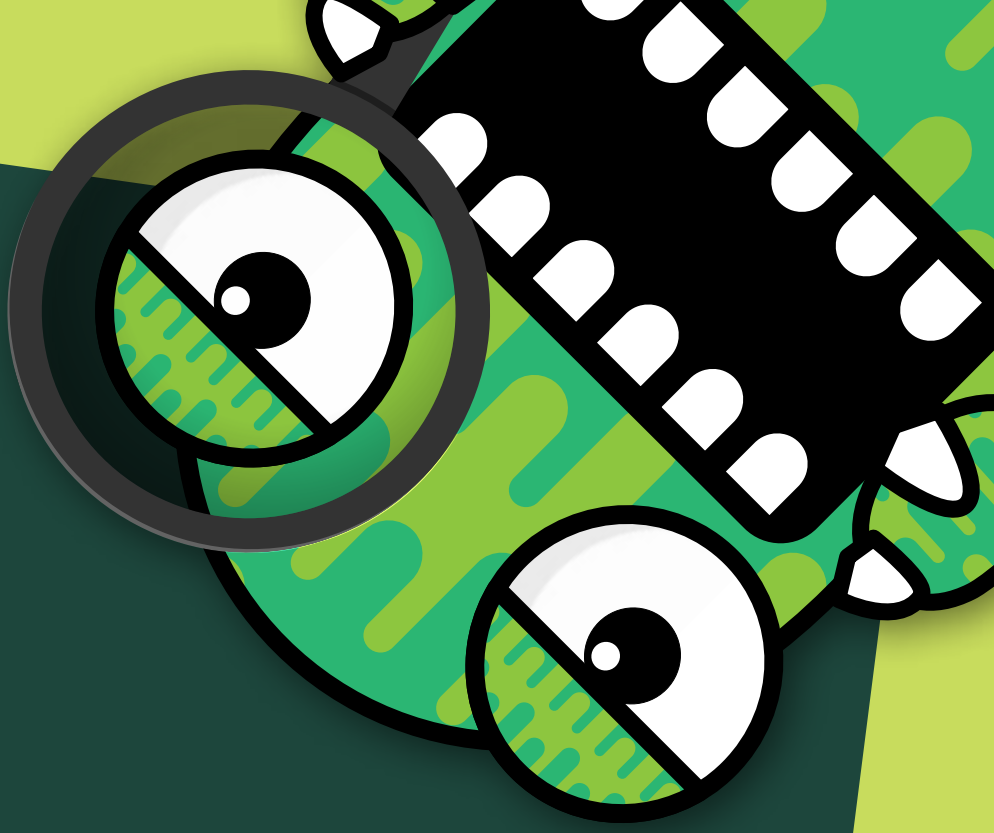
Year group	PDHPE	English
Year 3	AC9HP3P04 – Identify and practice strategies to promote health, safety and wellbeing (linked to safe handling of waste items.	AC9HS3G04 – Explain how people use places sustainably (linked to correct waste sorting practices).
Year 4	AC9HP3M03 – Participate in physical activities that promote enjoyment and inclusion (linked to teamwork and relay participation).	AC9HS4G05 – Describe how people's actions impact the environment (linked to correct vs incorrect waste disposal).
Year 5	AC9HP6P05 – Investigate and apply behaviours that promote health, safety and wellbeing (linked to hygiene and handling unsafe waste).	AC9HS5G05 – Explain how people can conserve environments (linked to recycling and waste reduction).
Year 6	AC9HP6M03 – Participate positively in groups and teams (linked to cooperation and communication in the relay).	AC9HS6G04 – Explain how environmental factors influence human decisions (linked to waste sorting choices and systems).

South Australian Curriculum Connections

- Inquiring: Students investigate waste types and sorting systems.
- Communicating: Students collaborate and share decisions during the relay.
- Designing and acting: Students apply sustainable practices through correct waste sorting and safe handling.

Cross Curriculum Priority

- Sustainability: Systems (waste management, recycling practices and reducing environmental impact).



FINDING OUT

In the Finding Out phase, students investigate waste as a system by exploring its pathways, causes and impacts. They examine the journey of waste from creation to disposal, investigate how human behaviours and everyday choices contribute to waste generation. They also analyse the environmental, financial, social and cultural impacts, particularly of food waste and incorrect sorting.

Using a range of methods such as audits, surveys, interviews, experiments and data analysis, students build critical thinking skills and develop a deeper understanding of waste at individual, school and community levels, preparing them to identify opportunities for meaningful change.

3 Waste walk

Students investigate how bin locations, signage and everyday activities influence waste at school, using observations to recommend practical improvements.

Learning intentions

This area provides opportunities for students to:

- Collect and record evidence about waste practices at school.
- Identify patterns in where and how waste is generated and managed.
- Explore how the school environment, routines and behaviour influence waste outcomes.
- Develop and justify practical improvements supported by evidence.

Success criteria

This is evident when students can:

- Map bin locations and waste observations using a clear key.
- Record specific observations and identify a waste-related pattern or issue.
- Use evidence to identify the possible causes of an identified waste-related issue.
- Propose a practical solution and explain how it addresses the causal factors.
- Explain how the impact of the proposed change could be measured.

Working in small groups, students explore an allocated area of the school, map the bin locations and record evidence of waste practices. They identify what is working well and where improvements may be needed.

Students compare their findings and consider how the school environment, routines and people's behaviour might contribute to waste problems, such as incorrect bin use and littering. They distinguish between what they observed and possible explanations before recommending a change.

The activity develops observation, mapping and problem-solving skills, helping students understand that reducing waste involves both preventing it and making responsible choices easier.

Key learning area

Science, HASS, design and technologies

Duration

60-75 minutes

Essential set up items

- School site map
- Clipboard, measuring tape and pencils or markers
- Waste walk observation sheet
- Information about the school's waste management system
- Tablets for photos and research.

Instructions

Preparation

- Select safe, accessible areas to investigate, such as lunch spaces, classrooms or playgrounds. Allocate one manageable area to each group.
- Confirm the school's waste streams and collection arrangements. These may differ from household services.
- Choose an observation time, preferably after a break and before cleaning or bin collection. Note the timing so students can interpret their findings.

Set the scene

- Introduce the inquiry question:
  How could we reduce waste and make it easier to use the right bin at our school?
- Draw on students' everyday experiences or revisit a relevant finding from an earlier waste audit.
- Ask:
  - Where and when is waste created at school?
  - What already helps us reduce waste or sort it correctly?
  - What could make this difficult?
- Explain that students will investigate the school environment and routines, looking for both effective practices and opportunities to improve.
- Model the difference between evidence and a possible explanation:
  - Observation:
    We counted six wrappers on the ground beside the lunch tables.
  - Possible explanation:
    They may have blown out of the nearby open bin.
  - Question to investigate:
    Does litter increase here on windy days?
- Emphasise that the walk can reveal patterns, but it may not establish their cause.

Walk, observe and map

- Divide students into small groups and allocate each group an area of the school.
- Allocate group roles, such as mapper, recorder and observer.
- Agree on a shared map key for the school's waste streams and a separate symbol for litter.
- Students investigate their allocated area, mark bin locations and record observations.
- Use the following prompts to guide the investigation:
  - Bin locations and access
    - Are bins easy to reach?
    - Can students access the relevant waste streams at the same location?
  - Signs and labels
    - Can we tell what belongs in each bin?
    - Are labels visible and consistent?
  - Waste and litter
    - What materials can we see?
    - Where does litter collect?
    - Are bins overflowing?
  - Waste prevention
    - What helps people avoid disposable items or wasted food?
    - Where might reusable options help?
  - Activities and routines
    - What happens in this area?
    - How might eating, play, cleaning or collection routines affect what we see?
- Ask students to:
  - Record specific details:
    "eight wrappers beside the oval" is more useful than "lots of rubbish".
  - Count visible items where practical.
  - Check any apparent sorting issues against the school's accepted-materials information.
  - Record at least one effective practice.
  - Note questions they cannot answer through observation.

Make sense of the findings

- Bring groups together to compare maps and observations.
- Ask:
  - What patterns or differences did we notice?
  - What appears to be working well?
  - What might explain a problem we observed?
  - Could there be another explanation?
  - What would we need to check?
- Encourage students to consider facilities and routines alongside behaviour. For example, litter beside a bin could result from overflow, wind, animals or how people dispose of waste.
- Remind students that the walk is a snapshot. Weather, attendance, school activities and cleaning times can affect the findings.

Recommend one improvement

- Each group selects one finding and recommends a manageable improvement
- Before choosing a solution, ask:
  - Could we prevent this waste first?
  - If it cannot be avoided, how could we improve its collection and sorting?
- Options might include a reusable alternative, clearer labels, repositioning an existing bin station or changing a routine.
- If the cause remains unclear, students can recommend a targeted investigation before proposing a change.
- Groups prepare a brief response, which should include:
  - The finding:
    We noticed...
  - The evidence:
    We mapped, counted or observed...
  - The recommendation:
    We suggest... because...
  - Before acting:
    We need to check... and involve...
  - Measuring success:
    We would repeat or measure... to find out whether...
- Ask students to consider:
  - Does the recommendation address the finding?
  - Where does it sit in the waste hierarchy?
  - What needs checking before it could be trialled?
  - How would we know whether it helped?
    - Encourage students to choose a measure that directly relates to the finding, such as the number of wrappers in the same area after lunch.

Reflection

- A a group, discuss:
  - What surprised you most?
  - Where did you find the most waste?
  - What type of waste problem was most common?
  - Were the problems caused by people's behaviour, the waste system, or both?
  - Which solution would make the biggest difference?
  - Is adding more bins always the best solution?
  - How could we change the system so the right behaviour becomes easier?
  - How could students help solve this problem?
  - What could we change immediately?
  - What would need longer-term planning?
- Key teaching points:
  - Waste problems are often a combination of behaviour and systems. Before asking people to change what they do, we should ask whether the system makes the right choice easy.
  - Reducing waste involves preventing it where possible and making responsible choices easier through suitable facilities, clear information and workable routines.
  - Additional bins are only useful when they address an identified need and the school can arrange appropriate collection and processing.

Extension activities
Solutions focus

- **Investigate an unanswered question**
  Use interviews or surveys to explore a possible cause.

- **Trial and evaluate**
  With school approval, test one recommendation hat could feasibly be trialled at school. This turns the waste walk into a real world investigation and action project.

  Repeat observations in the same area at a similar time and under comparable conditions.

- **Build a school waste action plan**
  Combine the waste walk findings with the waste audit results. Prioritise actions by likely benefit, feasibility and resources required.

- **Flexible delivery:**
  Use this lesson independently, alongside Waste audit to explore possible reasons behind its findings, or before Why we waste to generate questions for further investigation. For a shorter activity, investigate one area as a class and develop a shared recommendation.



Curriculum connections

The links provided below show how this activity aligns with the Australian Curriculum and the South Australian Curriculum. Use them to inform planning, guide teaching, and support reflective practice. Curriculum areas may overlap, use professional judgment to adapt, extend, or differentiate learning based on students' needs, interests and learning levels.

Australian Curriculum links

Year group	HASS	Mathematics	Design and technology
Year 3	AC9HS3S02 - Locate, collect and record information and data from sources, including maps. Students map bins and record observations AC9HS3S06 - Propose responses to an issue and consider possible effects. Students recommend a waste improvement.	AC9M3ST03 - Conduct guided statistical investigations involving categorical and discrete numerical data. Students investigate a question by collecting, representing and interpreting waste counts.	AC9TDE4P04 - Evaluate design ideas and solutions using provided or jointly developed criteria that include sustainability. Students assess a proposed improvement against agreed criteria.
Year 4	AC9HS4S02 - Locate, collect and record information and data from sources, including maps. Students document bin locations and waste practices. AC9HS4S06 - Propose responses to an issue and consider possible effects. Students explain how a change could help.	AC9M4ST03 - Conduct statistical investigations, record and display data using digital tools, interpret findings and communicate results. Students digitally represent and compare their waste observations.	AC9TDE4P04 - Evaluate design ideas and solutions using provided or jointly developed criteria that include sustainability. Students assess the suitability of proposed changes.
Year 5	AC9HS5S03 - Evaluate information and data to identify patterns, trends or relationships. Students compare observations and suggest possible connections. AC9HS5S06 - Propose actions and assess possible effects using criteria. Students justify a recommendation.	AC9M5ST03 - Plan and conduct statistical investigations, collect relevant data, choose suitable displays, interpret data and communicate findings. Students investigate a defined school waste question.	AC9TDE6P04 - Negotiate criteria that include sustainability to evaluate design ideas, processes and solutions. Students agree on criteria and use them to assess their proposed improvement.

Year 6	AC9HS6S03 - Evaluate information and data to identify patterns, trends or relationships. Students examine waste patterns and possible explanations. AC9HS6S06 — Propose actions and assess possible effects using criteria. Students evaluate a recommendation.	AC9M6ST03 - Plan and conduct statistical investigations, pose and refine questions, collect relevant data, analyse findings and communicate conclusions. Students investigate a waste issue using a planned collection method.	AC9TDE6P04 - Negotiate criteria that include sustainability to evaluate design ideas, processes and solutions. Students assess and refine their proposed improvement against agreed criteria.

South Australian Curriculum Connections

- Conceptual understanding: Explore how facilities, routines and behaviour interact to influence waste outcomes.
- Critical thinking: Distinguish observations from assumptions, consider alternative explanations and use evidence to justify recommendations.
- Student agency: Make informed choices about an issue to investigate and an improvement to recommend.
- Applying learning: Use waste knowledge and investigation skills to address a practical issue in the school environment.

Cross Curriculum Priority

- Sustainability — Design: Evaluate improvements to school facilities or practices that could prevent waste or improve resource recovery.
- Sustainability — Futures: Recommend informed action towards a more sustainable school and identify how progress could be checked.
- Sustainability — Systems, through extension: Explore how school consumption and waste practices connect with resource use and environmental, social and economic systems.

4 Waste audit

This hands-on audit turns students into waste investigators, sorting and analysing waste to uncover what's really being thrown away. Students also explore ways to reduce, reuse and recycle.

Learning intentions

This area provides opportunities for students to:

- Investigate waste data by collecting and analysing real waste from their school.
- Understand impacts by exploring waste diversion, recycling processes and landfill consequences.
- Collaborate and problem-solve through structured group roles and tasks.
- Develop environmental awareness by identifying actions that improve waste outcomes at school and home.

Success criteria

This is evident when students can:

- Correctly sort waste into categories and subcategories.
- Record weights, volumes and counts correctly using data tools.
- Contribute within a defined group role.
- Interpret data, explain finding and identify practical opportunities for improvement.

Working in small groups, students sort, categorise and analyse a sample of waste to uncover patterns, identify contamination and assess how well materials are being sorted.

The inquiry-based activity builds observation, data interpretation and critical thinking skills. Students classify items, record findings and examine the composition of waste to better understand its environmental impact and opportunities for improvement.

A strong focus is placed on safe handling and hygiene, with clear protocols for managing materials and identifying items that should not be handled directly.

Through analysis and discussion, students identify common issues and explore practical actions to improve waste sorting and reduce landfill at school and at home.

Key learning area

PDHPE, mathematics and HASS

Duration

80-120 minutes

Essential set up items

- Tarp or ground sheet
- Clearly labelled and colour-coded tubs for each waste stream
- Waste diversion guide
- Waste audit tally sheet
- Scales, calculator and camera
- Gloves and tongs for each student
- Hand washing station
- Cleaning supplies and equipment.

Instructions

Preparation

- Select a well-ventilated, undercover area. Ensure it is protected from wind and weather.
- Collect the bins that you intend to audit, preferably post recess or lunch.
- Set up clearly labelled sorting stations.
- Inspect and remove hazardous items.
- Ensure hygiene protocols are clear.

Safety notes

- Before students begin sorting waste, remove any hazardous items, such as broken glass, pins or can lids, to prevent injuries.
- Students should wear gloves throughout the audit and wash their hands afterward.
- Remind students to avoid touching their face, others or personal items while wearing sorting gloves or using tongs.
- Advise students to be mindful of trip hazards when moving around the audit area.

Introduction

- Begin with a class discussion about waste and the choices we make every day. Explore:
  - How and why waste is created.
  - The types of waste generated.
  - Where waste goes after disposal.
  - What happens when an item is placed in the wrong bin.
  - Why reducing waste and sorting it correctly matters.
- Explain the purpose of the audit:
  - Understand how much and what types of waste are produced.
  - Identify materials that could be avoided, reused, recycled or composted instead of going to landfill.
  - Identify common items being placed in the wrong bin.
  - Capture a snapshot of waste behaviours across the school.
  - Identify opportunities to improve the way waste is managed.
- Before looking at the waste, ask students to make some predictions:
  - What do you think we throw away the most?
  - Do you think everything will be in the correct bin?
  - What items do you expect to find in the landfill bin?
  - How much of our waste do you think could have been avoided, recycled or composted
  - What might surprise us?
- Record students' predictions so they can be revisited after the audit.

Waste walk

- Before sorting the waste, take students on a walk around the school.
- Ask students to observe what is happening in classrooms, eating areas, the canteen, playground and other shared spaces.
- Encourage students to:
  - Identify waste hotspots – Where does litter or waste tend to accumulate?
  - Look at bin locations – Are bins available where waste is being generated? Are the right types of bins provided?
  - Observe behaviours – How are students using the bins? Are items being sorted correctly?
  - Tally common items – What waste do you see most often, such as food scraps, chip packets, drink containers or paper?
  - Record observations – What patterns, problems or interesting things do you notice?
- Encourage students to start asking why.
- Keep these observations. Students can compare them with the results of the waste audit and use them later to investigate the root causes of waste and develop solutions.

Collect Your Starting Data

- Before sorting, record:
  - Number and type of bins being audited
  - Location the bins were collected from. Number of students participating.
  - Total amount of waste collected.
  - Date and time of the audit.
  - Any relevant observations, such as whether the bins were collected after recess or lunch.
- This information provides context for your results and makes it easier to repeat and compare audits in the future.

Sorting the waste

- Empty the collected waste onto the tarp.
- As a class, sort the waste into three main streams:
  - General waste
  - Recycling
  - Organics
- Set aside:
  - The 10 cent refundable containers.
  - Unopened food.
  - Contaminants.
- Have a tub for the items that students and educators are unfamiliar with or don't know which bin they belong in.

Weighing and data collection

- Create a weighing station.
- Assign the following student roles:
  - Sorter – transports materials.
  - Weigher – measures categories.
  - Recorder – logs data.
  - Researcher – checks unknown items.
  - Photographer – documents results.
- On the waste audit tally sheet record:
  - The number and type of audited bins.
  - The weight of each material category.
  - The volume of each material category.
  - Any other observations.

Discuss the results

- Bring the class together and compare the results with their original predictions. Ask:
  - What did we discover?
  - What surprised us?
  - What are we doing well?
  - What could we improve?
  - What action could we take next?
- Use the discussion to shift students from simply identifying waste to thinking about why it exists and what they can do about it.

Clean up

- Dispose of the audited waste into the appropriate bins.
- Wash and clean all equipment, including tubs, gloves, tongs and tarps.
- Encourage all students to wash their hands.
- Reset the learning space.

Reflection and discussion

- Analyse the findings:
  - Use the audit results to discuss:
    - What waste type was most common?
    - Which waste type weighed the most?
    - Which waste type took up the most space?
    - Which item(s) did not belong in the audited waste?
    - Which items were put in the wrong bin?
    - Could any of these items be recycled?
    - Can any of these items be composted?
    - Were you surprised by any of the results?
- Extend thinking:
  - Ask students to consider:
    - What would this look like over one week, one month or one year?
    - How might the types and volumes of waste generated at home differ from school?
    - What habits or choices might be contributing to these results?

- As a group, discuss:
  - What could we do differently as individuals?
  - What could our class or school improve?
  - What simple actions could make the biggest difference?

Extension activities:
Expanding the audit

Take your waste investigation further by collecting more data, looking for patterns and exploring why waste is being generated and what could be done differently.

- **Increase your sample size**
  The more bins you audit, the clearer and more reliable your picture of school waste becomes. Work with other classes or year levels to audit additional areas, or aim to capture waste from across the whole school.
- **Compare different locations**
  Audit bins from different areas (eg classrooms, canteen, playground) to identify how waste patterns vary across the school.
- **Test different times of day**
  Conduct audits at different times of the day (eg after recess, after lunch, before collection) to see how waste changes throughout the day and when the most waste is generated.
- **Track changes over time**
  Repeat the audit weekly, monthly or each term to monitor trends and measure the impact of any changes or initiatives.
- **Investigate causes and opportunities**
  Use your audit results to investigate why particular waste is being generated or ending up in the wrong place, then develop practical solutions.



Waste diversion guide

Feed your green-lid food and organics bin:



All food scraps
(raw and cooked)



Meat, bones
& seafood



Compostable food
containers & cutlery



Tea bags and
coffee grounds



Shredded paper, nail
clippings and hair



Small prunings
& cuttings



Paper towel
serviettes & tissues



Lawn clippings, leaves,
flowers & weeds



Pet poo (loose or in
a compostable bag)

Feed your yellow-lid recycling bin:



Paper &
cardboard



Rigid plastic
containers



Milk &
juice cartons



Glass bottles
& jars



Tins, cans &
empty aerosols



Fruit punnets
& biscuit trays

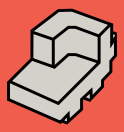
Feed your red-lid landfill bin:



Crockery &
glassware



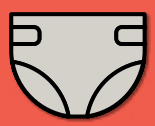
Old clothing
& used rags



Foam &
polystyrene



Plastic
bags



Nappies

For more information, visit **cttg.sa.gov.au/waste** or **whichbin.sa.gov.au**

Curriculum connections

The links provided below show how this activity aligns with the Australian Curriculum and the South Australian Curriculum. Use them to inform planning, guide teaching, and support reflective practice. Curriculum areas may overlap, use professional judgment to adapt, extend, or differentiate learning based on students' needs, interests, and learning levels.

Australian Curriculum links

Year group	PDHPE	Mathematics	HASS
Year 3	AC9HP3P04 – Identify and practice strategies to promote health, safety and wellbeing (linked to safe waste handling and hygiene practices).	AC9M3ST01 – Acquire, record and represent data using tables and simple displays (linked to tallying and recording waste data).	AC9HS3G04 – Explain how people use places sustainably (linked to understanding waste practices at school).
Year 4	AC9HP3P05 – Describe and apply protective behaviours and help-seeking strategies (linked to identifying hazards in waste sorting).	AC9M4ST01 – Collect, organise and represent data using tables and graphs (linked to recording and comparing waste categories).	AC9HS4G05 – Describe how people's actions impact the environment (linked to correct vs incorrect waste disposal).
Year 5	AC9HP6P05 – Investigate and apply behaviours that promote health, safety and wellbeing (linked to applying safe and hygienic practices during the audit).	AC9M5ST01 – Pose questions and collect, organise and interpret data (linked to analysing waste types and quantities).	AC9HS5G05 – Explain how people can conserve environments (linked to reducing waste and improving sorting practices).
Year 6	AC9HP6P06 – Practice skills to establish and manage respectful relationships (linked to teamwork and shared responsibilities).	AC9M6ST01 – Interpret and compare data displays and draw conclusions (linked to analysing audit results).	AC9HS6G04 – Explain how environmental factors influence human decisions (linked to waste management choices and systems).

South Australian Curriculum Connections

- Inquiring: Students investigate real-world waste data and ask questions about patterns and impacts.
- Communicating: Students record, interpret and discuss findings using data and observations.
- Designing and acting: Students identify opportunities to improve waste practices and reduce environmental impact.

Cross Curriculum Priority

- Sustainability: Systems (waste generation, resource use, recycling, landfill impacts such as methane and loss of resources)

5 State of waste

Students analyse real waste audit data to understand the scale and impact of waste being generated and what it reveals about everyday behaviours.

Learning intentions

This area provides opportunities for students to:

- Analyse waste audit data to understand what and how much is being thrown away.
- Apply mathematical thinking to scale and interpret data over time.
- Identify patterns and impacts by comparing school and broader waste trends.
- Develop targeted messages to improve waste behaviours.
- Communicate insights through a clear and engaging infographic.

Success criteria

This is evident when students can:

- Accurately scale and interpret waste data.
- Identify key patterns, trends and anomalies.
- Select the most meaningful data to communicate.
- Create an infographic that is clear, accurate and persuasive.
- Explain how behaviour changes can reduce waste.

In this lesson, students analyse real waste audit data from their school to understand the types, scale and impact of waste being generated, and what it reveals about everyday behaviours. They apply mathematical skills to scale waste over time and compare their findings with broader council trends, building a clearer picture of how their school contributes to the wider waste system.

Using these insights, students identify key patterns and develop targeted messages to reduce waste, particularly food waste, and improve sorting practices.

They then communicate their findings through a clear and engaging infographic designed to raise awareness and encourage positive behaviour change within the school community.

Key learning area

English, mathematics and HASS

Duration

60-75 minutes

Essential set up items

- Waste audit results
- Council waste data
- Calculator
- Infographic template or spreadsheet
- Poster materials or digital tools
- Waste diversion guide.

Instructions

Set the scene

- Watch the Oz Harvest video giving insight into food waste.
- Discuss the environmental and social impact of food waste.
- Acknowledge that some information in the video is outdated but the core messages remain relevant.

Reconnect to the audit

- Revisit key findings from the waste audit.
- Prompt students to consider:
  - What did we notice?
  - Which category or subcategory weighed the most?
    Which took up the most space?
  - What surprised us?
  - What questions do we still have?
- Reinforce, that the audit represents a snapshot in time, not the full picture.

Analyse and scale the data

- Divide the students into small groups.
- Make sure there are enough groups to cover each category and or subcategory.
- In groups students:
  - Analyse their audit data.
  - Project waste over time:
    - 1 week = x5
    - 1 month = x20
    - 1 year = x200
  - Identify key insights and patterns.
  - Select a few high-impact statistics.
  - Translate the data into relatable comparisons use the measure of things website to help.
    - Examples:
      - Total waste compared to animal weight.
      - Volume compared to classroom space.
- Guide thinking:
  - Which waste streams grow the fastest?
  - Where is the biggest opportunity to improve?
  - What behaviours are driving these results?
  - What matters most, volume or weight? Why?

Interpret and compare

- As a class:
  - Input results into the State of Our School Infographic spreadsheet.
  - Compare with council-level waste data
- Discuss:
  - Why is it helpful to see data in different ways?
  - Why are numbers alone not always enough to change behaviour?
  - What do these comparisons help us understand?

Communicate for impact

- Students design an infographic that:
  - Highlights key findings
  - Uses simple visuals and clear statistics
  - Encourages a specific behaviour change
- Focus students on:
  - What is the one message we want people to remember?
  - How do we make it easy to understand and act on?

Reflect and act

- Bring the class together to reflect:
  - What does our data tell us about our habits?
  - What should we change first?
  - What action will have the biggest impact?
- Option: Ask each student or group to commit to one practical change at school or at home.

Extension activities
Solutions focus

- **Develop a persuasive message**
  Create a short written or spoken message to accompany the infographic, aimed at influencing a specific audience (eg students, families, staff) to change one waste behaviour.
- **Share with the school community**
  Publish infographics in newsletters, display them around the school, present at assembly, or share digitally to raise awareness and prompt action.
- **Repeat and compare audits**
  Conduct a follow-up waste audit after implementing changes. Compare results to measure impact and evaluate what worked.
- **Design and test solutions**
  Develop simple interventions (eg bin signage, reminders, campaigns) and test their effectiveness in improving sorting or reducing waste.
- **Investigate waste further**
  Explore specific waste streams (eg food waste, plastics) in more detail to understand causes and identify targeted actions.
- **Connect to home and community**
  Apply learning at home by tracking household waste or sharing key messages with family members to encourage behaviour change beyond school.



Curriculum connections

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Australian Curriculum links

Year group	PDHPE	Mathematics	HASS
Year 3	AC9E3LY05 – Plan, create and publish imaginative, informative and persuasive texts (linked to creating infographics).	AC9M3ST01 – Acquire, record and represent data (linked to using audit data).	AC9HS3G04 – Explain how people use places sustainably (linked to school waste practices).
Year 4	AC9E4LY05 – Plan, create and edit informative texts for specific purposes and audiences (linked to communicating waste messages).	AC9M4ST01 – Collect, organise and represent data (linked to scaling and comparing waste data).	AC9HS4G05 – Describe how people's actions impact the environment (linked to waste behaviours).
Year 5	AC9E5LY05 – Create informative and persuasive texts, using evidence to support ideas (linked to infographic messaging).	AC9M5ST01 – Pose questions and collect, organise and interpret data (linked to analysing audit and council data).	AC9HS5G05 – Explain how people can conserve environments (linked to reducing food waste and improving sorting).
Year 6	AC9E6LY05 – Plan, create, edit and present texts for different audiences and purposes (linked to presenting infographics).	AC9M6ST01 – Interpret and compare data displays and draw conclusions (linked to identifying trends and patterns).	AC9HS6G04 – Explain how environmental factors influence human decisions (linked to waste choices and behaviours).

South Australian Curriculum Connections

- Inquiring: Students analyse school and council waste data to identify patterns and trends.
- Communicating: Students present findings through infographics and discussions.
- Designing and acting: Students create persuasive messages to influence waste reduction behaviours.

Cross Curriculum Priority

- Sustainability: Systems (waste generation, food waste, resource use, environmental and social impacts).

6 The journey of waste

Students investigate specific waste items and map their full lifecycle to understand how everyday decisions and system design shape waste outcomes.

Learning intentions

This area provides opportunities for students to:

- Analyse why some items are difficult to sort.
- Understand how material composition and product design influence disposal pathways.
- Explore and compare linear and circular systems.
- Map the lifecycle of a product across pre- and post-consumption stages.
- Recognise how individual and system-level decisions impact environmental outcomes.

Success criteria

This is evident when students can:

- Identify at least three features that make an item difficult to recycle (eg composition).
- Explain a product lifecycle using a real-world example.
- Accurately distinguish between linear and circular systems.
- Create a lifecycle map that includes key stages, impacts and outcomes.
- Articulate one change (behavioural or systemic) that would improve the item's outcome.

This lesson builds on the waste audit by focusing on items students found difficult to sort. Students investigate why confusion occurs by analysing material properties, product design and system limitations.

Using a strawberry as a case study, they explore how products move through linear and circular systems. Students then map the full lifecycle of a chosen item, connecting production, consumption, and disposal.

The lesson develops systems thinking, showing that waste is not just a disposal issue, but the result of decisions made across an entire lifecycle.

Key learning area

Science, English, HASS, Design and Technologies

Duration

110 minutes

Essential set up items

- Waste audit results
- Whiteboard and markers
- Strawberry lifecycle diagram
- Circular vs linear economy diagram
- Library and internet access
- Paper, markers and sticky notes
- Magnifying glass (optional)
- Short video showing the recycling or composting process (optional).

Instructions

Set the scene

- Shift from review to problem framing.
- Gather the class and display audit items the class were unsure about.
- Pose a challenge:
  - If people disagree on which bin these items belong in, or whether they can be recycled, what does that tell us about the system?
- Guiding questions:
  - What makes an item recyclable?
  - Why do these items cause confusion?
  - Is the problem the person, the product or the system?

Hands on investigation

- Divide the class into small groups.
- In their groups, students examine and analyse items using a structured lens.
- Prompt framework:
  - Material: What is it made of?
  - Design: Is it made of multiple materials?
  - Information:
    - Are there any recycling symbols or material type numbers?
    - Are the labels clear or misleading?
  - System fit:
    - Can current systems process it?
    - What challenges might the product's features create during the process?
- Introduce key concept:
  - Introduce the Australian Recycling Label.
  - Discuss the different types of materials, that can and can't be recycled.
  - Recycling is not just about material, it's about system compatibility. Discuss the difference between what can be recycled through the yellow-lid recycling bin vs what can be recycled through purpose built processes.

Group discussion: The strawberry lifecycle

- Use the strawberry lifecycle to model systems thinking.
- Stage it clearly:
  - Preparation
  - Production
  - Transport
  - Consumption
  - Disposal.
- Then contrast outcomes:
  - Circular
    - Nutrients returned
    - New growth.
  - Linear
    - Landfill
    - Methane generation
    - Lost resources.
- Facilitate class discussion:
  - How does the way we dispose of an item affect its overall journey?
  - Does using the green-lid food and organics bin to dispose of the strawberry create a better outcome than using the red-lid landfill bin? Why?
  - How can this lifecycle example help us understand our own waste challenges.
- Key learning outcome:
  - Waste is created when a system fails to recover value

Lifecycle mapping

- Divide the class into small groups.
- Ask each group to select one item from the unsure items list and map its journey.
- Within each group assign roles. Half the group should focus on upstream (pre-consumption) and the other half on downstream (post consumption).

    - Upstream (pre-consumption)
        - Raw material extraction
        - Production/manufacturing
        - Packaging
        - Distribution
        - Retailing.
    - Downstream (post-consumption):
        - Disposal options
        - Recycling/composting potential
        - Landfill consequences.
- Students gather information on their assigned sections using the provided resources as well as library and internet access (if available).
- Each group creates a detailed diagram or flowchart that maps the steps, from raw materials and production processes to the final (if there is one) disposal or recycling outcome.
- Ask them to think about and discuss some of the things that might cause environmental impacts or challenges along the way.
- Add critical thinking layer by asking students to identify:
    - Where value is created
    - Where value is lost
    - Where intervention could occur
    - Where environmental impacts might occur.

Group presentation and class discussion

- Each group presents their diagrams briefly.
- Students should explain both the pre- and post- consumption journeys.
- Facilitate the discussion:
    - What are the most critical steps in the lifecycle?
    - How do these steps connect to the idea of a circular economy?
    - Where in the system do most problems occur?
    - Are these problems caused by:
        - People?
        - Design?
        - Infrastructure?
    - What surprising insights did you discover about the journey of your waste item?

Reflection

- Reinforce the key learnings:
    - We don't just manage waste, we manage materials within a system.
    - The difference between a linear and circular system.
    - Using mixed materials makes it harder for a product to be recycled.
    - Size, shape, contamination and sorting technology all matter.
    - Waste systems are designed and have their own limits.
    - Better outcomes require both behaviour change and system change.
    - Up to 80% of a product's environmental impact and potential waste is determined at the design stage.
- Discuss:
    - What surprised you most?
    - What is one thing you would change:
        - At home?
        - In product design?
    - What's one small change that could prevent waste becoming a problem?

Extension activities
World without waste

Write a short imaginative story about life without waste collection, recycling or composting services. Use the story starter below and show how people respond when waste systems disappear.

- **Story Starter:**
  Imagine waking up one morning to find that every waste management service had vanished, leaving a town overwhelmed by mounds of garbage. As the waste builds up, people begin to question what waste really is and how their everyday choices have contributed to the monster problem…
- **Learning Goal:**
  Apply systems thinking to show how consumption, waste, and solutions are connected.

  Your story must include:

  - At least three waste-related terms (eg landfill, recycling, contamination, composting).
  - At least one circular solution (eg reuse, repair, composting, reducing consumption).
  - A clear link between people's choices and the waste problem.
- **Optional challenge**
  Show how one small change creates a bigger impact across the system.

Targeted Sentence Starters

If students are struggling to get started, use one of these sentence starters.

- One morning, the garbage trucks didn't come. Soon, bins overflowed and rubbish filled the streets, making families wonder what had gone wrong…
- "Without rubbish collection, homes began to fill with waste. Families started to ask, 'Do we really need all this, or is it time to change how we live?
- After a big game at the stadium, the floors were covered in rubbish. It made everyone stop and think about what they were throwing away…
- As more and more rubbish piled up, families began to look closely at what they were buying and using, realising how much they didn't actually need…
- When life became harder because of all the waste, one family decided to make a change. They focused on what was important and learned how to live with less…

For more inspiration, you can explore additional writing prompts designed to provide a variety of creative starters and ideas for young writers.



Curriculum connections

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Australian Curriculum links

Year group	Science	English	HASS	Design & Technologies
Year 3	AC9S3U04 – Compare observable properties of materials and how they are used (linked to examining waste item materials).	AC9E3LY07 – Plan and deliver short presentations, using appropriate language (linked to sharing lifecycle maps).	AC9HS3G04 – Explain how people use places sustainably (linked to waste and resource use).	AC9TDE3K01 – Explore how technologies use materials to meet needs (linked to product design and packaging).
Year 4	AC9S4U04 – Investigate natural and processed materials and their uses (linked to recyclability and material types).	AC9E4LY07 – Use interaction skills to contribute to discussions (linked to group investigation and discussion).	AC9HS4G05 – Describe how people's actions impact the environment (linked to waste disposal choices).	AC9TDE4K01 – Investigate how materials and systems are used in designed solutions (linked to packaging and waste systems).
Year 5	AC9S5U04 – Investigate properties of materials and how they can change (linked to processing, recycling, composting).	AC9E5LY07 – Use language features to present ideas and justify a point of view (linked to explaining lifecycle impacts).	AC9HS5G05 – Explain how people can conserve environments (linked to circular economy practices).	AC9TDE5K01 – Explain how design and technologies solutions meet needs and consider sustainability (linked to product lifecycle thinking).

Year group	Science	English	HASS	Design & Technologies
Year 6	AC9S6U04 – Investigate how properties of materials influence their use and management (linked to recyclability challenges).	AC9E6LY07 – Plan, rehearse and deliver presentations for audiences and purposes (linked to presenting lifecycle diagrams).	AC9HS6G04 – Explain how environmental factors influence human decisions (linked to waste choices and systems).	AC9TDE6K01 – Investigate how design solutions consider economic, environmental and social sustainability (linked to circular vs linear systems).

South Australian Curriculum Connections

- Inquiring: Students investigate materials, product lifecycles and waste systems.
- Communicating: Students present lifecycle maps and explain findings.
- Designing and acting: Students explore how design choices influence sustainability outcomes and waste reduction.

Cross Curriculum Priority

- Sustainability: Systems (lifecycle thinking, circular economy, resource use, waste impacts).

7 Why we waste

Students investigate why people waste, using interviews, surveys and observations to understand how everyday habits and decisions drive waste.

Learning intentions

This area provides opportunities for students to:

- Explore the behaviours and influences that lead to waste generation.
- Compare methods for gathering evidence (interviews, surveys, observations).
- Develop effective, open-ended inquiry questions to gain insights.
- Design a research approach suited to a specific audience.
- Understand how data can be used to explain and influence behaviour.

Success criteria

This is evident when students can:

- Identify common behaviours that contribute to waste generation.
- Explain the strengths and limitations of different research methods.
- Develop clear inquiry questions linked to a waste generation behaviour.
- Design and trial a basic research tool (interview, survey or observation checklist).
- Explain how their method will help better understand waste generation behaviours.

This lesson invites students to investigate why waste happens by exploring human behaviour.

Students begin by identifying factors that influence how people manage waste, such as convenience, habits and knowledge. They are then introduced to three research methods (observation, interviews and surveys) and learn how each can reveal different insights.

Working in pairs or small groups, they select a topic, audience and method. They develop a guiding question and design a simple research tool.

Through planning and role-play, students refine their approach and build skills in questioning, data collection and communication, while developing a deeper understanding of how everyday decisions contribute to waste and how this knowledge can inform real-world change.

Key learning area

English and HASS

Duration

90 minutes

Essential set up items

- Whiteboard and markers
- Digital projector
- Printed resources
- Laptop/tablet
- Activity planners.

Instructions

Framing the problem

- Brainstorm:
  - What waste management behaviours have you seen at home, school or in the community?
  - Are these behaviours correct or effective?
  - If most people know waste is a problem, why does it still happen?
  - What influences people's waste management decisions?
    - Explore influences:
      - Convenience
      - Habits
      - Knowledge gaps
      - Time pressure
      - System design.
- Key teaching point:
  - Waste is driven by behaviour, not just knowledge.

Introducing the Inquiry

- Pose the big question:
  - How do everyday choices create waste?
- Explain students will:
  - Choose a real waste generation behaviour to investigate.
  - Design their own investigation tools.
  - Collect data.

Exploring the research tool

- Introduce and discuss the three tools:
  - Observation:
    Good for observing behaviour, but offers no insight into why.
  - Survey:
    Allows for identification of patterns and trends, but usually provides less detail.
  - Interview:
    Good for gaining a deeper understanding of attitudes, but usually a small sample size.
- Key insight:
  - Different tools allow us to understand different parts of a person's behaviour and provide different levels of information.

Understanding the research tools

- To understand why people waste, students need tools that uncover both what people do and why they do it. Each method provides a different type of insight.
- **Interviews**
  - Interviews are used to explore people's thoughts, feelings and motivations. They are best for understanding why behaviours happen.
  - As a class:
    - Explore how different question types shape the quality of responses.
    - Distinguish between:
      - Closed questions
        Short, factual answers.
      - Open-ended questions
        Detailed, descriptive insights.
      - Emphasize the role of follow-up questions to probe deeper and clarify responses.
      - Reinforce the importance of being curious, neutral and non-judgmental.
      - Reinforce good questions uncover behaviour, not just opinions.
      - Examples:
        - Weak: Do you waste food?
        - Strong: Tell me about the last time you threw food away.
        - Follow-up: What led to that? / What could have been done differently?
-

- Test understanding:
    - Students develop at least five interview questions, including at least:
        - One open-ended question.
        - One follow-up prompt.
    - In pairs, students practice interviewing each other.
- Class reflection:
    - How did it feel to ask and answer questions?
    - Which questions generated the most useful responses?
    - What made a question effective?
    - Did follow-up questions lead to deeper insights?

- **Surveys**
    - Surveys are used to collect data from many people to identify patterns, habits and trends.
    - As a class:
        - Explore question types:
            - Multiple choice
              Quick, comparable data.
            - Rating scales
              Frequency and behaviour patterns.
        - Discuss how surveys prioritise breadth over depth.
        - Consider different collection methods:
            - Digital (e.g. forms)
            - Paper-based
            - Verbal.
        - Design Considerations:
            - Keep questions clear and unbiased.
            - Avoid leading or confusing wording.
            - Ensure responses are easy to analyse.
    - Test understanding:
        - In groups, students:
            - Design a survey (4–6 questions).
            - Include a mix of question types.
            - Trial the survey with peers.
        - Class reflection:
            - How easy was it to collect responses?
            - What patterns or trends emerged?
            - What limitations did you notice?
            - How is a survey different from an interview in the type of data collected?
- **Observation**
    - Observation focuses on what people actually do, rather than what they say they do.
    - Teaching focus:
        - Highlight that behaviour and self-reporting don't always match.
        - Emphasise the importance of:
            - Objectivity (recording what is seen, not interpreted).
            - Respect (no judgment, no identifying individuals).
            - Consistency (using clear criteria).
    - Examples of observable behaviours:
        - Correct or incorrect bin use.
        - Food being discarded uneaten.
        - Reuse of materials.
    - Test understanding:
        - In groups, students:
            - Select a behaviour to observe.
            - Identify a suitable audience.
            - Selected an appropriate location.
            - Develop an observation checklist:
                - Was the correct bin used?
                - Was edible food thrown away?
                - Was packaging reused?
    - Class Reflection:
        - What did you notice that might not have been reported in a survey or interview?
        - What are the strengths and limitations of observation?
    - Key Teaching Point:
        - Different research tools reveal different parts of behaviour:
            - Interviews explain why.

        - Surveys show patterns.
        - Observations reveal real actions.
    - Using the right method, or combining methods, leads to more accurate and meaningful insights.

Conducting an investigation: Define focus, audience and method

- Students move from general ideas about waste to a clear, focused investigation that can generate meaningful insights.
- In pairs or small groups, students choose:
    - A topic (eg food waste or contamination).
    - An audience (eg household, grandparents, peers, staff).
    - An investigation tool (eg survey, interview, observation).
- Students refine their focus into a clear, specific and researchable question, for example:
    - Why do students throw away edible food at lunch?
    - What stops households from using the green-lid food and organics bin?
    - How do people decide which bin to use?
- Support prompts:
    - What behaviour are you trying to understand?
    - Is your question focused on what people do or why they do it?
    - Can your method realistically answer this question?
- Each group shares their chosen:
    - Topic
    - Guiding question
    - Audience
    - Method.
- Class discussion prompts:
    - Is the question clear and focused?
    - Will the chosen method provide useful data?
    - How could the question be improved?
- Students should be able to explain:
    - Why this method suits their question (eg interviews for deeper insight, surveys for patterns, observation for real behaviour).
    - What they are most curious to uncover (eg habits, barriers, misunderstandings).
    - What insights they expect to gain (eg reasons for behaviour, common trends, gaps between intention and action).

Conducting an investigation: Designing the method

- Students develop and prepare their chosen research method, interview, survey or observation, using the provided planner.
- Task Requirements
    - Students must:
        - Develop at least five questions or observation criteria.
        - Ensure their tool aligns with their guiding question and method.
    - If designing an interview or survey, include:
        - At least three open-ended questions.
        - At least one follow-up question or prompt.
    - If designing an observation, include:
        - At least five clear behaviours or actions to observe.
        - Specific, measurable criteria (eg correct bin used, food left uneaten).
    - All questions or observation criteria must be:
        - Clear and easy to understand
        - Neutral (non-judgmental)
        - Focused on behaviour, not opinions alone.
    - Test and refine their method

Conducting an investigation: Data collection, tabulation and analysis

- Students collect a small set of responses (in class or as homework), then:
    - Record the data
        - Survey - Tally responses.
        - Interview - Summarise key responses or themes.

- Observations - Count frequency of behaviours.
- Tabulate Results:
  - Present findings using:
    - Tables
    - Tallies
    - Simple graphs
    - Infographics.
- Identify Insights
  - Students analyse their data and identify:
    - Patterns or trends.
    - Surprising findings.
    - Common behaviours or barriers.
  - Support prompts:
    - What is happening most often?
    - What didn't you expect?
    - What behaviour is contributing most to waste?
- Sharing Insights:
  - Each student or group shares:
    - Their question, method and audience.
    - A summary of their data.
    - 2–3 key insights.
  - Class discussion:
    - What behaviours are most common across groups?
    - What patterns are emerging?
    - Where are the biggest opportunities for change?
  - Reflection prompts:
    - Which questions or criteria generated the most useful insights?
    - Did anything need to be reworded or improved?
    - Did follow-up questions deepen understanding?
    - Did your data match what you expected? Why or why not?
- Key learning outcome:
  - Students understand that a strong investigation requires:
    - A clear focus.
    - The right method.
    - Well-designed questions.
    - Careful analysis of data.
  - Good questions lead to useful insights and useful insights lead to better solutions.

Extension activities:
Deepening understanding

- **Cultural perspectives**
  - Investigate how food use and waste practices have changed over time within families and cultures.
  - Students interview a family or community member using questions such as:
    - How were leftovers used in your household growing up?
    - Are there cultural traditions that reduce food waste?
  - Students summarise and share key insights, identifying differences between past and present behaviours.
- **Community Research**
  - Students conduct a short interview or survey with someone in their community.
  - They compare the responses with their initial findings and identify:
    - Similarities and differences.
    - Opportunities for improvement.



Curriculum connections

The links provided below show how this activity aligns with the Australian Curriculum and the South Australian Curriculum. Use them to inform planning, guide teaching, and support reflective practice. Curriculum areas may overlap, use professional judgment to adapt, extend, or differentiate learning based on students' needs, interests and learning levels.

Australian Curriculum links

Year group	English	HASS
Year 3	AC9E3LY07 – Plan and deliver short presentations, using appropriate language and interaction skills (linked to sharing investigation plans and findings).	AC9HS3G04 – Explain how people use places sustainably (linked to understanding waste behaviours).
Year 4	AC9E4LY07 – Use interaction skills to contribute to discussions and collaborative learning (linked to interviews, surveys and group planning).	AC9HS4G05 – Describe how people's actions impact the environment (linked to waste habits and choices).
Year 5	AC9E5LY07 – Use language features to present ideas and justify a point of view (linked to designing questions and explaining findings).	AC9HS5G05 – Explain how people can conserve environments (linked to behaviour change and waste reduction).
Year 6	AC9E6LY07 – Plan, rehearse and deliver presentations for audiences and purposes (linked to communicating investigation results).	AC9HS6G04 – Explain how environmental factors influence human decisions (linked to why people waste and how behaviour changes).

South Australian Curriculum Connections

- Inquiring – Students investigate waste behaviours, patterns, and impacts.
- Communicating – Students share findings, discuss ideas, and present solutions.
- Designing and acting – Students develop and apply strategies to reduce waste and improve sustainability practices.

Cross Curriculum Priority

- Sustainability – Systems (waste behaviours, environmental impact, resource use, behaviour change, waste reduction strategies).

8 The cost of waste

Students calculate the real cost of waste by assigning value to everyday items, revealing how small choices impact money, resources and the environment.

Learning intentions

This area provides opportunities for students to:

- Recognise that waste has financial, environmental and social costs.
- Investigate the monetary value of wasted food and recyclable items.
- Apply mathematical skills to estimate, calculate and scale costs.
- Connect waste behaviours to real-world financial impacts.
- Explore how small actions can reduce waste and recover value.

Success criteria

This is evident when students can:

- Identify common waste items and assign realistic values.
- Accurately calculate total waste value and scale findings.
- Interpret results and explain their significance.
- Suggest practical ways to reduce waste or recover value.

Students investigate the real cost of waste by assigning monetary value to food and recyclable items identified in the waste audit.

Using catalogues, online pricing and container refund schemes, they calculate how much money is being thrown away and explore how waste can be reduced or turned into value.

The lesson builds financial literacy and systems thinking by connecting everyday waste behaviours to household costs, environmental impacts and opportunities for change.

Key learning area

Mathematics and HASS

Duration

60 minutes

Essential set up items

- Waste audit results
- Pencils, paper and whiteboard
- Supermarket catalogues (print/digital)
- Pre-prepared sample prices
- Calculation scaffolds
- Digital calculator (optional).

Instructions

Introduction

- Prompt questions:
  - When we throw food away, what are we really wasting?
  - Is it just food—or something more?
  - Expand thinking beyond money:
    - Time
    - Water
    - Energy
    - Labour
  - Link these costs back to the lifecycle of a strawberry example used in lesson 5.
- Key teaching point:
  - Waste is not just rubbish, it represents lost value.

Introducing value: container deposit scheme

- As a class, discuss:
  - How the container deposit scheme works.
  - Why containers have value.
  - What could be done with the money.
- Pose a scenario:
  - If our class collected all the eligible containers over a term, how much money could we raise?
  - Use the waste audit data to estimate and calculate the total.
- Transition:
  - If containers have value, what about everything else we throw away?
- Key teaching point:
  - All waste has value, not just refundable containers.

Costing waste

- Divide students into three groups:
  - Group 1: Red-lid landfill bin.
  - Group 2: Yellow-lid recycling bin.
  - Group 3: Green-lid food and organics bin.
- Use the waste audit results to identify the items in each bin.
- If needed, use the waste diversion guide to identify items that belong in that bin.
- In groups, students:
  - Match each waste items from their bin to a similar product in a catalogue.
  - Record the cost of the item.
  - Estimate the portion wasted (eg uneaten, half eaten or partially used)
  - Note:
    - Students may undervalue partial waste so reinforce portion estimation.
    - Emphasise behaviour equals waste, which carries both a cost and impact.
  - Calculate:
    - The cost of each item based on the value of the portion that was not used.
    - The total cost of all their items.
  - Scale the impact by calculating the cost:
    - Per week
    - Per year
    - Across the school.

Sharing and analysis

- In groups, students present to the class:
  - The total cost of their bin.
  - The biggest contributors to the cost.
- As a class, discuss:
  - Which bin wasted the most money? Why?
  - What surprised you?
  - Where is the biggest opportunity to reduce waste and save money?

Reflection

- Prompt:
  - What is one change you could make to reduce waste and save money?
- Key insight to land:
  - Small everyday choices have real financial and environmental costs.
  - Food waste often has higher environmental and financial cost than packaging.
  - Waste is a decision, not an accident.

Curriculum connections

The links provided below show how this activity aligns with the Australian Curriculum and the South Australian Curriculum. Use them to inform planning, guide teaching, and support reflective practice. Curriculum areas may overlap, use professional judgment to adapt, extend, or differentiate learning based on students' needs, interests and learning levels.

Australian Curriculum links

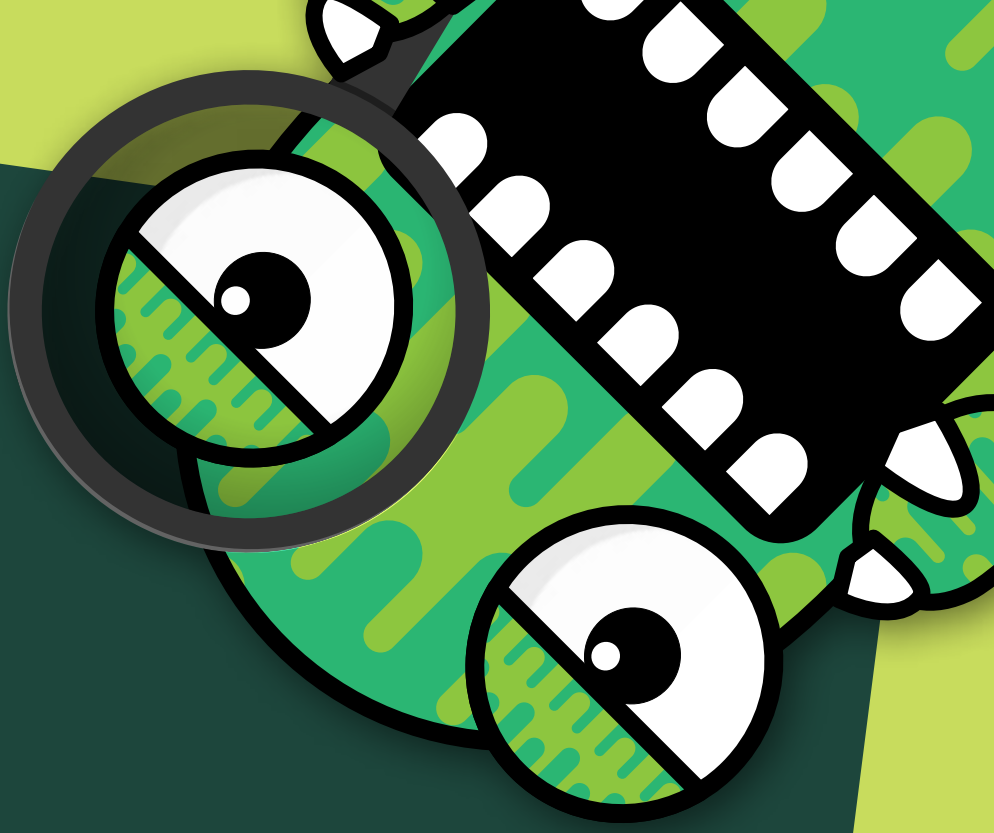
Year group	Mathematics	HASS
Year 3	AC9M3N06 – Solve problems involving money using simple transactions (linked to costing waste items).	AC9HS3G04 – Explain how people use places sustainably (linked to waste and resource use).
Year 4	AC9M4N06 – Solve problems involving purchases and the calculation of change (linked to estimating and calculating waste costs).	AC9HS4G05 – Describe how people's actions impact the environment (linked to financial and environmental cost of waste).
Year 5	AC9M5N06 – Solve problems involving the four operations with money (linked to calculating total and scaled waste costs).	AC9HS5G05 – Explain how people can conserve environments (linked to reducing waste and saving resources).
Year 6	AC9M6N06 – Solve problems involving financial contexts and budgeting (linked to analysing waste costs over time).	AC9HS6G04 – Explain how environmental factors influence human decisions (linked to consumer choices and waste behaviours).

South Australian Curriculum Connections

- Inquiring: Students investigate the financial and environmental cost of waste using real data.
- Communicating: Students present calculations and explain findings about waste value.
- Designing and acting: Students propose practical ways to reduce waste and recover value (e.g. recycling, fundraising, saving money).

Cross Curriculum Priority

- Sustainability – Systems (economic, environmental and social costs of waste, resource use, recycling and recovery systems).



SORTING OUT

Students make sense of what they have discovered by analysing, organising and interpreting their findings. They identify patterns and trends in waste data, compare results across different investigations, and explore the relationships between behaviours, systems and impacts. Students begin to draw evidence-based conclusions about what is driving waste and where the greatest opportunities for improvement exist.

This phase builds students' ability to think critically, use evidence to support their ideas, and prepare for developing practical solutions to reduce waste.

9 Changing behaviour

Students turn their waste research into persuasive messages that inspire others to change everyday habits and reduce their waste.

Learning intentions

This area provides opportunities for students to:

- Analyse and organise findings from previous investigations.
- Identify key waste behaviours and practical solutions.
- Explore how persuasive techniques influence behaviour.
- Design and deliver a targeted persuasive message.
- Apply evidence to create meaningful behaviour change.

Success criteria

This is evident when students can:

- Identify and explain persuasive techniques used in media.
- Use evidence from audits and research to support their message.
- Clearly describe a waste behaviour, its cause and a solution.
- Create a persuasive message tailored to a specific audience.
- Communicate their message effectively through presentation or media.

Students synthesise insights from their waste investigations to identify key behaviours driving waste and develop persuasive messages to influence change.

By analysing real data, exploring effective communication techniques and creating their own campaigns, students move from understanding the problem to actively promoting solutions.

The lesson builds critical thinking, communication and behaviour change skills, empowering students to turn evidence into action.

Key learning area

English, HASS and digital technologies

Duration

90 minutes

Essential set up items

- Photos from the waste audit
- Sticky notes (2 per pair of students)
- Markers or pens
- Brainstorming sheets or whiteboards
- Device for filming (optional)

Instructions

Introduction

- Set the context:
  - Explain that changing behaviours requires more than information, it requires effective communication that motivates action.
  - Ask:
    - Have you ever seen anything that made you want to change your behaviour?
    - What made it convincing?
  - Briefly discuss how messages can influence choices and behaviour.
- As a class:
  - Watch The Great UnWaste video
  - Analyse:
    - What are the key messages?
    - Who is the target audience?
    - What behaviours are being challenged?
    - What solutions are promoted?
  - Discuss how the message is delivered:
    - Inclusive language (“together”).
    - Relatable, everyday scenarios.
    - Visual storytelling and imagery.
    - Tone, music and emotion.
    - Clear call to action.
  - Look at other examples of behaviour change campaigns.
    - Identify:
      - What do they have in common?
      - Do they use similar techniques?
      - Which messages are most effective?
  - Discuss, what is required for someone to change their behaviour?
    - Knowledge - Knowing what to do.
    - Access - Having the right tools/systems.
    - Motivation - Having a reason to act.
  - Which of these is most important? Or do we need all three?
- Key teaching point:
  - Effective messages don’t just inform, they motivate change by making it easy, relevant and worthwhile for people to act.

Organise the findings

- Revisit the audit data.
- Each student selects one item.
- Using a sticky note, they write:
  - The item.
  - The behaviour (or decision) they think caused the item to be wasted.
  - Whether they think it is avoidable or unavoidable.
  - A practical solution to prevent wastage.
- As a class:
  - Review all the behaviours.
  - Identify the top three behaviours that need to (or the class wants to) change.
  - Try to focus on behaviours with the biggest impact and most realistic change potential.
  - Examples:
    - Over-preparing food.
    - Not using leftovers.
    - Incorrect bin use.

Exploring persuasive formats

- As a class, brainstorm the different ways messages can be communicated:
  - Skit / role-play
  - Songs or jingles
  - News report
  - Social media or influencer content
  - Poster or billboard
  - Radio ads or podcasts
  - Flyer or brochure
  - Packaging or product label
  - Community event
  - Storytelling (book, comic or movie)
  - Infographic and data visuals
  - Animations or cartoons
  - Games or interactive apps.
- Discuss which formats work best for:
  - Different audiences.
  - Different messages.

Group brainstorm and planning

- In groups, students design their campaign.
- Each group selects:
  - The behaviour they want to change.
  - The audience the want to influence.
  - The format they will use to communicate their message.
- Their campaign must include:
  - The problem:
    What is happening?
  - The cause:
    Why is it happening? What behaviours or habits are behind it?
  - The change:
    What should people do differently?
  - The persuasive hook:
    Why should people care?
  - The call to action:
    What people should do now.
- Encourage students to use:
  - Data or evidence
  - Relatable scenarios
  - Emotional appeal
  - Clear and simple messaging
- Teacher prompts:
  - Is your message clear and focused?
  - Does it match your audience?
  - Is the solution realistic and achievable?
  - Will it motivate someone to act?
  - What impact do you want to have?
  - How could you measure success?
- Key learning focus:
  - Effective campaigns connect a behaviour with a reason to change and a clear action people can take.

Group presentations

- Each group presents their persuasive message.

Reflection

- Class discussion:
  - Which messages were most effective? Why?
  - What techniques worked best?
  - Which behaviour change is most achievable?
- Individual reflection:
  - What is one achievable action you will take to change your behaviour?

Extension activities
Campaign development

- **Campaign development - Real-world application**
  - Refine and produce your campaign for a real audience.
    - Aim to inform and influence real behaviour change.
    - Film, edit or design your final message.
    - Share it through a school assembly, newsletter or social media.
- **Audience adaptation - Targeted communication**
  - Redesign your message for a different audience (eg younger students, parents, community members).
    - Adjust language, tone and format.
    - Consider what matters most to that audience.
    - Reflect on how messages need to change to be effective.



Curriculum connections

The links provided below show how this activity aligns with the Australian Curriculum and the South Australian Curriculum. Use them to inform planning, guide teaching, and support reflective practice. Curriculum areas may overlap, use professional judgment to adapt, extend, or differentiate learning based on students' needs, interests and learning levels.

Australian Curriculum links

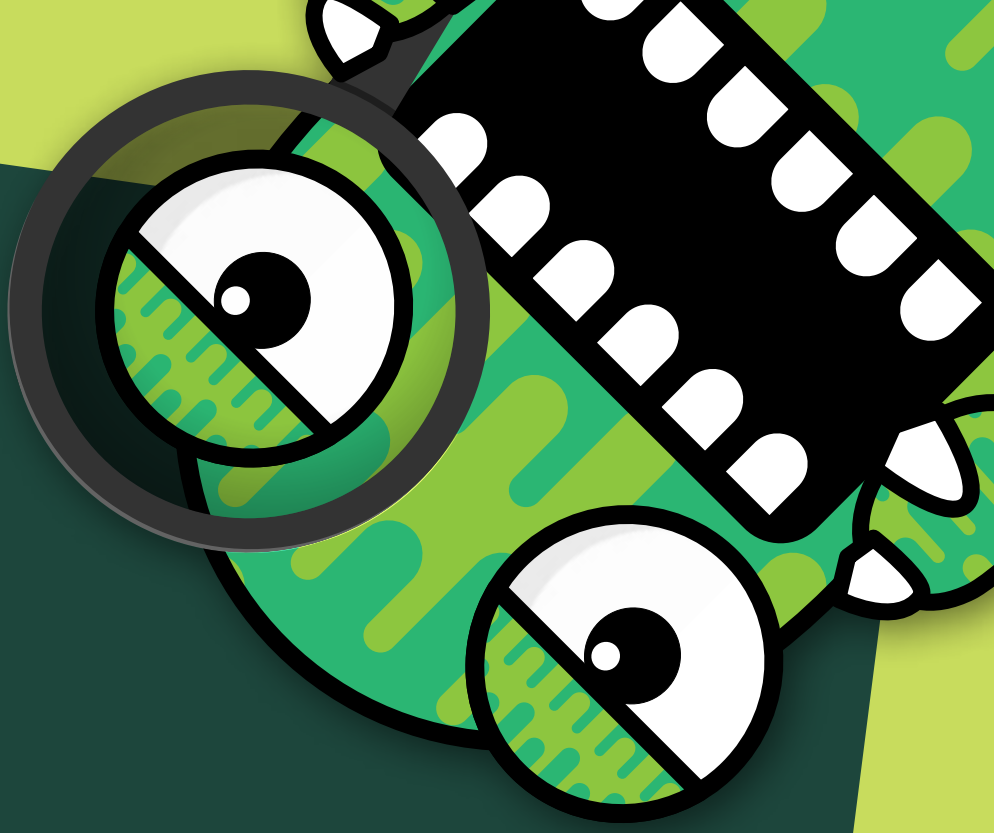
Year group	English	HASS	Digital Technologies
Year 3	AC9E3LY05 – Plan, create and publish informative and persuasive texts (linked to creating persuasive messages).	AC9HS3G04 – Explain how people use places sustainably (linked to food waste behaviours).	AC9TDI3P01 – Use digital tools to create and present information (linked to creating videos or media).
Year 4	AC9E4LY05 – Plan, create and edit texts for specific purposes and audiences (linked to persuasive communication).	AC9HS4G05 – Describe how people's actions impact the environment (linked to food waste impacts).	AC9TDI4P01 – Create and communicate ideas using digital tools (linked to media production).
Year 5	AC9E5LY05 – Create persuasive texts using evidence to support ideas (linked to behaviour change messaging).	AC9HS5G05 – Explain how people can conserve environments (linked to reducing food waste).	AC9TDI5P01 – Plan, create and communicate ideas using digital systems (linked to designing videos or campaigns).
Year 6	AC9E6LY05 – Plan, create, edit and present persuasive texts for different audiences (linked to presenting campaigns).	AC9HS6G04 – Explain how environmental factors influence human decisions (linked to waste behaviours).	AC9TDI6P01 – Create and communicate ideas and information using digital tools (linked to producing persuasive media).

South Australian Curriculum Connections

- Inquiring: Students analyse data and behaviours related to food waste.
- Communicating: Students design and present persuasive messages using a range of formats.
- • Designing and acting: Students create solutions that influence behaviour change and promote sustainability.

Cross Curriculum Priority

- Sustainability: Systems (food waste reduction, behaviour change, environmental impact, informed action).



REFLECTING

Students look back on their learning journey to evaluate how their knowledge, attitudes and behaviours have changed. They compare their current understanding with their starting point, using discussion, reflection activities and evidence from previous lessons to recognise growth. Students consider how their actions contribute to environmental and community outcomes and identify which changes they have already made or are ready to commit to.

This phase reinforces that behaviour change is the goal of learning, helping students build confidence, ownership and a commitment to ongoing sustainable practices.

10 Where I stand now

Students reflect on how their understanding and habits have changed and commit to simple actions that reduce waste in their everyday lives.

Learning intentions

This area provides opportunities for students to:

- Reflect on how their understanding of waste has developed.
- Demonstrate growth in knowledge, attitudes and behaviours.
- Use key sustainability vocabulary with confidence.
- Share and evaluate their personal actions and decisions.
- Commit to ongoing behaviour change.

Success criteria

This is evident when students can:

- Clearly explain what they have learned and how their thinking has changed.
- Use key terms accurately in discussion.
- Demonstrate shifts in understanding through the continuum activity.
- Provide real examples of behaviour change.
- Identify and commit to a specific action moving forward.

The final session consolidates learning by asking students to reflect on how their knowledge, attitudes and behaviours around waste have changed.

Through a physical continuum activity, structured discussion and personal reflection, students evaluate their growth and identify ongoing actions.

The lesson provides a qualitative assessment of learning while reinforcing that behaviour change is the ultimate outcome of the program.

Key learning area

English

Duration

45 minutes

Essential set up items

- Floor labels
- Statement cards
- A clear, open area
- KWL sheet
- Whiteboard and markers.

Instructions

Introduction

- Prompt discussion:
  - What is something you didn't understand at the start of the program?
  - What is something you know now that you are proud of?
- Optional:
  - Revisit KWL charts and complete the What I Learned column.
- Framing:
  - Today is about recognising your growth and deciding what comes next.
  - Explain that students will take part in the same movement activity they participated in at the start of the program. Called Where I stand?
  - Emphasise:
    - This is a personal reflection, not a debate.
    - There are no right or wrong answers.
    - Everyone may think differently, and that is okay.
    - We are here to share ideas and learn from each other.

Setting up the activity

- Arrange the space so students can move around safely.
- Place the floor labels on the ground to create a continuum from strongly agree to strongly disagree.
- Ensure that you allow enough room for students to stand comfortably at each point.

Positional activity

- Ask students to stand in the centre of the activity space.
- Read one reflection-based statements at a time.
  Example: I know how to sort waste correctly.
- Ask students to move to the floor label that best matches their opinion.
- Once the students are in place:
  - Ask a few students to explain their thinking.
  - Use simple follow-up questions:
    - What made you choose that spot?
    - What did you learn that helped you make your decision?
    - Is this different from the start of the program?

Reflection

- As a class, discuss:
  - What is the most important thing you learned about waste?
  - Did how you see waste change?
  - How has your behaviour changed?
  - What surprised you about waste?
  - How do your actions impact your family, school or the environment?
- Acknowledge students growth:
  - How much the students have learned.
  - Noticeable changes in behaviours.
  - How their actions make a difference.
- Record the big takeaways to guide future learning.

Pledge activity

- Invite students to make a simple pledge:
  - One important change I will keep making is…
- Encourage students to be specific, and realistic
- Commitments may include:
  - Using the correct bin
  - Reducing food waste
  - Packing a waste-free lunch
  - Teaching others
  - Avoiding single-use plastics
- Optional add-ons:
  - Turn it into a class commitment wall.
  - Take a group photo with their pledges for the school newsletter.

Curriculum connections

The links provided below show how this activity aligns with the Australian Curriculum and the South Australian Curriculum. Use them to inform planning, guide teaching, and support reflective practice. Curriculum areas may overlap, use professional judgment to adapt, extend, or differentiate learning based on students' needs, interests and learning levels.

Australian Curriculum links

Year group	PDHPE	English
Year 3	ACPPS036 – Describe and apply strategies that can be used in situations that make them feel uncomfortable or unsafe (linked to expressing personal views and reflecting on behaviour change). ACPPS038 – Describe and apply strategies that can be used in situations that make them feel uncomfortable or unsafe (linked to personal reflection and decision-making).	ACELY1682 – Use interaction skills to contribute to conversations and discussions (linked to sharing reflections). ACELY1689 – Plan and deliver short presentations (linked to explaining learning growth). ACELY1694 – Participate in discussions, listening and speaking clearly (linked to group reflection).
Year 4	ACPPS040 – Identify and practice strategies to promote health, safety and wellbeing (linked to positive behaviour change). ACPPS042 – Describe how respect, empathy and valuing diversity can positively influence relationships (linked to respectful discussion and sharing perspectives).	ACELY1692 – Identify features of texts used to meet purpose (linked to interpreting ideas during discussion). ACELY1694 – Participate in discussions, listening and speaking clearly (linked to reflection conversations). ACELY1699 – Interpret ideas and information in spoken texts (linked to listening during group reflection).
Year 5	ACPPS052 – Investigate how emotional responses vary and understand how to manage them (linked to reflecting on behaviour change). ACPPS056 – Plan and practice strategies to promote health, safety and wellbeing (linked to committing to sustainable actions).	ACELY1700 – Plan, rehearse and deliver presentations (linked to sharing learning and commitments). ACELY1704 – Clarify understanding of content as it unfolds (linked to reflection discussions). ACELY1714 – Participate in and contribute to discussions, clarifying ideas (linked to evaluating learning).

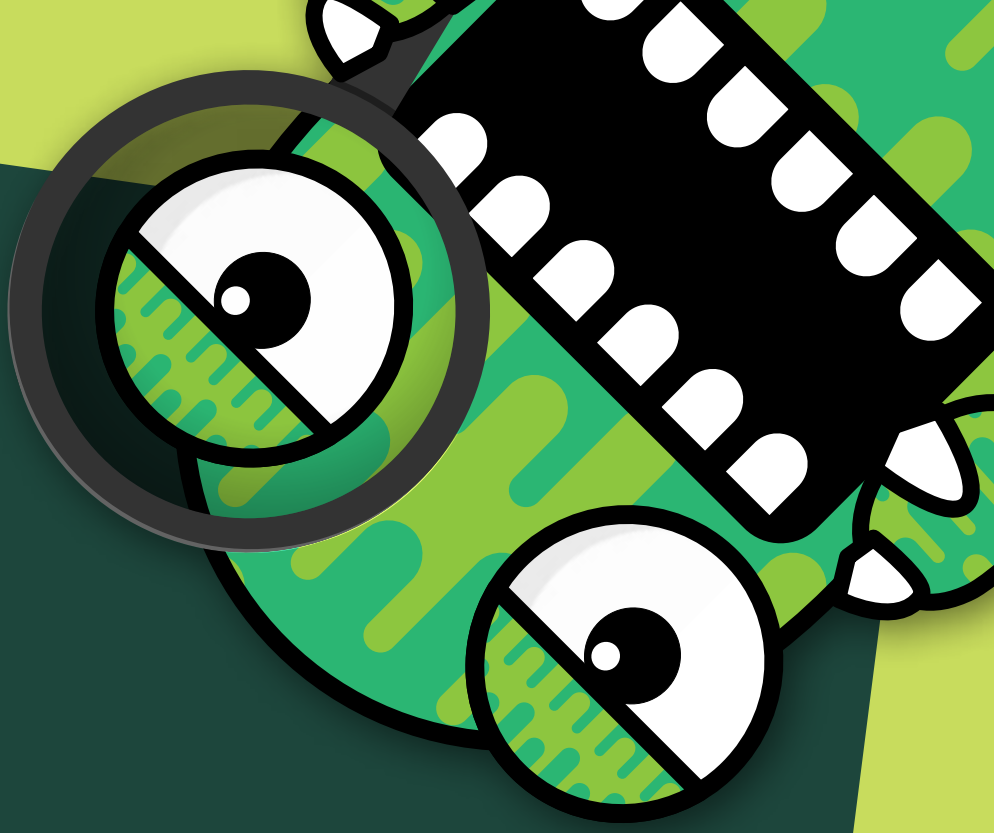
Year 6	ACPPS054 – Investigate the role of preventive health in promoting wellbeing (linked to environmental health and sustainability practices). ACPPS056 – Plan and practice strategies to promote health, safety and wellbeing (linked to ongoing behaviour change).	ACELY1710 – Plan, rehearse and deliver presentations (linked to presenting reflections and pledges). ACELY1714 – Participate in and contribute to discussions, clarifying and interrogating ideas (linked to deep reflection). ACELY1720 – Analyse how text structures and language features achieve purpose (linked to evaluating communication of ideas).

South Australian Curriculum Connections

- Inquiring: Students reflect on their learning journey, explore how their knowledge and attitudes about waste have changed, and consider the impact of their actions.
- Communicating: Students share ideas, discuss perspectives, and clearly articulate their understanding using appropriate vocabulary related to waste and sustainability
- Designing and acting: Students evaluate their behaviours and commit to ongoing actions that improve sustainability outcomes at school and at home.

Cross Curriculum Priority

- Sustainability: Sustainability – Evaluating and reflecting on personal impact on the environment.



EXTENDED LEARNING

This section provides additional opportunities for students to deepen, apply and extend their understanding of waste and resource recovery beyond the core lessons. These activities are optional and can be used to differentiate learning, revisit key concepts, or challenge students to think more critically and creatively.

E1 Regrowing from scraps

Students investigate how food scraps can be regrown to extend their life and reduce waste.

Learning intentions

This area provides opportunities for students to:

- Identify food waste that could be avoided or repurposed.
- Investigate how common food scraps can be regrown.
- Understand what plants need to grow and thrive (sunlight, water, soil, air).
- Recognise the time, effort and resources required to produce food.
- Explore how extending the life of food reduces waste and saves resources.
- Apply circular economy thinking to everyday food choices.

Success criteria

This is evident when students can:

- Identify at least two food scraps suitable for regrowth and explain why.
- Describe the basic conditions required for plant growth and regrowth.
- Set up and maintain a simple regrowth experiment using appropriate materials.
- Explain how regrowing food connects to reducing waste and supporting the environment.
- Make clear connections between plant growth, food production and waste reduction.

Students transform everyday food scraps into food, exploring how waste can be turned into a resource.

Using items identified in the waste audit, students investigate which scraps can be regrown, research how the process works, and set up a simple experiment.

Through this hands-on experience, students learn about the plant life cycle and see how food moves through a continuous system. From growth to consumption and back to the soil.

The lesson builds an understanding of sustainability by showing how small actions, such as regrowing and composting, can reduce waste, conserve resources, and support a circular economy.

Key learning area

Science and design and technology

Duration

60 minutes

Essential set up items

- Food waste items (eg carrot tops, tomato seeds, or strawberry seeds)
- Clean, repurposed container
- Soil or compost
- Labels for each container
- Water
- Laptops to research ways of regrowing food from scraps
- Camera to document progress

Instructions

Set the scene

- Revisit the food waste items found during the audit.
- As a class, discuss:
  - The difference between avoidable and unavoidable food waste.
  - How much didn't need to become waste.
  - What if waste wasn't the end of the story? Could the items have been eaten, saved for later, made into something else, composted or regrown.
- Key teaching point:
  - Food waste is often a missed opportunity, not just a disposal problem.

Investigation: What can be regrown

- In small groups students:
  - Categorise food scraps into:
    - Edible
    - Compostable
    - Regrowable
  - Choose one or more food scraps from the audit to investigate further, for example:
    - Carrot tops (grow leafy greens)
    - Lettuce bases (regrow leaves)
    - Tomato/capsicum/cucumber seeds (grow new plants)
    - Apple or citrus seeds (trees)
    - Strawberry seeds (fruit plants)
  - Research how the chosen food scraps can be regrown:
    - What conditions does it need?
    - How long will it take?
    - What will it produce?
- Prompt deeper thinking by asking:
  - Why can some foods regrow and others cannot?
  - What part of the plant is needed? (Roots, stems and seeds)

The experiment

- Collect and bring in food scraps for use.
- Clean the food scraps if needed.
- Choose a clean, re-purposed or recyclable container for planting.
- If using a solid container, poke small drainage holes at the bottom.
- Add soil or compost until the container is about three-quarters full.
- Plant your seeds or cuttings
  - If using seeds, place them gently into the soil about 1-2 cm deep and cover lightly.
  - If using herb cuttings, plant them so the roots or stem are covered with soil.
- Label the containers.
- Place the container in a sunny spot, such as a windowsill or garden area.
- Lightly water the soil to keep it moist.
- Assign rotating roles for watering and daily observation.
- Take photos or create drawings weekly to track growth over time.
- Before commencing, encourage students to predict what will happen and justify why.

Reflection

- Reinforce:
  - Regrowth (reuse) is a partial solution, connect to the waste hierarchy.
  - Regrowing extends value but does not replace food systems.
  - Avoiding waste is better than re-purposing.
- Discuss:
  - How has regrowing food from scraps changed how you see waste?
  - Where else could this be repeated (home, school, community)?
  - Why is regrowing vegetables beneficial for the environment?

- Brainstorm:
  - What is one small change we could make to reduce food waste at school using this new found knowledge?
- Key insight:
  - Waste can be redesigned into a resource with the right system.

Foods you can regrow from scraps

Tomatoes

- Place tomato seeds in a small container of water and allow them to ferment for a few days.
- Strain, rinse and dry the seeds that sink
- Plant the dried seeds in soil and keep them moist as they grow.

Basil

- Place 10–15 cm (4–6 inch) stem cuttings in a glass of water.
- Keep in a sunny spot and change the water every couple of days.
- Once roots form, transfer to soil.

Strawberries

- Blend overripe strawberries in water or use the tops.
- Skim off seeds that float.
- Plant seeds (or tops with seeds) into soil.

Carrots

- Place the carrot top in a shallow bowl of water, cut side down.
- Keep in a sunny spot and change the water daily.
- Plant in soil once green shoots appear (for leafy growth).

Green onions

- Place the white root ends in a jar with a small amount of water.
- Keep in a sunny spot and refresh the water every few days.
- Plant in soil once roots have grown longer.

Lettuce

- Place the base of the lettuce in a shallow dish of water.
- Keep in a sunny position and change the water daily.
- Transfer to soil once new leaves and roots begin to form.

Curriculum connections

The links provided below show how this activity aligns with the Australian Curriculum and the South Australian Curriculum. Use them to inform planning, guide teaching, and support reflective practice. Curriculum areas may overlap, use professional judgment to adapt, extend, or differentiate learning based on students' needs, interests and learning levels.

Australian Curriculum links

Year group	Science	Design & Technology
Year 3	AC9S3U01 – Compare characteristics of living things and how they grow (linked to plant regrowth from scraps).	AC9TDE3K01 – Explore how technologies use materials to meet needs (linked to re-purposing food waste).
Year 4	AC9S4U01 – Investigate life cycles of living things (linked to plant regrowth processes).	AC9TDE4K01 – Investigate how materials and systems are used in designed solutions (linked to regrowing systems).
Year 5	AC9S5U01 – Examine how living things depend on each other and the environment (linked to plant growth and sustainability).	AC9TDE5K01 – Explain how design solutions consider sustainability (linked to reducing food waste through regrowth).
Year 6	AC9S6U01 – Investigate growth and survival of living things and environmental conditions (linked to successful regrowth conditions).	AC9TDE6K01 – Investigate how design solutions consider environmental and social sustainability (linked to circular economy practices).

South Australian Curriculum Connections

- Inquiring – Students investigate how food scraps can regrow and the conditions required.
- Communicating – Students share findings and reflect on sustainable practices.
- Designing and acting – Students create and implement regrowth systems using repurposed materials.

Cross Curriculum Priority

- Sustainability: Systems (food waste reduction, resource reuse, circular economy, environmental and economic benefits).

E2 Decomposition experiment

In this hands-on experiment, students observe how different materials break down over time, exploring the real-world impacts of waste and everyday choices.

Learning intentions

This area provides opportunities for students to:

- Understand what happens to food and waste materials after disposal.
- Investigate how different environments affect decomposition.
- Explore the conditions required for decomposition (air, moisture, microorganisms).
- Compare compostable, biodegradable and non-degradable materials.
- Examine environmental impacts, including greenhouse gas emissions.
- Apply systems thinking to connect disposal choices with environmental outcomes.

Success criteria

This is evident when students can:

- Describe how different materials break down over time.
- Explain how environmental conditions influence decomposition.
- Distinguish between compostable and non-compostable materials.
- Design and monitor a fair test with consistent observations.
- Analyse results and explain environmental impacts.
- Make connections between waste practices and sustainability outcomes.

Students investigate what happens to waste after it is thrown away by designing and monitoring a decomposition experiment.

They compare how different materials, such as food scraps, compostable packaging and plastics, break down under different conditions, including compost, soil and landfill simulations.

Through hands-on experimentation and research, students develop an understanding of decomposition processes, environmental impacts and the role of waste systems.

The lesson builds systems thinking by showing how disposal choices influence outcomes such as nutrient recovery, pollution and greenhouse gas emissions.

Key learning area

Science

Duration

60 minutes

Essential set up items

- Waste items (Food scraps, paper towel, cardboard, soft plastics and hard plastics)
- Jars, bottles and buckets
- Spades or trowels
- Soil and compost
- Clear plastic bottles
- Observation sheet
- Labels, paper and markers
- Internet access.

Instructions

Introduction

- Prompt questions:
  - What really happens to waste after we throw it away?
  - Does everything break down the same way?
- Introduce decomposition:
  - Breakdown of organic matter by microorganisms.
  - Conditions required:
    - Air
    - Moisture
    - Heat
    - Microbes
- Key teaching point:
  - Waste doesn't disappear, it changes, and those changes have consequences.

Designing the experiment

- Introduce Variables:
  - Material type:
    - Food scraps
    - Compostable items
    - Soft and hard plastics
    - Foils
  - Environment
    - Soil
    - Compost
    - Landfill simulation
- In small groups, students:
  - Select materials to test
  - Choose an environment(s)
    - Soil
    - Compost
    - Landfill simulation
  - Develop a hypothesis, for example:
    - Food scraps will break down faster in compost than in landfill conditions.
- Embed scientific rigour:
  - What will you keep the same?
  - What will you measure?
    - Appearance
    - Size
    - Smell
    - Time
  - How long will each item take to breakdown?
  - What will happen to the selected items in different environments?

Experiment setup

- Gather materials identified from your waste audit for testing.
- Preparation
  - Using scissors or a utility knife, carefully cut the top off each bottle. Be sure to cut them in a way so that the top half can fit over the bottom half like a lid, this will help trap moisture and heat. This is a great way to re-purpose bottles found during your audit.
  - If you want to improve airflow, you can poke a few holes in the bottom of the bottles. This prevents the compost from getting too soggy. For younger students, an educator should handle this step.
  - Label containers
  - Place the bottle on a tray to catch any drips or spills.
- Layering the materials
  - Add a layer of soil or compost to the bottom of the first bottle, about 1-2 inches deep. This will be the base where your food scraps will decompose.
  - Start with a layer of brown waste (eg - shredded paper or leaves) and lightly spray with water.

- Add a layer of compostable food scraps (eg fruit peels, vegetable scraps, eggshells, coffee grounds) and spray lightly with water. Break down larger items into smaller pieces to speed up decomposition.
- Repeat the layers until the bottle is three quarters full.
- Repeat the same process for bottle two. But instead, add small amounts of non-compostable items (eg plastic, metal, wrappers). This will allow you to compare how compostable materials break down differently from non-compostable items.
- Record starting conditions

Ongoing Investigation

- Students check and record weekly changes
  - Visual changes (colour, texture, size).
  - Presence of mould or breakdown.
  - Differences between environments.
- Encourage consistency:
  - Same observation format each week.
  - Photos for comparison.

Research task

- In groups, students:
  - Select a material type.
  - Investigate how long their chosen material takes to break down.
  - Investigate what happens to their chosen material during decomposition.
  - Investigate any Environmental impacts.
- Add depth:
  - Compare the decomposition rates and environmental impacts of each material type.

Timeline Creation

- In groups, students create a visual timeline (or infographic) for their chose material, showing:
  - Decomposition rates
  - Conditions required
  - Environmental impacts

Reflection and discussion

- As a class, discuss:
  - What decomposed fastest? Why?
  - What slowed decomposition?
  - What differences did you observe between the different environments?
  - Why does some material behave differently in different environments?
  - Why do we use certain materials if they don't break down (or take a long time to breakdown)?
  - What surprised you most?
- Systems thinking questions:
  - Where is value lost in landfill?
  - How does composting change the outcome?
  - What decisions influence these outcomes?
- Key insight:
  - The way we dispose of waste determines whether it becomes pollution or a resource.

Curriculum connections

The links provided below show how this activity aligns with the Australian Curriculum and the South Australian Curriculum. Use them to inform planning, guide teaching, and support reflective practice. Curriculum areas may overlap, use professional judgment to adapt, extend, or differentiate learning based on students' needs, interests and learning levels.

Australian Curriculum links

Year group	Science
Year 3	AC9S3U01 – Compare characteristics of living things and how they depend on their environment (linked to decomposition and microorganisms).
Year 4	AC9S4U04 – Investigate natural and processed materials and their properties (linked to how different materials break down).
Year 5	AC9S5U04 – Investigate properties of materials and how they change (linked to decomposition processes and environmental conditions).
Year 6	AC9S6U04 – Investigate how properties of materials influence their use and management (linked to compostable vs non-compostable materials and waste systems).

South Australian Curriculum Connections

- Inquiring: Students investigate how materials break down and the role of microorganisms.
- Communicating: Students describe and explain decomposition processes and findings.
- Designing and acting: Students explore and apply composting and waste management practices.

Cross Curriculum Priority

- Sustainability – Systems (decomposition, material properties, waste management, composting, environmental impact).

Glossary

This glossary provides clear, concise definitions of key terms used throughout the educator's handbook. It supports shared understanding and consistency in language across planning, teaching, and reflection.

Alternative fuels

Fuels that aren't coal, gas, or petrol. Some are made from waste.

Anaerobic digestion

Tiny creatures called bacteria break down food scraps without air and make gas that can be used for energy.

Avoidable Food Waste

Food that gets thrown away even though it could have been eaten.

Beneficial use

When something is used again in a way that helps the environment.

Biodegradable

Things that break down naturally over time.

Biogas

A type of gas made when food or plants rot without air.

Circular economy

An economic system aimed at eliminating waste and continually using resources through recycling, re-purposing, and reusing materials.

Circular procurement

Choosing to buy things that can be reused or recycled.

Climate change mitigation

Actions to reduce pollution that harms the planet.

Closed loop recycling

Recycling something to make the same thing again.

Co-mingled recycling

Recycling different things (like plastic and paper) in the same bin.

Compost

A special kind of soil made from food scraps and garden waste.

Compostable organic waste

Food scraps and plant material that can turn into compost

Composting

The process of breaking down organic waste, like food scraps and garden waste, into nutrient-rich soil for reuse.

Container deposit scheme

A program where you return bottles and cans for a refund.

Contamination

When the wrong things go in the bin, making recycling harder.

Decomposition

The natural breakdown of organic matter by microorganisms, returning nutrients to the environment.

Disposal

Getting rid of waste by burying, burning, or storing it.

Diversion

Sending waste somewhere useful instead of landfill.

Downcycling

Recycling something into a lower-quality product.

Energy recovery

Turning waste into energy like heat or electricity.

E-waste

Old or broken electronics like phones, tvs and computers.

Extended Producer Responsibility (EPR)

When companies have to take care of their products even after people are done using them, like making sure they can be recycled.

Feedstock

Raw materials used to make new things.

Fogo (food and garden organics) bin

A bin for food scraps and garden organic waste.

Food Insecurity

When people don't always have enough food to eat.

Food Rescue

Saving extra food from stores and giving it to people who need it.

Food waste

Edible food that is discarded, lost, or uneaten, either at home, in schools, or during production and transport.

Garden waste

Grass, leaves, weeds and branches that can be composted.

General waste

Rubbish that can't be reused or recycled and goes to landfill.

Greenhouse gases

Gases that trap heat in the air, making the earth hotter eg carbon dioxide and methane.

Hazardous waste

Waste that can be dangerous to people and the environment.

Highest value reuse

Using things in the best way to reduce waste

Incineration

Burning waste, sometimes to create energy.

Kerbside collection

When trucks collect bins from homes.

Landfill

A place where rubbish is buried.

Life cycle Assessment (LCA)

A way to check how much energy and materials are used to make, use, and throw away things.

Materials recovery facility

A place where recycling is sorted and prepared

Material Recovery Rate

The amount of waste that is saved and turned into something new instead of being thrown away.

Methane

A gas from rotting food and plants that affects the climate.

Microplastics

Tiny plastic pieces that pollute water and land.

Municipal solid waste (msw)

Household and community waste collected by councils.

Organic waste

Waste from plants and food.

Product stewardship

When companies take responsibility for their products, even after they are used.

Prohibited landfill waste

Things that should never go in landfill because they can be reused.

Public place recycling

Recycling bins in parks and shopping centres.

Raw materials

Natural materials used to make things.

Recycle/recycling

The process of collecting and processing materials that would otherwise be thrown away to create new products.

Recycling stream

The part of waste that can be recycled.

Reduce

Using less, like bringing a water bottle instead of buying plastic ones.

Refuse

Saying “no” to things we don’t need, like plastic straws.

Refuse derived fuel

Fuel made from waste instead of coal or gas.

Repair

Fixing broken things instead of throwing them away.

Residual waste

Waste left after recycling and composting.

Resource recovery

Taking useful things from waste and using them again.

Right to repair

People should be able to fix their broken things instead of buying new ones.

Reuse

Using things again, like bringing your own shopping bag.

Sustainability

Meeting current needs without compromising the ability of future generations to meet their needs, including environmental, social, and economic aspects.

Sharing Economy

When people share things instead of each person buying their own, like borrowing books from the library.

Up-cycling

Making something new from old things, like turning a jar into a flower pot.

Waste Diversion

Strategies or actions aimed at diverting waste away from landfill, including recycling, composting, and re-purposing.

Waste hierarchy

The best ways to deal with trash: Use less → Share and fix → Recycle → Turn into energy → Throw away last.

Zero Waste

A philosophy and design principle that encourages redesigning resource life cycles so that all products are reused, and no trash is sent to landfills or incinerators.

Useful links

- War on waste - From waste to resources
- WasteSorted - Education resources
- Recycling Near You – Educators Toolkit (ARL)
- Cleanaway Recycling Hub
- Which Bin – Kerbside Guide (SA)
- Which Bin - Waste tips
- Waste management - IWS - Landfill

- Food waste - Reduce food waste - Green Industries SA
- Food waste - End Food Waste
- Food waste - War on Waste - Household food waste
- Food waste - Woolworths – How to compost in Australia
- Food waste - Foodprints calculators - Climate change and carbon emissions
- Food waste - Australian Environmental Education
- Food waste - 12 food you can regrow from scraps
- Food waste - The Great Unwaste
- Food waste - OzHarvest
- Food waste - Saveful
- Food waste - Jeffries - Commercial composting

- What Plastics Numbers Mean – WhichBin SA
- Soft plastic recycling
- Recycling - NAWMA
- Recycling - ResourceCo - Alternative fuels

- Container deposit scheme - EPA SA
- Container deposit scheme - Return and Earn - NSW

- Problematic waste - Green Industries SA
- Batteries - B-cycle
- E-waste - Clean Up Australia
- E-waste - Unplug N' Drop
- Textiles - Green Industries SA
- Mattresses - Bounce Back - Recycling

- Education - Kesab
- Education - AWARE



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