Wizz World of

GRADE 2

General Knowledge







Aligned with Single National Curriculum

Wizz Publishers

Free Sample

PREFACE

Wizz World of General Knowledge for grades I to 3 has been conceptualized, penned, composed and designed by professionals and educators who have vast experience of dealing with subject of science in the past. Our books lie well within the frameworks defined by National Curriculum. The newly introduced National Assessment Framework (NAF), that is now an integral part of National Curriculum Framework (NCF) has been particularly incorporated in Wizz World of General Knowledge Series to make sure that basic purpose of this initiative regarding policy and practice level to improve quality of education is actually met. The quality of education has been further made sure with holistic and cognitive approach that identifies specific areas of learning and development that a today's student requires. The series:

- Guides students in a very simple way how to solve the cognitive tasks by creating a comfortable zone.
- Encourages students to practice and apply concepts.
- Involves students in interactive exercise and activities.
- Help students to create a natural space for thinking through well-planned activities.

WHY WIZZ PUBLISHERS?

Wizz Publishers is the best choice for students because it is:

- Backed by practical experience and critical analysis for over 30 years.
- Developed, designed and printed with the latest and modern techniques.
- Available at economical prices keeping in view the recent economic melt down domestically.
- Based on well-planned activities and systematically developed exercises.
- Helpful for students to develop the 21st century life skills for a bright future.

PROJECT DIRECTOR	:	Muhammad Ahmad
PROJECT CO-ORDINATOR	:	Jawad Tahir
AUTHOR	:	Ms. Iqra Rasheed / Ms. Anam
CREATIVE HEAD	:	Muhammad Asif Hanif
DESIGNER	:	Amir Taj
GRAPHICS		Wizz Arts

Copyright © Wizz Publishers

All rights reserved with Wizz Publishers. No part of this pubication may be reproduced, including interior design, cover design and icons, stored in a retrieval system, or transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise, without the prior written permssion of the copyright holder.

WIZZ PUBLISHERS

A product of AJ Stationers.

Publishers Sample

Wizz World of General Knowledge®

GRADE 2

Contents

Unit 1 — 3
Our Country

Unit 2 — 14
Roles and Responsibilities

Unit 3 — 22
School, Games and Rules

Unit 4 — 30
Good Manners

Unit 5 — 36
Safety

Unit 6 — 44
Religions and Festivals

Unit 7 — 51
Occupations

Unit 8 — 58
Agriculture and Livestock

Unit 9 — 65
Plants and their Importance

Unit 10 — 77
Animals and their Importance

Unit 11 — 89
Matter and Materials

Unit 12 — 100
Heat and Light

Unit 13 — 108
Forces in Action

Unit 14 — 117
Use of Earth Resources

Unit 15 — 128
Conservation of Earth's Resources

Publishers E-Sample

Unit 1

Our Country

Students' Learning Outcomes

All students will be able to:

- Recognise the map of Pakistan.
- Name the provinces and areas of Pakistan (AJK, ICT and GB) of Pakistan.
- Identify the national capital of Pakistan.
- Recognise the national symbols of Pakistan such as the national animal, fruit, flower, bird and sport.
- Recognise the significance of National Flag.
- Identify what the colours and symbols on the flag represents.
- Depict the cultural diversity of all provinces and areas of Pakistan.
- Recognise and draw the flag of AJK.



Pakistan is our beloved homeland. It came into being on 14th August 1947. It is a land of high mountains, green fields, deserts and rivers. From the cold valleys of Gilgit-Baltistan to the sunny beaches of Karachi, every part of Pakistan is beautiful in its own way.

The map of Pakistan shows that our country has four provinces and two autonomous regions, along with our capital city, Islamabad.

Brain Spark!

The word "Pakistan" means "Land of the Pure."

Provinces and Regions of Pakistan

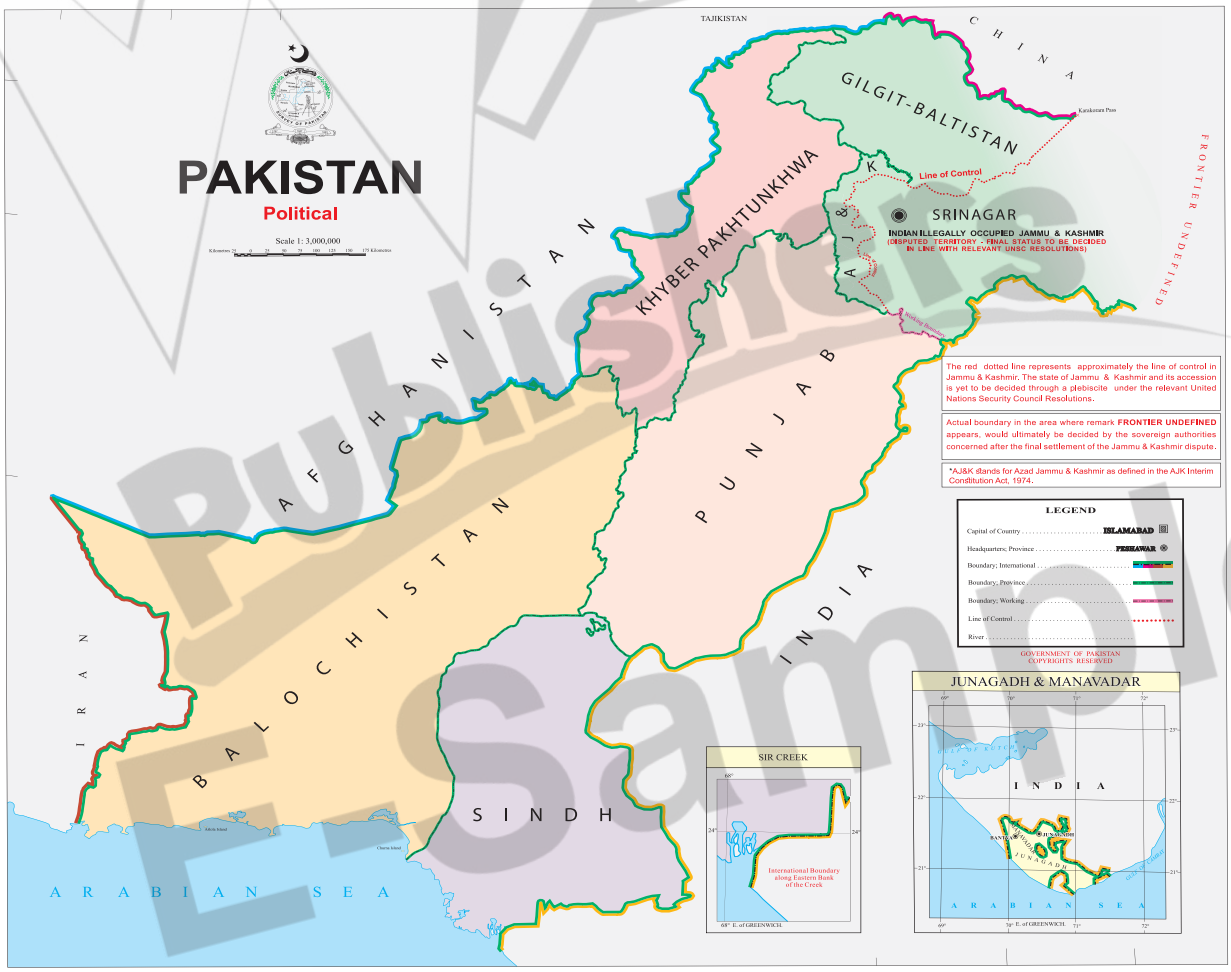
Pakistan has four provinces:

1. **Punjab**
2. **Sindh**
3. **Khyber Pakhtunkhwa (KPK)**
4. **Balochistan**

It also has two autonomous regions, Azad Jammu and Kashmir (AJK) and Gilgit-Baltistan (GB).

Brain Pop!

An autonomous region is a part of a country that can make some of its own rules and decisions.



Publishers Sample

Punjab

- Punjab is the most populated province of Pakistan. Its capital city is Lahore.
- The famous Badshahi Mosque is in Lahore. The people of Punjab are known for their hospitality and lively culture.
- They speak Punjabi and love to eat parathas, lassi and saag.
- The province is famous for its green farms, folk dances (bhangra), and colourful festivals.



Famous Food:
Saag and Makki di Roti



Famous Place:
Badshahi Mosque in Lahore



Festival:
Bhangra

Sindh

- Sindh's capital is Karachi, the biggest city of Pakistan. The tomb of Quaid-e-Azam is situated in Karachi.People speak Sindhi and Urdu.
- Sindh is known for its Ajrak, Sindhi topi (cap) and beautiful handicrafts.
- It is also home to Moenjo-Daro, one of the oldest cities in the world!



Famous Food:
Sindhi Biryani



Famous Place:
Quaid-e-Azam's Mausoleum (Mazar-e-Quaid)



Festival:
Sindhi Cultural Day — people wear Ajraks and celebrate their heritage.

E-Publishers

Khyber Pakhtunkhwa (KPK)

- The capital of KPK is Peshawar.
- People speak Pashto and are known for being brave and kind.
- KPK has beautiful mountains, forests and rivers.
- The people of Peshawar love their traditional Peshawari chappal, which is famous all over Pakistan.
- KPK is also known for its handmade crafts, dry fruits and colourful bazaars like Qissa Khwani Bazaar.



Famous Food: Chapli Kebab



Famous Place: Khyber Pass — an important and historic mountain pass.

Festival: Jashn-e-Khyber — people enjoy local dances, games and songs.



Balochistan

- Balochistan is the largest province of Pakistan by area, and its capital is Quetta.
- People speak Balochi and Brahui.
- It has mountains, deserts, and fruit orchards. Quetta is famous for its delicious apples, cherries and grapes.
- The people wear long robes and turbans and love their folk music and traditions.
- Balochistan is also famous for its beautiful Balochi embroidery (called Balochi Tanka), which is stitched by hand on clothes and fabrics in bright colours.

Publish E-Sample



Famous Food:
Sajji (roasted meat)



Famous Place:
Ziarat (Quaid-e-Azam's Residency)



Festival:
Baloch Culture Day — people perform traditional dances.

Gilgit-Baltistan (GB)

- Gilgit-Baltistan is an autonomous region with snowy mountains and beautiful valleys.
- People speak Balti language.Tourists visit Gilgit-Baltistan to see K2, the world's second-highest mountain.



Famous Food:
Chapshuro (stuffed bread)



Famous Place:
Hunza Valley



Festival:
Jashn-e-Nowruz — people celebrate spring with music and food.

Azad Jammu and Kashmir (AJK)

- AJK is another autonomous region with green valleys, rivers and waterfalls.
- People speak Kashmiri and Pahari languages.
- The capital city is Muzaffarabad.



Famous Food: Gushtaba (meatballs in yogurt gravy)



Famous Place:
Neelum Valley



Festival:
Jashn-e-Neelum — people enjoy songs, food, and games.

Publishers E-Sample

Islamabad Capital Territory (ICT)

- Islamabad is the capital city of Pakistan.
- It is a clean and beautiful city with wide roads, parks and offices.
- The famous Faisal Mosque and Pakistan Monument are situated in Islamabad.



Famous Food:
Seekh Kebabs and Parathas



Famous Place:
Faisal Mosque



Festival:
Pakistan Day (23rd March) celebrated with flag hoisting and parades.

Our National Symbols

- Every country has special things that represent it, these are called national symbols.
- They remind us of our love, pride, and unity as Pakistanis.



National Flag:
Green and white flag with a crescent and star.



National Anthem:
"Qaumi Tarana" — our song of pride.



National Language:
Urdu — spoken and understood across Pakistan.

Publishers
E-Sample



National Animal:
Markhor — a wild goat with twisted horns.



National Bird:
Chakor (Partridge) — a pretty bird found in the hills.



National Flower:
Jasmine — white, fragrant, and beautiful.



National Fruit:
Mango — the sweet king of fruits.



National Sport:
Hockey — Pakistan has won many world cups in it.



National Monument:
Minar-e-Pakistan — built in Lahore to remember the Pakistan Resolution.



National Dress:
Shalwar Kameez — worn by men and women across the country.

Our National Flag

- Our national flag has two colours: green and white.
- The green part represents Muslims.
- The white part represents minorities.
- The crescent shows progress and the star stands for light and knowledge.



Do YOU KNOW?

The flag of AJK has green and white stripes with a crescent, star and yellow part showing peace and freedom.
When we see our flags waving, we feel love and pride for our country.

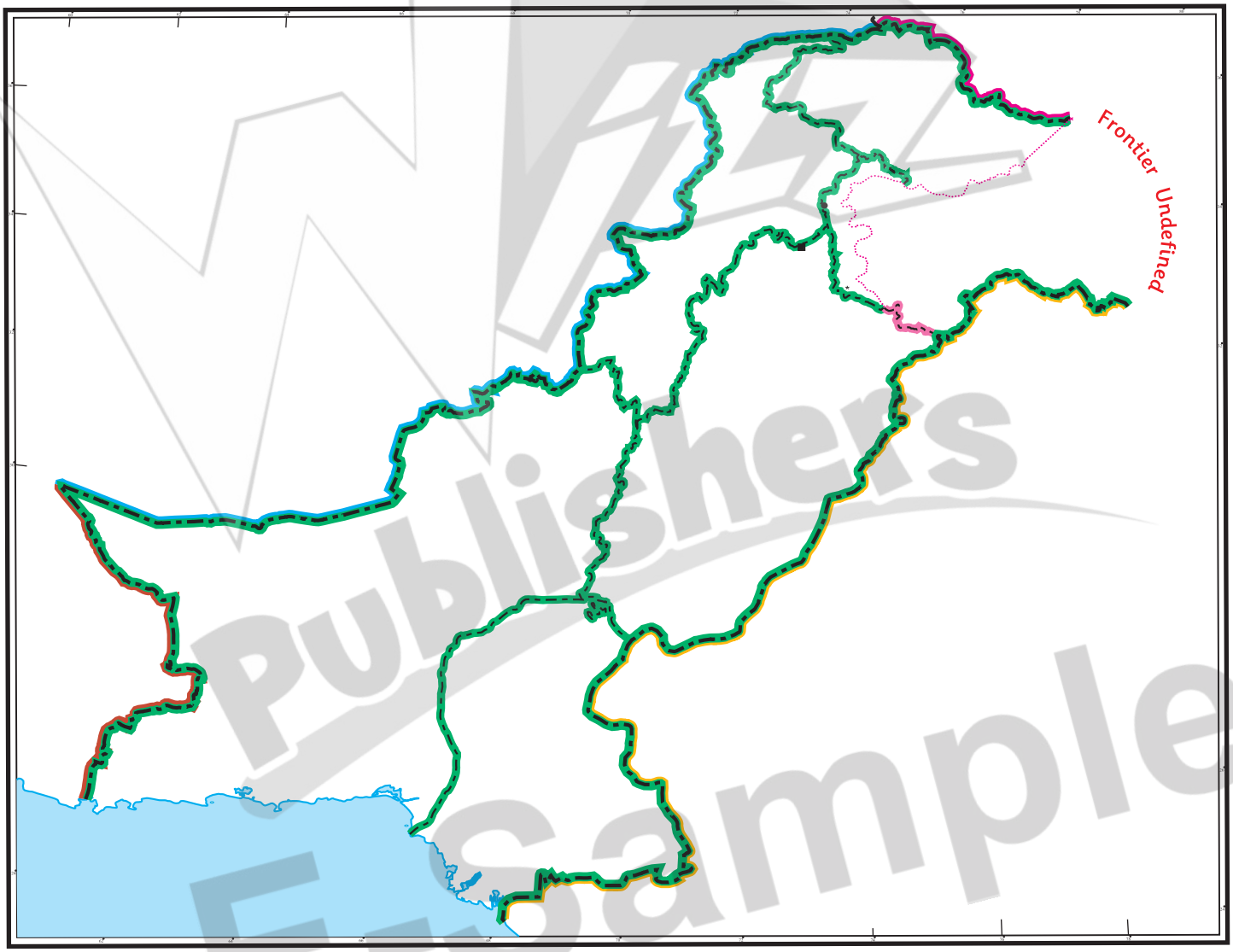


Publishers E-Sample

Check Point

1 Label the map

1. Label the four provinces and two autonomous regions of Pakistan on the given map.
2. Mark and name the capital city (Islamabad).
3. Colour the province or region you live in.



Wizz Publishers
E-Sample

2 Choose the correct answer.

i. Pakistan has provinces:

a. Two b. Three c. Four

ii. Our national anthem is:

a. Qaumi Tarana b. Milli Tarana c. Milli Nagma

iii. Our national flower is:

a. Rose b. Sunflower c. Jasmine

iv. Faisal Mosque is in:

a. Lahore b. Islamabad c. Karachi

v. The capital city of Azad Jammu and Kashmir is:

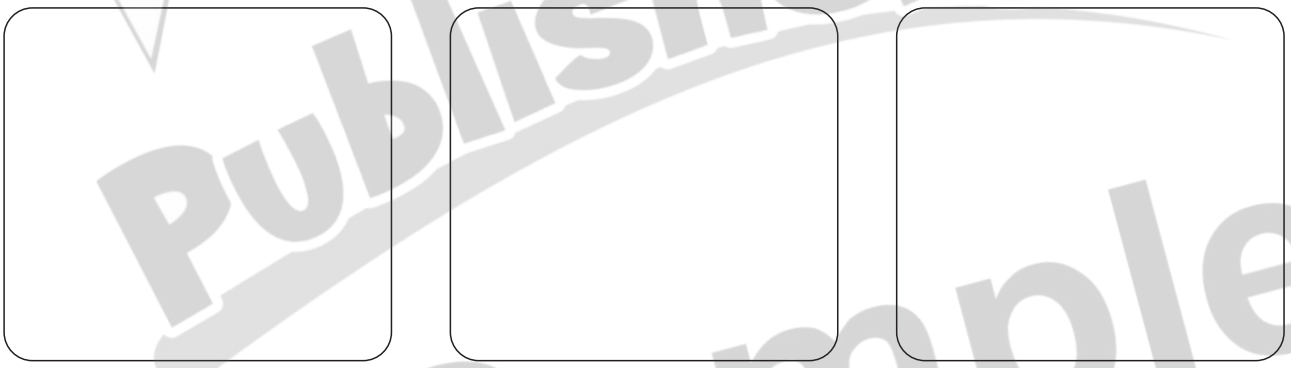
a. Quetta b. Karachi c. Muzaffarabad

vi. The most populated province of Pakistan is:

a. Sindh b. Punjab c. Balochistan

3 Creative corner

Draw or paste pictures of three national symbols of Pakistan in the box below.
Write their names under each picture.





Teacher's Note

Encourage students to choose symbols they like — such as the Markhor, Mango, Jasmine, or Flag.

Publishers ® E-Sample

4 Fill in the blanks with the help of word bank.

WORD BANK green | ajrak | markhor | Islamabad | jasmine

i. The national flag of Pakistan is _____ and white.

ii. The capital of Pakistan is _____.

iii. The national flower of Pakistan is _____.

iv. People of Sindh love to wear _____ and Sindhi topi.

v. The national animal of Pakistan is _____.

Brain Spark!

Whole class discussion: Why do you think it is important to respect and celebrate the different cultures of Pakistan?

5 Match and learn.

Match each province or region with something famous from there:

Column A	Column B
Punjab	Peshawari chappal
Sindh	Hanna Lake
KPK	Ajrak
Balochistan	Badshahi Mosque
Gilgit-Baltistan	Neelum Valley
AJK	K2

6 Answer the following questions.

i. When did Pakistan come into being?

Publishers E-Sample

ii. How many provinces does Pakistan have?

iii. Name the two autonomous regions of Pakistan.

iv. What do the colours on the national flag represent?

v. Name any two national symbols of Pakistan.

vi. What is the capital city of Pakistan?

vii. What makes Pakistan colourful and unique?

Publishers
E-Sample

Unit 3

School, Games and Rules

Students' Learning Outcomes

All students will be able to:

- Recognise that people of Pakistan live in different type of areas (villages, cities, towns and kachi abadis).
- Differentiate between lifestyle of people living in different areas (villages, cities, towns and kachi abadis).
- Identify some common professions and occupations in Pakistan (farmer, butcher, cobbler, teacher etc.).
- Recognise that people from different areas, religions and cultures can be friends.
- Identify key characteristics of different types of areas (buildings, facilities, environment and the work people do).
- Research (through oral investigation) about different professions that exist in Pakistan.



Pakistan is a big and beautiful country. People live in many different kinds of areas like villages, towns, cities and kachi abadis.

Each place is special in its own way. The houses, roads, schools and jobs can be different, but the people of Pakistan all share the same love for their country.

Lifestyle of People Living in Different Areas of Country

Life in a Village



Villages are quiet and full of green fields. Most people grow crops or look after animals. Houses are usually made of bricks or mud.

People know each other well and help one another. Children often go to nearby schools and families get water from wells or hand pumps.

Brain Spark!

Many villages have weekly markets called mandis where people buy and sell fruits, vegetables and animals.

Life in a Town



Towns are smaller than cities but busier than villages. There are schools, shops, markets and small factories. People work as teachers, shopkeepers, tailors or mechanics.

Towns have more roads and buses and people can easily travel to nearby villages or cities.



Life in a City

Cities are large and crowded. There are tall buildings, offices, hospitals and big schools. Many people work in banks, offices or stores.

Life is busier in cities, people use cars, buses and motorcycles to move around.

Publishers Sample

Cities have more facilities like parks, hospitals and shopping malls.

Brain Pop!

Karachi is the biggest city in Pakistan, it is also near the sea!

Life in Kachi Abadis



Kachi abadis are areas where people build small homes close together, usually on unused land in cities.

People work hard every day, some work as helpers, cleaners, or labourers. Even though houses are small, families try to keep them neat and clean.

Children here also go to school and dream of a bright future.

People at Work

In Pakistan, people do many different kinds of jobs.
Some work on land, some teach, some make shoes, and some cook or clean.
Every job is important and helps our country grow.
People in villages mostly work on farms. They grow crops, look after animals and make things by hand. Farmers, milkmen and carpenters are very important in villages.

People in cities do many other kinds of work. They work in offices, shops, factories, hospitals and schools. You can see doctors, teachers, shopkeepers and drivers busy in their jobs every day.

Even though the work is different, all jobs are needed. Farmers grow food, drivers bring it to markets and shopkeepers sell it. Everyone's work is connected, when we all do our part, our country becomes stronger and happier.

Teacher's Note

Discuss with students how people in kachi abadis deserve the same respect and kindness as everyone else.

Publishers E-Sample



Farmer:
grows food for everyone.



Teacher:
helps children learn.



Cobbler:
repairs shoes.



Butcher:
sells meat.



Doctor:
treats sick people.



Carpenter:
Woodwork



Tailor:
stitches clothes.

Brain Spark!

Whether someone works in a big city or a small village, their hard work helps Pakistan shine!

Friends from Everywhere

People in Pakistan speak different languages, follow different religions, and live in different areas, but we can all be friends!

In Sindh, people may speak Sindhi. In Punjab, many speak Punjabi. People in Khyber Pakhtunkhwa speak Pashto and in Balochistan, many speak Balochi, but when we meet, we greet each other with a smile.

We enjoy learning about each other's festivals, clothes, foods and customs. When we share these things, we understand one another better.



For example, a child from Karachi might share biryani, and a friend from Peshawar might share chapli kebab. A friend from Hunza might tell stories about mountains, while one from Multan might talk about mangoes!

Publishers E-Solve

Even though we are different, we respect, help and care for one another, that is what makes Pakistan a strong and happy country.



Brain Bounce!

No matter where we live, in the mountains of Gilgit-Baltistan, the deserts of Sindh, or the fields of Punjab, we are all one family called Pakistan!



1 Choose the correct answer.

i. Towns are smaller than:

a. Villages b. Countries c. Cities

ii. Cities are large and:

a. Green b. Small c. Crowded

iii. Cobbler repairs our:

a. Clothes b. Shoes c. Houses

iv. In Sindh, people speak:

a. Punjabi b. Pashto c. Sindhi

v. Carpenters do work with:

a. Biggest b. Smallest c. Medium

vi. Karachi is the city of Pakistan:

a. Wood b. Iron c. Cotton

Publishers
E-Sample

2 fill in the blanks.

WORD BANK treat | many | learn | busy | crops

i. Life is _____ in cities.

ii. Doctors _____ sick people.

iii. Farmers grow _____ for us.

iv. People in Pakistan speak _____ languages.

v. Teachers help children to _____.

3 Identify the area and write the name under each picture.






_____ _____ _____ _____

4 Match the job to the person who does it.

Grows crops | Teaches children | Repairs shoes | Sells meat | Stitches clothes







Publishers Sample

5 Draw your home or neighbourhood in the box below.



6 Write 2–3 sentences about where you live (village, town, city, or kachi abadi) and what makes it special.

Publishers
E-Sample

7 Answer the following questions.

i. Which place has tall buildings and big roads?

ii. Who grows food for us?

iii. What makes us united?

iv. What do you like about the place where you live?



Activity

i. **Think and Tell:** What job would you like to do when you grow up? Share it with your class.

ii. **Community Helpers Chart:** Make a chart of five people who help in your area (like a doctor, postman, driver, shopkeeper, or sweeper). Paste pictures or draw them.

iii. **Interview Time:** Ask your parents or grandparents what kind of place they grew up in — a village, a town, or a city — and what their life was like. Share their story with your class.

Publishers E-Sample

Unit 5

Safety

Students' Learning Outcomes

All students will be able to:

- Identify some traffic rules.
- Identify the safety rules that they should follow while walking on the road, crossing on road, travelling by a bus etc.
- Recognise the role of a government and identify some goods and services that the government provides for the people (health, education, clean water, infrastructure, utilities, safety and security, parks and playground etc.).



Staying Safe on the Road

Every day, many people travel on roads like walking, riding bicycles, or going in cars and buses.

To stay safe, we must follow traffic rules. These rules help prevent accidents and keep everyone safe.

Traffic Rules

Traffic rules tell us what to do when we are on the road.
Here are some important ones:



Always walk on the footpath.



Cross the road at the zebra crossing when the signal is red for cars



Wait for the green light before crossing.



Do not run or play on the road.



Wear a seat belt when in a car.



Wear a helmet when riding a bicycle or motorcycle.

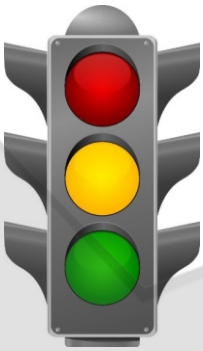
Wizz Publishers E-Sample

Follow traffic lights:

Red means Stop

Yellow means Get Ready

Green means Go



Brain Spark!

Traffic lights help cars and people take turns, just like we do in class!

Safety While Walking and Travelling

When we go outside, we must take care of ourselves and others.

While Walking:



Walk on the footpath, not the road.



Hold an elder's hand when crossing.



Look right, left and right again before you cross.

While Travelling in a Bus or Car:



Stand in line while waiting for the bus.



Do not push or shout.



Sit properly inside the bus.

Wizz Publishers E-Sample



Never put your hand or head outside the window.



Get off only when the bus stops completely.

Brain Spark!

Safe behaviour shows we care about ourselves and others on the road!

Our Government and Its Work

The government helps take care of the people and keeps the country running smoothly.

It makes rules, builds things and provides services that everyone uses.Some things the government provides:



Schools and education so children can learn.



Hospitals and doctors for health care.



Clean water and electricity for homes.



Roads and bridges to travel easily.



Police for safety and firefighters to help in danger.



Parks and playgrounds for fun and relaxation.

We must follow rules, respect public places, and keep them clean, this is how we help our government.

Brain Glow!

When we obey laws and care for public places, we become good citizens of Pakistan!



1 Choose the correct answer.

i. To stay safe on the road we must follow:

a. Traffic rules b. School rules

ii. Always walk on the:

a. Road b. Footpath

iii. Cross the road at the:

a. Zebra crossing b. Footpath

iv. Red traffic light means:

a. Stop b. Go

v. Stand in _____ while waiting for the bus.

a. Line b. Crowd

vi. To become a good citizen, we shole obey:

a. Crime b. Laws

2 Fill in the blanks with the help of word bank.



seat | hand | traffic | travel | doctors

i. _____ rules tell us what to do when we are on the road.

ii. Wear a _____ belt when you are in the car.

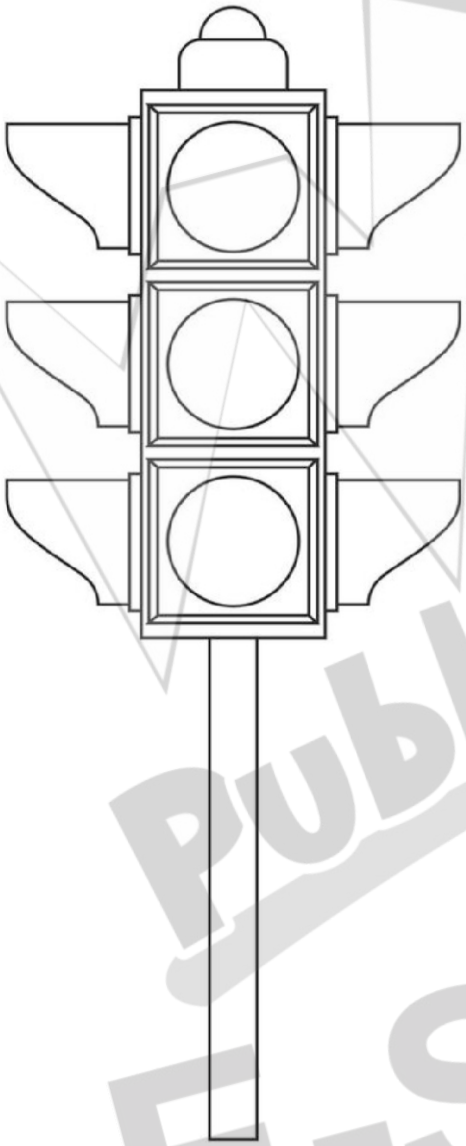
Publishers E-Sample

iii. Government build road and bridges to _____ easily.

iv. _____ and hospitals are for health care.

v. Always hold elder's _____ while crossing road.

3 Colour and label the traffic lights.



_____

_____

_____

Wizz Publishers E-Sample

4 Match it right

Draw lines to match each picture or word:

Column A	Column B
Walk here safely	
Wait in line and sit quietly	
Follow the colours	
Wear it for safety	
Given by the government	

5 Draw and tell

Draw a picture of one service a government provides (like a school, hospital or park). Write one line about how it helps people.

_____

_____

Publishers E-Sample

6 Safety star

(✓) the correct behaviours and (✗) the incorrect behaviours.



☐



☐



☐



☐



☐

7 Answer the following questions.

i. Why should we follow traffic rules?

ii. How does the government help us stay safe and healthy?

iii. What can you do to stay safe on road?

Teacher's Note

Encourage students to:

- Observe road signs on their way to school.
- Discuss real-life helpers like policemen, doctors, and teachers.
- Role-play "Safe Walking" or "Bus Behaviour" in class.
- Visit a nearby park or government building (if possible) for a short observation activity.

Publishers
Sample

Unit 7

Occupations

Students' Learning Outcomes

All students will be able to:

- Identify some professions from pictures (teaching, business, farming, medicine etc.).
- Recognise the role of some professions in their daily lives.
- State which profession they like the most and why.
- Recognise professional achievements of celebrated Pakistanis including women/ minority groups/ differently abled groups.



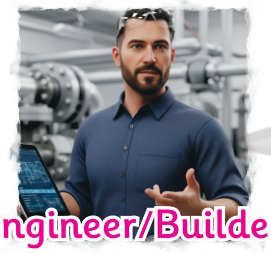
- Every person works in some way to help their family and community.
- The kind of work people do is called their **occupation** or **profession**.
- Occupations help our country grow and make our lives easier.

People and Their Work

There are many kinds of jobs around us. Each one is important!

Profession	What They Do	How They Help Us
 Teacher	Teaches students in school	Helps us learn and gain knowledge
 Farmer	Grows crops and takes care of animals	Provides us with food
 Doctor	Treats sick people	Keeps us healthy
 Mechanic	Repairs cars and machines	Helps things work again
 Policeman	Protects people and maintains peace	Keeps us safe

Publishers E-Sample

Profession	What They Do	How They Help Us
 Shopkeeper	Sells goods and runs shops	Provides us with daily things
 Engineer/Builder	Builds roads, bridges and buildings	Develops our cities
 Chef/Baker	Cooks tasty food	Makes us happy with meals!

Brain Spark!

Every job, big or small, is valuable because it helps others.

People Who Inspire Us

Pakistan is proud of many hardworking and talented people from different fields:



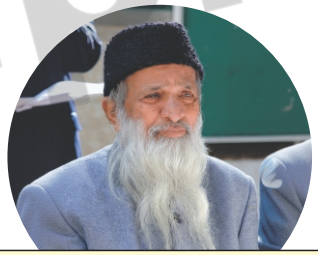
Dr. Abdul Qadeer Khan

He was a great scientist who helped Pakistan become strong and safe.

He is known as the "Father of Pakistan's Nuclear Program."

He spent his whole life helping the poor, sick and needy people.

He built hospitals, orphanages and the largest ambulance service in Pakistan.



Abdul Sattar Edhi

Publishers E-Sample



Muniba Mazari

She is an artist and motivational speaker who inspires people to be strong.

Even though she uses a wheelchair, she shows that courage can overcome anything.

She was a Christian doctor who came from Germany to help people in Pakistan.

She treated thousands of patients with leprosy and was called the "Mother Teresa of Pakistan."



Ruth Pfau

These people showed that with hard work and care, anyone can make a difference.

My Dream Job

Everyone has a dream job. Some want to be **teachers** to spread knowledge. Some want to be **doctors** to heal people. Others may want to be **artists**, **pilots** or **engineers**.

Think and Write:

What do you want to be when you grow up? and why?

Publishers
E-Sample

We All Work Together

Just like the parts of a machine work together, people with different jobs help the community run smoothly.

A farmer grows food, a driver brings it to the shop, and a shopkeeper sells it.

Everyone's role is connected!

Brain Bounce!

Can you name three people whose work helps you every day?
(Think: teacher, doctor, garbage collector...)



1 Choose the correct answer.

i. Teachers teach students in
   a. Hospitals b. Schools

ii. _____ grows crops and take care of animals.
   a. Farmer b. Doctor

iii. Doctor treats _____ people.
   a. Healthy b. Sick

iv. _____ cooks tasty food.
   a. Shopkeeper b. Chef

v. _____ spend his life helping the poor, sick and needy people.
   a. Dr. Abdul Qadeer Khan b. Abdul Sattar Edhi

vi. The work people do is called their:
   a. Occupation b. Unemployment

Publishers
E-Sample

2 Fill in the blanks with the help of word bank.



farmer | profession | teacher | Abdul Qadeer Khan

i. The kind of work people do is called their _____.

ii. A _____ teaches students.

iii. A _____ grows food for us.

iv. Dr._____ was a famous scientist.

3 Match the profession to what they do.

Profession	What they do
Doctor	Teaches children
Farmer	Helps sick people
Teacher	Grows crops
Police officer	Maintains law and order
Shopkeeper	Sells goods

4 Answer the following questions.

i. What is an occupation?

_____

Publishers E-Sample

ii. How do teachers help us?

iii. Name one famous person from Pakistan and what they did.

vi. Why are all jobs important?

v. Which profession would you like to choose and why?



Activity

"Our Community Helpers Chart"

Make a collage or drawing showing five people who help your community, like a teacher, doctor, cleaner or driver. Write one line under each about how they help.

Publishers E-Sample

Unit 9

Plants and their Importance

Students' Learning Outcomes

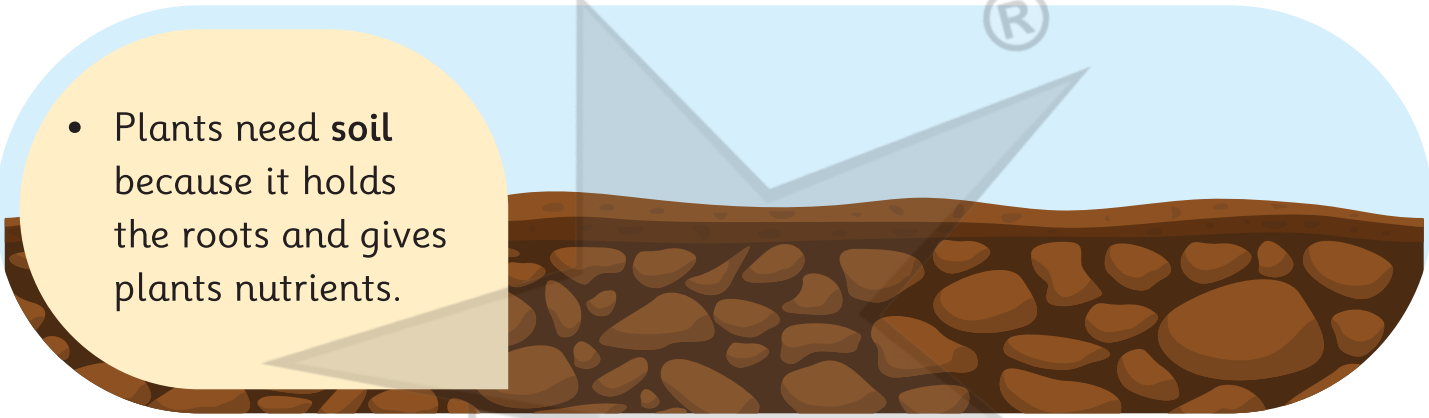
All students will be able to:

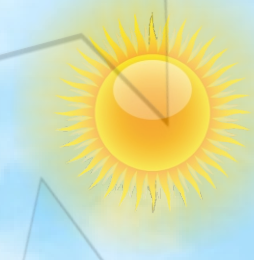
- Identify that soil, light, air and water are needed to grow a plant.
- Recognize that plants make their own food in the presence of sunlight.
- Identify major parts of a plants (root, stem, leaf and flower).
- List the functions of roots, stem, leaf and flower.
- Identify different shapes of leaves found around them.
- Identify that the roots, stems, flowers and leaves are eaten by people.
- Identify the fruits which have seeds in them.
- Recognize that some plants grow from seeds while other grow from stem or roots.
- Highlight the importance of plants for a clean environment.



Plants are living things, and they need good soil, light, air and water to grow strong and healthy.

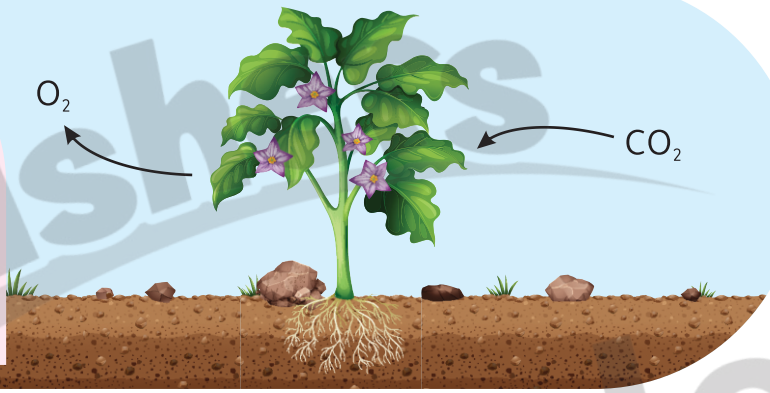
- Plants need **soil** because it holds the roots and gives plants nutrients.

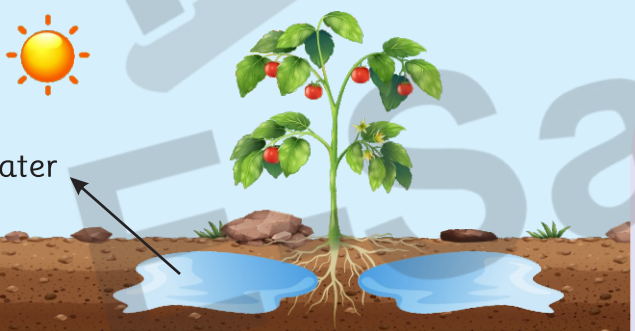




- Plants need **sunlight** to make their own food. Without sunlight, plants become weak and cannot grow properly.

- Just like humans plants also need **air** to breathe. They take in carbon dioxide from the air and release oxygen.





- Plants need **water** because water contains important nutrients. Plants absorb water through their roots.

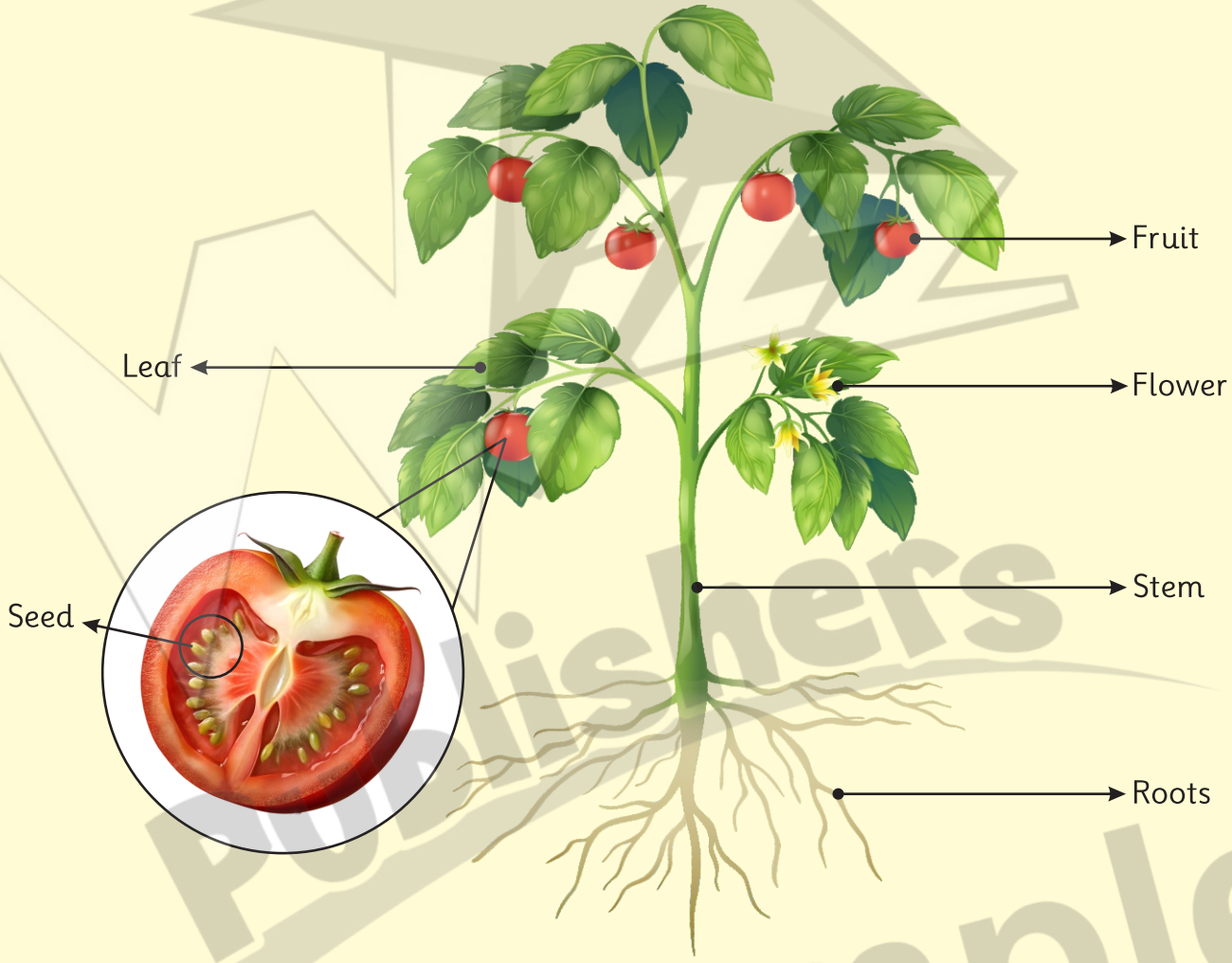
Wizz Publishers ® Sample

Plants are nature's food factories because they can make their own food through the process called photosynthesis.

Plants take in sunlight, air, and water to prepare food in their leaves. At the same time, they give out oxygen which is important for humans and animals to breathe.

Parts of a Plant

Plants have following major parts, each with a specific function. Let's learn about them:



a. Roots

Roots grow underground and their functions include:

- Absorbing water and minerals from the soil.
- Anchoring the plant in the soil.
- Storing food for future use.

Wizz Publishers E-Sample

b. Stem

The stem supports the plant and connect roots to the rest of the plant. It serves the following purposes:

- Transporting water and nutrients from the roots to the leaves and flowers.
- Carrying food made in the leaves to other parts of the plant.
- Providing support to hold the plant in upright position.

c. Leaves

Leaves are green, flat structures that grow from the stem. They are the site of photosynthesis and gas exchange (taking in carbon dioxide and releasing oxygen).

Different shapes of leaves

Leaves are of many shapes and sizes. If you look around, you will see that different plants have different types of leaves. Here are some common leaf shapes:



Round leaves



Star-shaped leaves



Needle-shaped leaves



Heart-shaped leaves

d. Flowers

Flowers are the reproductive part of flowering plants, their function includes:

- Producing seeds for reproduction (process of producing off-springs of their own kind).
- Developing fruits that protect seeds.

e. Fruits and Seeds

Some plants produce fruits, which contain seeds. Main roles of fruit includes:

- Protecting the seeds inside.

Publishers E-Sample

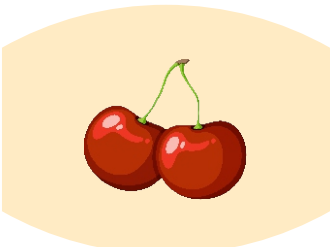
Ensuring the growth of new plants when the seed begins to grow.

- Fruits have seeds in them. Some have one seed, while others have many seeds.

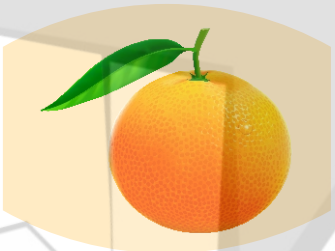
Fruits with one seed

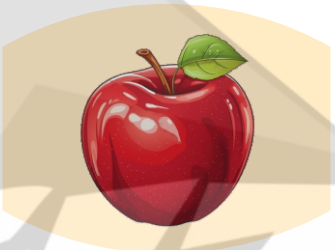

Mango


Peach


Cherry


Plum


Orange


Apple

Fruits with few seeds

Fruits with many seeds


Watermelon


Papaya

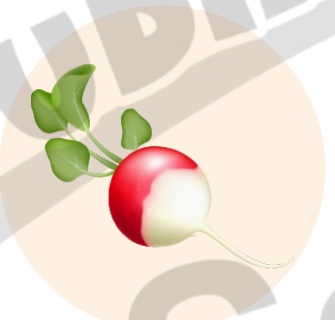

Pomegranate

Edible plant parts

Different parts of plants are used as food. Let's learn about them:

- Some plants have **roots** that are big and store food. Examples include:


Carrot


Radish


Beetroot


Sweet potato



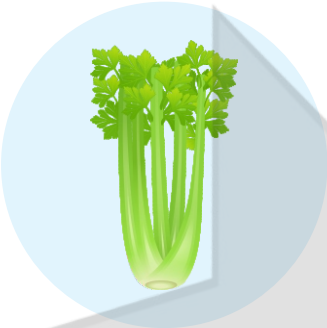
Teacher's Note

Explain to the students that fruits have seeds from which a new life cycle starts. Some fruits have only one seed, while others have many seeds.

Publishers E-Sample

- Some plant **stems** are soft and full of water and nutrients. Examples include:


Sugarcane

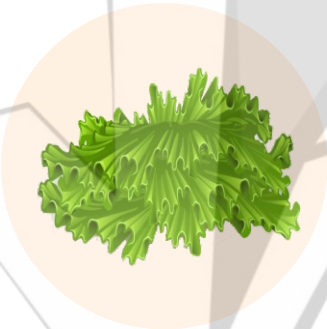

Celery


Ginger

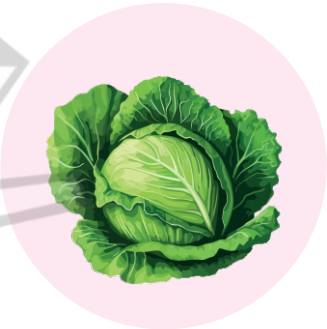

Potato

- Green **leaves** are good for health. Examples include:


Spinach


Lettuce


Coriander


Cabbage

- Some **flowers** are also used as food. Examples include:


Cauliflower


Broccoli

Importance of plants for a clean environment

Plants are very important for us and environment.

- They give us oxygen.
- They clean the air.
- They keep the Earth cool.
- They help save water.
- They make the Earth beautiful.



Publishers E-Sample

Check Point

1 **Choose and write the correct option.**

i. Where do plants get their energy from?

a. Moon
b. Sunlight
c. Air
d. Soil

ii. Spinach and lettuce are examples of _____ that we eat.

a. leaves
b. stems
c. roots
d. flowers

iii. Which of the following is a root vegetable?

a. Tomato
b. Radish
c. Ginger
d. Celery

iv. Plants prepare their own food by the process called _____.

a. photosynthesis
b. respiration
c. germination
d. reproduction

v. Which of the following plant have one seed?

a. Mango
b. Apple
c. Orange
d. Papaya

2 **Read the statement carefully. Identify and write name of plant part in the space provided.**

i. They grow underground, their function is to absorb water and minerals from the soil. _____

ii. It supports the plant and connects the roots to the leaves. It also provide support to hold the plant upright. _____

Publishers E-Sample

iii. They are green, flat structures that play a vital role in photosynthesis.

_____

iv. They are the reproductive part of a plant. _____

v. They protect the seed and ensure the growth of a new plant. _____

3 Answer the following questions.

i. Name four things that plants need to grow.

- _____
- _____
- _____
- _____

ii. How do leaves help the plants?

_____

_____

_____

iii. Why are flowers important?

_____

_____

_____

_____

Wizz Publishers E-Sample

4 Sort the following into the correct column.

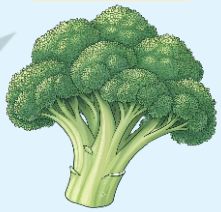
Carrot



Onion



Broccoli



Cauliflower



Celery



Spring onion



Beans



Tomato



Lettuce



Plant parts	Examples
Roots	
Flowers	
Stem	
Fruits and Seeds	
Leaves	

Publishers E-Sample

5 **Design a Plant:** Use the box below to design your own plant. What shape will the leaves be? Which colours will you choose to make the plant? Do not forget to lable it.



Wizz Publishers Sample

Let's Do It

Objective: To observe the effects of soil, light, air, and water on plant's growth.

What we need:

- 5 small plant pots
- Soil
- Seeds (bean or sunflower seeds work well)
- Plastic wrap
- Marker



What to do:

- Divide the class into five groups and provide each group with the needed supplies.
- Label the pots as follows:
  - ✓ Pot 1: "Control" (Provide soil, water, air, and sunlight)
  - ✓ Pot 2: "No Soil" (Seed placed on a wet paper towel without soil)
  - ✓ Pot 3: "No Water" (Soil and seed, but no water)
  - ✓ Pot 4: "No Sunlight" (Soil, water, but kept in a dark place)
  - ✓ Pot 5: "No Air" (Soil, water, and sunlight, but covered with a plastic wrap tightly)
- Plant the seeds in pots as per their labels.
- Water only the pots that require water. (Pot 1, Pot 4, Pot 5).
- Place the pots in their respective locations. (the "No Sunlight" Pot 4 should be kept in a dark place)
- Observe and record what happens over 7-10 days.



Publishers Sample

i. Write down your expected results of seed germination.

Pot 1: "Control"

Pot 2: "No Soil"

Pot 3: "No Water"

Pot 4: "No Sunlight"

Pot 5: "No Air"

ii. Write down your conclusion.

Wizz Publishers
E-Sample

Unit 11

Matter and Materials

Students' Learning Outcomes

All students will be able to:

- Recognize some common materials such as wood, plastic, metal, glass, rock, paper and
- fabric.
- Identify the materials used in some of the objects around them.
- Explore colour, hardness, texture, sink/floats of the materials.
- Differentiate between the natural and man-made materials.
- Explore properties of materials with respect to elastic/ non-elastic, magnetic/ non-magnetic.



Materials around us

A material is something that is used to make something else. Everything around us like clothes, furniture and toys are made from different materials such as fabric, wood, plastic, or glass. Each material has special qualities that make it useful. For example, rubber is soft and stretchy, so it is used for tires. Glass is clear and hard, making it perfect for windows.

Let's learn about some common materials and where we can find them.

- Wood comes from trees. It is strong and is used to make furniture and houses.



Furniture



House

- Plastic is a very light material. We use it to make water bottles, toys and many more things.



Bottle



Lunch box



Toys

- Metal is shiny and strong. It is used to make coins, keys and car parts.



Coins



Keys

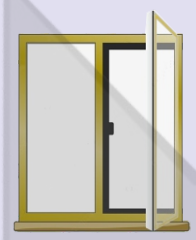


Car

Publishers
E-sample

- Glass is clear and smooth. It is used for making windows, mirrors and drinking glasses.

Glass


Window

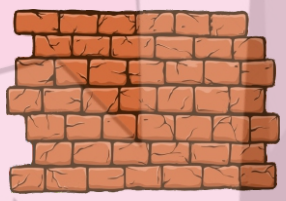

Mirror


Glass

- Stone and rocks are hard and come from the ground. They are used to build roads and walls.

Stone and rocks


Road

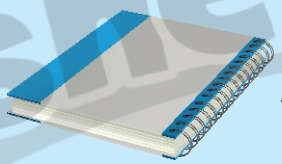

Wall


Stones

- Paper is light and soft. It is used in books and newspapers.

Paper


Books


Note book



Newspaper

- Fabric is soft and can be colourful. It is used to make clothes, curtains and blankets.

Fabric


Clothes


Curtain


Blankets

Publishers
Sample

Natural and Man-Made Materials

Materials can be grouped into two main types:

- **Natural materials**

These materials come from nature. They are found in plants, animals, or the Earth and are not made by humans. **Examples include:**


Wood


Cotton


Leather


Stone

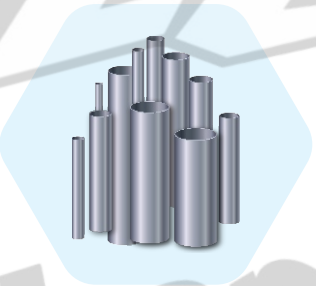

Clay

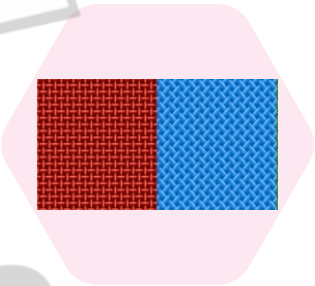
- **Man-made materials**

These materials are made by humans by changing natural materials. Examples include:


Plastic


Glass


Steel


Synthetic fabric

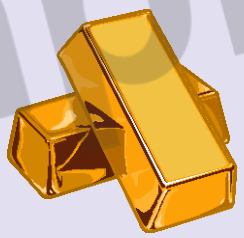
Properties of materials

Materials have different properties that help us decide how and where to use them. Let's explore some of them:

- **Colour**

Materials come in different colours.


Wood is brown in colour.


Gold is yellow in colour.

Publishers
E-Sample

Hardness

Hardness tells us how easily a material can be scratched or broken.

Hard materials are strong and do not break easily.
Examples:

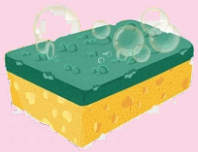

Metal

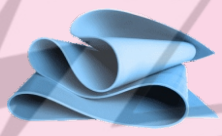

Glass


Stone

Soft materials can be easily bent, cut or scratched.
Examples:


Cotton


Sponge


Rubber

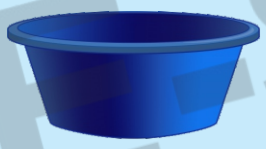
Texture

Texture is how a material feels when we touch it. Texture can be smooth or rough.

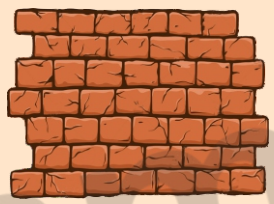
Smooth materials feel soft and even.
Examples:


Polished wood


Glass


Plastic

Rough materials feel bumpy or uneven.
Examples:


Bricks


Sponge


Sand paper

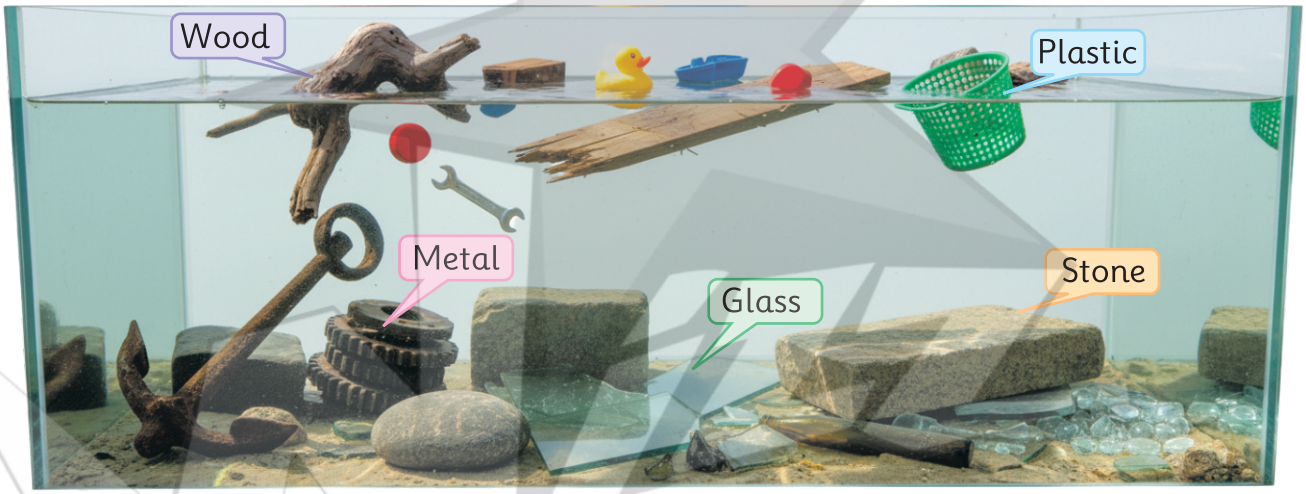
Publishers ESample

Sink or Float

Some materials float in water, while others sink.

Floating materials like wood and plastic are light and float over water.
Examples:

Sinking materials like metal, stone and glass are heavy and sink in water.
Examples:



Elasticity

It is the ability of a material to stretch and return to its original shape. Materials like rubber and elastic can stretch but materials like wood and metal do not stretch.

Elastic materials
Examples:


Rubber band


Balloon


Fabric

Non-elastic materials
Examples:


Wood


Metal

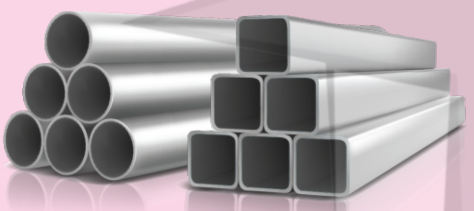

Glass

Publishers Sample

Magnetic and non-magnetic materials

- Magnetic materials are materials that are attracted towords magnets.They usually contain iron, nickel or cobalt.
- Non-magnetic materials are not attracted towords magnets.

Magnetic materials
Examples:



Steel



Nickel



Iron

Non-magnetic materials
Examples:



Plastic



Glass



Wood



Activity

Many objects are made from more than one material. If you are sitting on a chair, it may be made from wood and metal. What other objects can you think of that are made from more than one material? Make a list of them in your notebooks.

Publishers ® E-Sample

Check Point

1 Choose and write the correct option.

i. Which of the following is made of wood?

a. Glass tumbler
b. Chair
c. Plastic bottle
d. Steel spoon

ii. Which material is used to make windows?

a. Metal
b. Glass
c. Paper
d. Fabric

iii. Which of the following is a natural material?

a. Rock
b. Plastic
c. Paper
d. Glass

iv. Which material is hard and shiny?

a. Metal
b. Paper
c. Fabric
d. Wood

v. Which material can float on water?

a. Rock
b. Glass
c. Wood
d. Metal

vi. Which of the following is man-made?

a. Tree
b. Plastic
c. Rock
d. Cotton plant

vii. Which material is elastic?

a. Rubber band
b. Stone
c. Metal spoon
d. Paper

Publishers E-Sample

2 Rewrite the correct statement.

i. Leather is a man-made material.

ii. Synthetic fabric is a natural material.

iii. Texture tells us how easily a material can be scratched or broken

iv. Cotton fabric is more elastic than rubber.

v. Iron is an example of non-magnetic material.

3 Answer the following questions.

i. Define elasticity.

ii. Name two objects made from each material given below.

Glass _____

Metal _____

Rocks _____

iii. Which property of wood makes it suitable for making furniture?

Publishers E-Sample

iv. Differentiate between magnetic and non-magnetic material.

_____

_____

4 Sort the following into natural and man-made materials.


Wood


Wool


Silk


Clay


Fur


Sponge

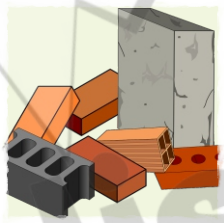

Stone

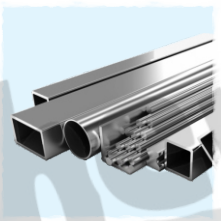

Paper


Paint


Glass


Feather


Concrete


Metal


Plastic

Natural materials	Man-made materials

Publishers E-Sample

Magnetic and Non-magnetic Materials

Objective: To investigate which objects are magnetic and which are not.

What we need:

- Magnet
- Objects from the classroom

What to do:

- Use magnet to test each object.
- Is the object magnetic or non-magnetic?
- Write the name of each object in the mentioned space.

Magnetic	Non- Magnetic

Wizz Publishers ® E-Sample

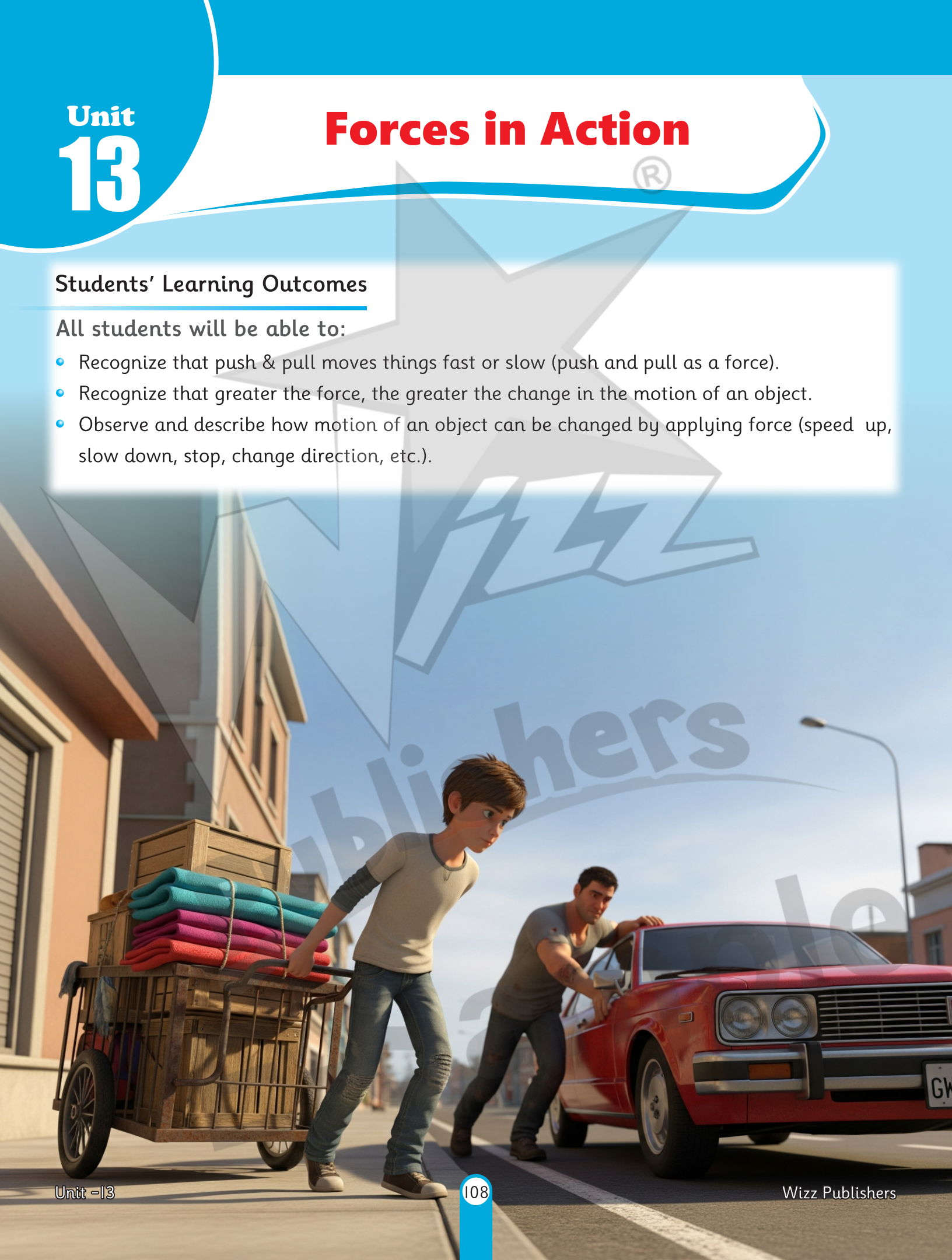
Unit 13

Forces in Action

Students' Learning Outcomes

All students will be able to:

- Recognize that push & pull moves things fast or slow (push and pull as a force).
- Recognize that greater the force, the greater the change in the motion of an object.
- Observe and describe how motion of an object can be changed by applying force (speed up, slow down, stop, change direction, etc.).



Force

When we look around, we see things moving, car driving, door opening, or ball rolling. But have you ever thought about what makes them move? The answer is force. Force is defined as a push or a pull.



Car driving



Door opening



Ball rolling

A push is a force that moves an object away from you. When you push a swing, it moves forward. When you push a shopping cart, it rolls ahead.



Pushing the swing



Pushing a shopping cart

A pull is a force that brings an object towards you. When you pull a wagon, it moves closer. When you pull to open a door, it swings towards you.



Pulling a wagon



Pulling a door

Force and Motion

Have you ever pushed a toy car? What will happen?



When you push a toy car, it starts moving. But how it moves depends on the amount of force applied. A gentle push moves the car slowly and for a short distance.

A stronger push makes it move faster and go farther. It shows that the harder you push or pull, the bigger the change in motion.

A gentle push





A stronger push

Publishers Sample

Activity

- Push a small ball softly and watch how far it goes.
- Now push it harder! What happens?

Effects of Force

Force is a push or a pull that can change how things move.

- When you kick a ball, it starts rolling. The kick is a force that makes the ball move.



- If a ball is rolling and you put your hand in front of it, it stops. Your hand applies force to stop the ball.



- If you hit a moving ball from the side, it changes direction. The force from your hand make it go in a different direction.





- A stronger push makes an object move faster. A gentle push makes it move slower. For example: If you push a swing softly, it moves slowly. If you push it hard, it swings high and fast.

- Force can also change the shape of an object. They can bend, stretch, or squeeze things.



Squeezing



Stretehing



Pressing

E-Sample

Check Point

1 Choose and write the correct option.

i. What happens when we push a swing harder?

a. It moves slowly
b. It moves faster
c. It stops
d. It falls down

ii. Greater force causes:

a. No movement
b. Smaller change in motion
c. Greater change in motion
d. No difference

iii. What force do we use to stop a moving ball with our foot?

a. Heat
b. Push
c. Pull
d. Light

iv. What can force do to the motion of an object?

a. Speed it up
b. Stop it
c. Slow it down
d. All of them

2 Write T for true and F for false statement.

i. A pull is a force that moves an object away from you. _____

ii. A push is a force that brings an object towards you. _____

iii. If you give a toy car a little push, it moves slowly. _____

iv. Force can also change the shape of an object. _____

Publishers E-Sample

3 Answer the following questions.

i. Define force.

ii. What is the difference between a push and a pull?

iii. Write down at least three effects of forces.

4 Look at the following images and write down the effect of the force.

i. A boy is stopping his friend's bicycle.



ii. A boy is hitting a football



iii. A boy is pressing clay.

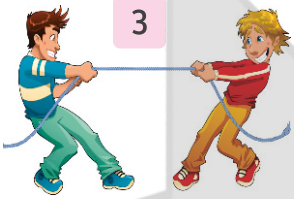


Publishers
E-Sample

5 Identify whether each action is a push or a pull and sort them into the correct column by writing the numbers assigned.


1


2


3


4


5


6


7


8


9


10


11


12


13


14


15

Push	Pull

Publishers
E-Sample

Let's Do It

Explore Push and Pull

Objective: To observe how different forces (push or pull) change the motion of an object.

What we need:



- Toy car
- Rubber ball
- Empty cardboard box
- String Measuring scale

What to do:



- Divide the class into three groups as A, B & C.
- Assign:
  - ✓ Part I of the activity to Group A
  - ✓ Part 2 of the activity to Group B
  - ✓ Part 3 of the activity to Group C

Part 1: Push to Move (Group A)

- Ask students to place the toy car on the floor.
- Push it gently and measure the distance. _____
- Now, push it harder and measure again. _____
- Discuss: How did the amount of force change the motion of the car?

Part 2: Pull to Move (Group B)

- Ask students to tie a string to the empty cardboard box.
- Pull it gently and measure the distance. _____
- Pull it harder and measure again. _____
- Discuss: How does pulling with more force change the motion of the box?

Part 3: Changing Direction (Group C)

- Ask students to roll a rubber ball in a straight line.
- Gently tap from the side. What happens? Which way does it go?
- Tap it harder. How does the direction change? _____
- Discuss: How does force change the direction of a moving object? _____

Publishers ESample

Tug of war

Objective: To observe how friction is created when two textured surfaces are rubbed together under pressure.

What we need:



- Tug of war rope
- Three people
- A tree

What to do:

- Play a game of tug of war with one person serving two people on the other side of the rope. The team with two people will win because they have the advantage of creating a stronger pull force together.
- Play another game of tug of war with the same teams. This time wrap the middle of the rope once around the trunk of a tree.
- Now each team can pull and find out if they still have the advantage.

Explanation:

Friction is created when two textured surfaces are rubbed together under pressure. The harder the team of two pull on the rope the tighter it becomes around the trunk. This means there is more friction helping the team of one resist their pull.



Sample

Unit 15

Conservation of Earth's Resources

Students' Learning Outcomes

All students will be able to:

- Identify the natural sources of water around themselves.
- Recognize the importance of water resources.
- Recognize that some areas of Pakistan experience shortage of water.
- Identify the ways in which human beings waste water.
- Suggest ways to save water.
- Identify the ways in which the land is destroyed due to human activity (deforestation).



Imagine a world without water.Think what will happen?

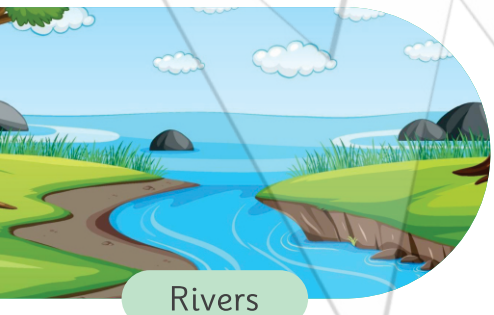




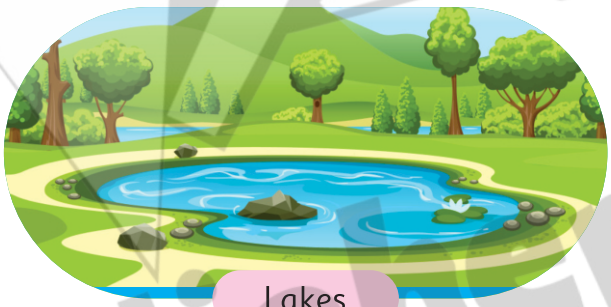
Without water, life on Earth would not exist. Every plant, animal and human depends on water to survive. No water means no life. Therefore, we must conserve it. To conserve means to save something from overuse or wastage. Some areas of Pakistan, especially Karachi (Sindh), are facing an acute shortage of water.

Have you ever wondered, where does water come from?

We get water from the following natural sources:



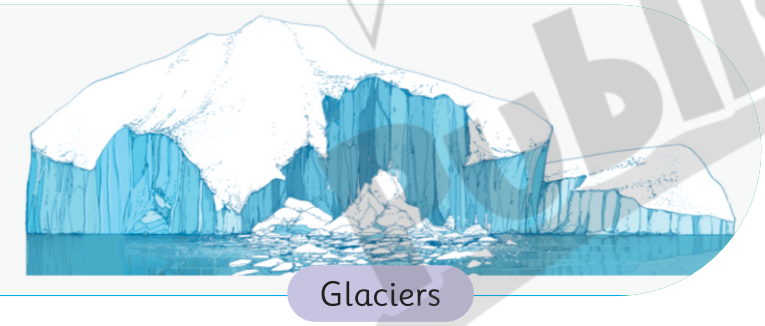
Rivers



Lakes



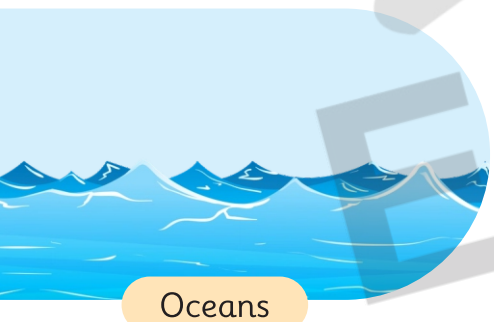
Rain



Glaciers



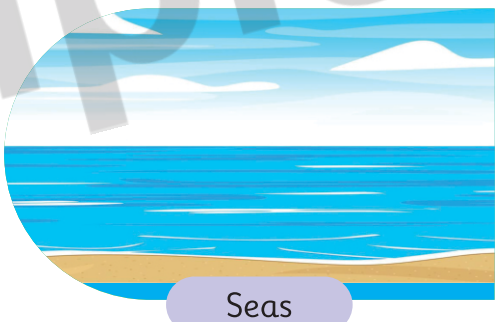
Ice-caps



Oceans



Ponds



Seas

Publishers Sample

Importance of water resources

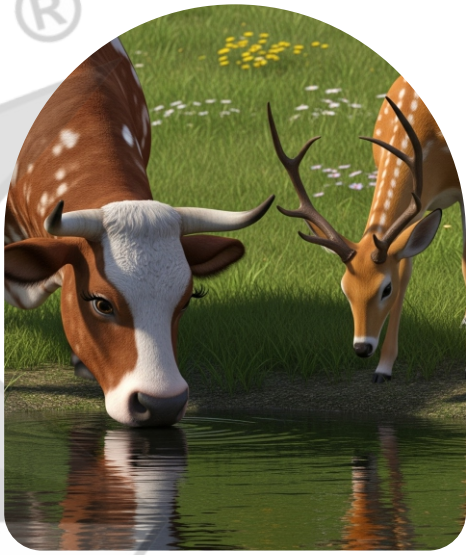
Water is important for many reasons:



Clean water keeps us healthy and helps our bodies function properly.



Farmers use water to grow fruits,vegetables and grains that we eat.



Animals and plants need water to live and grow. Without water, they cannot survive.



We use water for bathing, washing clothes and cleaning our homes.



Some rivers and dams help produce electricity.



Water bodies like rivers and oceans are homes to fish and other aquatic life.

E-Samples

Human activities that waste water

Many human activities lead to water wastage, few of them are as follows:



Leaving taps running



Using too much water in agriculture



Leaking pipes and faucets



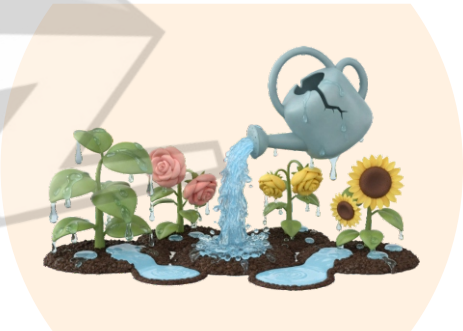
Taking long showers



Wasting drinking water



Washing cars with a hose



Over watering lawns and gardens

Ways to reduce water wastage

Water is a precious resource and we must use it wisely to ensure there is enough for everyone. Here are some simple ways we can save water.



Turn off taps when not in use



Use a bucket instead of a hose



Fix leaks in pipes and faucets

Publishers
E-Sample



Harvest rain water for reuse



Take shorter showers



Spread awareness about saving water



Report water leaks



Use drip irrigation in gardens

Deforestation and Pollution



Many human activities destroy our land. We pollute our land by throwing litter on it.

Deforestation is one of them, which is defined as when we cut a lot of trees in an area.

Deforestation is not good for the environment. Many animals lose their shelter because of it. As more trees are cut down, there is less oxygen available in the air. Temperature of the Earth also rises as the trees keep the environment cool.

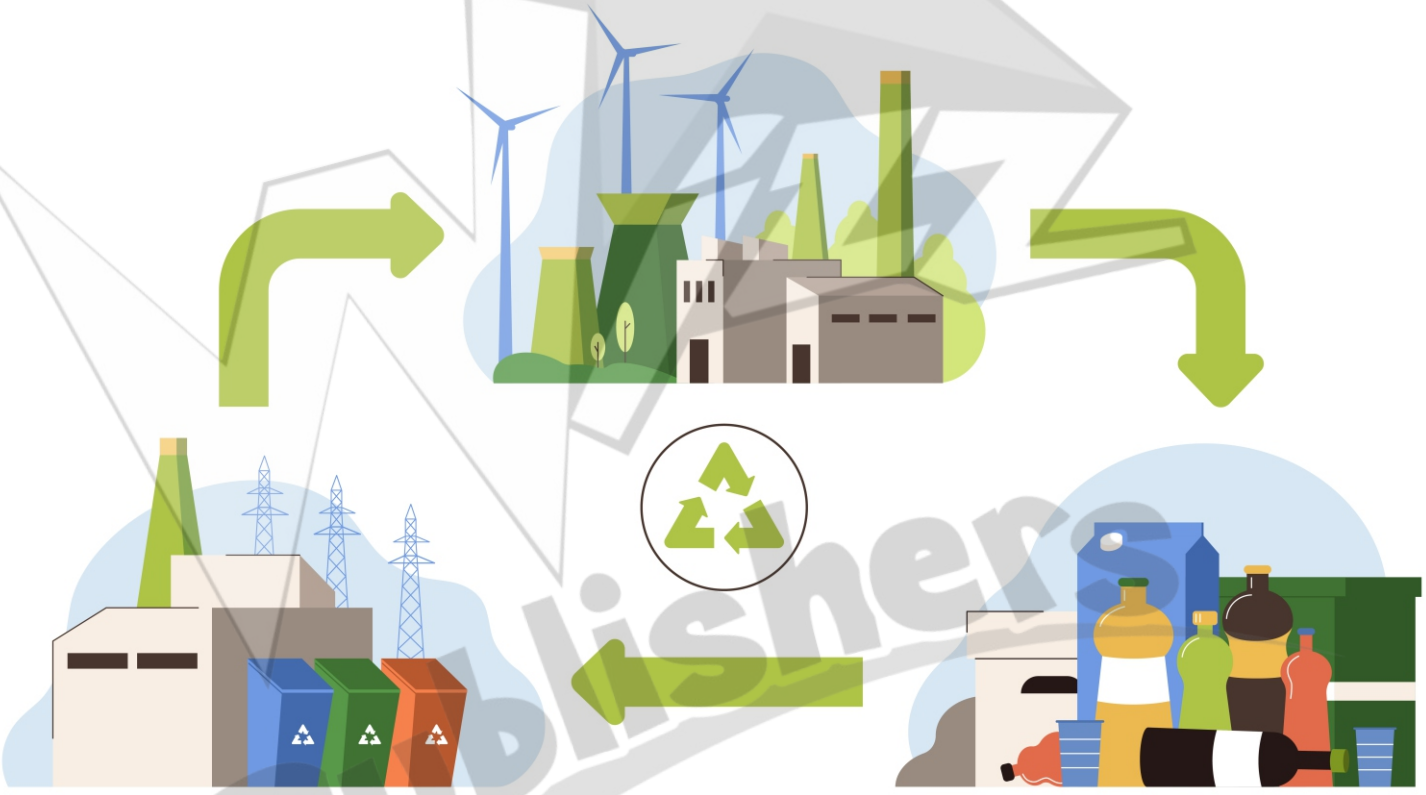
Deforestation is the main cause of air pollution which is defined as; when harmful things like smoke, garbage, or chemicals make the air dirty. It can hurt people, animals and plants.

Public E-Sample

The 3Rs of the Environment

Reduce, Recycle and Reuse are the three rules to save the Earth.

- **Reduce** means using less. Example: Buy fewer clothes and use them longer. Avoid single use plastic. Replace plastic with glass or metal.
- **Recycle** means converting waste into useful items. Example: Turn plastic bottles into garden pots.
- **Reuse** means using items again instead of throwing them away. Example: Give old clothes to younger siblings, use cloth bags instead of plastic.



Publishers
E-Sample

Check Point

1 Choose and write the correct option.

i. Deforestation is defined as:

a. Planting trees
b. Cutting down trees
c. Watering trees
d. Sowing seeds

ii. To conserve means to:

a. Save
b. Safe
c. Cover
d. Hide

iii. Which of the following is not part of the 3Rs?

a. Reduce
b. Rules
c. Reuse
d. Recycle

iv. Which part of Pakistan has an acute water shortage?

a. Karachi
b. Lahore
c. Multan
d. Faisalabad

v. Pollution is defined as:

a. Keeping the air clean
b. Making the air dirty
c. Planting more trees
d. Saving water

2 Is the resource being wasted? Write Y for Yes and N for No.

i. You leave the room with lights on. _____

ii. Everyone in the family uses a separate vehicle to go to school._____

iii. Turn off taps when not in use._____

Publishers E-Sample

iv. Fill in the plate with more food than needed. _____

v. Everyone sits in one room with the AC on. _____

3 Answer the following questions.

i. Define deforestation.

_____

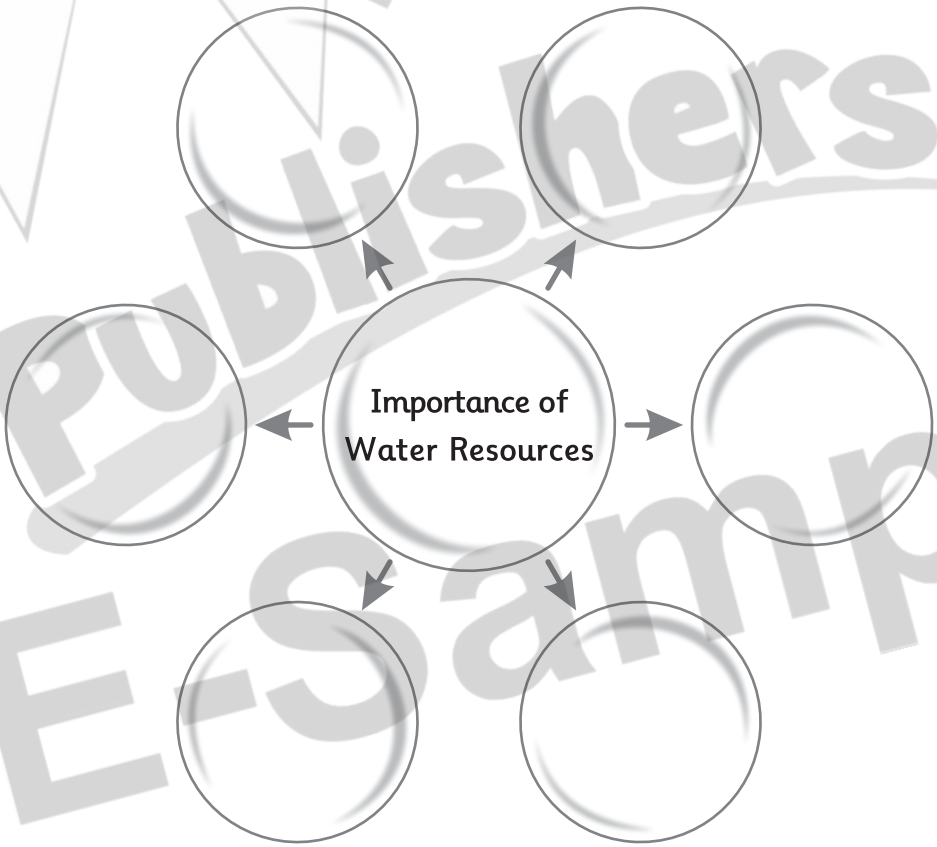
_____

ii. Name two human activities that destroy land.

_____

_____

4 Complete the bubble map by writing the importance of water resources.



Publishers
E-Sample

Let's Do It

Think Smart

Take a walk around your school or home and find two places where water is used. Fill in the chart below to show how water can be used more carefully. You can write or draw.

Place where water is used	Ways water might be wasted here	Ways people can save water here

The great Pacific Garbage Patch



Find on internet about the great garbage patch located in the Pacific Ocean. In recent years, garbage thrown into oceans has collected here forming a massive kilo patch of floating waste. This patch covers 1.6 Million square meters, almost three time the size of France.

i. Write three facts about garbage.

_____

_____

ii. What can we do to overcome it? List three solutions.

_____

_____

Publishers E-Sample