

Educator workbook

CAPS-aligned

Economic and
Management
Sciences

Grade 7

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





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 identified 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 by our producer members 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 how their actions can have a less harmful impact on the environment. They will learn that littering is a bad habit, as well as the different things that can be done with waste. By completing the activities together with your learners, you will teach them lessons that they will remember for life. The activities, which are aligned to the CAPS curriculum, cover the curriculum standards of various learning areas, and have been designed to ensure that learners have fun while learning.

Introduction

Learner Activity 1: The importance of looking after the environment in such a way that we balance humans' unlimited needs and wants with the fact that the Earth has limited resources.

Learner Activity 2: The importance of recycling and understanding why recycling benefits both the environment, by reducing pollution, and the economy, by keeping resources circulating, rather than wasting them.

Learner Activity 3: Characteristics of entrepreneurs, how waste can be a source of income, and ways that entrepreneurs can market and advertise their businesses.

The workbook is also accompanied by a poster which encourages learners to reduce, reuse and recycle and suggests practical ways in which they can do so.

The activities, in this workbook, are all aligned with the Economic & Management Sciences (EMS) CAPS curriculum for Grade 7. By completing the activities together with your learners, you will teach them lessons that they will remember for life. A vocabulary table is also provided which defines words that are frequently used in this guide. You may wish to make a copy of the table for your learners.

Background and context

Pick n Pay School Club is celebrating its 20th year of providing much-needed educational material, which now reaches 114,800 teachers and 2.46 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 A

Senior Phase

Grade 7

Educator Guide

Name of lesson: Lesedi's Recycling Business Journey		Time: 6 x 30 minutes
Grade 7		Subject: EMS Term 1 (The economy); EMS Term 3 (Entrepreneurship); EMS Term 4 (The economy)
Curriculum Standards (CAPS): Learner Activity 1: Unlimited wants and limited resources EMS Term 1: The economy - Needs and wants: Basic needs of individuals, families, communities and countries; primary and secondary needs; unlimited wants; limited resources to satisfy needs and wants Learner Activity 2: Be fantastic; recycle your plastic! EMS Term 1: The economy - Goods and services: Producers and consumers; the role of households as producers and consumers; using goods and services efficiently and effectively; how to recycle and reuse goods to satisfy needs and wants EMS Term 4: The economy - The production process: Sustainable use of resources Learner Activity 3: Waste it once...pay for it twice! EMS Term 3: Entrepreneurship - The entrepreneur: Definition of an entrepreneur; characteristics of an entrepreneur; skills of an entrepreneur; entrepreneurial actions of buying, selling, producing and making a profit. Starting a business: the concept of advertising; media used in advertising; principles of advertising; use of recycled material Additional learning areas covered by the workbook Natural Sciences Term 2: Strands - Matter & Materials - Topic: Properties of materials – Physical properties of materials; Impact on the environment English First Additional Language (All terms): Reading and Viewing; Writing and Presenting Life Orientation Term 3: Topic 3 Health, social and environmental responsibility - Environmental health: Local environmental health problems; Community and individual projects and strategies to prevent and deal with environmental health problems		
Objectives		
The learners will be able to: - Differentiate between wants and needs - Reflect on how unlimited human wants put pressure on the Earth's limited resources - Consider the role of recycling in the economy - Sequence the steps in the making of a plastic bottle - Define the characteristics of entrepreneurs - Employ the advertising principle (AIDA) to promote a recycling business		
Content	Skills	Values
Learner Activity 1: Unlimited wants and limited resources - Wants and needs - Environmental responsibility - Renewable and non-renewable natural resources - Recycling Learner Activity 2: Be fantastic; recycle your plastic! - Waste - Litter - Goods and services - Linear vs. circular economy - The three R's of waste management - Production of a plastic bottle Learner Activity 3: Waste it once...pay for it twice! - Entrepreneurship: Starting a business; characteristics of entrepreneurs - Marketing and advertising	Learner Activity 1: Unlimited wants and limited resources - Comprehension - Critical thinking - Problem solving Learner Activity 2: Be fantastic; recycle your plastic! - Comprehension - Sequencing - Critical thinking Learner Activity 3: Waste it once...pay for it twice! - Comprehension - Teamwork - Problem solving - Writing and presenting	Learners appreciate: - That the Earth's resources are limited - The importance of caring for the environment - That they are responsible for keeping the environment clean - The value of entrepreneurship and generating an income

Section A

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Grade 7

Resources needed
A copy of Lesedi's story, the Petco poster; photocopies of the Learner Activities. Learner Activity 1: A pair of dice (1 per group of learners if possible); Learner Activity 2: Pencil crayons/crayons; Learner Activity 3: Cardboard for the poster (1 per group, if possible); Pens/Pencils and any other equipment required for the poster activity.
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, as well as the story of Lesedi.
Teaching the Learner Activities
Pre-work (Bottle demonstration and Lesedi's story) Explain: - You will be reading a story about a girl, called Lesedi, who started a small business by collecting recycled PET plastic bottles. Show learners the PET '1' symbol in the little triangle at the bottom of a plastic bottle. Explain: - When a plastic bottle has the PET '1' symbol* on it, it means that it can probably be recycled. This also depends on the colour of the bottle, as well as what the lid and label are made from. (Learners will read more about this in the story). - PET is a type of plastic used for containers, bottles and for other items. - When we recycle our waste, we find new ways to use it so that it can be made into something new and it does not have to end up in a rubbish dump or landfill. - PET bottles can be recycled into many new and useful things. Most importantly, they can be recycled and used to make brand new PET containers and bottles. - When we make an effort to recycle, we are looking after our environment. <i>*NB: The number in the symbol does not mean that it can be recycled X number of times or that it has been recycled X number of times. It indicates what type of material the item is made from.</i> Now, let readers read Lesedi's story. Since the learner activities, which follow, are all based on this story, it is best to read the story as a whole-class activity. Learner Activity 1: Unlimited wants and limited resources Hand out the Learner Activity 1 worksheets. Read the worksheet with your learners and let them complete questions 1 and 2. Explain: - A need is something you must have to survive, like food, water and a home. A want is something that is nice to have, but you can live without it, like an ice cream or a new skateboard. (Answer to question 1). Let learners compare their individual answers to question 2. Make sure that they understand the difference between wants and needs. Continue reading Learner Activity 1 with your learners. Ask: - Why do we need to keep our environment healthy? - What can we do to keep our environment healthy? - How do humans' wants and needs affect the environment? Explain: - The Earth's resources are limited, and many of them are not renewable. This means that we will eventually run out of these resources. - Plastic is made of non-renewable resources. <i>(We will learn more about this in Worksheet 2.)</i> - A lot of the plastic we use ends up as litter or waste. That is why it is so important to try to reduce, reuse or recycle as much waste as possible. - All the things that we throw away have to be taken somewhere – usually to a rubbish dump or to be buried in a landfill. Complete the Learner Activity: - Learners complete the answer to question 3 before playing the Bingo game in groups. Learners then complete question 5. Answers to Learner Activity: Question 3: Non-renewable resources are limited, so if we do not use them carefully, many will be used up. If used wisely and efficiently, however, these resources will last much longer. Learner Activity 2: Be fantastic; recycle your plastic! Explain: - In Natural Sciences, you have learned about food chains. A food chain consists of producers, consumers and decomposers. - Human beings can also be producers and consumers. But, unlike, in nature, we have to get rid of our waste ourselves. Read: - Read through the first paragraphs of the worksheet (stop at question 1).



Section A Senior Phase Grade 7

Educator Guide

Explain:

- "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.
- 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.

Complete question 1 of the Learner Activity.

Ask:

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

Explain:

- In a circular economy, we can keep using our resources in the system for as long as possible.

Continue reading the worksheet with your learners:

- Let learners complete question 2 before reading about how a plastic bottle is made.
- Let learners complete question 3 of the worksheet.

Let learners complete the worksheet by reading about a circular economy and then completing question 4.

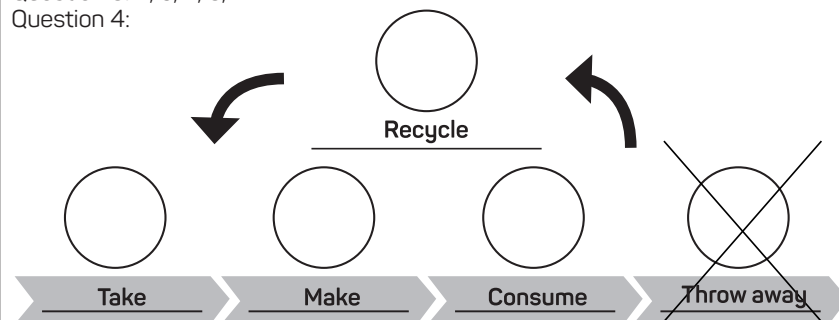
Answers to Learner Activity:

Question 1: The correct order is Take, Make, Consume, Throw away.

Question 2: Reuse, Reduce, Recycle

Question 3: 4, 5, 2, 3, 1

Question 4:



Learner Activity 3: Waste it once...pay for it twice!

Explain:

- When Lesedi was walking through the park, and she saw the litter, she also saw an opportunity to solve a problem and make money.
- People who see opportunities to solve problems and find a way to turn their solution into a business are called entrepreneurs.
- As we have learned in worksheets 1 and 2, human beings make a lot of waste that can be reused and recycled.
- Like Lesedi, many entrepreneurs have found ways to make money while also helping the Earth and caring for the environment.

Refer:

- Refer learners to Learner Activity 3, and work through questions 1 to 4 of the worksheet with your learners.

Answers to Learner Activity:

Question 1:

- Lesedi identified that there was a need to clean up her environment.
- Lesedi realised that she could collect PET plastic bottles and start a collection and recycling business.
- Lesedi could sell the plastic goods to a buy-back centre.
- She used posters to advertise her business and persuaded her schoolmates to collect their plastic bottles and jars and give them to her.

Question 2:

Reclaimers sort through other people's waste, pick out all the things that can be recycled (like plastics or tins) and sell them for recycling. In this way, they 'rescue' or 'bring back' things that other people have thrown away.

Question 3:

1-C; 2-E; 3-A; 4-D; 5-B

Refer learners to the next section of the worksheet.

Explain:

- If entrepreneurs don't find ways to tell other people about their business, then no one will know about them!
- Marketing is the name we give to the activities that entrepreneurs use to get other people to know about their businesses.
- Advertising is one kind of marketing activity that gives people information about goods and services.

Read this section of the worksheet and refer learners to the Petco poster for them to get ideas for their poster, and also to understand ways in which they can protect the environment and make sure that they are reducing, reusing and recycling. Let learners work in groups to create the poster for Lesedi's business. Let learners complete question 5 of the learner activity in which they use everything they have learned about to make a speech. If you have time, let learners present their speeches to the class and use the speeches as a summative assessment opportunity in EMS. (See rubric on the next page.)

Section A

Senior Phase

Grade 7

Educator Guide

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

Vocabulary:

Waste:	Unwanted things that are thrown away after we have used them.
Litter:	Waste such as paper, cans, and plastic left lying in an open place.
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.
Recycle:	To use waste to remake new goods that can be sold and used again.
Rubbish dump:	A rubbish dump is a place where waste is left in one place on top of the ground.
Landfill:	A landfill is a place where waste is taken to be buried in a big hole in the ground.
Organic material:	Organic material is anything that was alive and is now in or on the soil.
Compost:	Food waste and rotting plants that are used as food for growing new plants and food.
Material:	What something is made from.
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.
Buy-back centres:	Collectors or homeowners 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.
Recycling plant:	A company that buys the recyclable materials from the buy-back centre. Then they make new and useful things from the materials.
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.
Container:	A bowl or tub that holds the product, such as a food container, or a bin used to store waste. Containers are a type of packaging.



Section A Senior Phase Grade 7

Lesedi's Recycling Business Journey

Lesedi lives in a small town in Mpumalanga. Every day, she wakes up early, bathes, gets dressed, and has breakfast with her family, before starting her walk to school. Lesedi had been wanting to ask her parents for a new cell phone for some time, so one morning, she walked into the kitchen, greeted her parents, and asked them if she could please have a new phone.

Her father looked worried, so she asked him what was wrong. Lesedi's father told her that he would not be able to buy her a new cell phone because he had lost his job. Now, he was concerned about how to provide for their family. Lesedi's mother also looked sad, because she didn't know what to say to help her husband feel better.

After breakfast, Lesedi kissed her parents goodbye, and left for school. While she was walking, she thought about what her dad had said. She was upset that she couldn't get a new phone, but she also wanted to help her family in any way that she could.

Lesedi is in Grade 7 at her local school. She loves school and is very excited to be in the Senior Phase of her education. One of Lesedi's new subjects in Grade 7 is Economic & Management Sciences (EMS). EMS is her favourite subject because she wants to be an entrepreneur and start her own business one day. She loves EMS because she is learning real-life skills that she will need to succeed as a business owner.

The sun was shining on her way home from school that day, so Lesedi stopped at a park and sat under a tree to drink her bottle of water. Her thoughts returned to the conversation at breakfast. She wondered how she could help her parents. She thought about buying things to sell but realised that she would need money to do this, and that would be a problem. Lesedi was feeling afraid and helpless.

Lesedi finished her bottle of water and stood up to throw the empty bottle away, before continuing on her walk home. While walking to the dustbin, she noticed that there was litter lying all over the park. This made her angry because she had been learning about how important it is to protect the Earth, and how litter is a real problem for the environment.

When she reached the dustbin, she saw that it was filled with items ('things') that she knew could be recycled including empty plastic bottles. Suddenly, Lesedi had an idea! The problem of plastic cold drink bottles, jars, dishwashing liquid bottles, handwash and bodywash bottles littering the streets and parks was actually an opportunity! She remembered that she had learned about how collectors can make money by collecting items that can be recycled, including empty PET plastic bottles and jars, and selling them at a buy-back centre. Lesedi had seen a few collectors in her small town who would collect recyclable items and put them in their trolleys or bags to take to the buy-back centre. Lesedi realised that this was exactly the opportunity that she was looking for. She would start her own PET plastic collecting business in her town!

This would help solve the problem of PET plastic bottles and jars ending up in a landfill, or in the streets, because they can be collected and recycled to make new and useful things. At the same time, it would also give Lesedi a chance to make money to help her family, and hopefully save up enough money to buy herself a new phone.



Educator Guide



Section A Senior Phase Grade 7

Lesedi remembered that, if the plastic bottle or container had a little triangle with a '1' in it close to the bottom of it, then it was made from PET plastic. She knew that she could sell the bottles at a buy-back centre. She also knew that bottles or containers without the symbol, or with other numbers besides a '1', were not made from PET plastic.

Lesedi looked at all the plastic items lying around the park and ran home to find a large clear plastic bag. She raced back to the park and collected as many of the bottles and jars as she could find. She checked all the bottles and jars to see whether they had the little triangle with a '1' on it and placed these in her bag.

As she continued on her way home, she collected all the plastic bottles and jars that she found lying on the street. By the time she reached her house, Lesedi had collected 12 PET plastic bottles and jars.

Lesedi knew which PET plastic bottles were the easiest to sell. She tried to collect as many as she could that were clear, light blue, brown or green. Lesedi knew that she could get the most money for clear or light blue bottles as these can be recycled and made into brand new PET plastic bottles. She knew that she would get less money for green and brown PET plastic bottles as they can only be made into certain things, but that they were still worth collecting. Although she knew that PET plastic bottles that are dark, brightly coloured, shiny or neon cannot be recycled, she made sure to throw these bottles into the dustbin, if she found them lying in the street.

Most of the PET plastic bottles and jars that Lesedi found had labels on them, but she knew that these could be left on the bottles. If she found PET plastic bottles that had shrink-sleeve labels on, Lesedi still collected these bottles, took the shrink-sleeves off, and placed the sleeves in the dustbin. Lesedi borrowed rubber gloves from her mom and, over the next few days, she collected all the PET plastic bottles and jars that she could find, because she knew that most of them could be recycled. Every day after school, she took a different route home. On each new street, Lesedi collected the PET plastic items that she found lying around. By the end of the first week, Lesedi had collected 60 PET plastic items!

Lesedi carefully sifted through the items and made sure that they were all empty, rinsed and dry. Then, she squashed the bottles and made sure to keep the lids on so that nothing could get into them and so that she could fit more in her bag. Then, she separated what she had collected into two piles - clear and light blue, and, green and brown.

Lesedi knew that this was a wonderful opportunity for her to start her own small business. She set herself a goal of collecting 300 PET plastic items by the end of the month. Lesedi knew that she would need help to reach her goal, so she decided to get her school and community involved in her project. She made brightly coloured posters to advertise her new business. Her posters asked her school friends to please give her all the plastic bottles and jars that they used, instead of throwing them away. She also made posters to encourage her community to do the same and to bring their PET plastic bottles and jars to a drop-off site that she created in her small garden at home.

After a month, Lesedi had collected over 400 PET plastic bottles and jars! Now it was time to go to a buy-back centre so that she could sell them for cash. She contacted Petco and found out that there was a buy-back centre in her town. Lesedi's aunt had a bakkie so she politely asked her to give her a lift, to the buy-back centre. She packed the different coloured PET plastic bottles and jars into separate clear bags, loaded them onto her aunt's bakkie, and jumped into the car. She was so excited to make her first delivery of her collected PET plastic items and receive her hard-earned money for her family!

When Lesedi returned home that afternoon, she was so excited to give her parents the money she had earned! They were thrilled to receive money from their daughter and told her to keep some of the money to start saving for her new cell phone. Lesedi now knew that her business idea could really work! She set herself another goal. She would collect 500 PET plastic bottles and containers to sell at the buy-back centre the next month!



Section A Senior Phase Grade 7

Unlimited wants and limited resources

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

In the story, we read that Lesedi would like her parents to buy her a new cell phone. We also read that Lesedi's father has lost his job and he is concerned about providing for his family. Lesedi *wants* a new cell phone and Lesedi's father is concerned about providing for the *needs* of his family.

1. What is the difference between needing something and wanting something?

2. Make a list of 3 needs and 3 wants in your own life:

I need...

I want...

In the same way that we have personal needs and wants, our country and our communities also have basic needs, for example:

• Basic services (water and electricity)	• Education services (schools and universities)
• Health services (clinics and hospitals)	• Safety services (police and firefighters)
• Transportation services (roads and buses)	• Waste services (sewage and waste removal)

It is very important to know the difference between the things that we really need to live a healthy life and those things that would be nice to have ('wants').

Being able to live in a healthy environment is a very important need. The people that remove our waste help us to keep our environment healthy. Waste refers to all the things that we throw away after we have used them. If we leave our waste in an open place, then it becomes litter. We can do many things to help keep our environment clean and healthy. For example, we can make sure that we don't litter and that we ensure that our waste is turned into something useful that can be used again.

Sometimes, when we fulfil our wants, we end up creating a lot of waste that is bad for our need to live in a healthy environment. Societies have different ways of deciding what their needs are and how to meet them. The problem is that human wants are *unlimited*, but we have *limited resources* to meet our wants. A resource is a thing we use to help us do something.

There are 3 types of resources:

- Natural resources e.g. coal, oil, gold, water and land.
- Human resources e.g. farmers to grow our food and builders to build our homes and schools, and factory workers to make the things we need and want.
- Man-made resources e.g., machines, tools and cars.

Learner Activity 1

Section B

Senior Phase

Grade 7

A limited resource is something that there is not a lot of. Most natural resources are limited. Natural resources are also usually non-renewable. This means that the natural resource cannot be replaced after it is used, like oil or coal. We need to use these resources carefully.

3. Why do you think we need to use limited, non-renewable resources carefully?

If resources are limited and non-renewable, that means that we will probably, eventually, run out of the resource, and we won't be able to make the things that we need and want. Whenever we can, we must reuse these resources so that we don't have to keep using more and more limited natural resources to make new things. A good way to protect limited natural resources and keep your environment healthier is to recycle plastic, paper, metal and glass. Recycling is the processing of materials, that would usually be thrown away as rubbish, and turning them into new materials and products. In this workbook, we will focus on how plastic is recycled.

4. Let's play Bingo! Divide your class into 2 teams. Each team takes turns answering questions. Find your question by rolling the die twice. The first roll is for the number on the left. The second roll is for the number on the top. Ask the other team the question in the square that corresponds to the 2 die numbers. A star means you get that square for free! The first team to get all the answers in a vertical or horizontal row wins!

	1 ↓	2 ↓	3 ↓	4 ↓	5 ↓	6 ↓
1 →	Is Lesedi's cell phone a need or a want?	What is a resource?	★ Free	Give 2 examples of education service needs in a community.	Ask any question.	Give 3 examples of human resources.
2 →	★ Free	Give 2 examples of transportation service needs in a community.	Why is land a limited natural resource?	Ask any question.	What is the difference between a need and a want?	What 4 different types of materials can be recycled?
3 →	Why must we use natural resources responsibly?	Are our wants limited or unlimited?	Ask any question.	Give 3 examples of personal needs that you have.	Give 2 examples of safety service needs in a community.	★ Free
4 →	Ask any question.	Give 3 examples of man-made resources.	What does it mean if a resource is non-renewable?	Do you take the lid off a PET plastic bottle before you put it in the recycling bin?	★ Free	Give 2 examples of waste service needs in a community.
5 →	Give 3 examples of limited natural resources.	★ Free	Give 2 examples of basic service needs in a community.	Why is recycling important?	What are the 3 types of resources?	Ask any question.
6 →	Give 2 examples of health service needs in a community.	Ask any question.	How can Lesedi tell if a bottle is made from PET plastic?	★ Free	What 2 colours of PET bottles could Lesedi get the most money for?	How does recycling save limited natural resources?

5. When Lesedi was trying to get her classmates to recycle, one of the learners said: "Honestly, I don't care. I won't be around in the future." Pretend you are Lesedi. What would she say to the learner? Write a short paragraph in your workbook of Lesedi's answer, or do a role play of the dialogue between Lesedi and her classmate.



Section B Senior Phase Grade 7

Be fantastic; recycle your plastic!

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

In nature, there is no waste. Plants (or 'producers') grow in soil; animals (or 'consumers') eat plants and they are all returned to the soil by 'decomposers'. Everything in nature is recycled. Human beings are also producers and consumers. To produce means to make or do something. To consume means to eat or use something. Unfortunately, unlike in nature, many of the things that humans make and consume end up as waste – in rubbish bins, landfills or the environment as litter.

All businesses are producers because they make goods or offer a service. The customers who buy these goods or services are called consumers. When you buy a sandwich, the person selling you the sandwich is the producer, because they "make" (produce) the sandwich (goods). You are the consumer because you eat (use) the sandwich. In a business, people either work to make and sell goods or they work to provide and sell services that people want or need. Goods (or 'products') are things that we can see, feel and touch, like a chocolate or a bed. Services are provided to meet a need, like a doctor provides medical services or a plumber provides plumbing services.

In her EMS class, Lesedi learned that a healthy environment is a need in a community, just like a clinic or a school. In the story we read that Lesedi looked at the litter in her community and understood that she could start a business to meet the needs of her community and the environment. As we learned in Worksheet 1, the wants of consumers are unlimited, but we have limited resources to meet these wants. One of the biggest problems that we have is that we keep taking more and more raw materials to make them into the things we want and need. We consume the things we make, and when we are finished with them, we throw them away. This is called a linear economy:

1. Look at these 4 terms and write the correct word under each picture to describe a linear economy:

Throw away



Take



Make



Consume



In a linear economy, raw materials are collected and made into goods (or products) that consumers use until throwing them away as waste, without thinking about the effect that this has on the environment. This is why consumers need to act responsibly when they buy goods and when they have finished using the goods. You can be a responsible consumer, by collecting your waste and getting rid of it properly, for example by throwing it away in a rubbish bin. Responsible consumers also follow the 3Rs of waste management: Reduce, Reuse and Recycle.

2. Write the correct 'R' term next to the definition:
R _____ means using materials repeatedly (again and again). For example, you can reuse a plastic peanut butter jar to store rice or dried fruit.
R _____ means lowering the amount of products we use and therefore waste. For example, you can pack your school lunch in a reusable lunch box.
R _____ means turning used materials into new products like PET plastic bottles and jars.



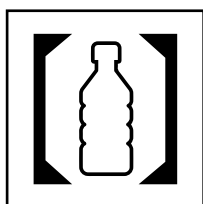
Section B

Senior Phase

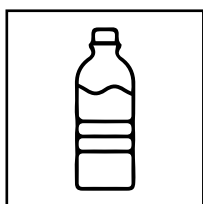
Grade 7

Have you ever wondered how a new plastic bottle is made? Plastic is made from crude oil and natural gas, which are limited natural resources. These raw materials go through a process using energy and water to make lots of small pellets. These pellets are then melted and blown into a mould in the shape of a water bottle or jar. This new plastic bottle or jar is then ready to be filled and sold to consumers.

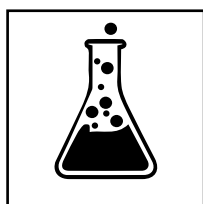
3. Look at these 5 pictures. They show the 5 main steps in how a plastic bottle is made. Place the pictures in the correct order by numbering the pictures from 1 to 5.



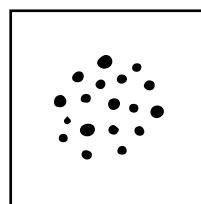
The pellets are melted and moulded.



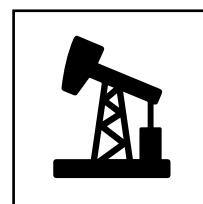
A new bottle is ready to be filled.



The raw materials go through a process.



Pellets are produced.



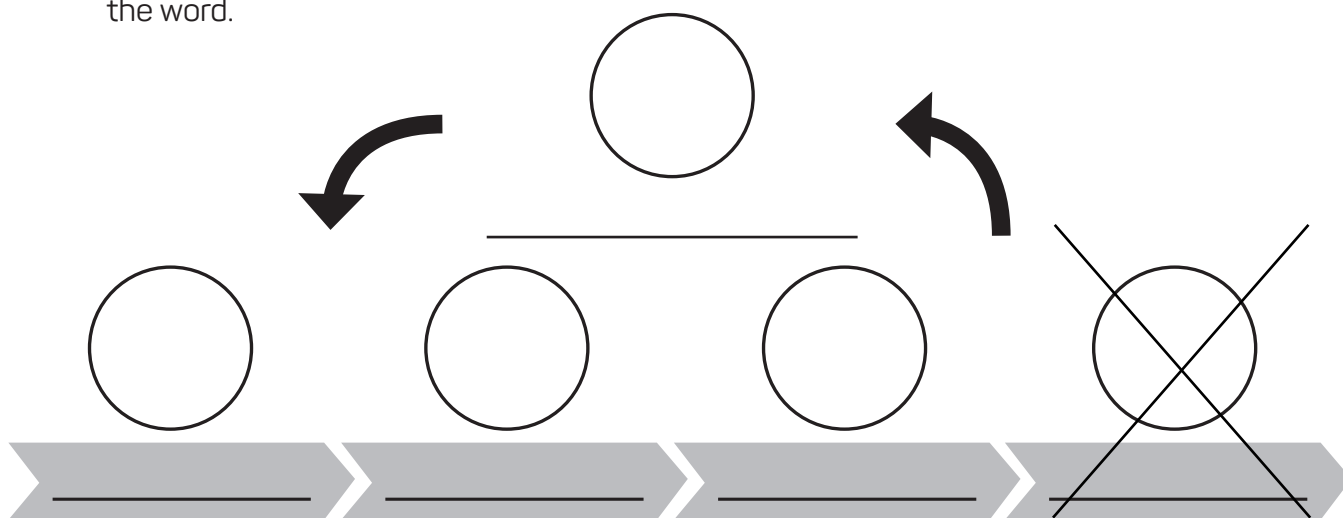
Raw material (crude oil and natural gas) is extracted (taken out) from the Earth.

In a circular economy, we try to waste as little as possible. We keep using resources, by circulating them ('moving in a circle') for as long as possible. For example, instead of throwing things away after we have finished using them, we can recycle them. We can also reuse them, or their parts, to make new things.

Lesedi and collectors play a very important role in a circular economy because, without them, many packaging items would not get repurposed (made into something new) and would end up in a landfill or rubbish dump.

When we recycle, we don't have to use as many natural resources to make the things we need and want. Recycling plastic, like PET plastic, allows the material made from limited natural resources to keep being useful, because the PET plastic is crushed up, washed and made back into pellets. These pellets can then be used to make a whole new PET plastic bottle or jar.

4. Use the information you have learned in this worksheet to complete this diagram of a circular economy. Fill in the missing words and draw a symbol in each circle to describe the word.





Section B Senior Phase Grade 7

Waste it once...pay for it twice!

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

In the story, we read how Lesedi saw a need in her community and turned the need into an opportunity for her to earn money. Entrepreneurs are people who see opportunities, take risks, solve problems, and come up with new products or solutions. That makes Lesedi an entrepreneur!

These are the questions that entrepreneurs ask themselves when starting a business:

- Is there a need or problem in my community that I could solve?
- What are a few ways this problem could be solved?
- How can I take advantage of this opportunity?
- Is there a better way of doing this?
- Would people actually buy my product or use my service?

1. Answer these questions about Lesedi in your workbook:
 - a. What was the need that Lesedi identified?
 - b. How did Lesedi turn the need into an opportunity?
 - c. Who would Lesedi sell her goods to?
 - d. How did Lesedi grow or expand her business idea?

Collectors are also entrepreneurs because, just like Lesedi, they have started their own waste collection businesses, that helps them to earn money. We can call them wastepreneurs! Wastepreneurs are also called 'reclaimers'. Reclaim means 'to rescue or bring back'.

2. Why do you think wastepreneurs are called 'reclaimers'?

'Wastepreneurs need to have many personal characteristics to help them succeed, e.g. being enthusiastic, committed and determined. There are many other characteristics that make a successful wastepreneur.

3. Draw a line between each characteristic of an entrepreneur and its definition:

1. Risk-taker	A. Being positive and thinking about good results.
2. Creative	B. Self-sufficient, don't rely on others.
3. Optimistic	C. Not afraid to do things which aren't guaranteed.
4. Confident	D. Believe in yourself and your abilities.
5. Independent	E. Can invent things and solve problems.
4. Choose three characteristics and find examples in the story that show us that Lesedi is an entrepreneur.

Characteristic	Example

Section B

Senior Phase

Grade 7

In the story, we read how Lesedi made brightly coloured posters to encourage her school friends and members of her community to bring their PET plastic bottles and jars to a drop-off site that she created in her small garden at home. By making posters, Lesedi is marketing her new business.

Marketing is getting people to know about your business, getting them to like your goods or service, and getting them to buy goods from you or use your service. A successful entrepreneur needs to let customers know about their goods or services, to increase awareness of their business and increase their sales.

There are 4Ps that are important in marketing:

Product	This is what is being sold. The product or service should meet a need or want.
Price	This is the cost to buy the goods or use the service. Charging the right price is important because the customer wants value for their money.
Place	This is where you decide to sell the goods or service, like in a shop, or online, or at a market.
Promotion	This is letting people know about your goods or service, usually by advertising.

Advertising is an important part of marketing because it is used to give people information and to get them to buy your goods or use your service. A good advertisement uses the **AIDA** principle:

Attention	The advertisement needs to attract the customer's attention.
Interest	Once the attention has been caught, the advertisement needs to keep the customer interested.
Desire	The advertisement needs to make the customer want the goods or service.
Action	The advertisement must lead the customer to take action and buy the product or use the service.

5. In your groups, use the information in the AIDA principle to create an exciting poster to advertise Lesedi's PET plastic collection business.

Remember that, even though Lesedi is not selling anything, she is still using her poster as an advertisement to make her friends and community become aware of her business, and to get them to take action by bringing their PET plastic bottles and jars to her collection point.

6. Lesedi has been asked to make a 2 - 3-minute speech, at assembly, on her experience as a recycling entrepreneur. Pretend that you are Lesedi. Use everything you have learned about in this workbook and write the speech that you think she would make.

Present your speech to your class.



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