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In the Name of Allah, the Most Gracious, the Most Merciful

SPECTRUM Science

TEACHING GUIDE

FIRST TERM

2



Prepared by:
Rana Amir Munawar

Reviewer:
Saifullah Khalid


Spectrum
Enlightening Generations

Spectrum Science

Grade-2 Teaching Guide

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Introduction to Spectrum Science Series Book 1 to 5

Spectrum Science Series is a completely new approach to textbooks. This series focuses on doing one thing right, imparting necessary education to young learners with no frills.

The main aim of *the Science Series Grade-1* textbook is to provide a real-life hands-on experience to young learners regarding scientific phenomena around us. For this reason, we have ensured multiple sections within a chapter to help students digest scientific knowledge and concepts, through a step-by-step process, rushing nothing.

Every chapter starts with a warm-up section, which includes the *Think* and *Explores* section. It is followed by the *Know* section, which presents new concepts. In the end, we have an *Exercise* section, which includes the *Activity Time* section to test what students have learnt.

Think

This section rekindles the *existing repository of knowledge* and information about young children. Each *Think* activity is aligned with given SLOs, focusing on exercising the mental processing of a child. It aims at directing students toward the subject of the chapter.

Explore

The *Explore* section asks the children to *perform* an activity. Student has to write the results of their exploration. Combined with the *Think* activity, the *Explore* section aims at gearing up the young learners towards the content of the chapter.

Know

The meat of the unit lies in this section. It is carefully *constructed* to disseminate knowledge that adheres to the SLOs and that caters to the curious young minds of the readers. The structure has been ensured to maintain the continuity of topics within a chapter, which leads to fun reading and a better understanding of concepts.

Activity

This section comes at the end of the chapters with a focus on *cementing* the knowledge learned by students through *practical* activity. These activities take a cue from the content of the chapter and ask student to apply it in various ways.

The language of the book has been reviewed and proven our language experts, who have painstakingly tried to smooth the edges and maintain continuity within texts.

Spectrum Science Teaching Guide Grade-1

Spectrum Science Teaching Guide comprises of unit-wise worksheets, solved exercises from the book, unit-wise assessment papers, a terminal assessment and lesson plans. It is designed to effectively support the teachers in student-centered teaching strategies, with simple and clear instructions.

The following key features of the lesson plans make teaching easier for teachers:

- ⇒ **Student Learning Outcomes (SLOs)** are carefully planned goals for what students will learn. These also define what students will know and be able to do by the end of the lesson.
- ⇒ **Prior Knowledge** connects students to what is being taught in class.
- ⇒ **Resources** are required material in the lesson. Teachers are encouraged to arrange necessary materials in advance.
- ⇒ **Warm-up** is an icebreaker. These are done to develop students' interest in the subject and generate engagement.
- ⇒ **Lesson Structure** is the central part of the lesson plan. Its goal is to ensure that learning outcomes are achieved through explanations, demonstrations, activities, class discussions, and brainstorming. Referencing the text, illustrations and pictures in the manual will make the lesson engaging and interesting. Teachers are encouraged to collect student feedback to determine if learning outcomes are being achieved.
- ⇒ **Conclusion** summarizes the topic and often includes an assessment of the topics covered in a particular lesson.
- ⇒ **Class Assignments** based on worksheets or activities. The teacher can assign it for homework
- ⇒ **Homework** is assigned to students during the lesson to reinforce what they have learnt.

Conclusion

We hope teachers and students will thoroughly benefit from Spectrum Science Series Books 1-5. These books contain modern teaching approaches which help students to become curious learners of science.

Remember, traditional teaching styles have become obsolete now and the young minds of today want 'learning facilitators; not typical teachers. Therefore, empower students and see how students will take charge of their learning.

We wish all the teachers and students using Spectrum Science Series Books 1-5 all the best.

Unit-1- Our Internal Organs and their Function

Unit Overview

The first unit 'Our Internal Organs and their Function' will help reinforce our body as the great blessing of Allah ﷻ. It has a number of internal body organs. The brain, lungs, stomach and heart are some vital internal organs of our body. Each body organ has a specific function. For example, we use our brains to think, whereas we use our lungs to breathe. All body organs work in combination to function at their full capacity.

Model Answers

Exercise 1

Answers to the questions.

- i. Heart, lungs, stomach.
- ii. Skull.
- iii. The heart pumps blood throughout our body.
- iv. Stomach.

Question 2

Label the following diagram of the human body.

Students will label the diagram.

Question 3

Match the internal organs with their functions in the columns below.

Column A

Pump blood to the entire body

Digestion of food

Breathing

Control the whole body

Column B

Stomach

Heart

Brain

Lungs

Question 4

Think of two jobs we would not be able to do if our brains did not work.

Job 1	Thinking
Job 2	Movement

Lesson Plan 1

Subject: Science	Grade: 2	Term: 1st
Week: 1	Unit: 1	Unit Title: Our Internal Organs and their Function
LP: 1	Textbook Page/s: 6-7	Duration: 40 minutes
Teacher:	School:	Date:

Student Learning Outcomes:

At the end of this lesson, students will be able to:

- know about the organs of the human body.
- describe the general classification of organs.

Prior Knowledge of Students:

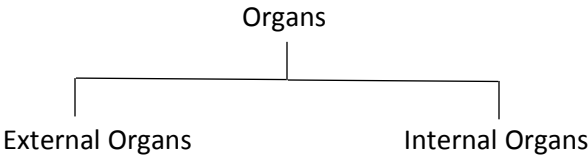
- They are familiar with the organs of the human body.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Flashcards of different body organs(nose, heart, hand, liver, foot, ear)

Time Frame (40 Minutes)	Proceedings
5 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.] Show students the flashcards of different body organs one after one. Ask them to guess the name of each organ. Take answers from random students. Tell them the name of each organ. Ask students to repeat the name of the body organ after you.</p>
23 minutes	<p>Lesson Structure/Activities/Presentation: Write the name of the unit on the whiteboard. Tell students they will learn about internal body organs in today's lesson.</p> <p>Activity 1: Ask students to open their textbooks on page no. 6 and look at the pictures in the 'Think' section. Let students recognize each body part and link each body part with the job it performs.</p> <p>Activity 2: Ask students to open the textbooks and look at the pictures on page no. 7 Ask a random student to read the text of the unit aloud.</p>

Unit-1- Our Internal Organs and their Function

	<p>Explain to them Allah has blessed us with an amazing body. Like a machine, it has different parts that perform different functions. These body parts are called organs. Draw the following diagram on the whiteboard.</p> <div style="text-align: center;">  <pre> graph TD A[Organs] --- B[External Organs] A --- C[Internal Organs] </pre> </div> <p>Some organs are outside the body called external organs such as arms, legs, etc. Some organs are inside the human body called internal organs such as the brain, lungs, etc.</p> <p>Activity 3: Ask students to come in front of the class one by one, and point to at least one external body organ of their body like 'I have a _____'. Ask other students to listen attentively. Ask students to look around and observe other class fellows. They can find similar external body organs as them.</p> <p>Differentiated Learning: Some students might find it difficult to understand the concept of body organs. Call them near the whiteboard and draw a labelled human body there. Point each body organ by finger and pronounce its name. Ask them to repeat after you.</p>
<p>2 minutes</p>	<p>Conclusion/Review: Tell student about human body organs.</p>
<p>8 minutes</p>	<p>Classwork/ Assessment: Ask students to enlist any five internal human body organs.</p>
<p>2 minutes</p>	<p>Homework/Assignment: Students will sketch a human body and label it. The best chart will be displayed in the classroom.</p>

Lesson Plan 2

Subject: Science	Grade: 2	Term: 1st
Week: 1	Unit: 1	Unit Title: Our Internal Organs and their Function
LP: 2	Textbook Page/s: 7	Duration: 40 minutes
Teacher:	School:	Date:

Student Learning Outcomes:

At the end of this lesson, students will be able to:

- name internal organs of the human body.
- tell the function of the brain of the human body.

Prior Knowledge of Students:

- They can name organs of the human body.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Poster of internal organs of the human body
- Some walnuts

Time Frame (40 Minutes)	Proceedings
5 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Hang the poster of internal human organs near the whiteboard for clear visibility. Ask some random students to name these internal organs of the human body.</p>
24minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Write the name of the unit on the whiteboard. Tell students they will learn about an important internal organ brain of the human body and its function in today's lesson.</p> <p>Activity 1: Ask students to open their textbook on page no.7 and read the topic 'Brain' of the unit aloud. Point a finger at the given picture of the brain simultaneously. Explain to them the brain is an internal body organ which is inside our head and a hard skull protects it. Write the functions of the brain on the whiteboard:</p>

	<ul style="list-style-type: none"> • Thinking • Controlling all body functions (senses, breathing, digestion, movement, growth) <p>Activity 2: Draw a picture of the brain on the whiteboard. Ask students to come near the teacher's table. Place some walnuts on the table and remove their covers. Then hold one of them and tell students it resembles the shape of the human brain. Let each student hold the walnut and compare its shape with the first picture of the human brain on their textbook's page no.7. (They can compare the walnut with the picture drawn on the whiteboard. Take their responses and guide them where needed.</p> <p>Differentiated Learning: Some students might find it hard to understand internal body organs. Sit with them and explain the concept of the brain again.</p>
02 minutes	Conclusion/Review: Tell student about the function of the brain.
03 minutes	Classwork/ Assessment: Exercise 4 Ask them to think and write two jobs they would not be able to do if their brain did not work. (textbook's page no. 11)
01 minute	Homework/Assignment: Students will make a diagram of the human brain in their notebooks.

Lesson Plan 3

Subject: Science	Grade: 2	Term: 1st
Week: 1	Unit: 1	Unit Title: Our Internal Organs and their Function
LP: 3	Textbook Page/s: 7	Duration: 40 minutes
Teacher:	School:	Date:

Student Learning Outcomes:

At the end of this lesson, students will be able to:

- name internal organs of the human body.
- tell the function of the lungs of the human body.

Prior Knowledge of Students:

- They can name organs of the human body.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Marker
- Poster of lungs inside the ribcage

Time Frame (40 Minutes)	Proceedings
5 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Hang the poster of lungs inside the ribcage near the whiteboard for clear visibility. Ask some random students to tell the name of this internal organ. Take their answers and respond accordingly.</p>
24minutes	<p>Lesson Structure/Activities/Presentation: Write the name of the unit on the whiteboard. Tell students about the important internal organs lungs of the human body and their function in today's lesson.</p> <p>Activity 1: Ask students to open their textbook on page no.7 and read the topic 'Lungs' aloud. Explain to them the function of the lungs. Point a finger at the given picture of the lungs simultaneously. Explain to them a pair of lungs help us breathe. Lungs are inside a ribcage which protects them. Tell them there are 12 sets of ribs in our ribcage.</p>

	<p>Activity 2: Ask students to come near the teacher’s table and observe attentively. Then hold your breath for a while and release slowly. Take their answers and note their observations. Tell them the human chest gets slightly bigger when we breathe in and it returns to its regular size when we breathe out.</p> <p>Differentiated Learning: Some students might find it hard to understand the function of the lungs. Sit with them and explain the concept of the lungs again.</p>
02 minutes	Conclusion/Review: Tell student about the function of the lungs.
03 minutes	Classwork/ Assessment: Ask them to draw the human lungs in their notebook and write their function as well.
01 minute	Homework/Assignment: Students will learn by heart the function of the lungs.

Lesson Plan 4

Subject: Science	Grade: 2	Term: 1st
Week: 2	Unit: 1	Unit Title: Our Internal Organs and their Function
LP: 4	Textbook Page/s: 8	Duration: 40 minutes
Teacher:	School:	Date:

Student Learning Outcomes:

At the end of this lesson, students will be able to:

- name internal organs of the human body.
- tell the function of the stomach of the human body.

Prior Knowledge of Students:

- They can name organs of the human body.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Flashcard of stomach
- Clay model of the human body

Time Frame (40 Minutes)	Proceedings
5 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Show students the flashcard of the stomach and let them guess its name. Take answers from random students and tell them it is the stomach which is an internal organ of the human body.</p>
24minutes	<p>Lesson Structure/Activities/Presentation: Write the name of the unit on the whiteboard. Tell students they will learn about an important internal organ stomach of the human body and its function in today's lesson.</p> <p>Activity 1: Ask students to open their textbook on page no.8 and read the topic 'Stomach' of the unit aloud. Point a finger at the picture of the stomach simultaneously. Explain to them the function of the stomach. Tell students the stomach is an internal organ of our body. It lies below the chest.</p>

	<p>When we eat food, it goes directly to the stomach. In our stomach, the food breaks down into a liquid paste which helps in the digestion process.</p> <p>Activity 2: Make a diagram of the stomach on the whiteboard. Ask students to come near the teacher's table and observe. Place the clay model of the human body on your table and explain the stomach simultaneously. Explain to them we should only eat a healthy diet for better function of the stomach.</p> <p>Differentiated Learning: Some students might find it hard to understand the function of the stomach. Sit with them and explain the concept of the stomach again.</p>
02 minutes	Conclusion/Review: Tell student about the function of the stomach.
03 minutes	Classwork/ Assessment: Ask them to draw the human stomach in their notebook and write its function as well.
01 minute	Homework/Assignment: Students will learn the lesson by heart.

Lesson Plan 5

Subject: Science	Grade: 2	Term: 1st
Week: 2	Unit: 1	Unit Title: Our Internal Organs and their Function
LP: 5	Textbook Page/s: 6, 8	Duration: 40 minutes
Teacher:	School:	Date:

Student Learning Outcomes:

At the end of this lesson, students will be able to:

- name internal organs of the human body.
- tell the function of the heart of the human body.

Prior Knowledge of Students:

- They can name organs of the human body.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Flashcard of the heart
- Worksheets of Unit. 1

Time Frame (40 Minutes)	Proceedings
5 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Show students the flashcard of the heart and let them guess the name of the organ. Take answers from random students and tell them it is the heart which is an important internal organ of the human body.</p>
24minutes	<p>Lesson Structure/Activities/Presentation: Write the name of the unit on the whiteboard. Tell students they will learn about an important internal organ heart of the human body and its function in today's lesson.</p> <p>Activity 1: Ask students to open their textbook on page no.8 and read the topic 'Heart' of the unit aloud. Point a finger at the picture of the heart simultaneously. Explain to them the function of the heart. Tell students the heart is the most important internal organ of our body. It lies inside the ribcage of our chest.</p>

	<p>Explain to them the heart pumps blood throughout our body.</p> <p>Activity 2: Make a diagram of the heart on the whiteboard. Ask students to come near the teacher's table and follow the steps after you. Place your hand on the left side of your chest and feel the gentle beating of your heart. Explain to them the heart pumps blood throughout our body.</p> <p>Activity 3: Ask students to open their textbooks on page no.6 and look at the picture in the 'Explore' Section. Let students to run from one corner of the classroom to another and stop. Then answer the question in their textbook.</p> <p>Differentiated Learning: Some students might find it hard to understand the function of the heart. Sit with them and explain the concept of the heart again.</p>
02 minutes	Conclusion/Review: Tell student about the function of the heart.
03 minutes	Classwork/ Assessment: Distribute the worksheets of unit.1 among students and ask students to solve them.
01 minute	Homework/Assignment: Students will the diagram of the human heart in their notebooks.

Lesson Plan 6

Subject: Science

Grade: 2

Term: 1st

Week: 2

Unit: 1

Unit Title: Our Internal Organs and their Function

LP: 6

Textbook Page/s: 9-11

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- solve the exercise on their own.

Prior Knowledge of Students:

- They can answer questions related to the internal organs of the human body.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up:</p> <p>Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Repeat the lesson's main points for reinforcement and encourage students to repeat after you.</p>
23 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1:</p> <p>Exercise 1</p> <p>Write the name of the unit on the whiteboard. Ask students to open the textbook's page no. 9. Write the following questions on the whiteboard and ask students to answer each of them in their notebooks.</p> <ul style="list-style-type: none"> • Name any three internal organs of the human body. • What protects the brain? • What is the function of the heart? • Which organ helps in the digestion of food? <p>Walk around the class and supervise students' answers. Some students might need your help in answering the questions correctly.</p> <p>Activity 2:</p> <p>Exercise 2</p>

	<p>Ask students to open the textbook's page no. 10. Draw the diagram of the human body on the whiteboard. Guide them to label the diagram of the human body.</p> <p>Activity 3:</p> <p>Exercise 3</p> <p>Explain the functions of each internal organ and let students match the internal organ with their functions.</p> <p>Ask students to open the textbooks and look at the pictures in the 'Explore' section on page no. 15. Guide them in circling the correct picture.</p>
01 minute	Conclusion/Review: Tell students all the ways to maintain a healthy body.
10 minutes	Classwork/ Assessment: Perform the activity of counting the heartbeat rate per minute of each student with the help of a stethoscope. (textbook's page no. 11)
01 minute	Homework/Assignment: Students will enlist any five internal organs of the human body.

Unit-2- Food and Exercise

Unit Overview

In the second unit, 'Food and Exercise' students will learn the basic food groups and their benefits.

Students will be made aware of four food groups including milk, fruits and vegetables, grains and meat. They will get familiar with the importance of water and exercise for health as well.

Model Answers

Exercise 1

Answers to questions.

- i. Milk, fruit and vegetable, grain, meat.
- ii. Milk.
- iii. The doctor says that Ali has weak bones. Which food group should he eat from?
- iv. Milk group.

Question 2

Fill in the blank with the correct words.

- i. We get fruits and vegetables from plants. (animals, plants)
- ii. We must drink a lot of water to stay healthy and active. (juice, water)
- iii. Walking is a form of exercise. (sitting, walking)
- iv. Regular exercise helps us sleep well. (exercise, sleep)

Question 3

Circle the odd picture.

Students will circle the odd pictures.

Question 4

Write your favourite food from each food group.

Students will write their favourite food.

Lesson Plan 7

Subject: Science

Grade: 2

Term: 1st

Week: 3

Unit: 2

Unit Title: Food and Exercise

LP: 7

Textbook Page/s: 12 &13

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- know the different food groups.
- explore the milk group.

Prior Knowledge of Students:

- They can identify different foods.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Food Group Poster
- A glass of milk, Yogurt in a bowl and Cheese

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up:</p> <p>Greet students cheerfully with السلام عليكم</p> <p>[Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Hang the poster of the food group near the whiteboard. Ask some random students to stand up in their seats and name any one food group. Tell them the name of each food group.</p>
25 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1:</p> <p>Write the name of the unit on the whiteboard. Tell them Allah has blessed us with different kinds of foods. Ask them to tell the benefits of food. Take their responses and explain to them the food gives us energy to work and grow.</p> <p>Tell them the food we eat daily is called diet which consist of different food groups. Write these five major food groups on the whiteboard as well.</p>

	<ul style="list-style-type: none"> • Milk Group • Fruits and vegetable Group Grain Group • Meat Group <p>Activity 2: Ask students to come near the teachers' table. Place the glass of milk, yogurt and cheese on the table. Ask some random students to name these dairy products. Take their answers and explain to them these are dairy products obtained from the milk group. Tell them these milk products keep our bones and teeth strong. (Point your figure to the pictures on textbook's page no. 13)</p> <p>Differentiated Learning: Some students might find it hard to understand the milk group. Sit with them and explain the milk group again.</p>
02minutes	Conclusion/Review: Tell student about different food groups.
05 minutes	Classwork/ Assessment: Ask students to write the answers of exercise question no. 1 parts (i) and (iv) in their notebooks.
03 minutes	Homework/Assignment: Students will make a chart of food groups and label it.

Lesson Plan 8

Subject: Science

Grade: 2

Term: 1st

Week: 3

Unit: 2

Unit Title: Food and Exercise

LP: 8

Textbook Page/s: 12-14

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- know the different food groups.
- explore the fruits and vegetable group.

Prior Knowledge of Students:

- They can identify different foods.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- White charts
- Colour pencils

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Write the poem ‘Five Little Fruits’ on the whiteboard. Ask students to learn it and sing along with them in a chorus.</p> <p style="text-align: center;">Five Little Fruits</p> <p style="text-align: center;">Five little fruits jumping on the bed. apple fell off and bumped his head. banana called the doctor and the doctor said, “No more fruits jumping on the bed!”</p> <p style="text-align: center;">Four little fruits jumping on the bed. banana fell off and bumped his head. orange called the doctor and the doctor said, “No more fruits jumping on the bed!”</p>

	<p>Three little fruits jumping on the bed. orange fell off and bumped his head. strawberry called the doctor and the doctor said, “No more fruits jumping on the bed!”</p> <p>Two little fruits jumping on the bed. strawberry fell off and bumped his head. grapes called the doctor and the doctor said, “No more fruits jumping on the bed!”</p> <p>One little fruit jumping on the bed. grapes fell off and bumped his head. apple called the doctor and the doctor said, “Put those fruits right to bed!”</p>
25 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1: Write the name of the unit on the whiteboard. Tell them they are going to learn about a fruits and vegetable group. Explain to them we get fruits and vegetables from plants. Enlist some fruits and vegetables on the whiteboard as well.</p> <ul style="list-style-type: none"> • mangoes • melons • grapes • carrots • spinach • potatoes <p>Brief to them the fruits and vegetables make us healthy and fit. (Ask students to focus on the picture of the fruits and vegetables at the bottom of the textbook’s page no.13)</p> <p>Activity 2: Divide students into groups of four students each. Then distribute white charts to each head of the group. Assign the half groups to make any chart of any fruit and the rest of the groups any vegetable and colour them. Walk around the classroom and supervise students’ work.</p> <p>Differentiated Learning: Some students might find it hard to understand the fruits and vegetables group. Sit with them and explain the fruits and vegetable group again.</p>
02 minutes	Conclusion/Review: Tell student about the fruits and vegetables group.
05 minutes	Classwork/ Assessment: Ask students to share the name of their favourite fruit and vegetable on their turn.

03 minutes	Homework/Assignment: Students will enlist any ten fruits and ten vegetables in their notebooks.
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Lesson Plan 9

Subject: Science

Grade: 2

Term: 1st

Week: 3

Unit: 2

Unit Title: Food and Exercise

LP: 9

Textbook Page/s: 14

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- know the different food groups.
- explore the grain group.

Prior Knowledge of Students:

- They can identify different foods.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Marker
- A corn
- Grains of wheat, rice and pulses

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up:</p> <p>Greet students cheerfully with السلام عليكم</p> <p>[Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Show students a corn and let them guess its name. Take their responses and tell them it is a corn which belongs to the grain group.</p>
25 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1:</p> <p>Write the name of the unit on the whiteboard. Repeat the food groups.</p> <p>Ask students to open their textbook's page no.14 and read the topic 'Grains' of the unit aloud. Explain to them the benefit of grains simultaneously.</p> <p>(Ask students to focus on the picture of the corn on the page no.14 at the same time)</p> <p>Make the following list of grains on the whiteboard as well:</p>

	<ul style="list-style-type: none"> • wheat • rice • corn • pulses <p>Activity 2: Ask students to come near the teacher’s table and observe attentively. Place the grains of wheat, rice and pulses on white paper and let them recognize. Take their answers and tell them the name of each kind of grain by holding it up to your palm. Explain to them eating grains in our daily diet gives us energy for work.</p> <p>Differentiated Learning: Some students might find it hard to understand the grain group. Sit with them and repeat activity 2 for better understanding. Ask them to repeat the names of grains so that they can memorize.</p>
02 minutes	Conclusion/Review: Tell student about the grain group.
05 minutes	Classwork/ Assessment: Ask students to share the name of grain they eat daily in their diet on their turn.
03 minutes	Homework/Assignment: Students will enlist other kinds of grains in their notebooks.

Lesson Plan 10

Subject: Science

Grade: 2

Term: 1st

Week: 4

Unit: 2

Unit Title: Food and Exercise

LP: 10

Textbook Page/s: 12,14

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- know the different food groups.
- explain the meat group.

Prior Knowledge of Students:

- They can identify different foods.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Flashcards of goat, fish, cow and hen

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up:</p> <p>Greet students cheerfully with السلام عليكم</p> <p>[Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Ask students to open their textbooks and look at the pictures in the ‘Think’ section on page no. 12. Let them recognize foods we get from animals and plants. Guide them in writing the correct letters.</p>
25 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1:</p> <p>Recall the four basic food groups. Ask students to open their textbook’s page no.14 and read the topic ‘Meat’ aloud. Explain to them we eat the meat of different animals.</p> <ul style="list-style-type: none"> • mutton • beef • poultry • fish <p>Explain to them the meat of all kind give us protein and make us strong.</p>

	<p>(Ask students to focus on the pictures on their textbook's page no.14 at the same time)</p> <p>Activity 2: Make the following table on the whiteboard and ask students to draw a similar table in their notebooks and match the animal with their respective meat's name.</p> <table border="1"> <thead> <tr> <th>Name of Animal</th> <th>Name of Meat</th> </tr> </thead> <tbody> <tr> <td>goat</td> <td>Chicken (poultry)</td> </tr> <tr> <td>cow</td> <td>beef</td> </tr> <tr> <td>hen</td> <td>mutton</td> </tr> </tbody> </table> <p>Differentiated Learning: Some students might find it hard in differentiating the kind of meat. Sit with them and explain the concept again. Now ask them to repeat after you so that they can memorize the names quickly.</p>	Name of Animal	Name of Meat	goat	Chicken (poultry)	cow	beef	hen	mutton
Name of Animal	Name of Meat								
goat	Chicken (poultry)								
cow	beef								
hen	mutton								
02 minutes	Conclusion/Review: Tell students about the meat group.								
05 minutes	Classwork/ Assessment: Ask students to encircle the odd picture in their textbook's page no. 16. (Question no.3.)								
03 minutes	Homework/Assignment: Students will learn by heart the names of the kinds of meat.								

Lesson Plan 11

Subject: Science

Grade: 2

Term: 1st

Week: 4

Unit: 2

Unit Title: Food and Exercise

LP: 11

Textbook Page/s: 14

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- know about water.
- explain the importance of water.

Prior Knowledge of Students:

- They are familiar with the water.

Teaching Aids/Materials/Resources:

- Textbooks
- Whiteboard/Whiteboard Marker
- A glass full of water
- Worksheet of Unit.2

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up:</p> <p>Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Ask students their textbooks' page no.14 and look at the fourth picture there. Let them guess about it. Take answers from random students and tell them it is showing a boy who is drinking the water.</p>
25 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1:</p> <p>Write the name of the unit on the whiteboard. Ask students to open their textbook's page no.14. Read the topic 'Water' of the unit aloud and explain to them the importance of water simultaneously:</p> <ul style="list-style-type: none"> • It keeps us healthy.

	<ul style="list-style-type: none"> • It keeps us active. • It helps in digestion process. <p>Activity 2: Tell students we should drink a lot of clean water. Take a glass of water, sit on the chair and drink it before them in three sips. Ask to them to stand up on their seat on their turn and share how much water (glasses of water) they drink in a day. Take their answers and respond accordingly.</p> <p>Differentiated Learning: Some students might find it difficult to understand the importance of water. Sit with them and briefly explain the importance again. Help them understand each benefit of water.</p>
01 minutes	Conclusion/Review: Tell student about the importance of water.
08 minutes	Classwork/ Assessment: Distribute the worksheets of unit.2 among students. Ask them to solve it.
01 minutes	Homework/Assignment: Students will draw each the picture of the boy drinking water in their notebooks.

Lesson Plan 12

Subject: Science

Grade: 2

Term: 1st

Week: 4

Unit: 2

Unit Title: Food and Exercise

LP: 12

Textbook Page/s: 12,14

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- know about exercise.
- explain the importance of exercise.

Prior Knowledge of Students:

- They are familiar with the exercise.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- A thick rope

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up:</p> <p>Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Ask students to observe you keenly. Demonstrate the two easy postures of exercises and ask them to do the same after you in the classroom.</p>
25 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1:</p> <p>Write the name of the unit on the whiteboard.</p> <p>Tell them that a healthy body is a great blessing from Allah. So, we should take care of our bodies.</p> <p>Ask students to open the textbook on page no.16. Ask them to find pictures of boys who are exercising. Explain to them that regular exercise is the best way to keep healthy and fit. (Teacher may show them a simple walk is also exercise)</p> <p>It keeps us safe from many diseases and helps us sleep well.</p>

	<p>Activity 2: Ask students to come in front of the class on their turn. Each student will describe at least one way of exercise such as playing a physical game, walking, running and jogging, etc. Appreciate students after they get a finish.</p> <p>Activity 3: Make two groups. Play the 'Tug of War' game on the school ground. Encourage all of them to take part in this activity. Tell them this physical activity is also good for health.</p> <p>Differentiated Learning: Some students might find it hard to understand the importance of exercise. Sit with them, point to pictures with your finger and explain the concept again. Now ask them to repeat the ways of exercising after you to memorize.</p>
02 minutes	Conclusion/Review: Tell student the importance of exercise.
05 minutes	Classwork/ Assessment: Ask students to write the answer to question 1(iii) on their notebooks.
03 minutes	Homework/Assignment: Students will make a list of other sports/activities which can help them to be healthy.

Lesson Plan 13

Subject: Science

Grade: 2

Term: 1st

Week: 5

Unit: 2

Unit Title: Food and Exercise

LP: 10

Textbook Page/s: 15-17

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- solve the exercise on their own.

Prior Knowledge of Students:

- They can answer questions related to food and exercise.

Teaching Aids/Materials/Resources:

- Textbooks
- Whiteboard/Whiteboard Marker

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with <i>السلام عليكم</i> [Note: Always remember to say <i>بسم الله الرحمن الرحيم</i> out loud before you start any lesson or activity and say <i>الحمد لله</i> after finishing it and encourage students to do the same, too.]</p> <p>Ask students to answer question 1(i) of the exercise. Take their answers and write them on the whiteboard. Repeat the lesson's main points for reinforcement and encourage students to repeat after you.</p>
23 minutes	<p>Lesson Structure/Activities/Presentation: Write the name of the unit on the whiteboard.</p> <p>Activity 1: Question 2</p> <p>Ask students to open their textbook's page no. 16. Instruct students to fill in the blanks with the correct words. Walk around the class and supervise students' work. Some students might need your help in filling in the blanks correctly.</p> <p>Activity 2: Question 3</p> <p>Guide students and let them circle the odd pictures. Help and guide them in circling the correct pictures.</p>

	Activity 3: Question 4 Ask students to open their textbooks on page no.17 and write their favourite food from each food group.
01 minute	Conclusion/Review: Tell students the importance of food and exercise.
10 minutes	Classwork/ Assessment: Guide students to perform the activity on their textbook's page no.17
01 minute	Homework/Assignment: Students will enlist their five favourite healthy foods.

Unit-6- Introduction to Materials

Unit Overview

In the sixth unit, 'Introduction to Materials', students will discover the difference between man-made and natural materials and their properties. They will know we get the natural material from plants, animals and rocks in the form of minerals. Students will be made aware some materials are man-made; they are new materials made by humans using natural materials.

Model Answers

Exercise 1

Answer to the questions.

- i. A material is something that is used to make an object.
- ii. Students will write their own answers.
- iii. We can see through transparent material clearly. For example, eyeglasses. We cannot see through opaque material. For example, a piece of wood.
- iv. Rubber and spring.

Exercise 2

Write 'T' for a true and 'F' for a false statement.

- i. Plastic is a natural material. **F**
- ii. Ceramic is a brittle material. **T**
- iii. We cannot see through a transparent object. **F**
- iv. Leather is a man-made material. **F**

Exercise 3

Students will match the materials with their properties.

Exercise 4

Students will write their answer according to their observations.

Lesson Plan 14

Subject: Science

Grade: 2

Term: 1st

Week: 5

Unit: 6

Unit Title: Introduction to Materials

LP: 14

Textbook Page/s: 37,40

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- describe the term 'material' and their general classification of materials.
- recognize the natural materials.

Prior Knowledge of Students:

- They are familiar with different natural objects.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Flashcards of a cotton flower
- A small piece of wood and iron

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Show students the flashcard of a cotton flower. Ask some random students about it. Take their answers and correct them if needed. Tell them cotton is a natural material that is used to make clothes.</p>
25 minutes	<p>Lesson Structure/Activities/Presentation: Activity 1: Write the name of the unit on the whiteboard. Tell them they are going to learn materials and their classification. Explain to them the thing which is used to make an object is called material. Every object is made up of different materials. Draw the following diagram on the whiteboard:</p>

	<p style="text-align: center;">Materials</p> <div style="text-align: center;"> <pre> graph TD Materials --> Natural Materials --> Man-made </pre> </div> <p>Explain to them materials are generally classified into natural and man-made materials. Tell them the natural materials come from plants, animals, or under the ground. For example, the wood for the desk and chair came from trees. Let them brainstorm to name natural materials and enlist on the whiteboard simultaneously.</p> <ul style="list-style-type: none"> • chalk • sand • gold • coal • organic oil <p>(Students can take the help of pictures in their textbooks on page no. 37.) Explain to them materials we get from animals, plants or beneath the Earth are called natural materials.</p> <p>Activity 2: Place the small pieces of wood and iron on your table. Ask students to come near the teacher’s table and observe keenly. Hold the small piece of wood and iron in both hands. Tell them these pieces of wood and iron are natural materials obtained from trees and beneath the Earth.</p> <p>Draw the following table on the whiteboard for better learning.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="background-color: #cccccc;">Natural Material</th> <th style="background-color: #cccccc;">Usage</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Trees</td> <td style="text-align: center;">Log</td> </tr> <tr> <td style="text-align: center;">Skin of animals</td> <td style="text-align: center;">Leather</td> </tr> <tr> <td style="text-align: center;">Cotton</td> <td style="text-align: center;">Cloth</td> </tr> </tbody> </table> <p>Differentiated Learning: Some students might find it difficult to understand natural materials. Sit with them and repeat activity # 2 for more clarity.</p>	Natural Material	Usage	Trees	Log	Skin of animals	Leather	Cotton	Cloth
Natural Material	Usage								
Trees	Log								
Skin of animals	Leather								
Cotton	Cloth								
<p>01 minutes</p>	<p>Conclusion/Review: Tell students about materials and their classification.</p>								
<p>08 minutes</p>	<p>Classwork/ Assessment: Ask students to write the answer to question 1 (i) in their notebooks.</p>								
<p>01 minutes</p>	<p>Homework/Assignment: Students will enlist natural materials found in their homes.</p>								

Lesson Plan 15

Subject: Science

Grade: 2

Term: 1st

Week: 5

Unit: 6

Unit Title: Introduction to Materials

LP: 15

Textbook Page/s: 37

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- describe the man-made materials.
- recognize the man-made materials.

Prior Knowledge of Students:

- They are familiar with different man-made objects.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Flashcards of a plastic toy
- A plastic spoon, a candy, paper, a glass

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Show students the flashcard of a plastic toy. Ask some random students about it. Take their answers and correct them if needed. Tell them that plastic is a man-made material that is used to make toys and utensils as well.</p>
25 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1: Write the name of the unit on the whiteboard. Tell them they are going to learn man-made materials. Draw the following diagram again on the whiteboard:</p> <div style="text-align: center;"> <p>Materials</p> <pre> graph TD Materials --> Natural Materials --> Man-made </pre> </div>

	<p>Explain to them some materials are man-made; they are new materials made by humans using natural materials. For example, plastic is made from natural oil, and glass is made from silica sand. Let them brainstorm to name man-made materials and enlist on the whiteboard simultaneously.</p> <ul style="list-style-type: none"> • glass • paper • rubber • plastic • concrete <p>(Students can take the help of pictures in their textbooks on page no. 37.)</p> <p>Activity 2: Place the plastic spoon, candy, paper and a glass on your table. Ask students to come near the teacher’s table and observe keenly. Hold these things in your hand one by one and ask students whether they are natural or man-made. Take their responses and explain to them these are examples of man-made materials made by people.</p> <p>Differentiated Learning: Some students might find it difficult to understand man-made materials. Sit with them and repeat activity # 2 for more clarity.</p>
01 minute	Conclusion/Review: Tell students about man-made materials.
08 minutes	Classwork/ Assessment: Ask students to enlist man-made materials found in their classroom.
01 minute	Homework/Assignment: Students will enlist man-made materials found in their homes.

Lesson Plan 16

Subject: Science

Grade: 2

Term: 1st

Week: 6

Unit: 6

Unit Title: Introduction to Materials

LP: 16

Textbook Page/s: 38,40

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- know the properties and use of materials for various purposes.
- identify transparent and opaque materials.

Prior Knowledge of Students:

- They are familiar with different natural and man-made materials.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Chart different materials

Time Frame (40 minutes)	Proceedings															
05 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Hang the chart of different materials near the whiteboard. Ask students to name these materials. Take their responses and tell them all natural and man-made materials have specific properties such as hard, soft, heavy , light, etc.</p>															
25 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1: Write the name of the unit on the whiteboard. Make a table as presented on the textbook on page.38 on the whiteboard but shuffle the properties.</p> <table border="1" data-bbox="467 1591 1416 1892"> <thead> <tr> <th data-bbox="467 1591 943 1633">Material</th> <th data-bbox="943 1591 1416 1633">Property</th> </tr> </thead> <tbody> <tr> <td data-bbox="467 1633 943 1675">Brick</td> <td data-bbox="943 1633 1416 1675">Flexible</td> </tr> <tr> <td data-bbox="467 1675 943 1717">Foam</td> <td data-bbox="943 1675 1416 1717">Non-waterproof</td> </tr> <tr> <td data-bbox="467 1717 943 1759">Sofa</td> <td data-bbox="943 1717 1416 1759">Transparent</td> </tr> <tr> <td data-bbox="467 1759 943 1801">Candy</td> <td data-bbox="943 1759 1416 1801">Opaque</td> </tr> <tr> <td data-bbox="467 1801 943 1843">Steel</td> <td data-bbox="943 1801 1416 1843">Brittle</td> </tr> <tr> <td data-bbox="467 1843 943 1892">Ceramic</td> <td data-bbox="943 1843 1416 1892">Strong</td> </tr> </tbody> </table>		Material	Property	Brick	Flexible	Foam	Non-waterproof	Sofa	Transparent	Candy	Opaque	Steel	Brittle	Ceramic	Strong
Material	Property															
Brick	Flexible															
Foam	Non-waterproof															
Sofa	Transparent															
Candy	Opaque															
Steel	Brittle															
Ceramic	Strong															

	Wood	Light
	Glass	Heavy
	Plastic	Soft
	Paper	Hard
	Rubber	Waterproof
	<p>Let them guess the properties of each material and match both columns accordingly. Then ask them to check their answers from their textbooks.</p> <p>Activity 2: Read the topic 'Transparent' and 'Opaque' from the textbook on page no.38. Explain to them the transparent materials are those materials we can see through clearly such as eyeglasses and clear glass light bulbs. Whereas the opaque materials are those materials we cannot see through such as iron and wood.</p> <p>Activity 3: Give a demonstration in the classroom as well. Take students near the glass window of the classroom to see through it clearly. Tell them it is an example of transparent material. Let them try to see through by putting their books in front of their eyes. Take their responses and explain to them we cannot see through the books because it is an opaque material.</p> <p>Differentiated Learning: Some students might find it difficult to differentiate between transparent and opaque materials. Sit with them and repeat activity # 3 for more clarity.</p>	
01 minutes	Conclusion/Review: Tell students about transparent and opaque materials.	
08 minutes	Classwork/ Assessment: Ask students to write the answer to question 1 (ii) in their notebooks.	
01 minutes	Homework/Assignment: Students will enlist transparent and opaque materials found in their homes.	

Lesson Plan 17

Subject: Science

Grade: 2

Term: 1st

Week: 6

Unit: 6

Unit Title: Introduction to Materials

LP: 17

Textbook Page/s: 36, 39

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- know the properties and use of materials for various purposes.
- identify strong, hard and brittle materials.

Prior Knowledge of Students:

- They are familiar with different natural and man-made materials.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- A piece of stone, an empty ceramic cup

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Ask students to open their textbooks' page no. 36 and look at the pictures in the 'Think' Section. Let them identify objects made of different materials. Guide them in writing the correct letters.</p>
23 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1: Write the name of the unit on the whiteboard. Read the topic 'Strong and Hard' and 'Brittle' from the textbook's page no.39. Explain to them some materials are strong and hard that making them difficult to scratch or wear away. Iron and diamond are examples of hard materials. On the other hand, some materials are hard but they are easily broken. These are known as brittle materials. Ceramics and glass are examples of brittle materials.</p>

	<p>Activity 2: Give a demonstration in the classroom as well. Place a piece of stone and an empty ceramic cup on your table.</p> <p>Ask students to come near the teacher’s table and observe keenly. Hold these things in your hand and drop them one by one on the ground. Now brief them both things are hard but only ceramic is brittle in nature and broken upon dropping to the ground.</p> <p>Differentiated Learning: Some students might find it difficult to differentiate between a hard and brittle material. Sit with them and repeat the concept for more clarity.</p>
01 minutes	Conclusion/Review: Tell students about transparent and opaque materials.
05 minutes	Classwork/ Assessment: Ask students to write the answer to question 2 (ii) in their notebooks.
01 minutes	Homework/Assignment: Students will enlist any five hard and brittle objects found in their home or school.

Lesson Plan 18

Subject: Science

Grade: 2

Term: 1st

Week: 6

Unit: 6

Unit Title: Introduction to Materials

LP: 18

Textbook Page/s: 36, 39

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- know the properties and use of materials for various purposes.
- identify waterproof and flexible materials.

Prior Knowledge of Students:

- They are familiar with different materials.

Teaching Aids/Materials/Resources:

- Textbooks
- Whiteboard/Whiteboard Marker
- Rubber bands, a spoon, a piece of plastic sheet, an elastic waistband

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Ask students to open their textbooks' page no. 36 and perform the activity given in the 'Explore' Section. Let them identify the elastic material in both of them. Take answers from random students and respond accordingly.</p>
25 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1: Write the name of the unit on the whiteboard. Read the topic 'Waterproof' and 'Flexible' from the textbook's page no.39 aloud. Explain to them some materials such as an umbrella and plastic sheets that do not allow water to pass through them are waterproof objects. Whereas some materials such as a rubber band that can be easily bent and do not break are flexible objects.</p>

	<p>Activity 3: Give a demonstration in the classroom as well. Place a piece of plastic sheet and an elastic waistband on your table. Take a glass of water and wrap the plastic sheet over its opening. Try to pour it into the glass. The plastic sheet will make it impossible because it is a waterproof material. Then hold the elastic waistband on one side in each hand. Stretch it as much as you can and leave the force. It will not break on stretching and return to its original state. Ask students to open their notebooks and write their observations.</p> <p>Differentiated Learning: Some students might find it difficult to understand the properties of waterproof and flexible materials. Sit with them and repeat the concept for more clarity.</p>
02 minutes	Conclusion/Review: Tell students about waterproof and flexible materials.
06 minutes	Classwork/ Assessment: Ask students to write the answer to question 1 (iv) in their notebooks.
02 minutes	Homework/Assignment: Students will enlist waterproof and flexible materials found in their homes.

Lesson Plan 19

Subject: Science

Grade: 2

Term: 1st

Week: 7

Unit: 6

Unit Title: Introduction to Materials

LP: 19

Textbook Page/s: 40-42

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- solve the exercise on their own.

Prior Knowledge of Students:

- They can answer questions related to the properties of materials.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Worksheets of Unit.6
- All material of activity (textbook's page no.42)

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Ask students to open their textbook's page no.42 question.4 and write the names of the materials present in their classroom.</p>
23 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1: Exercise 1</p> <p>Write the name of the unit on the whiteboard. Ask students to open their textbook on page no.40. Write the following questions on the whiteboard and ask students to write their answers in their notebooks:</p> <ul style="list-style-type: none"> • Define material. • Give two examples of hard material from your classroom. <p>Walk around the class and supervise students' answers. Some students might need your help in writing the answers correctly.</p>

	<p>Activity 2: Exercise 2 Guide students in writing 'T' for a true and 'f' for a false statement. Some students might need your help in writing the answers correctly.</p> <p>Activity 3: Exercise 3 Guide students in matching the given material with their properties. Ask students to open the textbooks and look at the pictures in the 'Explore' section on page no. 15. Guide them in circling the correct picture.</p> <p>Activity 4: Guide and help students in performing the activity on the textbook's page no.42. Ask them to write their findings in the given table.</p>
01 minute	Conclusion/Review: Tell students about the properties of the materials.
08 minutes	Classwork/ Assessment: Distribute the worksheets of unit.6 and ask students to solve them.
01 minute	Homework/Assignment: Students make a chart of different materials and label it.

Unit-7-Solids, Liquids and Gases

Unit Overview

In the seventh unit, 'Solid, Liquids and Gases', students will discover the material things can be found in the three states—solid, liquid, and gas. Students will be made aware of the properties of solids, liquids and gases as well. Students will learn the uses of these material things in daily lives.

Model Answers

Exercise 1

Answers to the questions.

- i. Book, pencil, brick.
- ii. Liquids do not have a fixed shape and can flow
- iii. Oxygen.

Exercise 2

Write 'T' for true and 'F' for false statement.

- | | |
|--|---|
| i. All things are solid or liquid only. | F |
| ii. Solids do not have a fixed shape. | F |
| iii. Water, milk, and juices are some examples of liquids. | T |
| iv. Gases can spread out in all directions. | T |

Exercise 3

Students will match the pictures.

Lesson Plan 20

Subject: Science

Grade: 2

Term: 1st

Week: 7

Unit: 7

Unit Title: Solids, Liquids and Gases

LP: 20

Textbook Page/s: 43-44

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:

At the end of this lesson, students will be able to:

- classify the material things.
- identify the solids and their properties.

Prior Knowledge of Students:

- They are familiar with the materials.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Water bottle, spoon, a toy, a pencil

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Ask student to k students to look around the classroom and tell what they can see, for example, desks, chairs, a pencil box, a water bottle, a fan, etc. Let them observe. Ask them to name some material things. Explain to them these all are material things.</p>
25 minutes	<p>Lesson Structure/Activities/Presentation: Activity 1: Tell them they are going to learn the classification of material things around them. Draw the following diagram again on the whiteboard:</p> <div style="text-align: center;"> <p>Material Things</p> <pre> graph TD A[Material Things] --- B[Solids] A --- C[Liquids] A --- D[Gases] </pre> </div>

	<p>Tell them material things are generally classified into solids, liquids and gases on the basis of their properties.</p> <p>Activity 2: Ask them to open their textbook's page no.43 in the 'Think' section and look at the given pictures there. Let them brainstorm and tick if the object that has a fixed shape. Help and guide them in ticking the correct objects.</p> <p>Activity 3: Ask them to open their textbooks on page no.44. Read the topic 'Solid' of the unit aloud. Tell them we can see, touch, feel and weigh the solids. It is because the solids have a fixed shape that does not change when displaced. Give them examples of solids such as the chair, table, fans, electric lights, windows and doors of their classrooms.</p> <p>Differentiated Learning: Some students might find it difficult to understand the concept of solids. Sit with them and repeat the lesson for more clarity.</p>
01 minute	Conclusion/Review: Tell student about the solids and their properties.
08 minutes	Classwork/ Assessment: Let students come near the teacher's table. Place the water bottle, spoon, toy and pencil on the table. Ask them to touch and feel the shape of each object. In the end, tell them the solids have a fixed shape.
01 minute	Homework/Assignment: Students will make a list solid things present in their home.

Lesson Plan 21

Subject: Science

Grade: 2

Term: 1st

Week: 7

Unit: 7

Unit Title: Solids, Liquids and Gases

LP: 21

Textbook Page/s: 44-45, 47

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:

At the end of this lesson, students will be able to:

- recognize the liquids.
- identify the liquids and their properties.

Prior Knowledge of Students:

- They are familiar with the materials.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- A jug full of water, a cup, a glass

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Ask students to open their textbooks on page no.44 and look at the pictures under the topic 'Liquids'. Let them brainstorm and recognize. Take their answers and correct them if needed.</p>
25 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1: Write the name of the unit on the board. Tell them they are going to learn about liquids and their properties. Ask them to open their textbooks on pages no.44-45. Read the topic 'Liquid' of the unit aloud. Tell them we can see, touch, feel and weigh the liquids. But the liquids do not have a fixed shape and can take the shape of the container in which they are poured. Write the examples of the liquids on the whiteboard simultaneously.</p> <ul style="list-style-type: none"> • Milk

	<ul style="list-style-type: none"> • Juice • Water • Petrol <p>Activity 2: Write the poem 'Solids and Liquids' on the whiteboard. Ask students to sing the poem after you in the chorus.</p> <p style="text-align: center;">Solids and Liquids A solid is a solid, It doesn't change its shape. It cannot move around, It stays in just one place. Your desk is a solid, And so is your chair. Just look in your classroom— Wow! They're everywhere! A liquid moves smoothly. We say that it flows. From one place to another— How quickly it goes! We know that most liquids Are easy to see. With no shape of their own, They're not like you and me.</p> <p>Differentiated Learning: Some students might find it hard to understand the concept of liquids. Sit with them and explain the concept with examples.</p>
01 minutes	Conclusion/Review: Tell students about the solids and their properties.
08 minutes	Classwork/ Assessment: Guide students to perform the activity given on the textbook's page no.47 and write their observations at the bottom on the page.
01 minutes	Homework/Assignment: Students will enlist those liquids which they use in their daily lives.

Lesson Plan 22

Subject: Science

Grade: 2

Term: 1st

Week: 8

Unit: 7

Unit Title: Solids, Liquids and Gases

LP: 22

Textbook Page/s: 43-45,47

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:

At the end of this lesson, students will be able to:

- recognize the gases.
- identify the gases and their properties.

Prior Knowledge of Students:

- They are familiar with the materials.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Poster of habits of cleanliness

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Ask them to open their textbook's page no.43 and do the activities given in the 'Explore' section. Let them brainstorm and tick the correct options. Walk around the classroom and supervise students' work.</p>
25 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1: Write the name of the unit on the board. Tell them they are going to learn about gases and their properties. Ask students to open textbook's page no. 45 and ask a random student to read the topic 'Gases' aloud. Stop student where necessary and explain to them about the gases simultaneously by pointing to the pictures. Tell them unlike solids and liquids, gases do not have fixed shapes and spread in all directions. They also take the shape of their container as well.</p>

	<p>Write the examples of the gases on the whiteboard simultaneously.</p> <ul style="list-style-type: none"> • steam • water vapours • air <p>Tell them air is a mixture of different gases and oxygen gas is used by all living things for breathing.</p> <p>Activity 2:</p> <p>Exercise 3</p> <p>Repeat the concept of solids, liquids and gases as three states of matter. Then ask students to open their textbooks' on page no.47 and look at the given pictures. Draw a line to match each form to the correct state of matter. Help and guide them in matching correctly.</p> <p>Differentiated Learning:</p> <p>Some students might find it hard to differentiate between solids, liquids and gases. Make a column on the whiteboard and explain the difference by giving examples of each.</p>
01 minute	Conclusion/Review: Tell students about the gases and their properties.
08 minutes	Classwork/ Assessment: Explain to students the 'Do you know?' section. Ask them to enlist at least five names of each state of matter on their notebooks.
01 minute	Homework/Assignment: Students will make a chart of three states of matter.

Lesson Plan 23

Subject: Science

Grade: 2

Term: 1st

Week: 8

Unit: 7

Unit Title: Solids, Liquids and Gases

LP: 23

Textbook Page/s: 46

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- solve the exercise on their own.

Prior Knowledge of Students:

- They can answer questions related to solids, liquids and gases.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Worksheets of the unit.7

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Repeat the lesson's main point lesson for reinforcement and encourage students to repeat after you.</p>
25 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1: Exercise 1 Write the name of the unit on the whiteboard. Tell them they are going to solve the exercise. Ask students to open their textbook's page no. 46. Write the following questions on the whiteboard and ask students to write their answers in their notebooks.</p> <ul style="list-style-type: none"> • Name three solids. • Define liquid. • Is it solid, liquid or gas that spreads in all directions? • Which gas is the most important? <p>Walk around the class and supervise students' answers. Some students might need your help in writing the answers correctly.</p> <p>Activity 2: Exercise 2 Ask students to open their textbooks. Guide them in writing the true and false on their textbooks page no.46. Guide and help them.</p> <p>Differentiated Learning: Some students might find it hard to solve the exercise. Guide and help them.</p>
01 minute	Conclusion/Review: Tell students about the solids, liquids and gases.

08 minutes	Classwork/ Assessment: Distribute the worksheets of unit.7 among students. Ask them to solve the worksheets.
01 minute	Homework/Assignment: Student will make a chart of three states of matter. (draw any one of the pictures of each state given in the unit)

Unit-12-Natural Resources

Unit Overview

In the twelfth unit, 'Natural Resources' student will learn the concept of natural resources and their importance. These resources are found naturally. Air, water, rocks, soil, iron, oil and coal are the most important natural resources. Some of them are found on the surface of the Earth. Some of them are obtained from below the Earth's surface. Student will get familiar with the uses of these resources as well.

Model Answers

Exercise 1

Answer the following questions.

- i. Water, rocks, soil.
- ii. We need air to breathe.
- iii. Drinking, cooking, and washing.
- iv. Because burning of fossil fuels release harmful gases which are bad for our Earth.

Exercise 2

Match natural resources to their uses.

Natural Resources	Uses
Rocks	iron rod, iron door
Iron	plant's pot, clay pots
Soil	marble, chalk

Exercise 3

Write 'T' for true and 'F' for false statement.

- i. We can see air. F
- ii. Soil is necessary for growth of plants. T
- iii. Oil is a fossil fuel. T
- iv. Iron is found on top of the earth.

Exercise 4

Fill the blank with the correct word.

- i. Humans and animals need air to survive. (animals, rocks)
- ii. About 71 percent of the Earth's surface is covered by water. (water, iron)
- iii. Iron is a natural resource obtained from below the Earth's surface. (above, below)
- iv. We would not have crops or trees without soil. (soil, oil and coal)

Lesson Plan 24

Subject: Science	Grade: 2	Term: 1st
Week: 8	Unit: 12	Unit Title: Natural Resources
LP: 24	Textbook Page/s: 70-71	Duration: 40 minutes
Teacher:	School	Date:

Student Learning Outcomes:

At the end of this lesson, students will be able to:

- name the natural resources present above and under the Earth's surface.
- explain the natural resource of air.

Prior Knowledge of Students:

- They are familiar with natural resources.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Chart of renewable and non-renewable resources

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Hang the chart of renewable and non-renewable resources near the whiteboard for clear visibility. Ask some random students to name these resources and write on the whiteboard as well. Tell them these resources are present above and under the Earth's surface.</p>
25 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1: Write the name of the unit on the whiteboard. Tell them they are going to learn about natural resources. Ask students to open their textbook's page no.70 and look at the pictures in the 'Think' section. Let them brainstorm and name the materials that have been used to build the given houses. Guide and help them in writing the correct answers.</p>

	<p>Activity 2: Ask students to open their textbooks’ page no.71. Read the first paragraph about the introduction of natural resources. Explain to them the materials that we get from nature for our use are called natural resources. There are two types of natural resources on the Earth. Draw the following diagram on the whiteboard:</p> <div style="text-align: center;"> <pre> graph TD NR[Natural Resources] --- R[Renewable] NR --- NR2[Non-Renewable] </pre> </div> <p>Write some examples of them on the whiteboard simultaneously.</p> <ul style="list-style-type: none"> • air • water • rocks • soil • iron • oil • coal <p>Activity 3: Read the topic ‘Air’ from the textbook and explain the following main points of the lesson.</p> <ul style="list-style-type: none"> • Air is a mixture of many gases. • Air is used by all living things to breathe in. • We cannot see the air but we can feel it. • Oxygen is one of the most important gas • Humans, animals and plants need air to survive <p>Demonstrate the breathing process before them and let them observe it. Breathe in slowly and tell them you are taking oxygen gas from the air.</p> <p>Differentiated Learning: Some students might find it difficult to understand the importance of the air. Sit with them and repeat the lesson.</p>
<p>01 minute</p>	<p>Conclusion/Review: Tell students about the importance of the air.</p>
<p>08 minutes</p>	<p>Classwork/ Assessment: Ask students to brainstorm and circle the thing which they breathe in on their textbooks’ page no 70. (Explore Section)</p>
<p>01 minute</p>	<p>Homework/Assignment: Student will enlist the benefits of the air on a white chart.</p>

Lesson Plan 25

Subject: Science

Grade: 2

Term: 1st

Week: 9

Unit: 12

Unit Title: Natural Resources

LP: 25

Textbook Page/s: 71-72,75

Duration: 40 minutes

Teacher:

School

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- name the natural resources present above and under the Earth's surface.
- explain the natural resources of water, rocks and soil.

Prior Knowledge of Students:

- They are familiar with natural resources.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Small pieces of chalk, marble, rock salt

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Ask students to open their textbooks' page 71 and look at the last picture. Question them what it is showing. Take their answers and tell them that it is showing the Earth is covered with about 71% by water. Tell them that the major source of water is rain. Ask them to make a similar diagram on their notebooks and label it.</p>
25 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1: Write the name of the unit on the whiteboard. Tell students they are going to learn about natural resources. Ask students to open their textbook's page no.72 and look at the first two pictures. Explain to them about these pictures. Write the importance of water on the whiteboard simultaneously.</p>

	<ul style="list-style-type: none"> • Almost all living things need water for their survival. • We use water for drinking, cooking food and also for washing <p>Activity 2: Place small pieces of chalk, marble and rock salt on your table and ask students to come near you. Let them recognize each material on their turn. Take their responses and tell them these are examples of rocks. Explain to them rocks are a hard and dry solid part of the Earth. Tell them the uses of rocks in daily life and make the given table on the whiteboard as well.</p> <table border="1"> <thead> <tr> <th>Material</th> <th>Use</th> </tr> </thead> <tbody> <tr> <td>Chalk</td> <td>Writing on blackboards</td> </tr> <tr> <td>Granite</td> <td>Making floors and walls</td> </tr> <tr> <td>Marble</td> <td>Making floors and walls</td> </tr> <tr> <td>Rock Salt</td> <td>Food</td> </tr> </tbody> </table> <p>Activity 3: Ask students to open their textbooks' page no.72 and read the topic 'Soil'. Explain the following main points about the soil.</p> <ul style="list-style-type: none"> • Soil is the upper layer of the Earth's surface. • All plants including trees and crops grow in the soil. <p>Differentiated Learning: Some students might find it difficult to differentiate between rocks and soil. Sit with them and repeat the lesson for better understanding.</p>	Material	Use	Chalk	Writing on blackboards	Granite	Making floors and walls	Marble	Making floors and walls	Rock Salt	Food
Material	Use										
Chalk	Writing on blackboards										
Granite	Making floors and walls										
Marble	Making floors and walls										
Rock Salt	Food										
01 minute	Conclusion/Review: Tell students about the natural resources.										
08 minutes	Classwork/ Assessment: Ask students to fill in the blanks on their textbooks' page no 75 with the correct words.										
01 minute	Homework/Assignment: Student will make one of given pictures on page no.72 on the white chart.										

Lesson Plan 26

Subject: Science	Grade: 2	Term: 1st
Week: 9	Unit: 12	Unit Title: Natural Resources
LP: 26	Textbook Page/s: 73,75	Duration: 40 minutes
Teacher:	School	Date:

Student Learning Outcomes:

At the end of this lesson, students will be able to:

- name the natural resources present above and under the Earth's surface.
- explain the natural resources of water, rocks and soil.

Prior Knowledge of Students:

- They are familiar with natural resources.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Chart of fossil fuels and their uses

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Hang the chart of fossil fuels and their uses near the whiteboard for clear visibility. Ask some random students to name these fossil fuels and write on the whiteboard as well. Tell them petroleum and coal are called fossil fuel found under the Earth's surface.</p>
25 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1: Write the name of the unit on the whiteboard. Tell students they are going to learn about natural resources. Ask students to open their textbook's page no.73 and look at the pictures under the topic 'Iron'. Explain to them these things are made of iron. Tell them iron is found under the Earth's surface.</p>

	<p>Tell them the uses of iron in daily life and make the given table on the whiteboard as well.</p> <table border="1" data-bbox="457 317 1406 527"> <tr> <td rowspan="4" style="text-align: center; vertical-align: middle;">Iron</td> <th style="text-align: center;">Use</th> </tr> <tr> <td style="text-align: center;">Wires</td> </tr> <tr> <td style="text-align: center;">Rods</td> </tr> <tr> <td style="text-align: center;">Sheets</td> </tr> <tr> <td style="text-align: center;">Nails</td> </tr> </table> <p>Iron is also used for building of houses and ships.</p> <p>Activity 2: Place small pieces of chalk, marble and rock salt on your table and ask students to come near you. Let them recognize each material on their turn. Take their responses and tell them these are examples of rocks. Explain to them rocks are a hard and dry solid part of the Earth. Tell them the uses of rocks in daily life and make the given table on the whiteboard as well.</p> <table border="1" data-bbox="457 936 1406 1146"> <thead> <tr> <th style="text-align: center;">Material</th> <th style="text-align: center;">Use</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">Chalk</td> <td style="text-align: center;">Writing on blackboards</td> </tr> <tr> <td style="text-align: center;">Granite</td> <td style="text-align: center;">Making floors and walls</td> </tr> <tr> <td style="text-align: center;">Marble</td> <td style="text-align: center;">Making floors and walls</td> </tr> <tr> <td style="text-align: center;">Rock Salt</td> <td style="text-align: center;">Food</td> </tr> </tbody> </table> <p>Activity 3: Ask students to open their textbooks' page no.73 and read the topic 'oil and coal' aloud. Explain the following main points to them.</p> <ul style="list-style-type: none"> • Oil and coal are the natural resources obtained from below the Earth's surface. • Petroleum products are used to run cars, buses and aeroplanes. • Coal is used for cooking food and as a fuel in trains. • Electricity is produced by burning oil and coal in power stations. <p>Tell them excessive use of fossil fuels produces harmful gases which are harmful for the living things present on the Earth.</p> <p>Differentiated Learning: Some students might find it difficult to understand fossil fuels. Sit with them and repeat the lesson for better understanding.</p>	Iron	Use	Wires	Rods	Sheets	Nails	Material	Use	Chalk	Writing on blackboards	Granite	Making floors and walls	Marble	Making floors and walls	Rock Salt	Food
Iron	Use																
	Wires																
	Rods																
	Sheets																
Nails																	
Material	Use																
Chalk	Writing on blackboards																
Granite	Making floors and walls																
Marble	Making floors and walls																
Rock Salt	Food																
01 minute	Conclusion/Review: Tell students about the natural resources.																
08 minutes	Classwork/ Assessment:																

	Ask students to take a tour of their school and list some natural resources in their textbooks 'page no.75.
01 minute	Homework/Assignment: Student will enlist the things made of iron in their houses.

Lesson Plan 27

Subject: Science

Grade: 1

Term: 1st

Week: 9

Unit: 4

Unit Title: Natural Resources

LP: 27

Textbook Page/s: 74-75

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- solve the exercise on their own.

Prior Knowledge of Students:

- They can answer questions related to natural resources.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Worksheets of the unit.12

Time Frame (40 minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Repeat the lesson's main point lesson for reinforcement and encourage students to repeat after you.</p>
24 minutes	<p>Lesson Structure/Activities/Presentation:</p> <p>Activity 1: Exercise 1 Write the name of the unit on the whiteboard. Tell them they are going to solve the exercise. Ask students to open their textbook's page no. 74. Write the following questions on the whiteboard and ask students to write their answers in their notebooks.</p> <ul style="list-style-type: none"> • Name any three natural resources. • Why do we need air? • How do we use water? • Why is the burning of fossil fuels bad for our Earth? <p>Walk around the class and supervise students' answers. Some students might need your help in writing the answers correctly.</p>

	<p>Activity 2: Exercise 2 Ask students to match the natural resources of column A to their uses in column B. Help and guide them in matching correctly.</p> <p>Activity 3: Exercise 3 Ask them to write true and false on their textbooks' on page no.75. Guide and help them in writing true and false.</p> <p>Differentiated Learning: Some students might find it hard in solving the worksheets. Call them near your table. Guide and help them.</p>
01 minute	Conclusion/Review: Tell students the importance of natural resources.
08 minutes	Classwork/ Assessment: Distribute the worksheets of unit.7 among students. Ask them to solve the worksheets.
02 minutes	Homework/Assignment: Student will prepare an oral test of Q.1.

Lesson Plan 28

Subject: Science

Grade: 2

Term: 1st

Week: 10

Unit: 1-2

Unit Title: Revision

LP: 28

Textbook Page/s:

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- solve the worksheets and assessment sheets on their own.

Prior Knowledge of Students:

- They are familiar with the main concepts of the units.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Colour pencils
- Assessment sheets of unit.1 and unit.2
- Worksheets of unit.1 and unit.2

Time Frame (40 Minutes)	Proceedings
05 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Tell student they are going to solve the worksheets and assessments of the first two units of the textbook.</p>
20 minutes	<p>Lesson Structure/Activities/Presentation: Write the names of the units on the whiteboard. Repeat the main points of units 1 and 2 in the classroom to reinforce all the basic concepts. Ask students if they are facing any difficulties in these units, and then properly resolve them.</p> <p>Activity 1: Distribute the assessment sheets of units.1 and 2 among students. Guide and help them solve correctly.</p> <p>Activity 2: Distribute the worksheets of units.1 and 2 among students. Guide and help them solve correctly.</p> <p>Differentiated Learning: Some students might find it hard to solve the assessments. Help and guide them in answering the questions. Supervise students while doing all the activities of these units for better understanding.</p>
05 minutes	Conclusion/ Review: Tell student the main concepts of the units.

09 minutes	Classwork/ Assessment: Ask students to repeat the activities on pages no.11 and 17 respectively.
01 minute	Homework/Assignment: Students will make a chart of food groups and colour it.

Lesson Plan 29

Subject: Science

Grade: 2

Term: 1st

Week: 10

Unit: 6,7

Unit Title: Revision

LP: 29

Textbook Page/s:

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:*At the end of this lesson, students will be able to:*

- solve the worksheets and assessment sheets on their own.

Prior Knowledge of Students:

- They are familiar with the main concepts of the units.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Colour pencils
- Assessment sheets of units.6, 7
- Worksheets of units.6, 7

Time Frame (40 Minutes)	Proceedings
03 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Tell student they are going to solve the worksheets and assessment sheets of the two units of the first term.</p>
20 minutes	<p>Lesson Structure/Activities/Presentation: Write the names of the units on the whiteboard. Repeat the main points of units 6 and 7 in the classroom to reinforce all the basic concepts. Ask students if they are facing any difficulties in these units, and then properly resolve them.</p> <p>Activity 1: Distribute the assessment sheets of units.6 and 7 among students. Guide and help them solve correctly.</p> <p>Activity 2: Distribute the worksheets of units.6 and 7 among students. Guide and help them solve correctly.</p> <p>Differentiated Learning: Some students might find it hard to solve the worksheets and assessment sheets. Help and guide them in answering the questions. Supervise students while doing all the activities of these units for better understanding.</p>
01 minute	Conclusion/ Review: Tell student the main concepts of the units.

10 minutes	Classwork/ Assessment: Ask students to repeat the activities on pages no.42 and 47 respectively.
01 minute	Homework/Assignment: Students will enlist three examples of each state of matter.

Lesson Plan 30

Subject: Science

Grade: 2

Term: 1st

Week: 10

Unit: 12

Unit Title: Revision

LP: 30

Textbook Page/s:

Duration: 40 minutes

Teacher:

School:

Date:

Student Learning Outcomes:

At the end of this lesson, students will be able to:

- know the main concepts of the unit.

Teaching Aids/Materials/Resources:

- Textbook
- Whiteboard/Whiteboard Marker
- Assessment sheets of the unit.12
- Worksheets of the unit.12

Time Frame (40 minutes)	Proceedings
03 minutes	<p>Opening/Motivation/Warm-up: Greet students cheerfully with السلام عليكم [Note: Always remember to say بسم الله الرحمن الرحيم out loud before you start any lesson or activity and say الحمد لله after finishing it and encourage students to do the same, too.]</p> <p>Tell student they are going to revise the last unit of the first term.</p>
20 minutes	<p>Lesson Structure/Activities/Presentation: Repeat the main points of unit.12 in the classroom to reinforce all the basic concepts. Ask students if they are facing any difficulties with any of these units, and then properly resolve them.</p> <p>Activity 1: Distribute the assessment sheets of unit. 12 among students randomly. Guide and help them solve correctly.</p> <p>Activity 2: Distribute the worksheets of unit.12 among students. Guide and help them solve correctly.</p> <p>Differentiated Learning: Some students might find it hard to solve the worksheet and assessment sheet. Help and guide them in answering the questions. Supervise students while doing all the activities of these units for better understanding.</p>
01 minute	<p>Conclusion/Review: Tell students the main concepts of the unit.</p>
10 minutes	<p>Classwork/ Assessment: Ask students to repeat the activities on pages no. 75.</p>
01 minute	<p>Homework/Assignment: Students will enlist natural resources.</p>

Unit 1- Our Internal Organs and their Function-Worksheet

Lesson Plan 4

The Human Body

Label the parts and draw an arrow to where they belong.

The worksheet contains the following illustrations:

- Top box: Liver and stomach.
- Second box: Heart.
- Third box: Brain.
- Bottom box: Lungs.

Unit 2- Our Sense Organs-Worksheet

Lesson Plan 11

Write the names of the food given below in the right food group.

Fruit and Vegetables	Dairy	Meat, fish and eggs.	Grains and Oats
			

Unit-6 Introduction to Materials-Worksheet

Lesson Plan 19

1. What is the difference between transparent and opaque materials? Give one example for each.

Answer:

2. Name any two flexible materials.


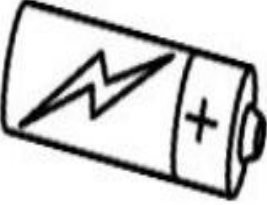


Answer:

3. What are brittle materials?

Answer:

Unit-7 Solids, Liquids and Gases-Worksheet**Lesson Plan 23**

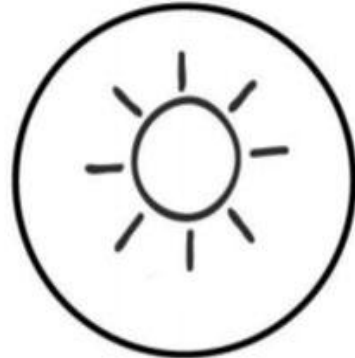
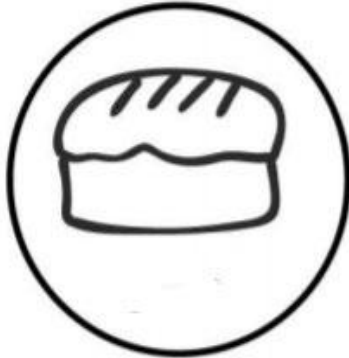
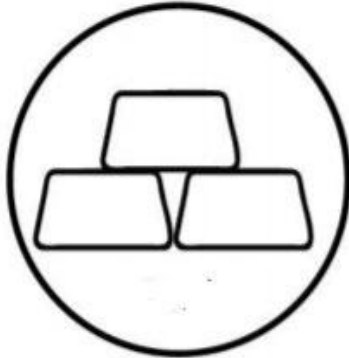
Colour each set of items according to the directions.

Color the items that show the process of a liquid to a gas.					
					
Color the items that have stored energy.					
					
Color the items that are a solid.					
					
Color the items that are a natural light source.					
					

Unit-12 Natural Resources-Worksheet

Lesson Plan 27

Identify and colour the natural resources. Also write their names below.



Unit-Assessments

Unit-1 Our Internal Organs and their Functions

Time: 10 Minutes	Total Marks: /10
-------------------------	-------------------------

Name: _____ **Roll No:** _____ **Date:** _____

Fill in the blanks with correct words. /5

- i. Each part of our body performs a different job. These parts are called _____.
a) organ b) rib
- ii. The brain, the lungs, the stomach and the heart are _____ organs.
a) external b) internal
- iii. The hard skull protects the _____ from damage.
a) heart b) brain
- iv. Our ribcage has _____ ribs.
a) 12 b) 14
- v. The _____ helps in digestion of food.
a) heart b) stomach

Question B

Name the correct organ according to their functions. /6

brain heart lungs stomach



Breathes in oxygen &
breathes out carbon-di-oxide



Digests the food we eat.



Controls all our organs & other
body parts through messages.
Also is a storage for our memory.

Question C

Answer the questions. /4

- i. What is the function of stomach?
Answer: _____
- ii. What protects the heart?
Answer: _____

Time: 15 Minutes	Total Marks: /10
-------------------------	-------------------------

Unit-2 Our Food and Exercise

Name: _____ **Roll No:** _____ **Date:** _____

Question A






Fill in the blanks with correct words. /5

stomach, dairy, four, jogging, protein

- i. There are _____ food group.
- ii. The group that contains milk products is known as _____.
- iii. The meat has _____ that make us strong.
- iv. Walking, running and _____ are forms of exercise.
- v. The _____ helps in digestion of food.

Question B

Label food groups. /4

Question C

Answer the questions. /6

- i. What is diet?
Answer: _____
- ii. Why exercise is much important for health?
Answer: _____
- iii. Write the benefits of drinking the right amount of water.
Answer: _____

Unit-6 Introduction to Materials

Time: 10 Minutes	Total Marks: /10
-------------------------	-------------------------

Name: _____ **Roll No:** _____ **Date:** _____

Question A

Write 'T' for a true and 'F' for a false statement. /5

- i. Glass is man-made material.
- ii. We can see through an opaque material.
- iii. Flexible materials are hard, but they are easily broken.
- iv. A rubber is a brittle material.
- v. Diamond is the hardest material.

Question B

Identify the materials of given objects and tick the right option. /6

What are the following objects made of ?

Select two materials in some cases

Book



- Paper Rubber Rock

Football



- Paper Rubber Leather

Candle



- Metal Wax Wood

Table



- Metal Rubber Wood

Blanket



- Wool Water Flour

Shoe



- Flour Leather Plastic

Question C

Answer the questions. /4

- i. What natural material means?

Answer: _____

- ii. What is the property of a waterproof material?

Answer: _____

Unit -7 Solids, Liquids and Gases

Name: _____ Roll No: _____ Date: _____

Time: 10 Minutes	Total Marks: /10
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Question A

Write 'T' for a true and 'F' for a false statement.

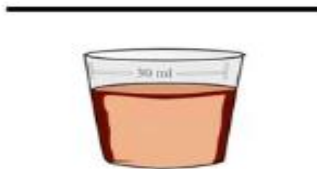
/5

- vi. Solids can be touched and weighed.
- vii. Liquids have a fixed shape.
- viii. A gas takes the shape of its container.
- ix. Water and milk are examples of liquid.
- x. Living things need carbon dioxide to breathe.

Question B

Identify and write liquids, solid and gas below the given pictures.

/6



Question C

Answer the questions.

/4

- i. How can we know a thing is a solid?

Answer: _____

- ii. What do you know about air?

Answer: _____

Unit-12 Natural Resources

Name: _____ Roll No: _____ Date: _____

Time: 10 Minutes	Total Marks: /10
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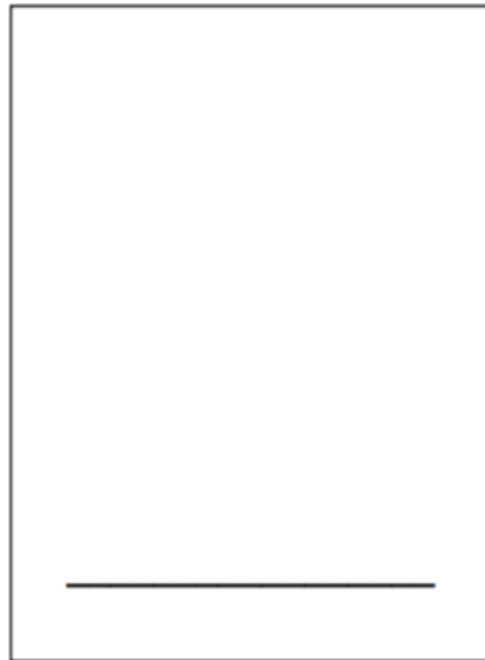
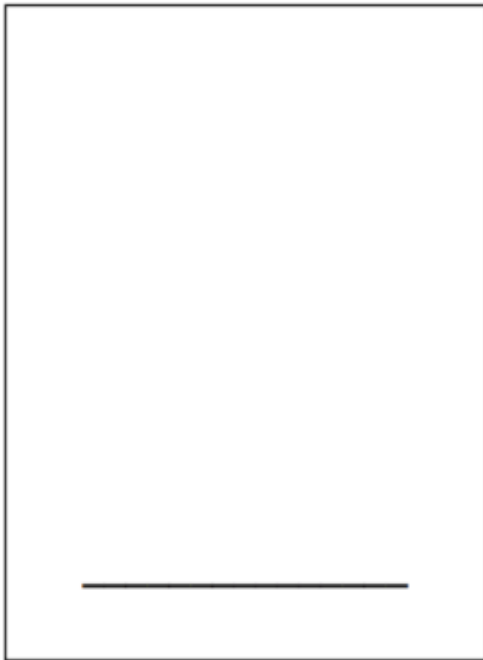
Question A

Write 'T' for a true and 'F' for a false statement. /5

- xi. About 29% of the Earth's surface is covered by water.
- xii. Human and animals need oxygen to survive.
- xiii. Rocks are found under the Earth's surface.
- xiv. Coal and petroleum are called fossil fuels.
- xv. We use chalk in our food.

Question B

Draw and label two natural resources you use every day. /4



Question C

Answer the questions. /6

- i. What are natural resources?

Answer: _____

- ii. Name the types of natural resources.

Answer: _____

- iii. What are benefits of iron?

- iv. Answer:

Terminal Assessment Paper

1st Term

1st Term Assessment	Time: 40 Minutes
	SCIENCE 2

Name: _____ Roll No: _____ Date: _____

Section	Section-I	Section-II	Practical	Viva	Total
Maximum Marks	60	20	10	10	100
Obtained Marks					

Section-I

Question 1

Write 'T' for true and 'F' for false statement.

/10

- i. Plastic is a natural material.
- ii. Ceramic is a brittle material.
- iii. We cannot see through a transparent object.
- iv. Leather is a man-made material.
- v. All things are solid or liquid only.
- vi. Solids do not have fixed shape.
- vii. Water, milk, and juices are some examples of liquids.
- viii. Gases can spread out in all directions.
- ix. Soil is necessary for growth of plants.
- x. Oil is a fossil fuel.

Question 2

Tick (✓) the correct word.

/5

- i. We get fruits and vegetables from _____. (animals, plants)
- ii. _____ is a form of exercise. (Sitting, Walking)
- iii. Regular _____ helps us sleep well. (exercise, sleep)
- iv. About 71 percent of the Earth's surface is covered by _____. (water, iron)
- v. We would not have crops or trees without _____. (soil, oil and coal)

Question 3

Match the internal organs with their functions in the columns below.

/14

Column A

Pump blood to the entire body
Control the whole body
Breathing
Digestion of food

Column B

Stomach
Heart
Brain
Lungs

Question 4

Think of two jobs we would not be able to do if our brain did not work. /5

Job 1	
Job 2	

Match natural resources to their uses.

Natural Resources	Uses
rocks	iron rod, iron door
iron	plant's pot, clay pots
soil	marble, chalk

Question 5

Write your favourite food from each food group. /8

- a. dairy _____
- b. meat _____
- c. fruits and vegetables _____
- d. grain _____

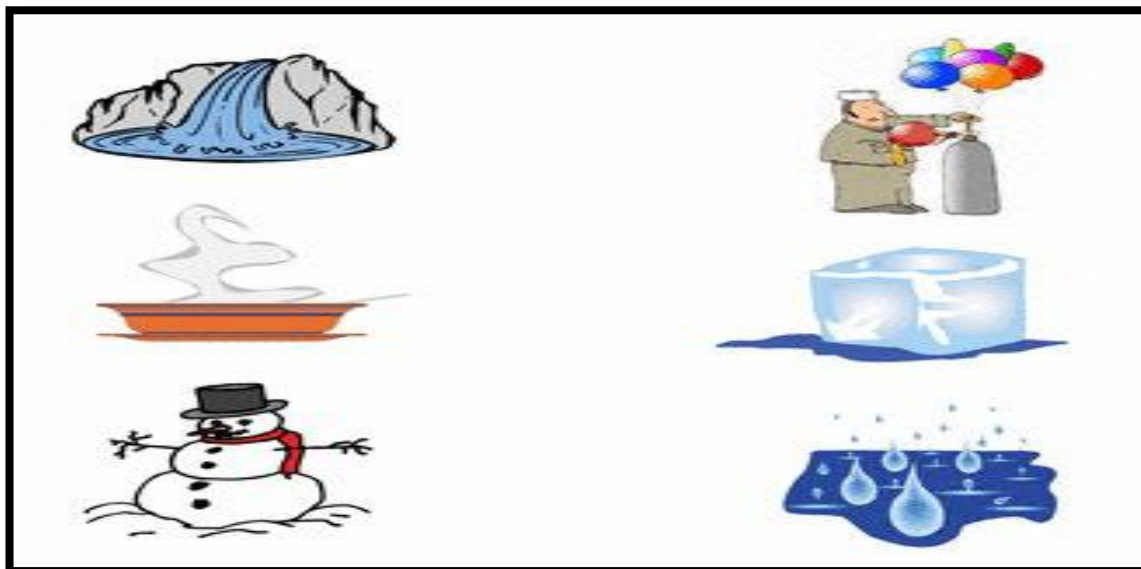
Question 6

Look around in your classroom. How many types of materials can you find? Write down any four in the column. /4

Materials in My Classroom
1.
2.
3.
4.

Question 7

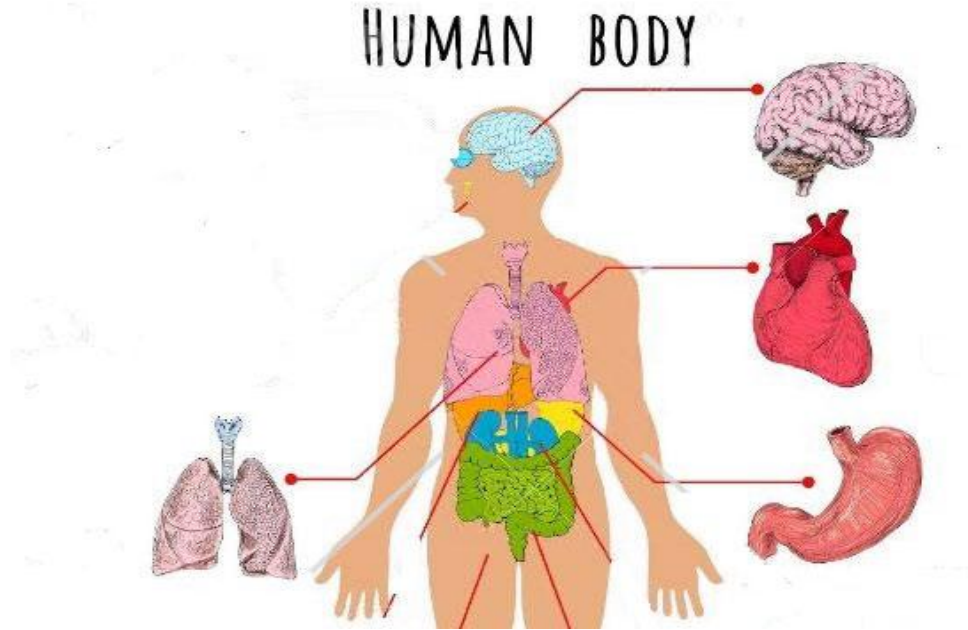
Draw a line to match each form to the correct state of matter. /6



Question 8

Identify and label the highlighted vital organs of the human body.

/8



Section-II

Question 6

Answer the questions.

/20

iii. What protects the brain?

Answer:

iv. Name any three internal organs of the human body.

Answer:

v. What is the function of the heart?

Answer:

vi. What are the four basic food groups?

Answer:

vii. Write two benefits of exercise.

Answer:

viii. Define material.

Answer:

ix. Name any three natural resources.

Answer:

x. What is the percentage of water on the Earth's surface?

Answer:

xi. Define liquid.

Answer:

xii. Why is the burning of fossil fuels bad for our Earth?

Answer:

Practical

Performance of student in activities of units 2 and 12

/10

Viva

Give at least five real real-life from concepts given below. (Any Five)

/10

- external organs
- internal organs
- fruits
- vegetables
- hard
- soft
- solids
- liquids
- gases