

# Educator workbook

CAPS-aligned

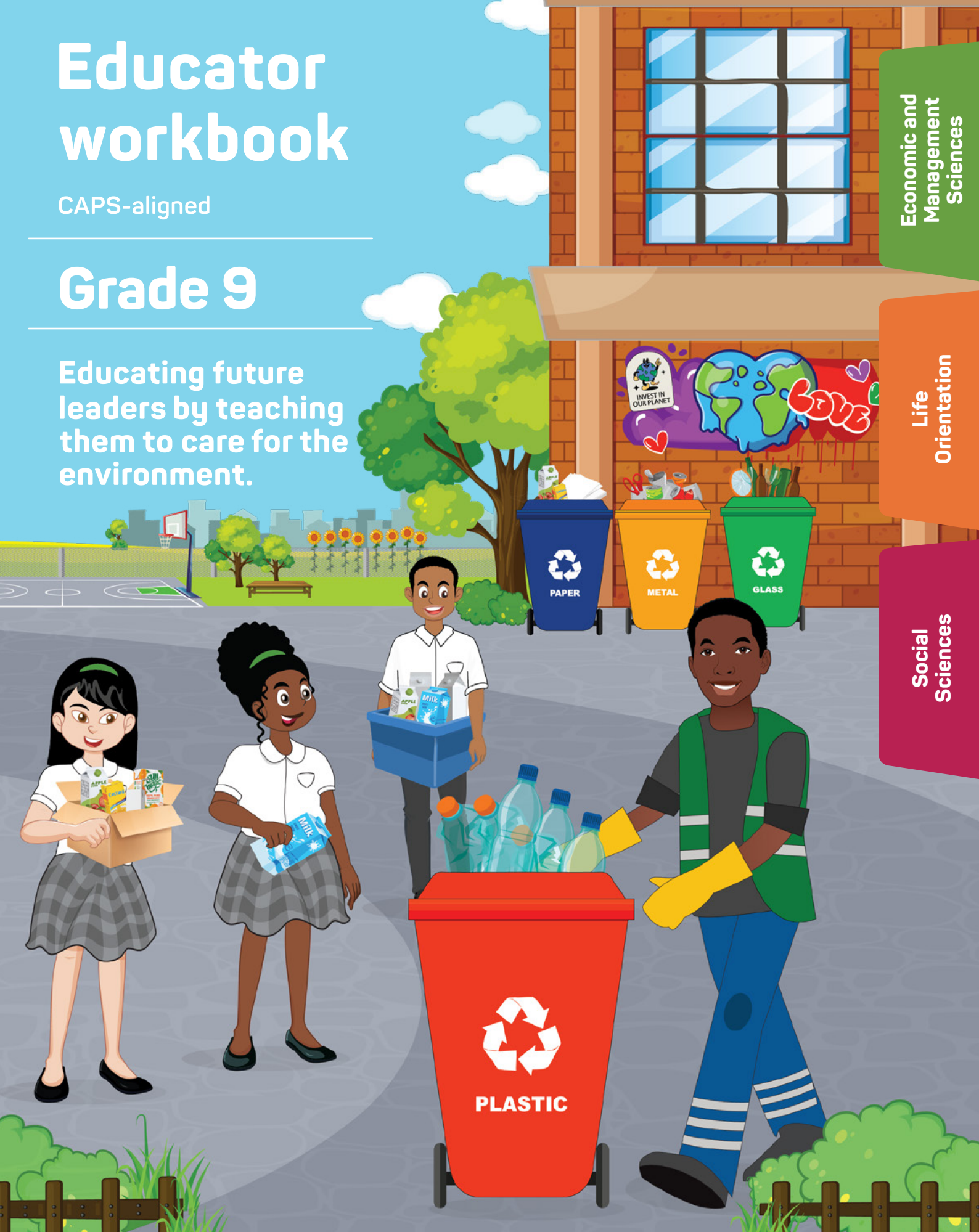
## Grade 9

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

Economic and Management Sciences

Life Orientation

Social Sciences



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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, carrying out 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 factual Educators' Workbook to help teach learners, in Grade 8 and 9, how to take responsibility for their environment and to mobilise others to do the same. By completing the activities together with your learners, you will teach them lessons that they will remember for life.

The workbook contains three worksheets, for each grade, each of which is CAPS-aligned to a specific learning area. The learner activities also lend themselves to a cross-curricular approach by making connections between the environment and the economy (Life Orientation, EMS and Social Sciences).

# Introduction

Grade 8 Recycling for life	Grade 9 Recycling for sustainability
<p><b>Learner Activity 1: Where do you stand?</b></p> <ul style="list-style-type: none"> <li>Life Orientation (Honouring Earth Day)</li> </ul> <p><b>Learner Activity 2: Let's recycle together!</b></p> <ul style="list-style-type: none"> <li>Life Orientation (Develop and implement an environmental health programme)</li> <li>EMS (The economy)</li> </ul> <p><b>Learner Activity 3: Collecting, conserving and earning</b></p> <ul style="list-style-type: none"> <li>EMS (World of work)</li> </ul>	<p><b>Learner Activity 1: Preserve our resources</b></p> <ul style="list-style-type: none"> <li>Social Sciences (Resource use and sustainability)</li> </ul> <p><b>Learner Activity 2: Closing the loop</b></p> <ul style="list-style-type: none"> <li>EMS (The economy)</li> </ul> <p><b>Learner Activity 3: Volunteer to recycle!</b></p> <ul style="list-style-type: none"> <li>Life Orientation (Volunteerism)</li> </ul>

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 also accompanied by a poster which shows the learners how PET plastic bottles and jars and Liquid Board Packaging (LBP), otherwise known as carton packages, can be transformed into new products, emphasising the importance of collecting and recycling. Liquid board packaging (LBP), which we call 'carton packages', is made of paper, plastic and aluminium. Tetra Pak® carton packages are an example of LBP. Recycling these carton packages, for example, fruit juice, custard and milk cartons, means we can use each part again. When we recycle carton packages, the paper is separated from the plastic and aluminium layers, and then reprocessed to make new products.

## Background and context

Pick n Pay School Club is celebrating its 21st year of providing much-needed educational material, which now reaches 118,300 teachers and 2.53 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.

### Acronyms:

**CAPS:** Curriculum and Assessment Policy Statement

**GET:** General Education and Training

# Section B Senior Phase Grade 9

<b>Name of lesson: Recycling for sustainability</b>		<b>Time:</b> 6 x 30 minutes
<b>Grade 9</b>		<b>Subject:</b> Social Sciences Term 4 (Geography); EMS Term 1 (The economy); Life Orientation Term 3
<p><b>Curriculum Standards (CAPS):</b>  <b>Learner Activity 1: Preserve our resources</b>  <b>Social Sciences (Geography) Term 4: Resource use and sustainability (Focus: World)</b>  Resources use:  <ul style="list-style-type: none"> <li>· Uses of natural resources – renewable and non-renewable</li> </ul> Sustainable use of resources:  <ul style="list-style-type: none"> <li>· Concepts of sustainable and unsustainable resource use</li> <li>· Ways resources may be used sustainably: Sustainable fishing; Sustainable land use for grazing</li> <li>· Role of consumers – individuals, businesses and governments – in choosing more sustainable resource use – such as reducing pressure on resources, lowering carbon footprint</li> </ul> <b>Learner Activity 2: Closing the loop</b>  <b>EMS Term 1: The economy: the circular flow</b>  <ul style="list-style-type: none"> <li>· The participants in the circular flow of a closed economy; flow of goods and services, money and factors of production in the circular flow of a closed economy</li> </ul> <b>Learner Activity 3: Volunteer to recycle!</b>  <b>Life Orientation Term 3: Health, social and environmental responsibility</b>  Concept: Volunteerism  <ul style="list-style-type: none"> <li>· Individual and community responsibility</li> <li>· Different types of volunteer organisations: contributions of community-based and non-profit organisations to social and environmental health and sustainable development</li> <li>· Different types of volunteer activities</li> </ul> </p>		
<b>Objectives</b>		
<p><b>The learners will be able to:</b></p> <ul style="list-style-type: none"> <li>· Understand the difference between sustainable and unsustainable resources</li> <li>· Consider the role of packaging in our lives</li> <li>· Analyse the relationship between their carbon footprint and recycling activities</li> <li>· Apply the above by playing the “Preserve our Resources” game</li> <li>· Compare a linear and circular economy</li> <li>· Understand the role of recycling and PET plastic in the circular economy</li> <li>· Examine the importance of volunteerism and volunteer organisations that contribute to environmental health</li> <li>· Set up an eco-club to organise a volunteer community clean-up and a classroom recycling challenge</li> <li>· Keep a log of their volunteer activities</li> </ul>		
Content	Skills	Values
<p><b>Learner Activity 1: Preserve our resources</b></p> <ul style="list-style-type: none"> <li>· Renewable and non-renewable resources</li> <li>· Packaging and recycling</li> <li>· Carbon footprint</li> <li>· Similes</li> </ul> <p><b>Learner Activity 2: Closing the loop</b></p> <ul style="list-style-type: none"> <li>· Linear and circular economy</li> <li>· PET plastic and LBP recycling</li> </ul> <p><b>Learner Activity 3: Volunteer to recycle!</b></p> <ul style="list-style-type: none"> <li>· Volunteering</li> <li>· Eco-clubs</li> <li>· Clean-up campaigns</li> </ul>	<p><b>Learner Activity 1: Preserve our resources</b></p> <ul style="list-style-type: none"> <li>· Comprehending</li> <li>· Comparing</li> <li>· Cooperating</li> </ul> <p><b>Learner Activity 2: Closing the loop</b></p> <ul style="list-style-type: none"> <li>· Critical thinking</li> <li>· Imagining</li> <li>· Dramatising</li> </ul> <p><b>Learner Activity 3: Volunteer to recycle!</b></p> <ul style="list-style-type: none"> <li>· Comprehending</li> <li>· Planning</li> <li>· Cooperating</li> <li>· Executing a plan</li> <li>· Volunteering</li> </ul>	<p>Learners appreciate:</p> <ul style="list-style-type: none"> <li>· The importance of caring for the environment</li> <li>· That the Earth’s resources are limited</li> <li>· The value of recycling</li> <li>· That they are responsible for keeping the environment clean</li> <li>· The need to cooperate to achieve and execute a plan</li> </ul>

# Section B

## Senior Phase

### Grade 9

Resources needed
<p>Petco poster; photocopies of the Learner Activities.</p> <p>Learner Activity 1: Token and dice; Learner Activity 2: Pencil crayons; Learner Activity 3: Recycling bins, collection bags, gloves, materials for communicating the initiative.</p>
Teacher preparation before starting
<p>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.</p>
Teaching the Learner Activities
<p><b>Learner Activity 1: Preserve our resources</b></p> <p><b>Ask:</b></p> <ul style="list-style-type: none"> <li>• Why do we need to keep our environment healthy?</li> <li>• What can we do to keep our environment healthy?</li> </ul> <p><b>Explain:</b></p> <ul style="list-style-type: none"> <li>• We depend on natural resources for our daily needs.</li> <li>• Some resources are sustainable and can be replaced over time. These are known as renewable resources.</li> <li>• Others are unsustainable and eventually run out. These are called non-renewable resources.</li> </ul> <p><b>Ask:</b></p> <ul style="list-style-type: none"> <li>• What renewable resources do you depend on in your daily life?</li> <li>• What do you think happens when we rely too heavily on non-renewable resources?</li> <li>• What do you understand by the word “sustainable”?</li> </ul> <p><b>Explain:</b></p> <ul style="list-style-type: none"> <li>• Sustainability is about meeting the needs of the present without compromising the ability of future generations to meet their own needs.</li> <li>• It involves making choices today that consider the long-term impact on the environment, society and the economy.</li> <li>• Hand out the Learner Activity 1 worksheet. Read through the worksheet with learners.</li> </ul> <p><b>Check learners’ understanding using the following questions:</b></p> <ul style="list-style-type: none"> <li>• How does recycling contribute to the protection of non-renewable resources?</li> <li>• What does your carbon footprint mean?</li> <li>• How can small individual actions, like recycling, collectively make a big impact on the environment?</li> <li>• What role can we all play in actively reducing climate change?</li> </ul> <p><b>Explain:</b></p> <ul style="list-style-type: none"> <li>• A simile is a comparison using “like or as”.</li> <li>• Let learners read question 1 and find the simile in the passage (Answer: Non-renewable resources are like treasures that can be used once and then are gone.).</li> <li>• Let learners create their own similes.</li> <li>• Encourage learners to share their similes with each other and discuss the effectiveness of the various similes.</li> </ul> <p><b>Complete the Learner Activity:</b></p> <ul style="list-style-type: none"> <li>• Learners play the “Preserve our Resources” game in teams.</li> </ul> <p><b>Learner Activity 2: Closing the loop</b></p> <p><b>Explain:</b></p> <ul style="list-style-type: none"> <li>• In nature, when plants and animals produce waste, it becomes part of a cycle. Other living things, like decomposers, break down this waste, turning it into nutrients for the soil. It’s a natural process where everything is taken care of within the ecosystem.</li> <li>• Unlike nature, humans have to take care of their own waste. We don’t have a system like decomposers in our homes, so we need to collect and dispose of our waste in a way that doesn’t harm the environment.</li> </ul> <p><b>Ask:</b></p> <ul style="list-style-type: none"> <li>• How does the natural world handle waste, and why is this different from how humans manage waste?</li> <li>• What do you think are the potential consequences if humans don’t take responsibility for managing their waste?</li> </ul> <p><b>Explain:</b></p> <ul style="list-style-type: none"> <li>• “Linear” is another word for “straight line”. “Circular” is the opposite of linear. When something is circular, it ends up in the place that it started.</li> <li>• When we throw away our waste, and it lands up in the environment, or in rubbish dumps and landfills, we are part of a linear economy (the “take, make, dispose” approach).</li> <li>• In a circular economy, we think about what happens to products after we have used them.</li> <li>• Instead of a straight journey from creation to disposal, materials are managed in a circular system, staying in use for as long as possible while maintaining their highest value.</li> <li>• Read the introductory paragraphs of the Learner Activity and let learners complete question 1.</li> <li>• Let learners share their creative writing pieces with each other (Question 1 d).</li> </ul>



**Ask:**

- What could you do to become part of a circular economy (so that your waste does not end up being thrown away)?

**Show:**

- Look at the Petco poster and examine all the things that can be made using used PET plastic bottles and jars and LBP (carton packages).
- Read the remainder of the Learner Activity with the learners.

**Check learners' understanding using the following questions:**

- What do you understand by the term "driven by design" in the context of recycling?
- How is PET plastic recycled and why is a PET plastic bottle a good example of the circular economy in action?
- How is LBP recycled?

**Show:**

- Look at the Petco poster and examine all the things that can be made using used PET plastic bottles and jars and LBP (carton packages).

**Explain:**

- LBP, often called carton packages, includes examples like Tetra Pak® carton packages which are used to package fruit juice, custard and milk.
- To recycle LBP, put it in the paper or mixed recycling bin.
- When recycling PET plastic bottles, don't put anything inside them. Adding items like chip packets with metal can cause the whole bottle to be thrown out. Paint can also mess up the recycling machinery, causing delays or making the plastic not meet quality standards for new products.
- An average Tetra Pak® carton package is made of about 70% paperboard, 25% plastic and 5% aluminium to protect its contents. LBP products are recyclable where adequate collection, sorting and recycling systems are in place. This means you may see one of your cartons again someday as a paper towel, pallet, cardboard package or crate.

Let learners discuss and answer question 2 (Answer: To ensure that the LBP carton packages, can be made into new and useful products.)

**Explain:**

- The slogan "Reduce, Reuse and Recycle" is a simple and memorable phrase that encourages environmentally friendly practices.

**Ask:**

- Why do you think the slogan is catchy?

**Explain:**

- The slogan is catchy because it's simple and gives a clear, three-step plan. Each word tells us a different way to be mindful of the environment. The repeating 'r' sound in "Reduce, Reuse, Recycle" makes it easy to remember and fun to say. The slogan is straightforward and memorable, making people more likely to remember it and start doing more eco-friendly things.
- Let learners come up with their own slogans for recycling (Question 3) before creating their own recycling symbol (Question 4).
- Let learners present their slogans and designs to the class (Question 5).

**Conclude this worksheet by letting learners complete Questions 6 and 7:**

- Question 6: Learners work in groups to create a short skit or play that illustrates the journey of a PET bottle in a circular economy.
- Question 7: Learners create an advert that encourages people to recycle.

**Note:** Depending on time constraints, you may let learners choose to do either Question 6 or 7.

**Learner Activity 3: Volunteer to recycle!**

Read the introductory paragraphs on Learner Activity 3.

**Check learners' understanding using the following questions:**

- Why do you think volunteering is important for a community?
- How can an eco-club contribute to creating awareness about environmental issues in your school?
- In what ways do recycling and conservation contribute to a healthier environment?

**Explain:**

- We are going to set up an eco-club at our school.
- In groups, let learners answer the questions (Question 1).
- Let learners report back on the findings of their discussions.

**Explain:**

- Throwing litter on the ground, instead of in a bin, leads to long-lasting pollution.
- Pollutants from litter affect air, water and soil, harming both humans and animals.
- Everyone shares the responsibility of taking care of the planet by properly managing our waste.
- Your eco-club's first activity will be to organise a School Ground Clean-Up Campaign.

Let learners read the instructions for organising the campaign (Question 2).

**Use the following guidelines to assist you to manage the event:**

- In order to facilitate the campaign, it is best to divide your class into groups as follows: 1: Permission & Coordination Group; 2: Logistics & Waste Collection Group; 3: Communication & Promotion Group; 4: Supplies & Safety Group; 5: Recycling Separation Group.

# Section B

## Senior Phase

### Grade 9

- Assign each group a specific task based on their strengths and interests.
  - Let learners select their tasks from the list of instructions in question 2.
  - Let each group appoint a leader who will represent the group at a 'steering committee'. The main task of the steering committee is to coordinate and oversee the planning, implementation and ongoing management of the recycling initiative.
  - Emphasise effective communication and collaboration among groups.
  - Encourage creativity in promoting the event.
  - Discuss the importance of safety and respect for nature during the clean-up
  - Monitor the progress of each group and provide guidance, as necessary.
- Encourage the leaders of the eco-club to organise the suggested events in question 3.  
Let learners keep a volunteer log of all activities using the template in question 4.  
Maintaining a volunteer log fosters a sense of personal growth and reflection, allowing learners to recognise the positive impact they've made to keeping their Earth clean and healthy!

#### 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?



# Preserve our resources

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

In our world today, we rely on many natural resources for our daily needs and wants. Some of these resources are sustainable, which means they can be replaced over time. We call these renewable resources. Other natural resources are unsustainable, which means that they run out. These are called non-renewable resources. "Sustainable" means taking care of the Earth so that we can keep living happily without using up all the resources or harming nature. It's about making choices today that won't hurt the ability of future generations to live well too.

Renewable resources are like magic gifts from nature that keep coming back, and we won't run out of them if we use them wisely. Here are some examples of renewable resources:

- **Sunlight:** Can be used to generate electricity using solar panels.
- **Wind:** Can be used to generate electricity through wind turbines.
- **Water:** Can be used to generate electricity through hydroelectric power.
- **Plants:** Can be used for food, wood and to make paper.

Non-renewable resources are like treasures that can be used once and then are gone. Fossil fuels are an important type of non-renewable resource. Fossil fuels come from the remains of plants and animals that lived millions of years ago. They take millions of years to form, so we need to be careful not to use them up too quickly. Here are some examples of non-renewable resources:

- **Coal:** A rock that comes from ancient plants. We burn coal in power plants to produce electricity.
- **Oil:** Formed from the remains of marine plants and animals. We use oil to make petrol and plastics.
- **Natural Gas:** A fossil fuel made mostly of methane. We use it to generate electricity, and as a fuel for some vehicles.
- **Propane:** A gas that is a byproduct of natural gas processing and oil refining. We use propane for heating and cooking.

Whenever we can, we must reuse non-renewable resources so that we don't have to keep using more of them to make new things. A good way to protect non-renewable resources, and keep our environment healthier, is to recycle packaging. Packaging is the material that is used to wrap or hold products. Packaging can be made from plastic, paper, glass and metal (as well as other materials). Packaging protects products from getting damaged while being transported and handled, and also helps to keep products fresh and clean.

Some packaging materials are made from non-renewable resources. For example, plastic is a common packaging material that can come from natural gas, oil or coal. Using a lot of plastic packaging means using up some precious non-renewable resources. On the other hand, some packaging materials come from renewable resources. Paper and cardboard are examples of renewable packaging because we can make them from trees, which can be replanted. Even though paper and cardboard are made from renewable resources, it still takes a lot of time, energy and water to regrow trees to make more packaging.

A "carbon footprint" is the total amount of greenhouse gases (mainly carbon dioxide and methane) that are produced directly or indirectly by people, businesses, factories and products. These gases contribute to climate change by trapping heat in the Earth's atmosphere. Your carbon footprint is like a mark you leave on the Earth based on the things you do and use. A larger footprint means a greater negative effect on the environment.

Recycling packaging is one way to impact (influence) your carbon footprint. When we recycle, we help cut down the amount of new materials needed to make new packaging. This reduces the need to use more non-renewable resources. Recycling helps to keep packaging waste out of landfills, where it can release harmful greenhouse gases.

Plastic waste can take a long time to break down, and, even then, it never fully disappears; it just gets smaller and smaller.

# Learner Activity 1

# Section B

## Senior Phase


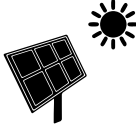










### Grade 9

Every time you throw packaging into the recycling bin, you are not just giving it a second life, you are participating in the fight against climate change. This makes a big impact on creating a healthier and more sustainable planet for everyone.

1. A simile is a figure of speech that compares two things using the words "like" or "as". "Renewable resources are like magic gifts from nature" is an example of a simile.
  - a. Find the other simile in the passage on the previous page. Write it in your workbook.
  - b. Use the information above, and on the previous page, to create your own similes. For example, "Recycling plastic bottles is like giving them a second dance on the stage". Now, write your own similes, using these words, in your workbook:
    - i. My carbon footprint is like ...
    - ii. Recycling is like ... *(you may insert a word after 'recycling' e.g. recycling **plastics** is like...)*

2. Play the "Preserve our Resources" game in teams of 2 or more:

- All teams begin on the 'START' square, with a token piece, i.e. coloured disk, coin, etc.
- Each team takes a turn to roll a dice and move the appropriate number of spaces.
- When a team lands on a square with a question, move forward 1 space for a correct answer and move backwards 1 space for an incorrect answer.
- When a team lands on a non-renewable resource, move backwards 3 spaces. When a team lands on a renewable resource, move forward 3 spaces.
- The first team to reach 'FINISH' wins!

28 <b>FINISH</b>	27 	26 <b>PROPANE</b> Move back 3 spaces	25 	24 How long does it take for fossil fuels to form?	23 	22 Name 2 non-renewable resources.
						^
15 Name 2 materials that packaging can be made of.	16 	17 <b>WIND</b> Move forward 3 spaces	18 	19 True or False? Recycling impacts your carbon footprint.	20 	21 <b>WATER</b> Move forward 3 spaces
						^
14 <b>COAL</b> Move back 3 spaces	13 	12 True or False? Cardboard is an example of renewable packaging.	11 	10 <b>SUNLIGHT</b> Move forward 3 spaces	9 	8 Name 1 greenhouse gas.
						^
1 <b>START</b>	2 	3 Name 1 renewable resource.	4 	5 True or False? Non-renewable resources can be replaced.	6 	7 <b>OIL</b> Move back 3 spaces

# Learner Activity 1

## Closing the loop

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

In a linear economy, products follow a straight path from being manufactured to being used and, eventually, being thrown away. This “take, make, dispose” approach involves extracting raw materials, manufacturing products, using them, and disposing of them (throwing them away) as waste. In this system, the end of a product’s life cycle means the end of its usefulness. This leads to more waste ending up in landfills. The linear economy is about a one-way flow of resources, where the focus is on producing products to meet the demands of consumers (people who buy things), without considering the long-term environmental impact.

Now, picture a world where very few things go to waste, and almost everything is used, reused and recycled in a sustainable loop. That’s what the circular economy is all about! In a circular economy, products are designed with their end of life in mind i.e. What happens to them when we are finished using them. Instead of following a linear path from production to disposal (throwing away), materials are kept in use for as long as possible at their highest value. At the end of their life, they are not disposed of. Instead, they are recycled, reused or repurposed into something new. This circular approach (or “loop”) reduces the impact on the environment and conserves resources to create a more sustainable relationship between human activities and the planet.

By recycling, and using things responsibly, we participate in a cycle that contributes to a healthier and more sustainable world for future generations. Think about your favourite childhood toy. In a linear economy, once you outgrow it or it breaks, you throw it away, and it gets added to the piles of waste in a landfill. In a circular economy, that toy could be repaired and given to someone else, or its parts could be used to create something new, ensuring that resources are used wisely, and waste is minimised. Where is your toy now?

In a circular economy, we:

- Use things again and again
- Keep materials moving
- Help nature grow back

1. Answer these questions in your workbook:

- a. Why is the linear economy known as “take, make, dispose”?
- b. Why is it better to recycle or use things again instead of throwing them away?
- c. How can we help nature through the actions we take every day?
- d. Imagine a world where everything we use is made of recycled materials and designed in a way that it can be recycled or reused! Write about this world and illustrate it with pictures that show your understanding of a circular economy.

The circular economy is said to be “driven by design”. This means that, when we make things, we plan them from the beginning to make sure they fit into the circular economy. It’s like having a game with rules that help us play better and not make a mess.

PET plastic is a good example of how packaging can be reused in the circular economy:

- **Collection:** PET bottles are collected after use. This can be from home, work, school, university, or even community clean-up initiatives.
- **Sorting:** Once collected, the bottles are sorted to separate the PET plastic from other materials.
- **Cleaning:** The bottles are cleaned to remove any leftover liquid and contaminants, such as chip packets, metal and sand.
- **Recycling:** The cleaned PET plastic is then recycled to create new products, such as new PET plastic bottles.
- **Reusing:** Some bottles might be reused directly, perhaps for packaging or storing other items.

# Section B

## Senior Phase

### Grade 9

Liquid Board Packaging (LBP) is the type of packaging used for carton packages that some of our milk, custard and fruit juice come in. LBP is made of paper, plastic and aluminium which means that the different layers first need to be separated before they can be recycled. Once our cartons are collected, they are sorted to separate the paper part from the plastic and aluminium parts. The paper part is turned into pulp, kind of like a paper smoothie! This pulp is then used to make new things like paper towels, tissues or even more cardboard packaging. The plastic and aluminium layers in LBP is cleaned, shredded and melted to form pellets. These recycled materials are then used to make products such as roof tiles, panels or crates.

2. Why is it important to separate the paper from the plastic and aluminium layers in LBP?
3. "Reduce, reuse and recycle" is a catchy slogan that encourages us to care for the environment by using less, reusing things and managing waste responsibly. In your groups, use the information above, and on the previous page, to make up to make up your own catchy slogan that promotes awareness of the circular economy.
4. The recycling symbol has three arrows that go around in a triangle (not to be confused with the plastic identification code which is the three arrows with the little number in it that shows people what type of plastic that package is made from). Each arrow represents collecting, making and using things again. It's a sign that says, "Let's recycle and keep things in a loop so that we don't waste our precious resources". In your groups, create your own design that can be placed on a recycling bin.
5. Present your group's slogan and design to your class and explain them.
6. Work in groups to create a short skit or play that illustrates the journey of a PET bottle in a circular economy. Emphasise the importance of each stage in the recycling process.
7. Create an advert that encourages people to recycle their waste (including PET and LBP products). Include information on how the recycling process works and why it is essential.

## Learner Activity 2



# Volunteer to recycle!

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

Volunteering is when people choose to help others or contribute to a cause without getting paid. It's about giving your time and effort to make a positive impact on the community or a specific issue. One of the ways that you can volunteer to help the environment is by starting an eco-club at your school. An eco-club is an organised group or club that focuses on environmental conservation, sustainability and promoting eco-friendly practices. The term "eco" in "eco-club" is taken from the prefix "eco-," which is short for ecology. Ecology is the study of the relationships between living organisms and their environments.

Volunteering in an eco-club, at school, brings together learners who share a common interest in protecting the environment. They focus on recycling, conservation and creating awareness about the importance of a healthy environment. Conservation means taking care of our Earth and making sure we use natural resources wisely so that we don't run out of them. Recycling is a big part of conservation because it helps us use materials again instead of making brand new things, like packaging, all the time.

1. Before you set up your eco-club, discuss the following questions in your group:
  - a. Why is it important to have an eco-club at school?
  - b. What specific environmental issues are we passionate about addressing?
  - c. How will the eco-club raise awareness about environmental issues?
  - d. What are the short-term and long-term goals of the eco-club?
  - e. How will the eco-club contribute to environmental conservation?
  - f. What positive impact do we hope to achieve, in our school or community, through the eco-club?
  - g. How will the eco-club be structured? (e.g., leaders, committees)
  - h. What leadership roles will be necessary, and who is interested in taking on these responsibilities?
  - i. What specific activities or projects do we want to undertake as an eco-club?
  - j. How can we ensure that our activities align with our environmental goals?
  - k. How can we encourage active participation from learners?
  - l. How can we encourage teachers to work with us?
  - m. What resources will we need to carry out our planned activities? (e.g., funding, materials, support from teachers or administration)
  - n. How can we obtain these resources?
  - o. Are there existing environmental programmes, in our school or community, with which we can collaborate?
  - p. How can we build partnerships to enhance the impact of our eco-club?
  - q. How will we measure the success (progress and impact) of the eco-club's initiatives?

When we throw litter on the ground, instead of in a waste bin, it can stay there for a long time, especially if it is made from materials that take a long time to decompose (break down). Litter also releases pollutants into the air, water and soil and can negatively impact the lives of humans and animals. It is better for our health if we live in clean spaces. We all share this planet; it's our job to take care of it. Litter is our responsibility!

2. As its first project, your eco-club has decided to organise a School Ground Clean-up Campaign. Follow these instructions for your eco-club's first big event!
  - a. **Get permission:** Approach your school's management team and share the idea for your eco-club to organise a School Ground Clean-up Campaign.
  - b. **Find a waste collector:** Work with your teacher to arrange for a waste picker or collection company in your local area to collect the waste. Discuss logistics such as the location for waste collection, the type of bins or containers you'll be using and any special instructions for the collection process.
  - c. **Choose a date:** Decide on a day when most students and teachers can participate. Weekends or after school are good options.

# Section B

## Senior Phase

### Grade 9

# Learner Activity 3

- d. **Announcement:** Tell everyone in your school about the clean-up day. Use posters and announcements to spread the word.
- e. **Create a social media campaign:** Use your social media accounts and share regular updates on ongoing initiatives, recycling tips and success stories. Encourage followers to share their own eco-friendly practices.
- f. **Get supplies:** Gather gloves and rubbish bags. (If possible, use black bags for rubbish and clear bags for recyclables.)
- g. **Assign areas:** Split the school grounds into sections. Assign each section to a group or class.
- h. **Safety first:** Remind everyone to be careful. Wear gloves, and if there are sharp objects, let a teacher or staff member know.
- i. **Collect litter:** Walk around your assigned area and pick up any litter you find. Put it in the rubbish bags.
- j. **Separate recyclables:** If you find plastic bottles, cans, cartons or paper, put them in separate bags for recycling.
- k. **Respect nature:** Be gentle with plants and animals. Don't disturb their homes.
- l. **Have fun:** Cleaning up can be enjoyable. Take photos, make it a game or listen to music while you work.
- m. **Arrange for collection:** After collecting your litter, put the rubbish bags in the correct waste and recycling bins, and let your collector know that the waste is ready for removal.

3. Here are some more fun ideas for you to do as part of your eco-club activities. Choose one of them and organise an event for those learners who actively participated in the Clean-Up Campaign.
- a. **Clean up:** Use collected waste items, which cannot be recycled, to create artwork. Have a competition for the most creative and environmentally themed piece.
  - b. **Story circle:** Sit in a circle and share stories about the interesting things found during the clean-up. It could be a fun or surprising discovery!
  - c. **Green addition:** As a symbol of growth, consider planting a small tree or some flowers after the clean-up.

Remember, the goal is not just to clean up, but also to raise awareness about keeping the school grounds beautiful and respecting the environment. Encourage teamwork, positive attitudes and celebrate the efforts of everyone involved!

4. A record of your volunteering activities is an important tool to present to future educational institutions or employers. Copy this table into your workbooks to log your volunteer activities:

Where did you volunteer? Provide details.	
Days and hours that you volunteered.	
Your activities and what you learned.	

# 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:

<b>Waste:</b>	Unwanted things that are thrown away after we have used them.
<b>Litter:</b>	Waste such as paper, cans, and plastic left lying in an open place.
<b>Disposal:</b>	The act of getting rid of something, unwanted or no longer needed items, in an appropriate and often environmentally friendly manner.
<b>Reduce:</b>	To make smaller or use less of. To cut back on what we buy and the waste we make.
<b>Reuse:</b>	To find many new ways to use waste, so that we don't throw it away.
<b>Recycle:</b>	To use waste to remake new goods that can be sold and used again.
<b>Rubbish dump:</b>	A rubbish dump is a place where waste is left in one place on top of the ground.
<b>Landfill:</b>	A landfill is a place where waste is taken to be buried in a big hole in the ground.
<b>Collector:</b>	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.
<b>Waste pickers:</b>	People who collect recyclables directly from rubbish bins and landfills.
<b>Buy-back centres:</b>	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 are also called depots or drop-off sites.
<b>Recycling plant:</b>	A company that buys the recyclable materials from the buy-back centre. Then they make new and useful things from the materials.
<b>Packaging:</b>	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.
<b>Conservation:</b>	Taking care of our Earth and making sure we use natural resources wisely so that we don't run out of them.
<b>Entrepreneurs:</b>	People who identify opportunities to create new businesses or improve existing ones.
<b>Wastepreneur:</b>	A business person who is involved in activities related to waste management and recycling.





# SUPERHEROES OF SUSTAINABILITY!



New PET plastic packaging



Car seat covers



Bedding



Jackets



Rugs



Broom bristles



Crates



Cardboard boxes



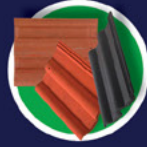
Tissues



Paper towels



Pallets



Roof tiles

## PET plastic packaging

PET plastic bottles and jars can be transformed into cool new things through recycling! Imagine your old water bottle turning into a brand new bottle or jar, or a warm jacket or carpet! It's like a superhero power for plastic – instead of becoming waste, it gets a chance to be useful again. So, next time you toss a plastic bottle into the recycling bin, think about the adventures it might have as a new and exciting item!

## Liquid Board Packaging (LBP)

LBP, commonly known as carton packages, refers to the carton packages that some of your milk, custard and juice comes in. An example of LBP is Tetra Pak® carton packages. LBP carton packages can be like superheroes too! When you collect and recycle them, they get a chance to become something totally different. Your empty carton packages might transform into paper towels or even the tiles on the roof of your house. It's like a magical makeover! So, when you toss a carton package into the recycling bin, you're giving it a ticket to a whole new life of exciting possibilities!



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