

Educator workbook

CAPS-aligned

Grade 10 - 12

Educating future leaders by teaching them to care for the environment.

Life Orientation





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Section A Introduction

Foreword

Petco Producer Responsibility Organisation NPC is a Producer Responsibility Organisation (PRO), incorporated in 2004, that administers Extended Producer Responsibility (EPR) schemes on behalf of its members for various packaging products in the packaging sector. Petco serves as a national organisation responsible for driving recycling activities, unlocking the collection and recycling value chain, guiding product design, stimulating end-use markets for recycled material, conducting education and awareness initiatives and building the required local recycling infrastructure and capacity.

Petco is a collective organisation, set up to fulfil their extended producer responsibility obligations, by taking accountability for their products throughout its entire life cycle, as mandated by Section 18 of the National Environmental Management: Waste Act. Petco is committed to driving change towards a circular economy in South Africa's packaging industry.

Petco has created this user-friendly, fun, and practical Educators' Workbook to help teach learners in Grades 10 to 12 how to care for their environment, understand their role in sustainability and encourage others to do the same. The activities in this workbook are designed to give learners practical ways to solve environmental challenges, think creatively and explore income opportunities in recycling and waste management. By working through these activities learners will see how they can make a real difference to the planet, while discovering how sustainability can also support individual and community upliftment. The workbook contains three worksheets, for each grade, each of which is CAPS-aligned to a topic in Life Orientation.

Grade 10	Grade 11	Grade 12
<u>Learner Activity 1: Thinking critically about waste</u> Life Orientation Term 2 Social and Environmental Responsibility • Skills that are necessary to participate in civic life <u>Learner Activity 2: Recycling for climate and justice</u> Life Orientation Term 2 Social and Environmental Responsibility • Contemporary social issues that impact negatively on local and global communities <u>Learner Activity 3: Careers in recycling: a path to sustainability</u> Life Orientation Term 3 Careers and Career Choices • Diversity in jobs	<u>Learner Activity 1: Breaking the chain</u> Life Orientation Term 2 Social and Environmental Responsibility • Climate change <u>Learner Activity 2: Waste mapping for community change</u> Life Orientation Term 2 Social and Environmental Responsibility • Being a responsible citizen <u>Learner Activity 3: The working world of waste management</u> Life Orientation Term 3 Careers and Career Choices • Explore personal expectations and knowledge about self in relation to the demands of the world of work and socio-economic conditions	<u>Learner Activity 1: Collaborating for a greener future</u> Life Orientation Term 2 Social and Environmental Responsibility • Responsibility of different levels of government <u>Learner Activity 2: Creating opportunities through waste management</u> Life Orientation Term 1 Careers and Career Choices • Entrepreneurship as an innovative strategy to counteract unemployment <u>Learner Activity 3: Mission and vision: building a greener career</u> Life Orientation Term 2 Social and Environmental Responsibility • Responsibility of different levels of government

A vocabulary table is provided which defines words that are frequently used in this guide. You may wish to make a copy of the table for your learners.

The workbook is accompanied by a poster that illustrates how different systems in waste management turn rubbish into resources. It highlights collection and drop-off points, transfer stations, material recovery facilities, buy-back centres, and recycling plants that process recyclables into usable materials. The poster also shows how composting transforms organic waste into nutrient-rich soil and how education and awareness initiatives promote reducing, reusing, and recycling. It inspires learners to see how these systems protect the environment and create opportunities for communities.



Section A Introduction

Background and context

Pick n Pay School Club is celebrating its 22nd year of providing much-needed educational material, which now reaches 111,125 teachers and 2.38 million learners across South Africa. The Petco learning programme is aligned to the CAPS curriculum, which adheres to the standards set by the Department of Education. The material is designed to facilitate the learning process and culminates in the assessment of competency levels according to the standards set for each specific grade. The educator is supported by way of research and learning content that is presented clearly and is easy to implement in the classroom.

Introduction

Acronyms:

CAPS: Curriculum and Assessment Policy Statement
FET: Further Education and Training

Section B

FET Phase

Grade 10

Name of lesson: Solving waste challenges		Time: 6 x 30 minutes
Grade 10		Subject: Life Orientation
Curriculum Standards (CAPS): Learner Activity 1: Thinking critically about waste Life Orientation Term 2: Social and Environmental Responsibility - Skills that are necessary to participate in civic life: A group or individual project to address a contemporary social issue that impacts negatively on local and/or global communities; Distinguish between: Social thinking skills; Constructive thinking skills; Critical thinking skills Learner Activity 2: Recycling for climate and justice Life Orientation Term 2: Social and Environmental Responsibility - Contemporary social issues that impact negatively on local and global communities: Demonstrate an understanding of the concepts: Social and environmental justice Learner Activity 3: Careers in recycling: a path to sustainability Life Orientation Term 3: Careers and Career Choices - Careers in the economic sectors: Primary (raw materials); Secondary (finished products or goods); Tertiary (infrastructure and providing services) - Work settings: Careers in indoor and outdoor workplaces - environment and conditions		
Outcomes		
The learners will be able to: - Identify community waste problems and propose realistic solutions - Explain how recycling reduces pollution and supports communities - Discuss the role of waste in climate change and ways to reduce its impact - Plan a school recycling programme with clear steps - Compare roles in recycling and their impact on sustainability - Create career path diagrams for growth in recycling jobs		
Content	Skills	Values
- Waste problems and solutions - Climate change and recycling - Community impact and environmental justice - Recycling initiatives and action - Careers in recycling	- Critical thinking - Social thinking - Collaboration and communication - Research and planning	- Environmental responsibility - Equity and justice - Leadership and initiative - Sustainability
Resources needed		
Petco poster; photocopies of the Learner Activities. Learner Activity 1: Pencil crayons or kokis; Learner Activity 2: Access to recycling bins; collection bags; gloves; materials for creating posters; Learner Activity 3: Access to a library or the internet for research.		
Teacher preparation before starting		
Study the lesson plans prior to the lessons and ensure you have all the resources required for the lessons. Familiarise yourself with the content for the three lessons before the lessons start. Print sufficient Learner Activity worksheets for all learners.		



Section B

FET Phase

Grade 10

Educator Guide

Teaching the Learner Activities

Learner Activity 1: Thinking critically about waste

Hand out the Learner Activity 1 worksheets.

Ask:

- What happens to waste after it is thrown away?
- What waste problems can you identify in your community or school? (Littering, lack of bins, illegal dumping)

Explain:

- Waste does not just disappear. If it is not managed properly, it ends up polluting the environment.
 - Social, constructive and critical thinking skills can help us understand and find solutions to waste problems.
- Let learners read the introduction about waste, its impacts and solutions before completing **questions 1 – 3**.

Guide learners through the group project (question 4):

- Divide learners into groups and ensure they understand the activity steps.
- Encourage groups to discuss community waste problems before writing.
- Monitor brainstorming to ensure solutions are practical and community-focused.
- Guide groups to evaluate solutions and select the most effective one.
- Groups prepare and present on the waste problem they identified and their chosen solution.
- Use **question 5** to have a class discussion on the activity's outcomes and skills used during the activity.

Reflect:

- What did you learn from other groups' ideas?
- How could these solutions be applied in your own community?

Learner Activity 2: Recycling for climate and justice

Hand out the Learner Activity 2 worksheets.

Ask:

- What happens to waste when it is sent to landfills?
- How does waste contribute to climate change?

Explain:

- Waste in landfills releases greenhouse gases, which trap heat and contribute to climate change.
 - Recycling reduces landfill waste, lowers greenhouse gas emissions and helps protect the environment.
- Let learners read the introduction about waste, climate change and recycling before completing **questions 1–2**.
- Let learners share their role-plays with the class.

Ask:

- What did Planet Earth say about the importance of recycling?
- How does waste impact the lives of individuals and communities?

Refer learners to the poster.

Ask:

- How do facilities like buy-back centres and composting sites reduce waste and protect the environment?
- Why is it important to educate people about recycling at every step of the waste management process?

Guide learners through the group activity (question 3):

- Divide learners into groups and ensure they understand the activity steps outlined in the worksheet.
 - Encourage groups to discuss the importance of recycling and how it can benefit their school and community.
 - Monitor each step of the activity, ensuring learners develop practical, realistic plans.
- Groups present their vision and goals for the programme, along with details of their recycling stations and education strategies.

Reflect:

- What makes a successful recycling programme?
- How could this programme be implemented in your school?
- What did you learn about teamwork and planning?

Learner Activity 3: Careers in recycling: a path to sustainability

Hand out the Learner Activity 3 worksheets.

Ask:

- Why are jobs in waste management important for both people and the environment?
- How do recycling jobs create opportunities for communities?

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Explain:

- Jobs in recycling span various sectors, including collection, processing, education and innovation.
- These roles not only reduce waste but also contribute to environmental protection and economic development.

Begin by letting learners read about the different industries and answer the questions **(question 1)**. Then, let learners read the case studies of Sizwe, Lerato and Thandi and complete the group activity **(question 2)** in their workbooks.

Guide learners through the group activity:

- Divide learners into groups and ensure they understand the activity steps outlined in the worksheet.
- Encourage groups to discuss the career case studies, focusing on how the individuals could progress in their roles.
- Monitor group discussions to ensure learners identify practical career pathways and relevant skills or training needed for progression.
- Guide groups to evaluate potential challenges for each role and propose realistic solutions.

Groups prepare and present their solutions.

Reflect:

- What did you learn about the variety of jobs in the recycling sector?
- How do these roles make a difference in communities and on the environment?
- What skills and values do you think are most important for success in these careers?

Assessment

Refer to the Resource Section for the Assessment Rubric.

Teacher reflection

Is there anything you would do differently if you taught this unit again?



Section B FET Phase Grade 10

Thinking critically about waste

Name:..... Date:.....

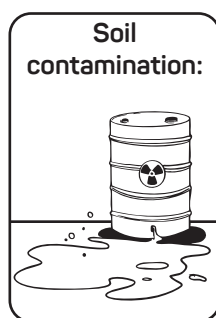
Waste is everyone's responsibility

Waste is anything we throw away because we don't need or want it anymore. Even when we throw things away, they don't just disappear. They end up in other places, e.g. landfills or recycling centres. When waste is not managed properly, it also ends up in rivers, parks and streets in our communities. Waste is a big problem that affects our planet in many ways. Poor waste management leads to pollution, health risks and the loss of valuable resources, harming people, animals and the environment.



Air pollution:

Burning waste creates harmful smoke that dirties the air that we then breathe.



Soil contamination:

Chemicals from waste mix with soil, making it unhealthy.



Water pollution:

Waste in rivers makes the water dirty and unsafe to drink.

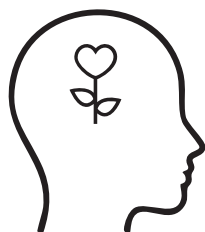
Waste management as a solution

By managing our waste, we can work together to solve these problems in our communities. This includes refusing unnecessary packaging, reducing waste, reusing items and recycling. Recycling is especially important because it allows materials, like plastic or cartons, to be turned into new products and packaging instead of ending up as litter or waste.

Petco is a national organisation that helps collect and recycle packaging, advises on better packaging design, creates demand for recycled materials, and teaches people about recycling through education and awareness programmes.

Polyethylene terephthalate, commonly known as PET, is a type of plastic that is used for packaging, e.g. bottles for water and cold drinks and jars for peanut butter. When we recycle PET plastic packaging, we help to keep it out of the environment where it does not belong. Liquid board packaging, otherwise known as cartons, is used to package custard, juice and long-life milk. Social, constructive and critical thinking skills can help us understand and solve waste problems.

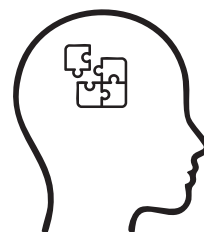
Three important thinking skills



Social thinking



Constructive thinking



Critical thinking

1. Read about these skills and then answer the following questions in your workbook:

- **Social thinking skills** help us understand how issues affect other people, not just ourselves.
- **Constructive thinking skills** help us come up with solutions to problems by creating ideas and finding ways to improve things around us.
- **Critical thinking skills** help us weigh the pros and cons of each solution to choose the best one, considering practicality, potential challenges, and which option will have the greatest impact.



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2. How can developing these thinking skills help us make better choices about reducing, reusing, and recycling waste in our daily lives? Give examples.
3. How could you use these skills to convince others to take waste management seriously?

Group project on waste solutions

4. Work as a group, using social, constructive and critical thinking skills, to identify a waste problem in your community and find a realistic solution.

Step 1: Observe and share (Social thinking skills)

- Think about a waste problem you have noticed, in your community or in a community of your choice, such as people throwing used packaging on the ground, littering in parks, or not using bins because there are not enough available. Consider how these behaviours, along with a lack of collection services, contribute to rubbish piling up in public spaces and creating pollution.
- Write a short paragraph about this issue, explaining who is affected by it and how it impacts them. Be specific about who might be affected (families, shop owners, children, animals).
- Share your observations with one another. Talk about how different communities are affected by waste.

Step 2: Come up with ideas (Constructive thinking skills)

- Come up with two or three ideas to help solve the waste problem you discussed. Think about solutions that are realistic and involve the community.
- Write down your ideas and make sure each one is explained clearly so others can understand it.

Step 3: Choose the best idea (Critical thinking skills)

- Look at each of your ideas and discuss the pros and cons. What makes each idea a good solution? Are there any challenges to making it work? For example, if you want to set up community recycling bins, think about how they will be managed or who will empty them.
- As a group, pick the idea that you think is the best solution. Make sure to consider which one is most likely to succeed and make a difference.

Step 4: Present your solution

- Prepare a short presentation about your chosen solution.
- Explain the waste problem you identified, the solution you chose and explain your reasoning.
- Present your solution to the class.
- Listen to other groups' ideas and think about how you could apply these solutions in your community.

5. Have a class discussion on the skills.
 - a. How did **social thinking** help you understand the impact of the waste problem on different groups?
 - b. How did **constructive thinking** help you come up with ideas?
 - c. How did **critical thinking** help you decide on the best solution?
 - d. How could you use these skills in other areas of life and how can they help make a positive difference in your community?

Recycling for climate and justice

Name:..... Date:.....

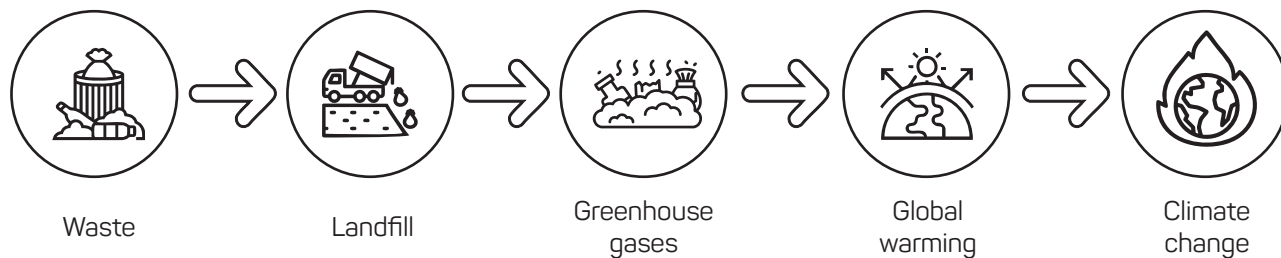
Waste and climate change

When we throw waste away, it does not just disappear. Waste sent to landfills slowly breaks down and releases gases like carbon dioxide and methane. These gases, called greenhouse gases, trap heat like a blanket around the Earth. They contribute to global warming and climate change, causing extreme weather, rising sea levels, and changes in rainfall patterns.

Recycling helps the environment by reducing the amount of waste in landfills, lowering greenhouse gas emissions, and decreasing the need for new resources to be acquired. Composting is another great solution. Food waste can become compost, enriching soil and helping plants grow. With three bins—one for waste, one for recycling, and one for compost—we can reduce landfill waste and protect the environment.

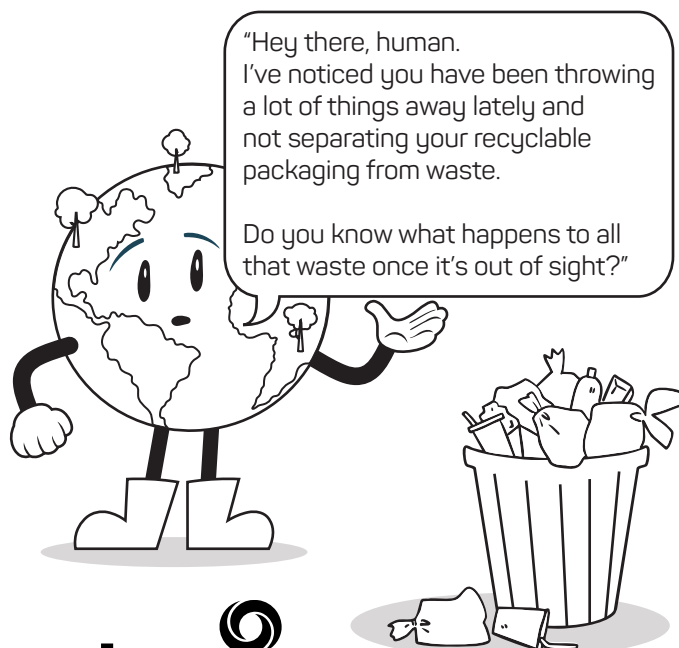
Plastic waste in the ocean harms the planet by reducing its ability to absorb carbon dioxide, worsening climate change. Reducing plastic pollution helps to protect the oceans and slow global warming.

How waste leads to climate change



1. Complete the following activities in pairs:

- List the items you and your partner throw away each day that could be recycled.
- Brainstorm how recycling these items could help slow down climate change.
- Role-play a conversation where Planet Earth talks to a human about how waste impacts the environment and contributes to climate change. Planet Earth must advise the human on ways to mitigate (prevent) further global warming and climate change.



The impact of waste on communities

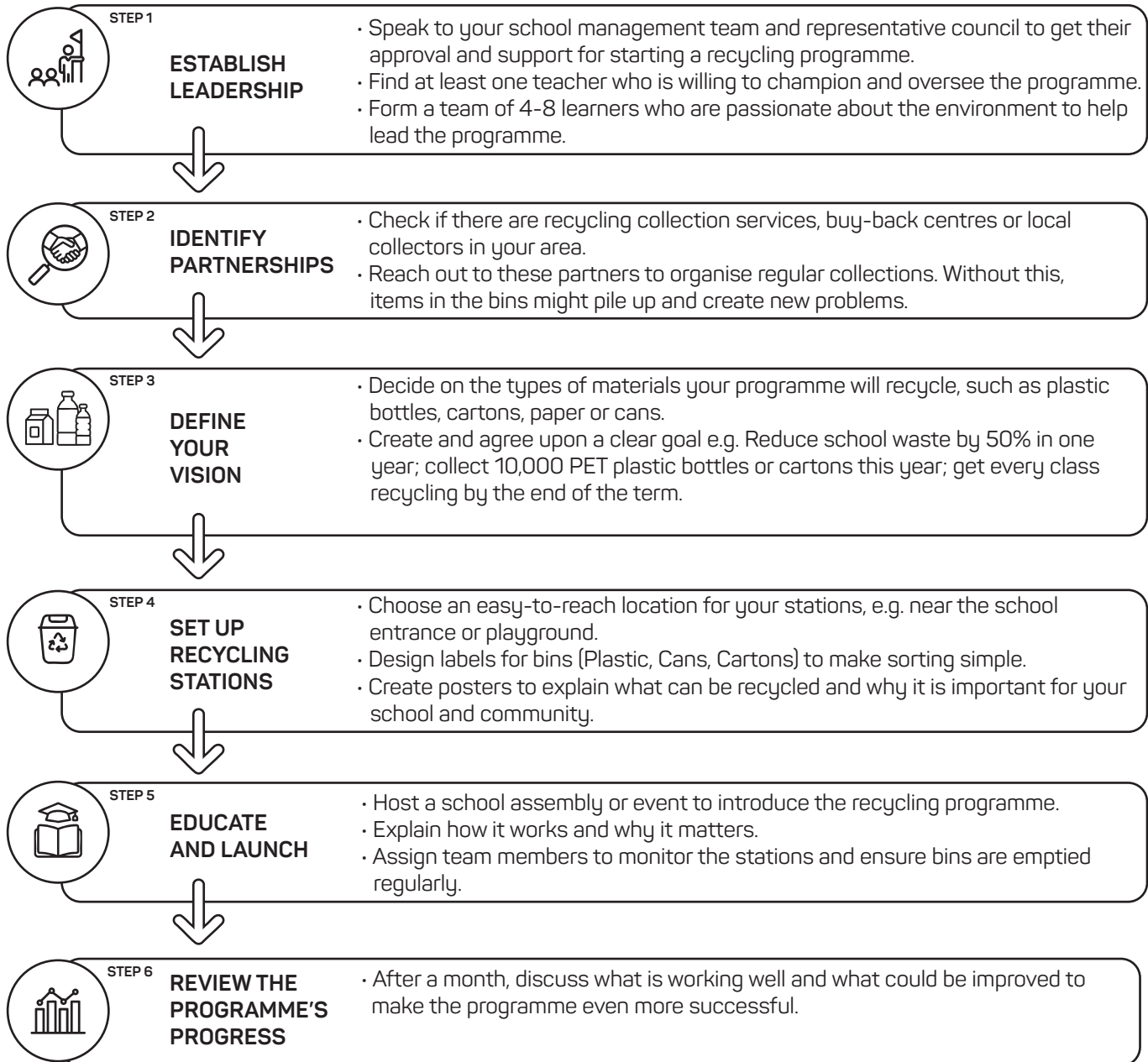
The effects of waste are often worse in low-income areas, such as informal settlements, where there might not be regular waste collection or enough bins. These vulnerable communities face greater health risks from pollution and waste, which can harm the air, water and soil. This pollution can cause health problems like asthma and other illnesses. This is an example of environmental injustice, where some communities suffer more from waste because they lack the resources or support to manage it safely. By recycling, reducing waste, and disposing of it responsibly, we can help make the environment healthier and safer for everyone, especially for those most affected by these challenges.

Section B FET Phase Grade 10

Starting a School Recycling Programme

Petco collaborates with communities, where possible, to make the collection of recyclable packaging easier so that everyone can take part in caring for the environment. Yet, in many communities, people don't know where to recycle or why recycling is important. You can set an example, in your school, by starting a recycling programme. By collecting items like plastic bottles, liquid board packaging (cartons), paper and cans, you can help to reduce waste and support the health of your community and the environment. However, setting up a recycling station is about more than just placing bins around your school. It requires leadership, teamwork and proper planning to make sure the programme succeeds and benefits your school community.

2. Working in groups, follow the steps below to create an effective recycling system:





Section B FET Phase Grade 10

Careers in recycling: a path to sustainability

Name:..... Date:.....

Working in the recycling sector

The waste management industry has many different types of jobs. These jobs are spread across four sectors: primary, secondary, tertiary and quaternary. Each sector plays an important role in keeping our planet healthy and creating jobs that support people and communities.

1. Read about each of these sectors before answering the questions below.

Primary Sector

Jobs in the primary sector involve collecting materials from the environment. In recycling, this includes roles like waste collectors such as waste pickers, buy-back centres, co-operatives, small businesses and waste management companies who gather recyclable packaging (recyclables) made from plastic, glass and metal from homes, businesses and public areas. By collecting these items, they help to keep waste out of landfills, reducing pollution and promoting recycling in their communities.



Why is collecting recyclable packaging important, and what challenges might waste pickers face?

Secondary Sector

The secondary sector focuses on processing recyclables into new products. In recycling plants, workers and machinery transform packaging back into materials that are used to create new items and packaging. For example, used PET plastic bottles can be recycled into new bottles, or cartons can be recycled into paper or crates. This reduces the need for using more resources from nature.



How does turning old materials into new products help the environment?

Tertiary Sector

The tertiary sector includes service jobs that help people understand and take part in recycling. People in these roles, such as environmental project coordinators, work with schools, communities and businesses to raise awareness about recycling. They organise projects and teach others about why recycling is important, and help to build a culture of caring for the environment.



How can educating people about recycling make a difference in communities?

Quaternary Sector

The quaternary sector focuses on research, technology and policies to improve recycling and waste management. People in this sector often work for organisations, including brand owners and retailers, to create better collection systems and sustainable practices. They help businesses design recyclable or reusable packaging, reduce waste across their operations, or develop innovative ways to manage resources more sustainably.



Why is it important to research better recycling methods and systems?

Learner Activity 3

Section B FET Phase Grade 10

Career pathways in recycling

Some people in the recycling industry can move from one role to another as they gain skills and experience. For example, a waste picker (primary sector) might start by collecting recyclables in their community and, over time, form a collective of waste pickers. This collective could then progress to running a buy-back centre, where materials are purchased and sorted for recycling. Later, with further training and experience, they might move into roles that involve managing operations or supporting community recycling programmes (tertiary sector) or even contributing to policy and programme development (quaternary sector).

2. Read the career journeys of Sizwe, Lerato, and Thandi who work in the recycling industry. Each one has a role in a different sector where they contribute to sustainable development. Then, complete the activity that follows.

Case Study 1: Sizwe - Waste Collector (Primary Sector, Outdoors)

Sizwe lives outside Johannesburg in an informal settlement. He started collecting recyclables like plastic, glass, cartons and metal from homes and public areas to earn a living. Over time, he realised there was a need for a buy-back centre (BBC) in his area. Using his experience and connections within the community, Sizwe started his own BBC, where he purchases, sorts, packages and sells recyclables to larger BBC's or recycling plants. Through his efforts, Sizwe not only reduces landfill waste but also provides opportunities for other waste pickers in his community, making a meaningful contribution to local recycling efforts.



Case Study 2: Lerato - Recycling Plant Sorter (Secondary Sector, Indoors)

Lerato grew up in a town outside Durban. After studying at a technical college, she joined a recycling plant as a Recycling Plant Worker. Her role involves assisting with manual tasks like removing PET plastic shrink sleeves from PET plastic bottles and preparing materials received from waste pickers and buy-back centres. These materials are then washed thoroughly by machines to ensure they are clean for further processing. Lerato's work supports the efficient functioning of the plant and contributes to sustainable development. She hopes to advance her career by becoming a machine operator and eventually moving into a supervisory or quality control role with further training.



Case Study 3: Thandi - Collections and Training Officer at Petco (Tertiary Sector, Indoors)

Thandi grew up in Cape Town and became involved in community recycling projects. Her volunteer work organising clean-ups and teaching others about waste led her to Petco, where she now works as a Collections and Training Officer. She promotes recycling by organising collection programmes, training communities and supporting schools in recycling education. Thandi's role raises awareness and helps keep communities cleaner. She hopes to advance within Petco or move into policy development to focus on environmental sustainability.



Activity: Career Pathways Comparison

Step 1: Analyse the case studies

- In your workbook, write down the main tasks each person performs and the skills they use in their jobs.
- Write about how each person's role helps to protect the environment and support sustainable communities.

Step 2: Form small groups and discuss the following questions:

- What skills would Sizwe, Lerato and Thandi need to move into different roles in the recycling sector?
- How might their different backgrounds affect their opportunities for career growth?

Step 3: Create career path diagrams:

- In your group, create a simple diagram that shows possible career paths for each person.
- Include steps they might take to move into new roles in the recycling industry.
- Discuss the skills and training you think they would each need in order to progress in their careers.

Step 4: Present your career pathways.

Section B FET Phase Grade 11

Educator Guide

Name of lesson: Designing sustainable solutions		Time: 6 x 30 minutes
Grade 11		Subject: Life Orientation
Curriculum Standards (CAPS): Learner Activity 1: Breaking the chain Life Orientation Term 2: Social and Environmental Responsibility - Climate change: Human activities that contribute to global warming; Effect on ecosystems, oceans, humans, weather patterns; Ways to reduce/mitigate and adapt to global warming: Responsible consumption habits; Recycling; Sustainable use of natural resources Learner Activity 2: Waste mapping for community change Life Orientation Term 2: Social and Environmental Responsibility - Being a responsible citizen: Participate in community services that address contemporary environmental issues, indicating how this may harm certain sectors of society more than others Learner Activity 3: The working world of waste management Life Orientation Term 3: Careers and Career Choices - Explore personal expectations and knowledge about self in relation to the demands of the world of work and socio-economic conditions: Acquire knowledge about jobs that require skilled, semi-skilled, unskilled and physical labour; Suitability for the job		
Outcomes		
The learners will be able to: - Map community waste problems and identify key areas of concern - Propose realistic waste management solutions using available resources - Evaluate the environmental impact of waste and recycling practices - Design eco-friendly products or systems that promote a circular economy - Work collaboratively to develop and present waste management plans - Reflect on how local actions can create broader environmental change		
Content	Skills	Values
- Climate change causes and solutions - Eco-design and the circular economy - Waste mapping and community solutions - Socio-economic conditions and waste management - Careers in sustainability	- Critical thinking - Problem-solving - Collaboration - Communication	- Environmental awareness - Responsibility - Equity - Innovation
Resources needed		
Petco poster; photocopies of the Learner Activities. Learner Activity 1: Pencil crayons or kokis; Learner Activity 2: Large sheets of paper; materials for creating posters or solutions; Learner Activity 3: Access to a library or the internet for research.		
Teacher preparation before starting		
Study the lesson plans prior to the lessons and ensure you have all the resources required for the lessons. Familiarise yourself with the content for the three lessons before the lessons start. Print sufficient Learner Activity worksheets for all learners.		

Section B

FET Phase

Grade 11

Teaching the Learner Activities

Learner Activity 1: Breaking the chain

Hand out the Learner Activity 1 worksheets.

Ask:

- What is the connection between human actions and climate change?
- How can small practical actions help reduce the impact of climate change?

Explain:

- Cause-and-effect chains help us see how specific actions such as burning fossil fuels or littering lead to environmental problems like rising temperatures or polluted ecosystems.
- Breaking these chains involves targeting the causes to prevent negative effects such as reducing energy use, recycling packaging or switching to renewable energy.

Let learners complete the cause-and-effect chains in **questions 1–4** and discuss solutions in pairs.

Explain:

- Eco-design involves designing products with the environment in mind. This includes making products reusable, repairable, and recyclable to reduce waste and protect natural resources.
- The 4Rs of eco-design are Reuse, Repair, Repurpose and Recycle. These principles help extend the life of products and minimise their environmental impact.

Guide learners through the group activity (questions 5–6):

- Divide learners into groups and ensure they understand their task of brainstorming and designing an eco-friendly product or service.
- Encourage groups to identify an existing waste problem and think about how their product could solve it.

Groups prepare and present their eco-design ideas to the class.

Reflect:

- What did you learn about designing with the environment in mind?
- How can eco-design inspire businesses and individuals to create sustainable products?
- What actions can you take to support eco-design in your daily life?

Learner Activity 2: Waste mapping for community change

Hand out the Learner Activity 2 worksheets.

Pre-work

- Arrange for learners to conduct simple observations in their community before the activity. Ask them to note waste problems like littered streets, blocked drains or illegal dumping.
- Encourage them to safely speak to community members, like local shop owners or residents, about waste challenges they face.
- If possible, organise a supervised visit to a nearby park or buy-back centre to help learners understand local waste management processes.
- Ensure learners understand they should collect information respectfully and safely, focusing on what they observe and hear.

Ask:

- What waste problems exist in your community?
- How can mapping waste help identify areas that need the most attention?

Explain:

- Waste mapping involves identifying problem areas in a community, such as littered streets or blocked drains, to understand where waste issues occur and who is affected.
- This process helps communities focus their efforts on areas that need the most support and create solutions for them.

Let learners read the introduction and complete **questions 1 and 2** to create their waste maps and reflect on the impact of waste problems in their communities.

Guide learners through the group activity (question 3):

- Divide learners into groups and ensure they understand their task of developing a plan to address a waste problem identified in their maps.
- Encourage groups to discuss the causes of the waste problem, who is affected and possible solutions.
- Monitor their brainstorming, ensuring plans are realistic and address the root causes of the waste problem.

Groups prepare and present their waste management plans to the class.

Refer learners to the poster.

Ask:

- What role does education and awareness play in creating opportunities for jobs in waste management?
- How can better collaboration between collection systems and transfer stations reduce waste in landfills?



Section B FET Phase Grade 11

Educator Guide

Reflect:

- How did waste mapping help you understand community waste problems?
- What did you learn about teamwork and planning during this activity?
- How can your plan be applied in real life to create positive change in your community?

Learner Activity 3: The working world of waste management

Hand out the Learner Activity 3 worksheets.

Ask:

- How do jobs in waste management help communities and the environment?
- What skills are needed to succeed in a career in waste management?

Explain:

- Waste management offers many jobs that help to reduce waste, protect natural resources and create healthier environments.
- Socio-economic factors, such as education and income, can influence access to these roles.

Let learners read the introduction about waste management careers and complete **questions 1–3** to explore different roles, skills and socio-economic influences.

Definitions for the eight jobs mentioned on the worksheet:

- Waste collector: Collects and transports recyclable materials to processing facilities
- Landfill manager: Manages landfill sites to ensure waste is stored safely and efficiently
- Corporate sustainability manager: Develops plans to reduce waste and improve environmental practices in businesses
- Renewable energy specialist: Designs and promotes clean energy solutions like solar or wind power.
- Materials scientist: Studies and creates new ways to recycle or reuse materials
- Drop-off site manager: Oversees recycling drop-off points and ensures materials are sorted correctly
- Community educator: Teaches people about recycling and ways to reduce waste
- Sustainable product designer: Creates products and packaging that is recyclable or includes recycled content.

Guide learners through the group activity (question 4):

- Pair learners and ensure they understand the task of imagining themselves in a waste management career and creating a success plan.
 - Encourage pairs to choose a role that interests them and list the skills needed for success.
 - Monitor discussions as pairs identify potential challenges in their chosen career and brainstorm strategies to overcome them.
- Pairs present their career visions to the class.

Reflect:

- What did you learn about the different careers in waste management?
- How do skills like teamwork and communication help solve workplace challenges?
- How can organisations like Petco create opportunities for growth in this sector?

Assessment

Refer to the Resource Section for the Assessment Rubric.

Teacher reflection

Is there anything you would do differently if you taught this unit again?



Section B

FET Phase

Grade 11

Breaking the chain

Name:..... Date:.....

Climate change and human activities

Everyday human activities contribute to climate change and pollution in ways we might not realise. Actions like burning fossil fuels (coal, oil and gas) for energy, cutting down trees, littering, and producing waste release greenhouse gases (carbon dioxide and methane). These gases trap heat in the Earth's atmosphere, leading to global warming.

Global warming doesn't just make the earth hotter. It also causes other serious problems. With higher temperatures, we experience more extreme weather (droughts and floods), changes in rainfall patterns and threats to wildlife habitats. Improper waste management, such as littering and dumping, makes these problems worse. Litter breaks down and pollutes soil, water, and air, harming the environment and our health. In rivers and oceans, it disrupts ecosystems and endangers animals.

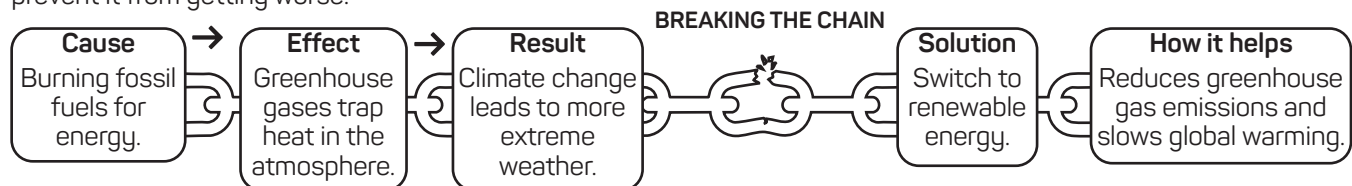
Recycling can play a role in reducing waste and slowing global warming. It lowers the need to produce new materials like plastic, reduces pollution, and prevents waste from ending up in landfills. When landfill waste breaks down it releases methane, a greenhouse gas that traps even more heat in the atmosphere.

By making small changes, such as recycling everyday items or composting organic waste, we can help protect the planet. These actions reduce greenhouse gases, conserve resources and slow climate change, ensuring a healthier environment for everyone.

1. Answer the following questions in your workbook:

- How do you use fossil fuels in your daily life?
- What happens to the environment when we use more energy than we need?
- Why is littering a problem in communities? How do you think it affects animals, plants and water sources?
- Can you think of some items you use every day that can be recycled?
- What could you do to reduce waste in your home or school?

Every action has consequences. Some actions, as you have read, harm the environment, but we can take steps to prevent it from getting worse.



- In your workbook, write two cause-and-effect chains based on what you've learned about climate change. Each chain should have at least three steps: Cause → Effect → Result.
- Choose one of your chains and add a solution to "break the chain."
- Explain:
 - What is your solution?
 - How will it stop the harmful effects?
 - Which part of the chain do you think is the easiest to change? Why?

Eco-design and the circular economy

Eco-design means designing products in ways that reduce waste and minimise harm to the environment. The goal is to keep products, and the materials they are made of, in use for as long as possible at their highest value. Eco-design supports the 'circular economy'. The circular economy is a way of designing products so they can be reused, repaired, repurposed or recycled instead of thrown away. This helps save natural resources, reduces pollution, and slows down climate change.

Single-use items, such as plastic cutlery or disposable coffee cups, are designed for convenience but create a lot of waste. In contrast, reusable products, such as cloth shopping bags made from recycled PET plastic or durable reusable coffee cups, last longer and help reduce the demand for disposable materials. Choosing truly reusable options saves resources and reduces waste in landfills.

THE 4 R'S OF WASTE MANAGEMENT



REUSE:

Finding ways to use a product again for its original purpose or a new one.



REPAIR:

Fixing broken items to extend their life instead of discarding them.



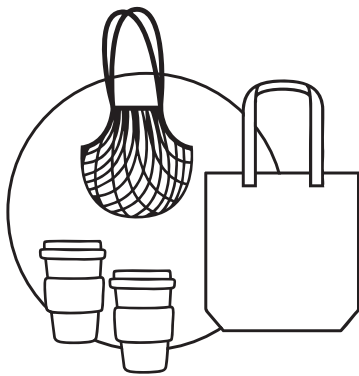
REPURPOSE:

Adapting products or materials for a new use without breaking them down.

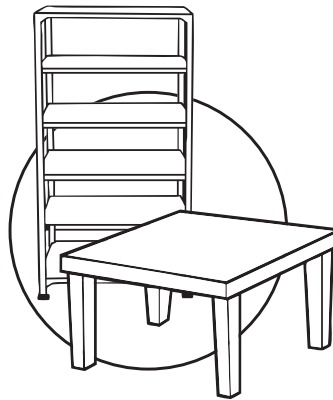


RECYCLE:

Processing materials into new materials that serve as inputs for new products, thereby helping to reduce waste.



Reusable coffee cups and reusable shopping bags made from recycled materials



Furniture from reused wood



Footwear or packaging made from recycled plastic

Learner Activity 1

Designing for a greener future

5. Answer the following questions in your workbook:

- Why is it better to have products we can reuse instead of single-use items?
- Can you think of any products you own that are designed to last or be reused?

6. Working in groups, follow the steps below to come up with ideas for products or services that reduce waste and help protect the environment.

Step 1: Brainstorm ideas

- Think of a product, package or service that would reduce waste, save resources, or could be reused, repaired or recycled.
- Focus on ideas that fit into a circular economy, where materials are reused, repaired, repurposed or recycled into the same or similar products (e.g., a PET plastic bottle recycled into another bottle).

Step 2: Choose and describe your idea

- Pick one idea and describe it in detail.
- Explain how it works, how it reduces waste or saves resources, and its benefits to the environment.

Step 3: Develop your concept

- Draw or outline your idea.
- Show what it does, how it supports the circular economy, and why it is good for the environment.

Step 4: Present your idea

- Explain how your idea works, its environmental benefits, and how it addresses waste reduction.

Section B

FET Phase

Grade 11

Waste mapping for community change

Name:..... Date:.....

How waste affects communities

When waste is not managed properly, it creates serious problems for people, animals and the environment. Waste piles up on streets, in parks and even in rivers, leading to pollution and health risks. These problems often make areas look untidy and unpleasant, but the impacts go much deeper.

Problems caused by waste



Image source: Firefly rats and mosquitoes in trash and rubbish 56690

Health risks:

Waste piles attract pests like rats and mosquitoes, which spread diseases. Rotting waste creates bad smells and harmful bacteria that can make people sick.



Image source: Firefly blocked drain filled with rubble and trash 75456

Blocked drains:

Waste clogs drainage systems, causing flooding during heavy rains. Flooding damages homes and makes roads unsafe.



Image source: Firefly polluted river filled with trash and debris 56690

Polluted water sources:

Waste in rivers and lakes harms animals, plants and people who rely on these water sources for farming or drinking.

Not all areas face the same problems. Informal settlements or low-income neighbourhoods often struggle the most because they lack proper infrastructure or regular waste collection. Families living near illegal dumping sites may be exposed to polluted air or contaminated water which can harm their health. Children who play near waste piles are at risk of getting sick from bacteria or injured by sharp objects. These problems disrupt daily life, making it more difficult for communities to improve their living conditions, attend school or maintain regular work.

How recycling can help

Recycling is one of the most effective ways to reduce waste and its harmful impacts. It addresses some of the problems caused by poor waste management and helps protect the environment.

Benefits of recycling

- **Reduces waste:** Keeps recyclable packaging (plastic, cartons, glass and paper) out of streets, parks and rivers.
- **Prevents methane emissions:** Stops waste from piling up in landfills where it releases methane, a harmful greenhouse gas. Many landfills are full and have been forced to close.
- **Saves resources:** Reuses materials, reducing the need to extract natural resources, for example wood from trees and minerals from the earth.
- **Prevents pollution:** Reduces waste in water sources and public spaces, keeping environments cleaner.
- **Supports communities:** Recycling drop-off sites and clean-up events bring people together to create cleaner, safer spaces for everyone.

By recycling and encouraging others to do the same, we can reduce the harmful impacts of waste and create healthier environments for all.

1. Answer the following questions in your workbook:

- What are some of the problems caused by waste in your community?
- Explain three other benefits of recycling.
- Why do you think informal settlements or low-income areas are more affected by waste problems?
- Do you think some waste problems are more urgent than others? Explain.



Section B

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2. Imagine you are someone affected by waste problems. Choose one role below and describe how waste affects your daily life. Write a short paragraph in your workbook.

- A child living near a waste pile.
- A shop owner in an area with littered streets.
- A farmer relying on a polluted river for water.
- A fisherman whose catch has decreased due to pollution.

Making a difference

Communities can work together to set up recycling stations and collaborate with local collectors, such as waste pickers, buy-back centres, cooperatives, small businesses, waste management companies, and re-processors. Re-processors are businesses or sites that take used materials and turn them into new products or raw materials.

By encouraging people to recycle and organising clean-up events in areas where there is a lot of waste, communities can create a cleaner environment and greater awareness about the importance of recycling.

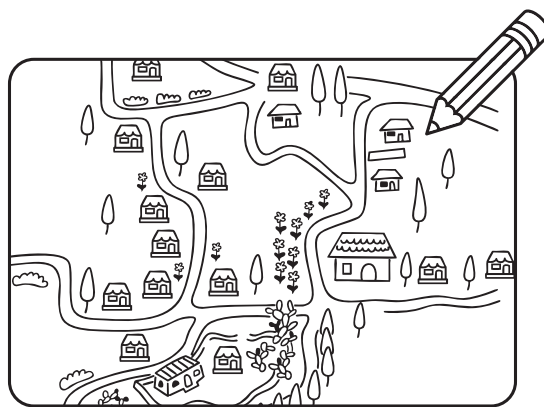
Community waste mapping and solutions

Now, it's your turn to think about how waste affects your community – or a community of your choice – and plan solutions to these problems.

3. Divide into small groups and work together to complete the steps below.

Step 1: Draw a waste map

- Draw a simple map of your community on a large sheet of paper.
- Mark places where waste builds up, such as streets, open spaces, rivers or near homes.
- Use different colours or symbols to show:
 - Areas with a lot of litter.
 - Places where waste is dumped.
 - Any existing bins or recycling points.



Step 2: Pick a problem area

- Choose one location from your map that needs the most attention.
- Discuss why this area is a problem:
 - What kinds of waste are found there?
 - Who is affected by the waste in this area?

Step 3: Plan a solution

For your solution, consider:

- **Resources:** What do you need (e.g., bins, bags, transport)?
- **People:** Who will manage or maintain the effort (e.g., collectors, community volunteers, school eco-club)?
- **Education:** How will you teach people to use or support the solution?
- **Funding:** Who will pay for materials like bins or clean-up supplies?

Step 4: Present your ideas

- Share your waste map and plan with the class.
- Explain:
 - Why you chose the problem area.
 - The steps in your plan, including the resources and people involved.
 - How recycling could help solve the problem.
 - How your solution helps the environment.

Step 5: Pitch it to the principal

- Vote on, and select, the most practical and impactful ideas.
- The winning group presents their project to the school principal, or management team, explaining how it could be implemented and why it matters for the school community.

Learner Activity 2

Section B

FET Phase

Grade 11

The working world of waste management

Name:..... Date:.....

Socio-economic conditions and waste management

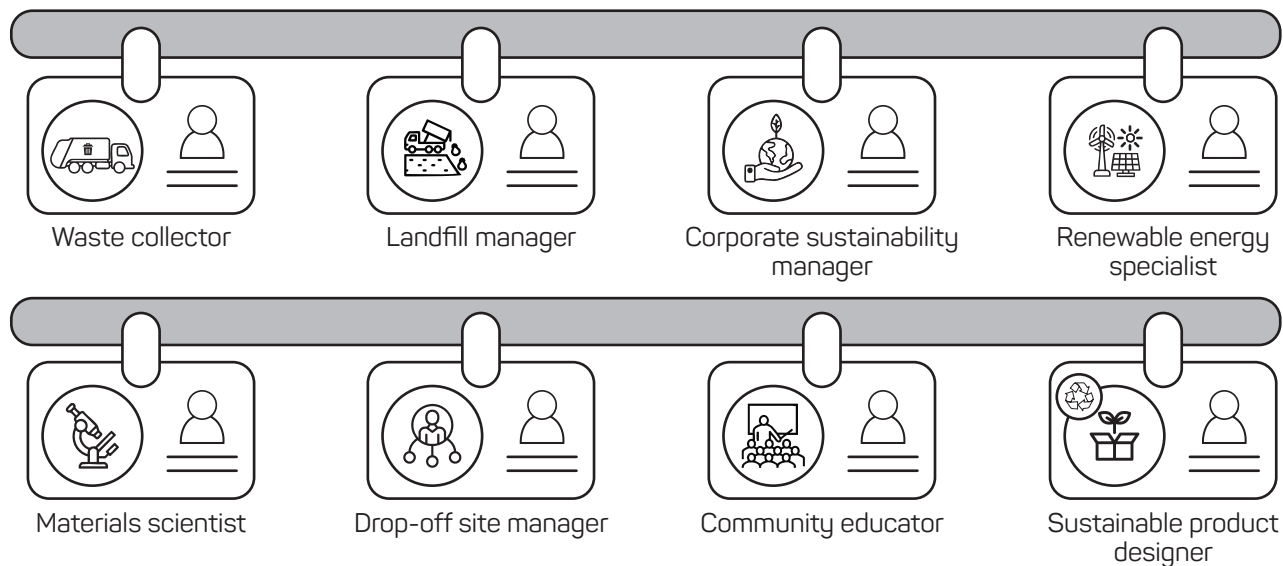
Waste management protects the environment and improves community health. It involves, amongst other things, reducing waste, recycling packaging, managing landfill sites and addressing pollution. Recycling is an important part of waste management, but waste management goes beyond recycling to ensure that waste is managed safely and sustainably.

Socio-economic conditions like income, education, and access to opportunities affect the types of jobs available in waste management. For example:

- **Income:** Limited income can make formal education or training difficult to access. However, roles like collecting and sorting waste are vital for keeping communities clean.
- **Education:** Training helps people gain skills for more advanced roles, like operating equipment or managing facilities. These jobs often provide greater stability and growth.
- **Opportunities:** Some areas lack proper waste systems, making it harder to manage waste. Organisations like Petco work with communities to improve recycling and create job opportunities.

By understanding your strengths and preparing for work demands, you can overcome challenges and find meaningful opportunities in the waste management industry. The industry values teamwork, communication, problem-solving and responsibility - skills that can help you succeed no matter where you start.

Diversity of jobs in the sustainability sector



- Working in pairs, answer these questions in your workbook:
 - Why are jobs in the sustainability sector important for communities and the environment?
 - Choose two jobs from the list above. Use books or the internet to find out what these jobs involve. Write a short description of each.
 - What skills or abilities do you think are important for these jobs?
 - How can education or training help someone succeed in a career in sustainability?
 - How do socio-economic factors, like income and access to opportunities, affect the type of jobs available to individuals? How could these factors limit someone's ability to work in different areas of sustainability?
 - What role do organisations like Petco play in helping communities manage their used packaging and creating job opportunities?



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Now that you have explored different jobs in waste management and considered the skills and qualities needed for these roles, it is time to think about your own future. In this activity, you will imagine yourself in a waste management career, reflect on your abilities, and create a plan to overcome challenges and grow in your chosen role.

2. In pairs, follow the steps below to imagine a career in waste management and create an action plan for success. Choose a career together by discussing both of your interests and agreeing on a role that interests or excites you both.

Step 1: Choose a career together

As a pair, discuss the roles in waste management. Think about your shared interests and strengths. Decide on one role you both find exciting, such as a community educator or landfill manager.

- Write down the role you chose and why it interests you.

Step 2: Identify skills and values

- Work together to list:
 - Three skills or abilities that are important for the role you chose (e.g. teamwork, problem-solving, attention to detail).
 - Two personal values that would help you succeed (e.g. responsibility, perseverance).
- Explain how these skills and values connect to the demands of the role.

Step 3: Create a challenge and success plan

- Discuss potential challenges someone in this role might face, such as:
 - Limited access to resources.
 - Communicating with others about waste issues.
 - Managing unsafe or difficult working conditions.
- Write down:
 - How you would use your combined skills and values to overcome these challenges.
 - How solving the challenges could help you grow in your career.

Step 4: Present your career vision to the class

- Include the following information in your presentation:
 - The role you chose and why it suits you.
 - The skills and values you bring as a team.
 - How you would manage the challenges.

Step 5: Reflect as a class

- Discuss:
 - What you learned about different waste management roles.
 - How working together helps in tackling workplace challenges.
 - How organisations like Petco create opportunities for growth and change.

Learner Activity 3

Section B

FET Phase

Grade 12

Name of lesson: Exploring green opportunities		Time: 6 x 30 minutes
Grade 12		Subject: Life Orientation
Curriculum Standards (CAPS): Learner Activity 1: Collaborating for a greener future Life Orientation Term 2: Social and Environmental Responsibility - Elaborate on the responsibilities of various levels of government to provide community services to promote safe and healthy living environments; Critically discuss the community's responsibility to ensure environments and services that promote safe and healthy living; Elaborate on educational and intervention programmes that address environments and services that promote safe and healthy living Learner Activity 2: Creating opportunities through waste management Life Orientation Term 1: Careers and Career Choices - Unemployment: Explore innovative solutions to counteract unemployment; Entrepreneurship: entrepreneurship as an innovative strategy to counteract unemployment Learner Activity 3: Mission and vision: building a greener career Life Orientation Term 2: Social and Environmental Responsibility - Personal views, values, belief system, religion, ideologies, lifestyle (physical and emotional wellbeing), environmental responsibility, goals for studies and career choices; Impact of vision on own actions and behaviour in life		
Outcomes		
The learners will be able to: - Describe the roles of different groups in sustainable waste management - Plan and present a low-waste event with practical strategies - Identify entrepreneurial opportunities in recycling and waste management - Create and pitch a green business idea with clear environmental benefits - Develop personal mission and vision statements focused on sustainability - Illustrate career pathways in waste management and related fields		
Content	Skills	Values
- Roles in sustainable waste management - Planning low-waste events and futures - Entrepreneurship in waste management - Mission and vision for sustainability - Careers in sustainability	- Critical thinking - Planning and organisation - Collaboration - Creativity and innovation	- Sustainability - Community responsibility - Entrepreneurship - Environmental stewardship
Resources needed		
Petco poster; photocopies of the Learner Activities. Learner Activity 1: Pencil crayons or kokis; Learner Activity 2: Large sheets of paper; materials for group business idea pitches; Learner Activity 3: Magazines; scissors; glue; access to a library or the internet.		
Teacher preparation before starting		
Study the lesson plans prior to the lessons and ensure you have all the resources required for the lessons. Familiarise yourself with the content for the three lessons before the lessons start. Print sufficient Learner Activity worksheets for all learners.		



Section B FET Phase Grade 12

Educator Guide

Teaching the Learner Activities

Learner Activity 1: Collaborating for a greener future

Hand out the Learner Activity 1 worksheets.

Ask:

- Why is collaboration important for managing waste effectively?
- How do different groups, such as governments, businesses and communities, contribute to waste management?

Explain:

- Waste management relies on cooperation between various groups, each with specific responsibilities like enforcing policies, designing recyclable products or collecting and recycling waste.
- A lack of collaboration can lead to inefficiencies, more waste and environmental harm.
- By working together, these groups can reduce waste, protect the environment, and create opportunities for everyone.

Let learners complete **questions 1 and 2**, where they explore existing roles in waste management and imagine a new role to address gaps or improve the system.

Refer learners to the poster.

Ask:

- How do the different stages reflect collaboration between stakeholders in waste management?
- Which facility or process aligns best with your career goals, and why?
- How can education campaigns improve the effectiveness of systems like drop-off points or recycling plants?

Guide learners through the group activity (question 3)

- Divide learners into groups and explain the task: developing a low-waste plan for their community or school that reflects collaboration between stakeholders.

Groups prepare and present their plans to the class.

Reflect:

- What did you learn about the challenges and opportunities in reducing waste?
- How can collaboration between different groups improve waste management?
- What actions could you take to contribute to a low-waste future in your community?

Learner Activity 2: Creating opportunities through waste management

Hand out the Learner Activity 2 worksheets.

Ask:

- How can waste management create jobs and opportunities for communities?
- What qualities do you think are important for entrepreneurs in waste management?

Explain:

- Waste management businesses, like buy-back centres and recycling collection services, create income opportunities while protecting the environment.
- Entrepreneurs in waste management often solve problems creatively by turning waste into resources, building a sustainable livelihood, improving their communities and helping the environment.

Let learners complete **question 1** to ensure they understand how waste management supports economic and environmental goals.

Facilitate the paired activities (**question 2**):

- Encourage pairs to identify waste management businesses or services they know such as recycling centres or composting initiatives.
- Discuss the qualities of successful entrepreneurs, e.g. creativity, problem-solving and perseverance.
- Reflect on how these businesses positively impact their community, such as reducing waste or providing jobs.

For question 4, divide learners into groups and explain the task of developing a green business idea.

Guide groups to:

- Identify a waste problem in their community.
- Brainstorm a business idea to address the problem, outlining its services and benefits.
- Consider both the environmental and economic impact of their idea.

Groups prepare and present their green business ideas to the class.

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Reflect:

- How can waste management businesses make a difference in your community?
- What did you learn about entrepreneurship and problem-solving?
- Would you consider starting a business in waste management? Why or why not?

Learner Activity 3: Mission and vision: building a greener career

Hand out the Learner Activity 3 worksheets.

Ask:

- Why are mission and vision statements important for guiding your decisions and actions?
- How can aligning your goals with sustainability create opportunities for a greener future?

Explain:

- Mission and vision statements can help to guide your decisions, align actions with your values and contribute to sustainability and personal growth.

Let learners complete **question 1** to understand the role of mission and vision statements in shaping decisions and aligning with sustainability.

Facilitate the paired discussions (**question 2**) where learners reflect on their values, goals, and aspiration. Encourage them to share how these align with sustainability and green careers.

Guide learners through the steps to create their personal mission and vision statements (**question 3**).

- Ensure learners reflect on their current values and goals for their mission statement and think deeply about their long-term aspirations for their vision statement.

Let learners complete their vision boards (**question 4**) to visually represent their mission, vision and career aspirations.

Learners can present their vision boards to the class, explaining how their mission and vision statements connect to their career aspirations, and how sustainability plays a role in their future plans.

Reflect:

- What did you learn about connecting your mission and vision to sustainability?
- How can these tools help you align your goals with your actions?
- What steps will you take now to work toward your long-term aspirations?

Assessment
Refer to the Resource Section for the Assessment Rubric.
Teacher reflection
Is there anything you would do differently if you taught this unit again?



Section B FET Phase Grade 12

Collaborating for a greener future

Name:..... Date:.....

Sustainable waste management is a team effort that involves different groups collaborating (working together) to reduce waste, promote recycling and create cleaner and healthier communities. Governments provide infrastructure and enforce policies. Businesses make products and sell them in shops. Various organisations ensure that the waste generated from these products is collected and recycled. Communities and households reduce, reuse, collect, sort and recycle their waste. Together, they create a system that helps protect the environment, reduce pollution and waste and create income opportunities for many people. Income opportunities, in sustainable waste management, include jobs and businesses that come from collecting, sorting and processing recyclable materials.

Working together to manage waste



National government

Develops strategies and policies to reduce waste and promote collection and recycling.

Enforces the Extended Producer Responsibility (EPR) policy that holds producers accountable for their products, throughout their lifecycle, including after consumers use them.



Provincial and local government

Implement localised programmes to manage waste collection, disposal and recycling initiatives.

Run awareness campaigns and ensure that recyclable packaging is separated from waste.



Producers

Design products in packaging that is recyclable or that includes recycled content. Their EPR fees help to fund collection and recycling systems.

Educate consumers and provide clear instructions on packaging to help us dispose of it correctly.



Collection companies and waste collectors

Transport recyclables to facilities.

Waste pickers sort and collect recyclable packaging, from homes or businesses, helping to keep these valuable recyclables out of landfills.



Communities and Petco

Communities and households separate recyclable packaging from waste, join clean-up activities and practice recycling.

Producer Responsibility Organisations (e.g. Petco) partner with various stakeholders to support recycling efforts, guide packaging design, promote the use of recycled materials, and raise awareness through education initiatives.

1. Answer these questions in your workbook:

- What are the responsibilities of municipalities in the waste management chain?
- What is Petco's role in supporting recycling efforts?
- Why do you think producers should take responsibility for the waste created by their products?
- How would a lack of collaboration between groups (e.g., government and companies) affect waste management and recycling?

2. Imagine you are creating a new role in the waste management system. What would this role do and how would it help improve waste management in your community?



Section B

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Towards a low-waste future

The systems used to manage waste help keep our communities clean and protect the environment. But they are not enough to solve the waste problem on their own. While we might never completely get rid of waste, we can take big steps to use less, reuse more and waste as little as possible. In the following activity, you will plan a low-waste community event and explore how future ideas and technologies could improve waste management.

3. Follow the steps below, and use practical thinking and creativity to imagine a future with less waste and wiser resource use.

Step 1: Work in small groups to discuss what low-waste living means and consider how events can produce less waste:

- What kinds of waste do events usually create?
- How can waste at events be reduced or reused?
- What makes it hard to avoid waste completely, and how can we manage these challenges?

Step 2: Plan your low-waste event

- Decide on a type of community event (e.g. a festival, sports day or school market).
- List all the things at the event that could create waste, like food, decorations or packaging.
- Come up with simple, practical ideas to reduce or reuse waste.
- Think about how you could teach people at the event to follow low-waste practices.
- Write a step-by-step plan for your event. Include:
 - How you will stop or manage waste.
 - Who will help, like local partners or volunteers.
 - What resources you will need, such as bins, signs or equipment.

Step 3: Now think about the year 2050

- How could waste be managed in the future with new ideas and technology?
- Brainstorm futuristic waste solutions, such as smart recycling bins that automatically sort materials or innovative methods to reuse waste.
- Discuss how these ideas could make living with less waste easier for everyone, such as reducing costs, saving resources or creating new opportunities for communities to work together.
- Create a vision of what waste management might look like in 2050, imagining how these ideas could lead to cleaner, healthier communities and a more sustainable way of living.

Step 4: Combine your ideas

- Bring your event and your future vision together. Show how your event could lead to new ways of thinking about waste and long-term solutions. Prepare a presentation that includes:
 - The type of event you planned and how it will reduce waste.
 - The challenges you might face and how you will deal with them.
 - Your vision for 2050 and how it connects to your event.

Step 5: Share your ideas with the class.

- Talk about the best ideas, what makes reducing waste such a challenge, and what we can start doing now for a low-waste future?



Section B FET Phase Grade 12

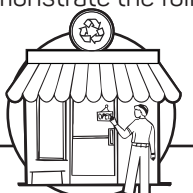
Creating opportunities through waste management

Name:..... Date:.....

Unemployment affects millions of South Africans, creating a ripple effect of problems. It increases poverty and inequality, puts pressure on families and communities, and slows economic growth. Unemployment also impacts mental health, causing stress and feelings of hopelessness.

Entrepreneurship offers a potential solution to the effects of unemployment. Entrepreneurs identify opportunities and provide products or services that address challenges in their communities.

Many successful entrepreneurs demonstrate the following qualities:

 Creativity: Thinking of new and better ways to solve problems, turning challenges into opportunities. Example: Designing furniture made out of plastic pellets made from recycled plastic bottles.	 Risk-taking: Being willing to take chances, face uncertainty, and learn from failures. Example: Launching a recycling start-up in a community where awareness about waste management is still low.	 Resilience: Staying strong and motivated, even when things do not go as planned. Example: Continuing operations and finding alternative solutions after equipment at a buy-back centre breaks down.	 Innovation: Coming up with fresh ideas and solutions that improve systems or make life easier. Example: Designing reusable shopping bags from old t-shirts.
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Entrepreneurs in waste management help reduce waste, protect the environment and create jobs. They do this by setting up systems to manage, collect and recycle waste. This reduces pollution and saves resources. Sustainable waste management goes even further, using resources carefully so they last for future generations. It is about protecting the environment, creating income opportunities and making sure people can live healthier lives.

Some people in this field set up buy-back centres where people can exchange recyclable packaging for cash, or mobile waste collection services to reach areas without regular waste collection. Others use advanced equipment to turn recycled PET plastic bottles into textiles or new packaging. This reduces the need both for new packaging to be made and for raw materials to be taken from the earth. These projects are not simple and use complex systems to make them happen, but they make a big difference by reducing landfill waste, creating jobs and helping communities take part in recycling.

Although challenges like funding, collecting enough recyclable materials and raising awareness about recycling exist, the benefits are clear. Recycling businesses help grow the economy, protect nature and improve lives by creating income opportunities and cleaner public spaces. With the right ideas and support, entrepreneurs can make waste management a powerful way to build a healthier, cleaner future for everyone.

1. Answer the following questions in your workbook:

- What are the effects of unemployment on individuals and communities?
- How can waste management assist communities to create income opportunities?
- Give one example of a collection and/or recycling business and explain how it benefits the environment.
- What are the two main goals of sustainable waste management?
- Why is it important to balance today's needs with protecting resources for future generations?



Section B

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2. Complete the following activities in pairs:

- Reflect on the qualities of successful entrepreneurs. If you were an entrepreneur in the waste management sector, which of these qualities would you rely on the most, and why? Discuss your answers with your partner.
- Imagine you are starting a recycling initiative in your community. Which qualities would you use to motivate others to participate? Share your ideas and examples with your partner.
- Discuss the challenges entrepreneurs face in waste management, such as limited funding or raising community awareness. Brainstorm strategies entrepreneurs could use to address one of these challenges.

Pitching a green business idea

A business pitch is a short presentation to explain your business idea, product or service to someone, usually to get their support or funding.

3. You're now going to work in small groups to develop and pitch a business idea focused on collection and recycling or sustainability. This is your chance to think like entrepreneurs and come up with solutions that help your community and the environment.

Step 1: Divide into groups of 3-4 learners.

Step 2: Brainstorm ideas

- Talk about problems in your community related to waste or sustainability.
- Come up with ideas for a product, service or programme that solves one of these problems.
- Choose one idea.

Step 3: Describe your business idea in detail. Your pitch should include:

- The problem that exists.
- How your business or service solves the problem.
- How your product or service works.
- The benefits of your idea (environmental and economic).
- Challenges you might face.
- How you would solve these problems.

Step 4: Present your pitch to the class.

- Explain why your idea is important and how it could succeed.

Step 5: After all groups have presented, discuss as a class:

- Which ideas seem the most practical or impactful?
- What can you learn from the challenges each group identified?



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Mission and vision: building a greener career

Name:..... Date:.....

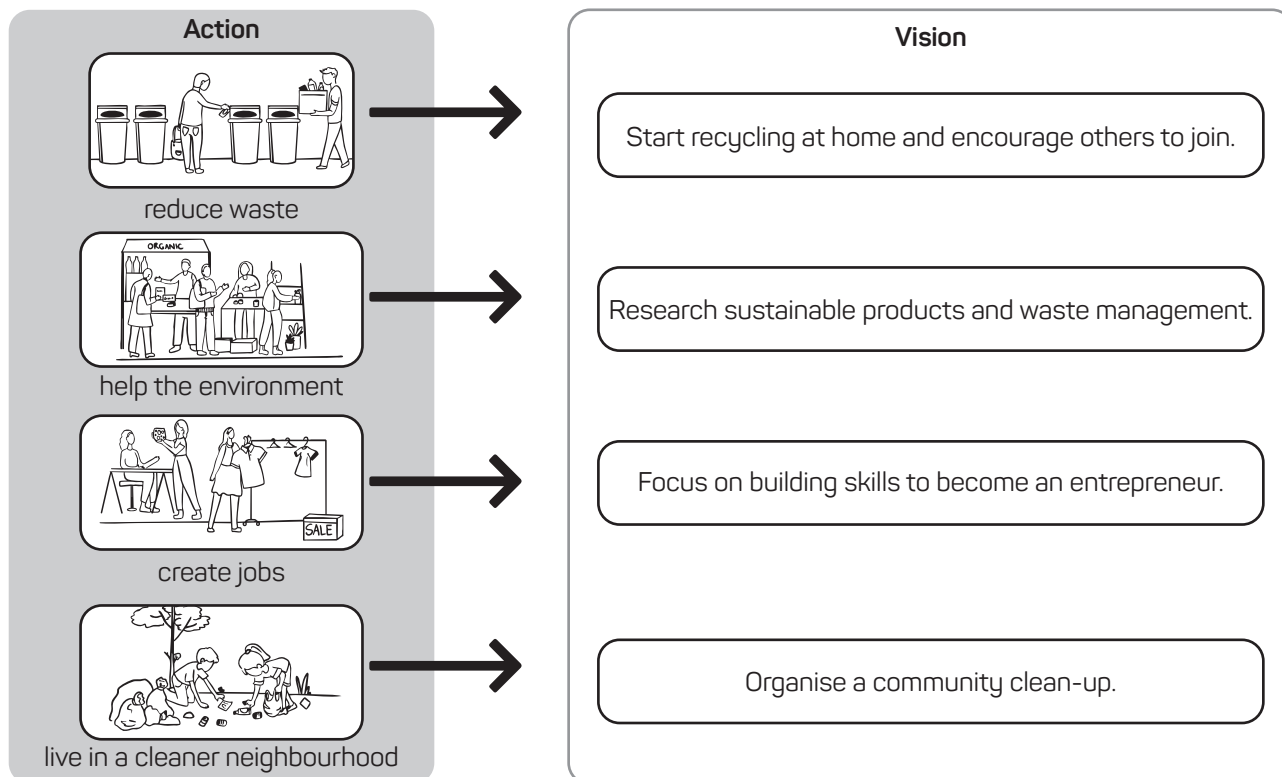
Mission statements and vision statements

A mission statement explains what you stand for, your values and what drives you. It shows the kind of person you are right now. A vision statement is about your goals and dreams. It looks to the future and describes the kind of life you want and the difference you want to make. These statements help guide your life and give it direction.

For example:

- **Mission statement:** I want to be someone who promotes sustainable living and helps communities reduce waste.
- **Vision statement:** I would like to inspire others to adopt environmentally friendly practices and create a cleaner, healthier future.

Your vision shapes your daily actions and choices. For example, if your vision is to:



Connecting environmental responsibility to your vision

Being environmentally responsible means making choices that help protect the planet for future generations. This could include recycling, using water and energy carefully or encouraging others to live sustainably. If you include environmental responsibility in your mission and vision, it shows that you want to make a positive difference. For example, a builder could use eco-friendly and recycled materials, or a nurse could help reduce the use of single-use plastics in hospitals. This doesn't mean you have to work in the collection and recycling industry. Whatever job you do, you can make choices that are good for the environment.

Your mission and vision are influenced by:

- **Values:** What matters most to you? (e.g., being honest, kind, or protecting nature).
- **Lifestyle:** Do your daily choices reflect what you care about?
- **Career goals:** What kind of work do you want to do? How can it help others?
- **Environmental responsibility:** How do your choices affect the planet and future generations?

Section B FET Phase Grade 12

When your actions match your mission and vision, you stay focused on your goals and live a life that reflects your values.

1. Answer these questions in your workbook
 - What is the difference between a mission statement and a vision statement? What is their purpose?
 - Why is it important for your mission and vision to align with your values?
 - How does your vision guide your daily actions and choices?
 - What are some examples of environmentally responsible actions?
 - How can including environmental responsibility in your mission or vision make a positive impact?
 - How can someone in any career, not just the recycling industry, contribute to environmental responsibility? Give examples.
2. Discuss each of the following questions with a partner. Write down your ideas and keep them for the activity below.
 - Reflect on your values, lifestyle and career goals. Discuss how you could include environmental responsibility in your mission and vision statements.
 - Think about your daily actions. What changes could you make to align your lifestyle more closely with your vision of helping the environment or your community?
 - If you and your partner could teach your community one thing about recycling or sustainability, what would it be and why?

Create your own mission and vision statements

3. Follow the steps below to create your own environmentally responsible vision and mission statements:

Step 1: Reflect on what matters most to you:

- What are my core values? (e.g., honesty, kindness, protecting nature)
- What do I dream of doing in the future?
- How can I make a positive impact on my community or the environment?
- What kind of person do I want to be known as?
- What do I enjoy doing most, and how could this become part of my future career?
- How do I want to contribute to my family, friends or community?
- What difference do I want to make in the world, big or small?

Step 2: Write a short mission statement that shows what you stand for and what motivates you right now:

Example: "I believe in making thoughtful choices every day to create a positive impact in my community. I am committed to working hard, learning new things and staying true to my values no matter what challenges I face."

Step 3: Write a short vision statement about your future goals and dreams. Think about the kind of person you want to become:

Example: "I dream of creating a future where I can combine my passion for protecting the environment with my career goals. I want to start a business that reduces waste by creating eco-friendly products and teaching others about recycling. My vision is to inspire my community to live more sustainably and build a healthier planet for future generations."

Step 4: Share your mission and vision statements with each other:

- How can having a vision for the future motivate you to achieve your goals?
- How can environmental responsibility fit into your life?

4. Create a vision board to bring your environmentally responsible mission and vision statements to life. Include pictures, words and symbols that reflect your personal goals. You can focus on your individual journey, or if you like, connect it to entrepreneurship or a business idea. Keep it creative and true to your values.

Section C Resource Section

Assessment	
Rating code	Description of competence
7	Outstanding achievement
6	Meritorious achievement
5	Substantial achievement
4	Adequate achievement
3	Moderate achievement
2	Elementary achievement
1	Not achieved

Vocabulary:

Buy-back centres:	Collectors take recyclable materials to a buy-back centre and get paid for what they have collected. The buy-back centre sells the materials to a recycling plant. Buy-back centres can also be called depots or drop-off sites.
Circular economy:	A system focused on keeping materials in use for as long as possible at their highest value through reuse, repair, recycling, and sustainable design.
Collector:	A collector collects recyclable materials from homes and public areas. The collector sorts and separates the material into piles of metal, glass, plastic, and paper.
Conservation:	Taking care of our Earth and making sure we use natural resources wisely so that we don't run out of them.
Disposal:	The act of getting rid of something, unwanted or no longer needed items, in an appropriate and often environmentally friendly manner.
Eco-design:	Designing products to reduce their environmental impact by making them reusable, repairable, or recyclable.
Entrepreneurs:	People who identify opportunities to create new businesses or improve existing ones.
Environmental justice:	The fair treatment and involvement of all people in environmental policies and actions, regardless of socio-economic status.
Landfill:	A landfill is a place where waste is taken to be buried in a big hole in the ground.
Litter:	Waste such as paper, cans, and plastic left lying in an open place.
Packaging:	The material used to enclose, protect, transport, and even promote things that are for sale. Packaging is usually made from paper or plastic e.g. a mug would be packaged in a box to be delivered.
Recycle:	To use waste to remake new goods that can be sold and used again.
Recycling plant:	A facility that receives, sorts, and processes recyclable materials into new products or raw materials.
Reduce:	To make smaller or use less of. To cut back on what we buy and the waste we make.
Reuse:	To find many new ways to use waste, so that we don't throw it away.
Rubbish dump:	A rubbish dump is a place where waste is left in one place on top of the ground.
Sustainability:	The ability to meet current needs without compromising the ability of future generations to meet theirs, often by conserving resources and protecting the environment.
Waste:	Unwanted things that are thrown away after we have used them.
Waste pickers:	People who collect recyclables directly from rubbish bins and landfills.

Resource Section



Notes

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SC:JAN2025



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