OXFORD
UNIVERSITY PRESS

NEW Amazing Science

TEACHING GUIDE

5

Based on Single National Curriculum 2020

Introduction

New Amazing Science Teaching Guide is a vital resource for science teachers in class to help deliver knowledge, problem-solving and thus reach academic objectives.

Key Terms

Starter Activity:

These help in bringing focus to the lesson and set the tone for learning.

Lesson Methodology:

It suggests the method to cover the learning objectives for having a complete teaching and learning experience.

PMI Chart:

It is a type of graphic organizer in which student examines pluses, minuses and interesting factors of the lesson.

Plus – Advantages

Minus – Disadvantages

Interesting -Implications

It is filled using ticks or cross

PLUS	MINUS	INTERESTING
X	-	x
-	X	x

Home Learning:

For revision and reinforcement of the topic learned for strengthening knowledge of students.

Remember to use Mind Tree and STEM at the end of every unit.

Contents

Unit 1 | Classification of Living Thing

SUBTOPICS

- Describe classification of living organisms and its importance.
- Classify the plants into two major groups (dicots and monocots) and give examples of each group.
- Compare and contrast the structure of a dicot and a monocot plant (with respect to their seeds, leaves and flowers).
- Differentiate between vertebrates and invertebrates based on their characteristics.
- Classify vertebrates into, fish, amphibians, reptiles, birds and mammals on the basis of their characteristics.
- Classify invertebrates into five groups (sponges, worms, insects, snails, and starfish) on the basis of their characteristics.
- Understand the concept of extinction and endangered species and the role of human actions in the loss of biodiversity.
- Analyse some of the factors caused by human which are affecting biodiversity.
- Write some measures for conservation of endangered species.

LESSON PLAN #1

Class: V Subject: General Science

Unit: 1

Topic: Classification of Living Things

Sub-Topics:

- Introduction
- Classification of Living Organisms
- Monera
- Protists
- Fungi
- Plants
- Mosses
- Ferns
- Conifers

Date : _____ Duration: 2x40

Term: _____ Week: _____

Learning objectives

- To introduce the concept of classification of all living organisms.
- To highlight the major groups of primitive organisms.

Resources

- Textbook (NAS Book 5)
- Charts (classification of living organisms)
- Word Search worksheet

Starter Activity (5min)

- The students will be instructed to solve the word search worksheet. (Given on the next page / Can easily be photocopied). After which the teacher shall discuss the correct answer and introduce the topic.

Teacher Ideas

WORD SEARCH

Name :

Z	W	S	E	P	G	Y	O	P	C
L	E	U	O	T	U	N	W	O	O
R	C	F	C	Y	P	S	G	D	N
O	E	E	K	R	S	P	L	I	I
S	S	R	T	E	G	R	P	T	F
F	G	N	S	U	Y	T	L	B	E
U	U	S	E	N	R	A	A	P	R
M	O	N	E	R	A	J	N	U	S
M	G	P	G	D	L	A	T	A	I
P	R	O	T	I	S	T	S	R	Z

Search the following words, they can be found in the following directions.

Monera

Protists

Fungi

Plants

Mosses

Ferns

Conifers

Answer to the word search.

The answers have been **bold**. Answers are in forward, backward and diagonal directions.

Z	W	S	E	P	G	Y	O	P	**C**
L	E	U	O	T	U	N	W	O	**O**
R	C	**F**	C	Y	P	S	G	D	**N**
O	E	**E**	K	R	**S**	P	L	I	**I**
S	S	**R**	T	**E**	G	R	**P**	T	**F**
F	G	**N**	**S**	U	Y	T	**L**	B	**E**
U	**U**	**S**	E	N	R	A	**A**	P	**R**
M	**O**	**N**	**E**	**R**	**A**	J	**N**	U	**S**
M	G	P	**G**	D	L	A	**T**	A	I
P	**R**	**O**	**T**	**I**	**S**	**T**	**S**	R	Z

Lesson Methodology (30 min)

- After the starter activity, teacher shall write the keywords, e.g. 'Classification' on the board, and place charts showing 5 major groups on board.
- The teacher shall instruct students to open their textbooks and read assigned page numbers loudly, turn wise.
- At the end, teacher shall explain the subtopics elaborating upon their significance and body structure.
- Students shall be instructed to read silently. The teacher shall stay on round and facilitate.
- The teacher is to give a quick analysis of the subtopics and sum up the lesson.
- In the next class, the teacher will discuss Quick Review.

Plenary (5 min)

- Students will fill quick PMI chart, on board.

Assessment opportunities (30 min)

- Have students attempt the first Quick Review and Detailed Question 1. Facilitate accordingly.
- Students shall present a 2-minute presentation on the topic assigned in the previous class.

Home Learning

- Re-read the topic for revision and comprehension.
- Divide class into 7 groups. Assign a subtopic, each to present.

Lesson Evaluation

- Based on the presentation, the teacher shall evaluate the understanding of the student.

Teacher Ideas

Further Notes

LESSON PLAN #2

Class: V Subject: General Science

Unit: 1

Topic: Classification of Living Things

Sub-Topics:

- Flowering Plants
- Difference between Dicots and Monocots
  - Seed
  - Stem
  - Leaf
  - Flower
  - Roots

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning objectives

- To discuss Flowering Plants.
- To elaborate upon the structure of Flowering Plants by highlighting similarities and differences between two major subgroups.
- To show the internal structure of Flowering Plant parts through drawings and how they work.

Resources

- Textbook (NAS Book 5)
- Charts—Miscellaneous Charts can be used to show Flowering Plants and their structure

Starter Activity (5min)

- The students will be instructed to unscramble the words on board.

List of words to unscramble

SEMT	RFOLWE	FLAE	SOROT	EDSE
STEM	FLOWER	LEAF	ROOTS	SEED

Teacher Ideas

Lesson Methodology (30 min)

- The teacher will write some keywords on the board e.g., Cotyledon, Dicot, Monocot, Kingdom, Phloem, Xylem. The teacher shall define these terms.
- Students will be instructed to open their books to assigned page numbers. Loud reading shall be done turn wise.
- The teacher will explain the lesson utilizing all available resources. Furthermore, silent reading should be done by students, while the teacher should stay on round and facilitate.
- Next, the teacher will give a quick overview of the lesson.
- The activity 'Let's Find Out' will be discussed. (To be given later as home assignment)

Plenary (5 min)

- Students will fill quick PMI chart on the board.
- Assessment opportunities (30 min)
- Have students attempt Detailed Questions no. 2 and 5.

Home Learning

- To read the topic for revision and reinforcement.
- The "Lets' Find Out" Activity, discussed in the class, will be given as a home assignment. Submission deadline will be given. Work done by students and the teacher also will be displayed on the soft board.

Lesson Evaluation

- As a warm-up activity in the next class, the teacher shall ask a few questions to deduce whether the concepts are clear or not.

Teacher Ideas

Further Notes

LESSON PLAN #3

Class: V Subject: General Science

Unit: 1

Topic: Classification of Living Things

Sub-Topics:

- The Animal Kingdom
- The Invertebrates
  - Sponges
  - Echinoderm
  - Insects
  - Worms
  - Mollusc
- The Vertebrates
  - Fish
  - Amphibians
  - Reptiles
  - Birds

Date:_____ Duration: 2x40

Term:_____ Week: _____

Learning objectives

- To introduce the vast kingdom of animals.
- To further elaborate upon some big groups of animals.

Resources

- Textbook (NAS BOOK 5)
- Charts-Classification of Animal Kingdom (pictorial)
- Video (5min)
- Preserved animals

Starter Activity (5min)

- A video from available resources to show the diversity of the animal kingdom, including animals living in water, and land will be shown to students by the teacher. (Arrangements can be made in the computer lab/ audio-visual room and the class can be conducted there)

Teacher Ideas

Lesson Methodology (30 min)

- The teacher can use real samples of preserved animals or image printouts in class. They will be used during the exploration of the lesson, e.g. frog, snail, earthworm, fish, snake, etc.
- The teacher will instruct the students to open the books to assigned page numbers. Students will be asked to read loudly. When reading is done, teacher will explain the subtopics, showing samples, while the respective group is being discussed.
- Furthermore, students will read silently, while the teacher will take rounds and facilitate students.
- In the end, the teacher will give a quick analysis of the lesson and students will attempt Quick Review.

Plenary (5 min)

- Quick PMI* chart (plus, minus, interesting) will be filled by students on board.

Assessment opportunities (30 min)

- Students will be told to attempt: Circle the correct answer, Vocabulary Review, Match the Words and Sentences and One Word Answer. Facilitate accordingly.

Home Learning

- Students will re-read the topic for revision and comprehension.

Lesson Evaluation

- As a warm-up activity in the next class, the teacher will cross-question students, to deduce the level of understanding. Written work will also be taken into account.

Teacher Ideas

Further Notes

LESSON PLAN # 4

Class: V Subject: General Science

Unit: 1

Topic: Classification of Living Things

Sub-Topics:

- Mammals
- Extinct and Endangered Species
- Threats to Biodiversity

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning objectives

- To further consolidate the topic with discussion on the "Mammals".
- To elaborate and highlight present-day scenarios, related to animals going extinct.

Starter Activity (5min)

- Text Book (NAS BOOK 5)
- Charts

Lesson Methodology (30 min)

- The teacher will write "Animal Kingdom" and name some animals on the board. A brainstorming session will be conducted, mammals will be introduced, and their features will be discussed while giving examples.

Plenary (5 min)

- Quick PMI chart (plus, minus, interesting) will be filled by students on board.

Assessment opportunities (30 min)

- Quick Review will be discussed and students will be told to solve the remaining Chapter Review, facilitate accordingly.

Home learning

- Students to study the topic for revision and reinforcement.

Project

- Students will follow the guidelines present in the book and do the project.

Teacher Ideas

Lesson Evaluation

- Using the Mind Tree and STEM, the teacher will not only conclude the topic, but also evaluate the student's level of understanding.

Further Notes

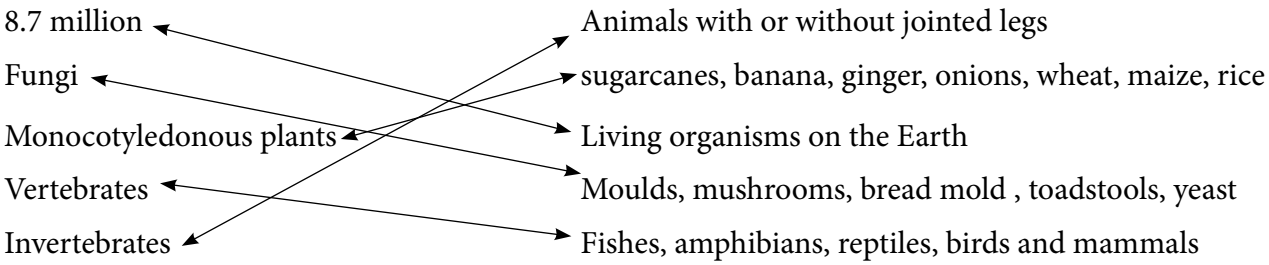
ANSWER KEY UNIT 1

Circle the correct answer.

1.	b. 1 million animals and 350 000 plants
2.	b. monera
3.	a. mould
4.	b. algae
5.	b. amphibians

Vocabulary Review

Match the words and sentences to their relevant fact, statement or example.



Observe and Answer

1	a.	Fungi Kingdom Plant Kingdom Animal Kingdom
1	b.	Monocot Dicot

One-Word Answer

1.	Biologist
2.	Fungi
3.	Algae
4.	Fishes
5.	Invertebrates

Detailed Questions

1. Describe the classification of living organisms and why is it important?

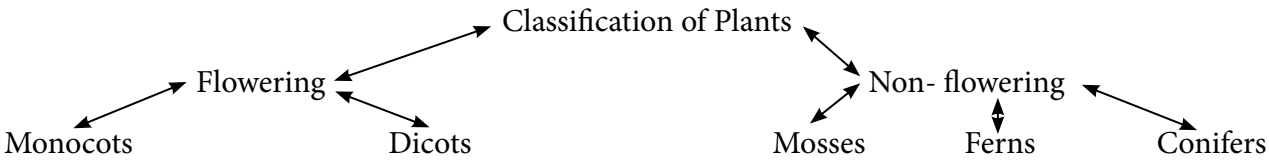
Answer:

Biologists have classified all living organisms into five groups, which are as follows: protists kingdom, monera kingdom, fungi kingdom, plant kingdom, the animal kingdom and it is important because this division helps us to understand, how all the different things in the world fit into a pattern.

2. Write a note on plants and draw a web to show the classification of Plant Kingdom.

Answer:

Plants are multicellular living organisms. They contain a green substance called chlorophyll. This substance absorbs energy from sunlight and is used to make food.



3. Name the five groups of Vertebrates and briefly write the characteristics of each group with examples.

Answer:

	Name	**Characteristic**	**Examples**
1	Fish	• They live in water. • They have a streamlined body shape • Their Skin is mostly covered in scales. • Their tails and fins assist in swimming. • They breathe through gills. • They lay eggs.	Goldfish Trout
2	Amphibians	• They spend their lives partially on land and in water. • Young amphibians live in water and their skin is moist. • They have four limbs that are used to jump on land and swim in the water. • Adults breathe through lungs on land and young ones use gills. • They lay eggs without shells in the water.	Frog Toads
3	Reptiles	• They live on both land and water. • They have dry, scaly skin. • They have four limbs and a tail to crawl on land and swim in the water. • They use their lungs to breathe. • Most lay eggs with thick shells.	Snakes Turtles
4	Birds	• They live on land. • The only animals with feathers. • Most have wings to fly but not all birds can fly. • They breathe using their lungs. • They lay eggs with shells.	Eagles Sparrows

5	Mammals	• Most live on land, some, like dolphins and whales, live in water. • They are covered with fur and hair. • They have four limbs which they use to walk and run. • They breathe using their lungs. • They give birth to babies and feed them on milk.	Dogs Horses

4. Briefly write about the following terms:

Answer:

a. Vertebrates

Vertebrates are animals that contain a hard, bony internal skeleton inside their body which helps them move about. Their backbone consists of many vital bones which help support and move the body, also protecting the spinal cord. The vertebrate group contains fishes, amphibians, reptiles, birds, and mammals.

b. Characteristics for classification of Vertebrates

Vertebrates can be classified on the basis of their habitat, how they move, their body surfaces, the way they respire and reproduce.

c. Extinction

The disappearance of species when the last of its member dies is called extinction.

d. Endangered species with conservation measures

Species in danger of extinction are known as endangered species. To save them, conservation measures, such as not capturing and collecting wildlife, not buying products made using these animals such as furs and shells and not littering must be taken into account.

5. a. What are flowering plants? Describe their groups with examples.

Answer:

An advanced group in the plant kingdom, which produces flowers and fruits, is known as a flowering plant. They have roots, stems, leaves and the fruit or flower contains the seed. Flowering plants are divided into two groups; monocotyledons or monocots and dicotyledons or dicots. Dicots include peas, beans, chickpeas, peanuts, mint, rose, and tomatoes. Monocots include wheat, maize, rice, sugarcane, banana, ginger, onion, and grass.

b. Differentiate between monocots and dicots by filling out the table below:

Part of the Plant	Groups of flowering plants	
	Monocots	Dicots
Seed	*Has one cotyledon*	*Has two cotyledons*
Stem	*Scattered xylem and phloem*	*Organized xylem and phloem*
Leaf	*Parallel veins*	*Web-like veins*

Unit 2 MICROORGANISMS

SUBTOPICS

- Define and describe microorganisms.
- Identify the main groups of mircoorganisms and give examples for each.
- Highlight the role of mircoorganisms in decomposition and discuss its harmful and beneficial effects.
- Recognize some common diseases of each group caused by mircoorganisms.
- Recognize that mircoorganisms get transmitted into humans and spread infectious diseases.
- Discuss and deduce advantages and disadvantages of (any 3) mircoorganisms by using some daily life examples.
- Suggest preventive measures to protect him/herself from these infections.
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- Suggest preventive measures to protect him/herself from these infections.

LESSON PLAN #1

Class: V Subject: General Science

Unit: 2

Topic: Microorganism

Sub-Topics:

- Introduction
- Types of Microorganisms
  - Bacteria
  - Virus
  - Fungi
- Role of Microorganisms In Nature
- Decomposition
- Food And Decay

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning objectives

- To introduce the topic and create interest in the life forms which are mostly invisible to the naked eye.
- To emphasize health and well-being for students to live a better, well-informed life in society.

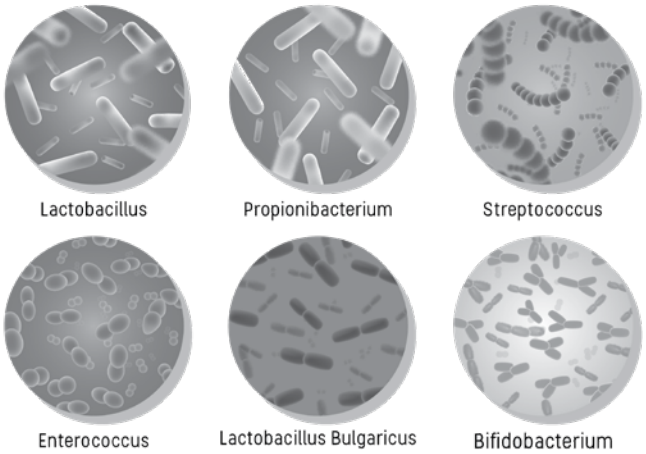
Resources

- Text Book (NAS BOOK 5)
- FlashCards (Flashcards – written terms on one side and pictures of the same on the other side.)

Starter Activity (5min)

- The teacher with the help of flashcards will introduce the following terms: Bacteria, Protozoa, Fungi, Virus and Infection.
- The pictorial side of the flashcard will be shown first, and then turned to reveal the terms. Images can be found online.

Teacher Ideas



Lesson Methodology (30 min)

- The teacher will further elaborate and define the key terms such as Bacteria, Virus, Fungi, Decompose and Infection.
- The students will be instructed to read assigned page numbers. Followed by reading loudly in turn. The teacher will then explain the lesson.
- Furthermore, students will read silently, while the teacher will go on round to facilitate.
- The teacher will give a quick analysis.
- "Let's find out" will only be explained. (Assign as homework).
- Quick Review will be done in class as discussed during the lesson.

Plenary (5 min)

- Students will fill quick PMI chart, on board.
- Assessment opportunities (30 min)
- Have the students attempt Detailed Questions 1 and 3. Facilitate accordingly.

Home Learning

- Read the topic for revision and reinforcement.
- To perform "let's find out", and share its result in the class.

Lesson Evaluation

- As a warm-up activity in the next class, teacher shall ask a few questions to evaluate whether the concepts are clear and well comprehended.
- Written work will also be taken into account.

Teacher Ideas

LESSON PLAN #2

Class: V Subject: General Science

Unit: 2

Topic: Microorganisms

Sub-Topics:

- Infection
- Transmission of Microorganisms
  - By breathing In Droplet
  - By Eating or Drinking
  - By Blood
  - By Animals
- Protecting the Body Against Diseases
- Useful Microorganism

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning Objectives

- To elaborate on the subtopics, highlighting the importance of modes of transmission and measures to be taken for protection.
- To emphasize the role of microorganisms that are beneficial for us.

Resources

- Textbook (NAS Book 5)
- Charts-Pictorial (for soft boards)

Starter Activity (5min)

- Brainstorming- The teacher while giving slight hints (e.g how is common flu transmitted, and how are dengue and malaria transmitted), related to the transmission of microorganisms and germs, will ask students to share what they know.
- The teacher will elicit from students through brainstorming.
- The responses will be written on the board.

Lesson Methodology (30 min)

- The teacher will instruct students to open their books to read assigned page numbers. Text will be read aloud next.
- Furthermore, the teacher will explain the lesson and use pictures to identify various microorganisms.
- The term transmission and its ways will be elaborated upon.

Teacher Ideas

- The unit summary will be done by the teacher using the STEM and Mind Tree.
- "Quick Review" and 'Let's find out' activities will be discussed and given to the students as independent work.

Plenary (5 min)

- Students will fill Quick PMI chart on the board.

Assessment opportunities (30 min)

- Guidelines for the posters will be given by the teacher and submitted work will later be displayed on soft boards.
- Students to revise the topic taught for better comprehension.
- To attempt Detailed Questions 2,4 and 5 and complete chapter review questions.

Home Learning

- To read the topic again for reinforcement.
- To complete the "Quick Review" and "Let's find out" assignments for independent work.

Lesson Evaluation

- The work done by students and their responses will enable the teacher to deduce comprehension of the topic.
- Formal/Informal assessments

Suggestion: Students to visit science laboratory to look at microorganisms like paramecium, amoeba, fungi like penicillium, to allow them to link the knowledge gained in the class to "hands-on" experience.

Teacher Ideas

Further Notes

ANSWER KEY UNIT 2

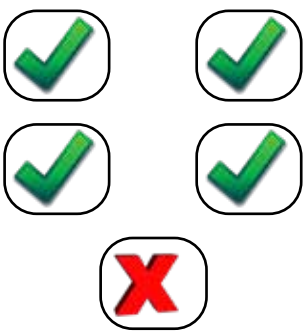
Circle the correct answer.

1.	b. typhoid
2.	b. very fast
3.	c. yeast
4.	c. fungi
5.	a. recycle

Fill in the blanks.

1. ***Microorganisms*** are so small that we cannot see them with a ***naked*** eye.
2. Some microorganisms are ***useful*** and some are ***harmful***.
3. In warm, moist and dark environments, ***bacteria*** grow very fast.
4. We should always ***wash*** our hands with ***soap*** and water to stay healthy.
5. ***Virus*** causes cold, influenza, and measles.

Observe and Answer



One-Word Answer

1.	Germs
2.	Bacteria
3.	Diseases
4.	Mushrooms
5.	Antibiotics

Detailed Questions

1. What do you understand by the word 'Microorganism'? Describe and explain their habitat.

Answer:

Microorganisms are unicellular or multicellular organisms that are not visible to the naked eye. Microorganisms can either be harmful or useful and are found everywhere such as our bodies, air, surfaces and water. They can produce their own food or feed off of other organisms. They need food, water, air, ways to dispose of waste and a hospitable environment to survive.

2. Name some disease-causing germs with example.

Answer:

Bacteria cause cholera, typhoid, tuberculosis, throat infection and salmonella.

Viruses can cause covid-19, influenza, measles and chickenpox.

3. Fill in the given table to show various features of three types of microorganisms.

Answer:

Physical Features	**Types of Microorganism**		
	Bacteria	**Virus**	**Fungi**
Size	≈100 x smaller than animal cell	≈1/ 1000 000 mm	Visible to the naked eye except for unicellular fungi
Shape	Spherical, rod-like or spirals	Geometric	Various shapes
Structure	Single-celled with no proper nucleus	Protein coating surrounding their genetic material	A tangle of slender thread-like structures, each made up of one or more cells

4. List at least three measures that protect us against diseases.

Answer:

1. Washing hands with soap and water before touching food.
2. Wash fruit and vegetables before eating them.
3. Keeping food covered to protect from flies.

5. Write a detailed note on the useful microorganisms.

Answer:

Microorganisms that cause us no harm are considered useful microorganisms. They are useful to us for various purposes, for example, they decompose dead organisms, yeast is a fungus used to make bread, a bacteria mixed with milk is used to make yoghurt and cheese. Bacteria can be used to make kinds of vinegar, antibiotics and those present in our bodies help us digest food.

Unit 3 | FLOWERS AND SEEDS

SUBTOPICS

- Examine and describe structure of a flower.
- Define pollination and describe its types with examples.
- Define reproduction and differentiate between sexual and asexual reproduction in plants.
- Describe the structure of a seed and demonstrate its germination.
- Compare and contrast the structure and function of chickpea and maize seed.
- Illustrate the conditions necessary for seed germination.

LESSON PLAN #1

Class: V Subject: General Science

Unit:3

Topic: Flowers and Seeds

Sub-Topics:

- Introduction
- Reproduction in Plants
- Sexual Reproduction
- Pollination

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning Objectives

- To impart knowledge of important reproduction parts of the plants.
- To give clear concepts of processes taking place for the survival of plants through offsprings/new plants/progeny.

Resources

- Textbook (NAS Book 5)
- Charts – Parts of a flower
  - Pollination
  - Fertilization

Starter Activity (5min)

Show and Tell

- The teacher will put up a poster of a flowering plant (Ref. pg. 34 on NAS 5) on the board. The labels will be covered. The students will be asked to identify the diagram and its various parts. The teacher will remove the cover to show the labels when students have given the right answers. At the end of the remaining labels (if any), they will be removed.

Teacher Ideas

Lesson Methodology (30 min)

- The teacher will introduce the topic through a starter activity and continue with reading. Students will be instructed to open their books to read the assigned page numbers silently.
- In the end, the teacher will explain the topic with the help of charts and diagrams on the board. Classroom discussion will take place.
- Furthermore, a quick analysis will be given by the teacher.
- A Quick Review will be discussed.).

Plenary (5 min)

- Students will fill Quick PMI chart on the board.

Assessment opportunities (30 min)

Students will attempt Quick Review and Detailed Question 1

Home Learning

- Reread the text for revision.
- Draw relevant diagrams in your notebook for better learning.

Lesson Evaluation

- Through a warm-up activity, the teacher may ask some questions to deduce that the learning objectives have been achieved

Lesson Evaluation

- Students will be evaluated through their written work, their enthusiastic responses in "hands-on" activities and through formal /informal assessment.

Teacher Ideas

Further Notes

LESSON PLAN #2

Class: V Subject: General Science

Unit:3

Topic: Flowers and Seeds

Sub-Topics:

- Fertilisation
- Inside A seed: Seed coat, Embryo, Endosperm
- Difference between a chickpea and a maize seed.
- The stages of germination
- Asexual reproduction

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning Objectives

- To introduce the concept of fertilisation and explain the structure of a seed.
- To learn about the difference between a chickpea's and a maize's seed.
- To impart knowledge regarding germination and asexual reproduction.

Resources

- Textbook (NAS Book 5)
- Charts / PowerPoint presentations : Fertilization

  Structure of chickpea and maize seed (reference can be taken from book)
- A small pack of chickpeas seed and maize seed

Starter Activity (5min)

- Using the 'Let's Find Out' as the starter activity, the teacher will introduce the structures of the seed. The teacher will demonstrate all the steps. (Also, keep another set of soaked seed ready beforehand to demonstrate).
- Lesson Methodology (30 min).
- The teacher will instruct students to open their books to assigned page numbers. Students will read loudly turn by turn.
- The teacher will then explain the lesson using charts and live seeds. Then, asexual reproduction will be discussed.

Teacher Ideas

- The students will read silently again. The teacher will take rounds and facilitate.
- The teacher will give a quick analysis using the Mind Tree.
- Finally, Quick Review and STEM will be discussed.

Plenary (5 min)

- Students will fill Quick PMI chart on the board.

Assessment opportunities (30 min)

- Students will attempt the remaining Detailed Questions and Chapter Review. Facilitate accordingly.
- The project will also be discussed and performed together by the whole class.

Home Learning

- To study the topic again at home for revision and comprehension

Lesson Evaluation

- Students will be evaluated through their written work, their enthusiastic responses in "hands-on" activities and through formal /informal assessment.

Teacher Ideas

Further Notes

ANSWER KEY UNIT 3

Circle the correct answer.

1.	b. reproduction
2.	b. petals
3.	b. anther
4.	a. fertilization
5.	a. orange, melon, bitter gourd

Vocabulary Review

Tick whether true or false.

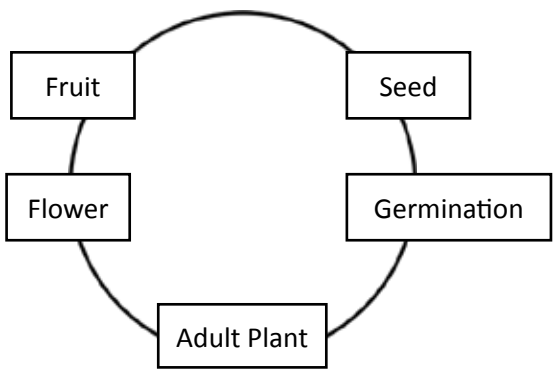
	TRUE	FALSE
Petals are protected by sepals before they open	✓	
Some flowering plants have separate male and female flowers on the same plant.	✓	
Sexual reproduction in flowering plants can take place only when multiple cells combine.	✓	
Non-flowering plants produce spores for reproduction.	✓	
The spores are carried to different places by water.		✓

Observe and Answer

(Processes)

Pollination Germination Sexual Reproduction

(Label)



One-Word Answer

1.	Animals
2.	Hibiscus
3.	Carpel
4.	Papaya
5.	Seed

Detailed Questions

1. Define pollination and describe its types with examples.

Answer:

The process of transfer of pollen grain from the anther to stigma is known as pollination. There are two types of pollination; self and cross. In self-pollination, pollen is transferred from anther to stigma of the same plant and in cross-pollination; pollen is transferred from anther to stigma of another plant of the same species.

2. a. Define reproduction in plants.

Answer:

Reproduction is the name of the biological process by which new individual organisms (called offsprings) are produced from their parents. In plants, there are two types of reproduction processes present: asexual and sexual.

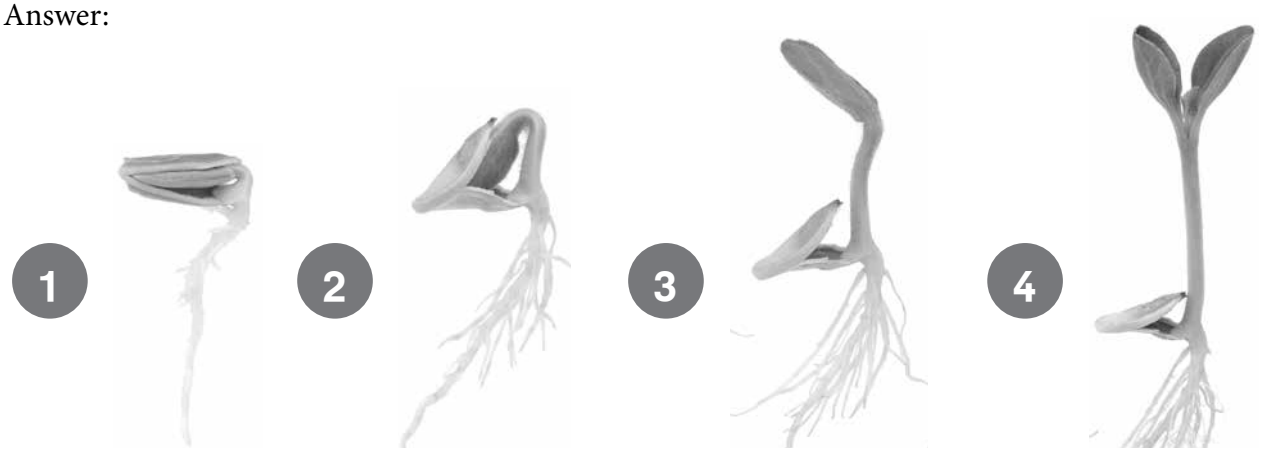
b. Explain the difference between sexual and asexual reproduction in plants.

Answer:

SEXUAL REPRODUCTION	*ASEXUAL REPRODUCTION*
▪ *Involves male and female parts.*	▪ *Only one parent is involved.*
▪ *The offspring has properties of both parents mixed.*	▪ *Produces genetically identical offspring/*
▪ *Requires fertilization of reproductive cells to produce seeds or spores.*	▪ *No special reproductive cells are required..*
▪ *Always result in the production of seeds.*	▪ *Can produce bulbs, runners and tubers.*
▪ *Takes place in a flower of a plant.*	▪ *Takes place in Stems, roots, and leaves.*

3. Describe using illustrations, the structure of a seed and the process of germination.

Answer:



When the seed germinates, the roots appear first. The developing baby plant gets its food from the seed leaves.

Next, the shoot appears and the young plant develops.

At this stage, the leaves have developed. The young plant will now make its own food in order to grow.

After some time, the seed leaves drop off. The young plant needs light, air and water to make food and grow well.

4. What are some other ways in nature by which plants propagate themselves? Give examples.

Answer:

Following are some ways plants propagate :

- Tubers are swollen underground Stems. The eyes or the buds grow into new shoots. E.g. Garlic, ginger, potato.
- Sugarcane, roses, money plant, grapes, and several other plants are largely produced by STEM cuttings.
- Bulbs are modified stems wrapped in leaves. The buds grow from the STEM to form new shoots.
- Some plants have buds in their stems that grow horizontally over the soil develop new plants, called runners.

5. Fill in the table below to show differences in features between chickpea and maize seed.

Answer:

Features	Chickpeas Seed (Dicotyledons)	Maize Seed (Monocotyledons)
Cotyledon	▪ *Contains two cotyledons which are fleshy and store food*	▪ *Contains one cotyledon that is present in the embryo and is thin, small and lacks food material*
Endosperm	▪ *Not present*	▪ *Are mostly present and store food.*

Unit 4 ENVIRONMENTAL POLLUTION

SUBTOPICS

- Define pollution and its types.
- Explain the main causes of water, air and land pollution.
- Explain the effects of water, air and land pollution (unclean/toxic water, smoke, smog, excess CO_2/other gases, open garbage dumps, industrial waste etc.) on the environment and life.
- Discuss and explain the effects of burning fossil fuels and releasing greenhouse gases in air.
- Differentiate between biodegradable and non-biodegradable materials.
- Explain the impact of non-biodegradable materials on the environment.
- Investigate possibilities and suggest ways to reduce non-biodegradable materials.

LESSON PLAN #1

Class: V Subject: General Science

Unit:4

Topic: Environmental Pollution

Sub-Topics:

- Introduction
- Environment
- Pollution
- Pollutant
- Air Pollutant
- The Greenhouse Effect

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning Objectives

- To introduce the topic and give clear concepts of its environment and pollution, with everyday life examples.

Resources

- Textbook (NAS Book 5)
- Flashcards/ Drawings on board

Starter Activity (5min)

- The teacher will put up 4 pictures on the board showing the following:
- a. Healthy environment
- b. A road with poor visibility
- c. A factory emitting smoke.
- d. Greenhouse effect chart- reference NAS BOOK 5 pg 47
- Showing these the teacher will question students to share what they interpret and understand.

Lesson Methodology (30 min)

- The teacher will write the keywords on the boards i.e. environment, pollution, smog, greenhouse effect. The teacher will introduce the topic and define keywords.
- The teacher will ask students to open their books to the assigned page number.

Teacher Ideas

- Students will be asked to read loudly, randomly by the teacher. Furthermore, the teacher will explain the topic especially using pictures on the board and in the book. Next, students will be asked to read silently.
- The class will end with a quick summary of the lesson.

Plenary (5 min)

- Students will fill quick PMI chart, on board.

Assessment opportunities (30 min)

- Students to attempt detailed Q1.
- Students to draw the " The Greenhouse effect" diagram
- (ref: NAS Book 5, pg 47 can be displayed on the board)

Home Learning

- To study the topic for revision and comprehension.

Lesson Evaluation

- As a warm activity in the next class, the teacher will ask a few questions to ensure that lesson is well comprehended

Teacher Ideas

Further Notes

LESSON PLAN #2

Class: V Subject: General Science

Unit:4

Topic: Environmental Pollution

Sub-Topics:

- Water Pollution
- Land Pollution
- Impact of Non-Biodegradable Materials On The Environment

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning Objectives

- To bring to light the importance of types of pollution which are directly affecting the quality of life.
- To emphasize the impact of non-biodegradable materials on the environment, citing examples from our daily lives.

Resources

- Textbook (NAS Book 5)
- Chart: Air, water and land pollution

Starter Activity (5min)

- As a starter activity, the Teacher will inquire from students as to what health hazards/pollutants e.g. trash, plastics have they observed in their environment.

Lesson Methodology (30 min)

- The teacher will instruct students to open their books to the assigned page number. Students to read loudly turn wise.
- The teacher will explain the lesson, emphasizing the negative effects of pollution and how to minimise them. The photos from the book should be used to give a clear concept.
- Students will be asked to read silently. Furthermore, teachers will take rounds to facilitate students.
- In the end, the teacher will give a quick analysis. Quick Review will be discussed

Teacher Ideas

Plenary (5 min)

- Students will fill quick PMI chart, on board.

Assessment opportunities (30 min)

- Students will attempt Detailed Question no. 2, 3, 4 and 5. Complete the remaining Chapter Review.

Home Learning

- Students to study the lesson for revision and comprehension.
- Quick Review, STEM, Mind Tree to be completed and analyzed at home.

Lesson Evaluation

- Students will be evaluated through tests and written work.

Teacher Ideas

Further Notes

ANSWER KEY UNIT 4

Circle the correct answer.

1.	a. Smog
2.	d. all of the above
3.	a. greenhouse effect
4.	b. water pollution
5.	b. non-biodegradable

Vocabulary Review

CAUSE
Smog
Pollutant
Greenhouse gases
Polluted water
Non- Biodegradable waste

EFFECT
Infertility of soil
Life on Earth is hard due to warmer temperature
Causes asthma, bronchial infections, allergies and heart problems
Environmental pollution
Harms aquatic ecosystems

Observe and Answer

Non-Biodegradable

Non-Biodegradable

Biodegradable

Biodegradable

Biodegradable

One-Word Answer

1.	Air
2.	Pollutant
3.	Houses
4.	Recycling
5.	Jute/ Paper

Detailed Questions

1. What is pollution?

Answer:

The introduction of harmful substances into the environment due to human activities is called pollution.

2. Name three types of pollution and explain their causes.

Answer:

Types of Pollution	Causes
Air Pollution	- *Burning of fuels to produces electricity.* - *Fuels burned by vehicles.* - *Burning of garbage.* - *Harmful smoke released by industries*
Water Pollution	- *Dumping of industrial, human waste in rivers, lakes and seas.* - *Every day sewage and garbage are dumped into the sea.*
Land Pollution	- *Landfills full of garbage.* - *Wrong disposal of waste on land.*

3. What is the effect of water, air and land pollution on the environment and life?

Answer:

Pollution, be it air, water, or land, is harmful and life-threatening. Air pollution can cause breathing problems and climate change since, due to the release of various harmful substances, not only can the temperature rise, it can make it difficult to breathe. Water pollution not only endangers the ecosystem and humans, but it also has disastrous consequences for aquatic and other wildlife animals and plants. The water becomes unfit for consumption, swimming and bathing. Land pollution not only kills animals that are stuck or consume the waste, but it also makes the land surface unsuitable for living and destroys our ecosystem.

4. What is the effect of burning fossil fuels on the emission of greenhouse gases in the air?

Answer:

The burning of fossil fuels increases the amount of gases in the atmosphere, which leads to more heat being trapped. This causes the climate to change due to the temperature change.

5. What measures needs to be taken to reduce non-biodegradable material?

Answer:

We should reduce, reuse and recycle non-biodegradable material. For example: use durable and reusable water bottles instead of plastic bottles, use jute or paper bags instead of plastic shoppers.

Unit 5 CHANGES OF MATTER

SUBTOPICS

- Identify observable changes in materials that do not result in new materials with different properties (e.g., dissolving, crushing aluminium can).
- Recognize that matter can be changed from one state to another by heating or cooling (candle wax).
- Describe and demonstrate the states of water (i.e., melting, freezing, boiling, evaporation, and condensation).
- Identify ways of accelerating the process of dissolving materials in given amount of water and provide reasoning (i.e., increasing the temperature, stirring, and breaking the solid into smaller pieces increases the process of dissolving).
- Distinguish between strong and weak concentrations of simple solutions.
- Identify observable changes in materials that make new materials with different properties (e.g., decaying, burning, rusting).
- Differentiate between physical and chemical changes with examples

LESSON PLAN #1

Class: V Subject: General Science

Unit:5

Topic: Physical and Chemical Changes of Matter

Sub-Topics:

- Introduction
- Change In State
- Change In Shape And Size
- Water And Its Three States
- Solid State
- Liquid State
- Gaseous State
- Change From A Liquid To A Gas –Boiling
- Change From A Gas to a liquid - Condensation

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning Objectives

- To introduce the topic by highlighting changes happening all around us.
- To give clear concepts of states of matter and how it changes states.

Resources

- Textbook (NAS Book 5)
- Charts: Showing topic relevant pictures
- Starter Activity (5min)

UNSCRAMBLE

- The teacher will write the following on the board and students will be asked to unscramble them. In the end, correct answers will be told.

MEATRT	RETAW	UDLIQI	IDOSL
GEOSSAU	SNOOLIUT		
MATTER	WATER	LIQUID	SOLID
GASEOUS	SOLUTION		

Teacher Ideas

Lesson Methodology (30 min)

- The teacher will introduce the topic with keywords and the students will be instructed to read aloud turn wise. Classroom discussion with the elaboration of the subtopic will take place.
- The teacher will then explain the lesson with the help of students day to day experiences and pictures.
- Students will then be instructed to go through the pages silently. Furthermore, the teacher will take rounds to facilitate.
- The teacher shall give an analysis of the lesson.
- At the end "let's find out" activity will be discussed
- Plenary (5 min)
- Students will fill quick PMI chart, on board.

Assessment opportunities (30 min)

- Have students attempt Detailed Questions 1 and 2.

Home Learning

- To study the topic again for revision and comprehension.
- To enter their observations and learning on an A-4 sheet as discussed earlier for the "Let's Find out" Activity. Students will be asked randomly to share their thoughts in class.

Lesson Evaluation

- As a warm-up activity in the next class, the teacher shall ask a few questions to ensure lesson delivery.

Teacher Ideas

Further Notes

LESSON PLAN #2

Class: V Subject: General Science

Unit:5

Topic: Physical and Chemical Changes of Matter

Sub-Topics:

- Changes from a liquid to a gas – Evaporation
- Dissolving
- Stirring
- Temperature
- Reducing The Size of A Solid
- Chemical Change
- Unpleasant Odour
- Gas Formation
- Change In Colour
- Physical Change versus Chemical Change

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning Objectives

- To give clear concepts of the topic, citing examples from everyday life examples.

Resources

- Textbook (NAS Book 5)
- Image printout- on A4 paper (Showing the various ways of changing state, physical and chemical change)

Instructions: on one side, the picture will be printed, and on the other side, the name of the process, for example:

Dissolving:

Stirring

Temperature

Reducing the size

Gas formation

Chemical Change e.g. Husking, ashes

Teacher Ideas

Starter Activity (5min)

- The teacher will show A4 page image printouts one by one and when the students give responses, the card will be flipped to show the correct answer.

Lesson Methodology (30 min)

- The teacher will ask students to open their books to assigned page numbers and read silently.
- The teacher will elaborate, explaining the sub-topics giving examples from daily life. Students will also share their observations where possible.
- The teacher will give a quick analysis of the lesson and "Quick Review" will be discussed.

Plenary (5 min)

- Students will fill quick PMI chart, on board.
- Assessment opportunities (30 min)
- Have students attempt Detailed Questions 3, 4, 5 and complete the Chapter Review. STEM and Mind Tree will also be discussed.

Home Learning

- To study the lesson for revision and comprehension.
- To enter answers in the Quick Review poster as discussed earlier.

Lesson Evaluation

- Students will be evaluated through work done, formal, informal assessment and the Project: As given in the book.

Teacher Ideas

Further Notes

ANSWER KEY UNIT 5

Circle the correct answer.

1.	a. physical and chemical
2.	a. steam
3.	b. log of wood burns
4.	c. physical and chemical change
5.	a. chemical change

Vocabulary Review

1. Matter remains the same kind; however, it may change state due to a physical change.
2. Change in state is a physical change.
3. Ice starts to melt at 1°C; chocolate melts at a temperature of about 45 oC and candle wax melts at about 47°C.
4. When a log of wood is burned, it changes into ashes.
5. A solution is strong if there is a lot of solid dissolved in the liquid and weak when it is less.

Observe and Answer

(left to right)

(Row 1)

- Steam is being formed while cooking.
- Water vapours condense on a glass surface.
- Melting of ice.

(Row 2)

- Precaution from chemicals and germs in the air by facial mask use.
- Chemical change. Fruits decomposition by moulds (Fungi)

One-Word Answer

1.	Water
2.	Metals
3.	Rust
4.	Chemical

Detailed Questions

1. Define a physical change and list some examples.

Answer:

When matter changes its physical properties such as changes in state, shape, size and colour and not chemical is known as physical change.

2. Write a note on three states of water.

Answer:

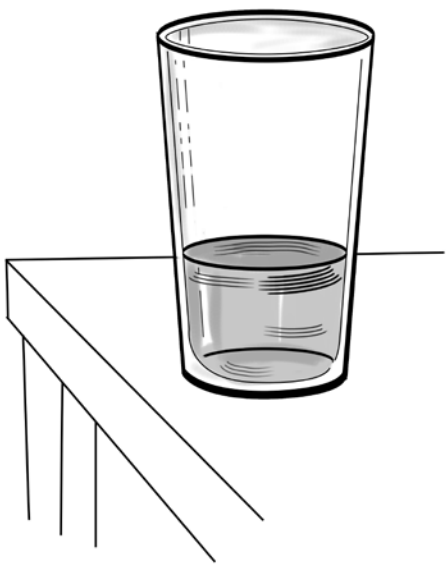
Water exists in all three states be it solid, liquid and gas. The solid form of water is known as ice. The liquid water evaporates to form the gaseous form of water known as water vapours. Water vapours condense to form liquid water.

3. Define Condensation and give a daily life example with an illustration.

Answer:

Condensation is known as the process through which water vapour turns into liquid.

An example of condensation is water droplets on a glass.



4. How can you make a solid dissolve faster in a liquid? Explain.

Answer:

Solids can be dissolved faster in a liquid through the following ways:

- Stirring – Using tools to mix and dissolve solid into a liquid.
- Temperature – Heating or using a warmer liquid to dissolve a solid.
- Reducing the size of solid – IF solid is crushed it will dissolve more quickly.

4. a. What is a chemical change?

Answer:

When a matter changes into another kind of matter thus changing its chemical properties is known as a chemical change.

b. How can you tell that a chemical change has taken place?

Answer:

When a change in a matter cannot be reversed is known as chemical change, such as burning of coal into ashes.

Unit 6a | LIGHT

SUBTOPICS

- Identify natural and artificial sources of light.
- Justify that light emerges from a source and travels in a straight line.
- Investigate luminous and non-luminous objects in daily life.
- Identify and differentiate between transparent, opaque and translucent objects in their surroundings.
- Investigate that light travels in a straight line.
- Explain the formation of shadows.
- Predict the location, size and shape of a shadow from a light source, relative to the position of objects.
- Demonstrate that shiny surfaces reflect light better than dull surfaces.

LESSON PLAN #1

Class: V Subject: General Science

Unit: 6a

Topic: Light

Sub-Topics:

- Introduction
- Sources of Light
- Properties of Light
- Luminous and Non-Luminous Objects
- Materials And Light

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning Objectives

- To introduce the topic and give clear concepts of various properties and phenomena.

Resources

- Textbook (NAS Book 5)
- Activity Material (Show and Tell)
- Torch, Card Board with a hole in the centre and Candle

Starter Activity (5min)

Show and Tell

- The teacher will put off the classroom light and keep two cardboards on a table. The torch will be turned on. Students will be asked what change did they notice. Light will be the answer.

Lesson Methodology (30 min)

- The topic will be introduced. The teacher will write the word "light" on the board. The teacher will instruct students to open their books to the assigned page numbers. Students will turn wise read aloud. The teacher will explain the lesson, quoting examples and asking students for examples as well. Furthermore, students will be instructed to read the lesson silently, while the teacher takes rounds to facilitate.

Plenary (5 min)

- Students will fill quick PMI chart onboard.

Teacher Ideas

Assessment opportunities (30 min)

- Have students attempt Detailed Question 1,2 and 3. Facilitate accordingly.

Home Learning

- Re-read the topic for revision and comprehension.

Lesson Evaluation

- As a warm-up activity in the next class, the teacher shall ask a few questions to deduce whether concepts are clear and well comprehended.

Teacher Ideas

Further Notes

LESSON PLAN #2

Class: V Subject: General Science

Unit: 6a

Topic: Light

Sub-Topics:

- Transparent
- Translucent
- Opaque
- Shadow
- Characteristics of Shadows
- Size and Position of Shadow

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning Objectives

- To give clear concepts of the topic from our environment which relate to our daily experience.

Resources

- Textbook (NAS Book 5)
- Hands-on activity (on a sunny day)

Starter Activity (5min)

- Students will be taken out to school ground around 10 am and they will be asked to look at the position of the sun and the length of their shadows.

Lesson Methodology (30 min)

- The teacher will bring back students to the classroom and instruct students to open their books to the assigned page number.
- The teacher will explain the lesson at length, taking students' responses related to their observations in the starter activity.
- In the end, the teacher will give a quick analysis of the lesson using the Mind Tree.
- "Let's find out" activity and STEM will be discussed.

Teacher Ideas

Plenary (5 min)

- Students will fill quick PMI chart, on board.

Assessment opportunities (30 min)

- Have students attempt Detailed Question no. 4, 5, complete the chapter review, and draw and answer.

Home Learning

- To re-read the topic for revision and comprehension.
- To take an A-4/ chart paper of the A-4 size and do Quick Review.

Lesson Evaluation

- Students will be evaluated through written work, responses, formal and informal assessment.

Further Notes

Teacher Ideas

ANSWER KEY UNIT 6a

Circle the correct answer.

1.	b. energy
2.	b. Sun and stars
3.	b. luminous source of light
4.	b. opaque
5.	b. same

Vocabulary Review

	TRUE	FALSE
1. You cannot see stars in the day because of bright sunlight.	✓	
2. The Sun is a large ball of burning gases.	✓	
3. The Earth and Moon are solid from outside and inside		✓
4. Earth is billions of miles away from the Sun.		✓
5. The Earth's axis is slightly tilted, causing day and night.	✓	

Observe and Answer

Good Reflector

Good Reflector

Bad Reflector

Good Reflector

Bad Reflector

One-Word Answer

1.	Waves
2.	Artificial / man-made
3.	Light rays
4.	Moon
5.	It reflects

Detailed Questions

1. Define:

Answer:

a. Light
Light is a form of energy, which can come from a different source.

b. Speed of light
The speed of light is 300,000 kilometres per second.

c. Sources of light
Light comes from different things, some are natural and some are artificial. The natural light comes from the Sun, the moon, and the stars. Some lights are manmade and artificial, for example, candles, burning wood, searchlights, torches, electric bulbs and lanterns.

d. Ray of light
A straight line along which the light travel is known as a ray of light.

e. Beam of light
A collection of rays of light is known as a beam of light.

2. What is a source of light? Explain different sources of light with examples.

Answer:

An object that gives out light is a source of light. Light comes from different things, some are natural and others are artificial. Example; Natural light sources: The sun, The moon and the stars. Artificial light sources: candles, burning wood and bulbs.

3. What is the difference between luminous and non-luminous objects? Explain with examples.

Answer:

Objects that produce their own light are called luminous, for example, The sun, the stars and fire. Objects that do not produce their own light are called non-luminous objects, for example, the moon.

4. How is matter classified on the basis of the way light passes through them? Give examples.

Answer:

It is classified into three types, on the basis of how much light passes through them. The materials that allow light to pass through them completely are called transparent materials, such as glass. The materials, which let some light pass through them, are called translucent materials, such as frosted glass. Materials that do not allow light to pass through them are called opaque materials, such as wood.

5. Write a short note on:

Answer:

a. Shadow and its Characteristics

Shadow: When a translucent or an opaque object is placed before a source of light, this dark spot is known as a shadow.

Characteristics of a shadow:

- The shadow of the object forms on the opposite side from the light source.
- A shadow shows only the shape or outline of the object.
- Shadows do not depend on the colour of the object.
- Opaque objects form dark shadows as they block the light completely which translucent object form faint shadows as the objects allow light to pass through partially.

b. Size and position of the shadow

The size of the object depends on the distance between the object and the source of light.

The closer the object, the bigger the shadow is formed.

The size also depends on the distance between the object and the surface where it is formed.

The length of the shadow depends on how high or low is the light source.

Unit 6b | SOUND

SUBTOPICS

- Describe and demonstrate how sound is produced by a vibrating body.
- Identify variety of materials through which sound can travel.
- Identify that speed of sound differs in solids, liquids and gaseous mediums.
- Define and describe the intensity of sound with examples.
- Define noise and its harmful effects on human health.
- Appreciate the role of human beings in reducing noise pollution.

LESSON PLAN #1

Class: V Subject: General Science

Unit: 6b

Topic: Sound

Sub-Topics:

- Introduction
- Sound Waves
- Loud And Soft Sound
- High And Low Sounds
- Noise Pollution

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning Objectives

- To discuss the topic of Sound and give clear concepts to the students.

Resources

- Textbook (NAS Book 5)
- FlashCards
- Instruction for the 6 Flash Cards: Photo of side and their description on the other, for example, doorbell, aeroplane, waves, musical instruments, flute, tuba and sun.

Starter Activity (5min)

- The teacher will show flashcards one by one-taking students' responses.

Lesson Methodology (30 min)

- The teacher will relate each flashcard to the topic, e.g. sound of a flute
- After introduction, students will be instructed to open their books to assigned page numbers silently. Loud reading will be done next.
- The sub-topic will be elaborated on in detail. In the end, Quick Analysis will be done using the Mind Tree.
- Quick Review on pages 82 and 86 will be discussed. (Page 86 Quick Review will be given as homework).

Teacher Ideas

Plenary (5 min)

- Students will fill quick PMI chart, on board.

Assessment opportunities (30 min)

- Have students attempt complete chapter review and detailed Q1,2,3,4 and 5 and facilitate accordingly.

Home Learning

- Quick Review (ref: page 82) will be discussed and given as homework.
- To re-read the topic for revision and comprehension.

Lesson Evaluation

- Students will be evaluated through written work, responses, formal, and informal assessment

Further Notes

Teacher Ideas

ANSWER KEY UNIT 6b

Circle the correct answer.

1.	b. in all directions
2.	a. weaker
3.	a. ticking of a wall clock
4.	b. distance of the Earth from the Sun
5.	b. fast

Vocabulary Review

Fill in the blanks

1. When a bell rings, it vibrates and produces ***sounds***.
2. Sound travels through ***solids, liquids*** and ***gases***.
3. Sound travels ***slowest*** through the air, ***faster*** through liquids and ***fastest*** through solids.
4. By reducing ***unpleasant sounds,*** we can reduce noise pollution.
5. Jet airliners produce unpleasant, loud sounds that cause ***noise*** pollution.

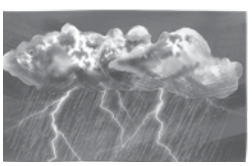
Observe and Answer

Pleasant

Unpleasant

Unpleasant

Pleasant



Unpleasant

One-Word Answer

1.	Sound
2.	Three
3.	Vacuum
4.	Loud
5.	Sleep

Detailed Questions

1. How is sound produced? Explain with example.

Answer:

Sound is produced by forward and backward movements of objects producing it, for example, Wings of bees move forward and backwards very fast as we hear a buzz.

2. Describe sound waves.

Answer:

Sound waves are produced when an object vibrates and it causes vibrations in air particles. These particles bump into the particles close to them, which make them vibrate too, causing them to bump into more air particles. This movement is called Sound waves.

3. Name three states of matter and explain how sound travels in each.

Answer:

The three states of matter are solid, liquid and gas. Sound travels fastest through solids, faster through liquids and slowest through gases.

4. Define the following with examples:

Answer:

a. Loud and soft sounds

The loudness of sound is determined by the intensity or amount of energy in sound waves. The higher the intensity, the louder you hear the sound. Loud sounds become softer if you move away from them. The closer you are to the vibrating object, the louder the sound is.

b. High and low sounds

Some sounds are low. Some sounds are high. The sounds are high when something vibrates very fast. A mouse can make a high squeak because sound produced by the mouse vibrates very fast. The sounds are low when something vibrates more slowly. A cow makes a low sound when it moos because the sound made by the cow vibrates slowly.

5. What is noise pollution and how does it negatively affect humans and the environment?

Answer:

Noise is any sound that we do not like. Loud music and noise can also be very disturbing if the volume is turned up for hours. Very loud noise can damage the ears, cause sleeplessness and, in older people, can lead to deafness and it is damaging for the environment as well.

Unit 7 ELECTRICITY AND MAGNETISM

SUBTOPICS

- Explain the phenomenon of static electricity in everyday life.
- Describe charges and their properties.
- Differentiate between conductors and insulators in daily life.
- Describe the flow of electric current in an electric circuit.
- Describe and design an electric circuit and explain its components.
- Recognize that magnets can be used to attract some metallic objects.
- Describe and demonstrate that magnets have two poles and like poles repel and opposite poles attract.
- Identify earth as a huge magnet and demonstrate it with experiment.
- Describe the working of a magnetic compass.
- Explain different types of magnets (permanent, temporary magnet and electro-magnet).

LESSON PLAN#1

Class: V Subject: General Science

Unit:7

Topic: Electricity And Magnetism

Sub-Topics:

- Introduction
- Static Charge
- Electric Current
- Electric Circuit

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning Objectives

- To give clear concepts of the topic, compare and contrast the two types of electric energy.

Resources

- Textbook (NAS Book 5)
- Quick Review – worksheet (Q.R- 1 , 2 & 3)

Starter Activity (5min)

- Unscramble
- The teacher will ask the students to unscramble the word written on the board.

Y E I CE I I R T TL

(Electricity)

The teacher will introduce to the students the uses of electricity using examples such as switching a light on and off.

Lesson Methodology (30 min)

- The teacher will instruct the students to open their books to assigned page numbers. Students will read loudly, as called by the teacher randomly.
- The teacher will elaborate using examples/experiences from their daily life.
- The teacher will instruct the students to read the textbook, while staying on the round and facilitating by answering students queries if any.

Teacher Ideas

- The teacher will distribute "Quick Review" worksheets and discuss the answers once students have entered their responses for immediate correction. (The sheets will be pasted in their notebooks)
- The teacher will give a quick analysis of the lesson.

Plenary (5 min)

- Students will fill quick PMI chart, on board.
- Assessment opportunities (30 min)
- Quick Review 1 and 2 will be done in class (as given in methodology).
- Have students attempt Detailed Question 1 and 2.

Home Learning

- To study the topic for revision and reinforcement.

Lesson Evaluation

- As a warm-up activity, questions will be asked by the teacher to deduce whether the concepts are clear and understood well.

Teacher Ideas

Further Notes

LESSON PLAN #2

Class: V Subject: General Science

Unit: 7

Topic: Electricity And Magnetism

Sub-Topics:

- Magnets
- Earth as a Magnet
- Types of Magnet
- Electromagnets

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning Objectives

- To give clear concepts of the topic to make students aware of how things work with electric energy.

Resources

- Textbook (NAS Book 5)
- Charts – Reference Textbook
- Magnets, iron fillings, paper clips

Starter Activity (5min)

- The teacher will arrange a magnet, iron fillings and paper clips. The phenomena of magnetism will be introduced using this activity. Using the magnet and how it attracts the particular object, the activity will take place.

Plenary (5 min)

- Students will fill quick PMI chart, on board.

Lesson Methodology (30 min)

- The teacher will instruct students to open their books to the assigned page numbers. Loud reading will be done by selected students.
- The teacher will explain the topic while using the gadgets mentioned in the lesson.
- The teacher will instruct students to read silently.

Teacher Ideas

- The Quick Review worksheet will be distributed to students in groups who will discuss and enter their responses. The class will hear from the group leaders. The teacher will make the necessary corrections when required.
- A quick analysis will be given by the teacher.

Assessment Opportunities (30 min)

- Have students attempt complete chapter review and attempt Detailed Question 3,4,5 and Draw and Answer.
- The Quick Review will be done on a worksheet and later pasted in the notebook.

Home Learning

- To re-read the topic for revision and comprehension.

Lesson Evaluation

- The success of the lesson taught will be analyzed through students' responses as well as written work and Formal/Informal assessment.

Teacher Ideas

Further Notes

ANSWER KEY UNIT 7

Circle the correct answer.

1.	b. light bulb
2.	a. zero
3.	b. switch
4.	c. molten core
5.	b. north magnetic pole of the Earth

Vocabulary Review

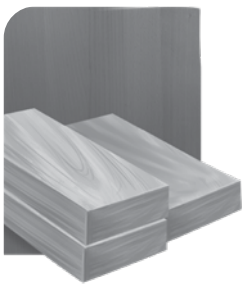
Fill in the blanks.

1. The word ***electricity*** is used to describe electric energy.
2. Atoms are composed of smaller particles called ***protons, neutrons, electrons.***
3. In the nucleus of an atom, the ***proton*** has a charge.
4. Rubbing materials produce ***static*** electricity.
5. The same kind of electric charges ***repel*** each other and opposite charges attract each other.

Observe and Answer

Good

Good



Bad

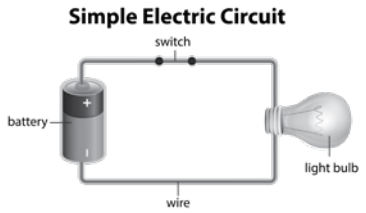
Good

Bad

One-Word Answer

1	Matter
2.	Poles
3.	Charged
4.	Neutral
5.	Electromagnetism

DRAW AND ANSWER

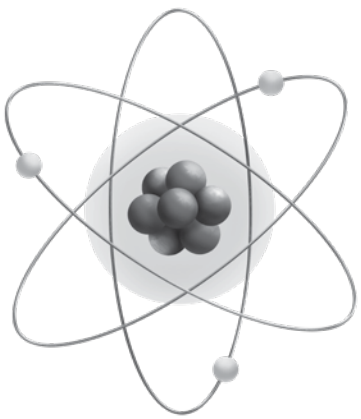


Detailed Questions

1. What are atoms? Describe the smaller parts of an atom and illustrate.

Answer:

ATOM: All matter is made up of tiny building blocks called atoms. The smaller parts of an atom are protons, neutrons and electrons.



2. What is static electricity? Explain.

Answer:

The object's excess of positive or negative charge is called static charge. This buildup of charge on an object is known as static electricity as it does not move from one place to another.

3. Define conductors and insulators with examples from daily life.

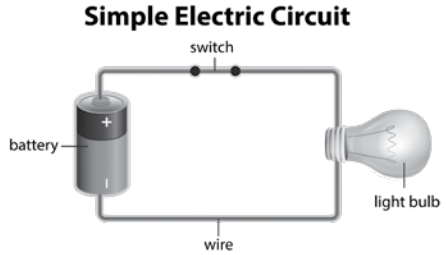
Answer:

A conductor is a material that lets charges flow through it easily. The wires are made up of copper, hence are good conductors. An insulator is a material that does not let charges flow through it easily, a wooden door is a good example of an insulator.

4. Describe an electric circuit. Illustrate and explain its three main parts.

Answer:

An electric circuit is a path for electric current. It has three main parts: A conducting path, The wire, is one of the conducting paths, it links the source of charge and the device in a loop. In homes, the wire is made of copper surrounded by a plastic coating. A source of electric i.e a battery which is a battery is a source of electric energy. A battery converts chemical energy to electric energy.



5. Describe and illustrate:

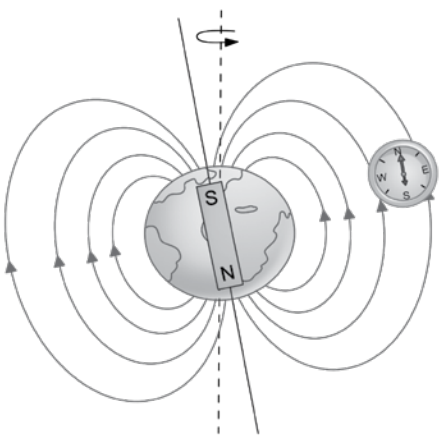
Answer:

a. Poles of a magnet: attraction and repulsion

All magnets have two magnetic ends, called poles, the North Pole and the South Pole. Unlike poles attract each other, and like poles repell each other.

b. Earth as a magnet

The Earth behaves like a giant magnet. At the centre of the Earth is the liquid core. The core is made up of molten metals that are magnetic which create a huge magnetic pulling force.

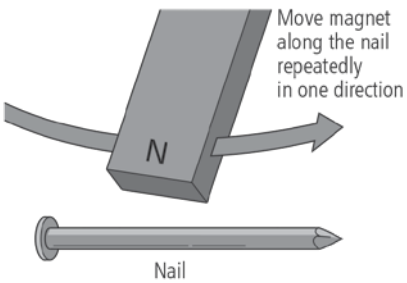


c. Working of a Magnetic Compass

A compass has a needle which is a small, thin magnet. It can move freely so its North end is attracted to Earth's north magnetic pole. It always lies in North to South directions.

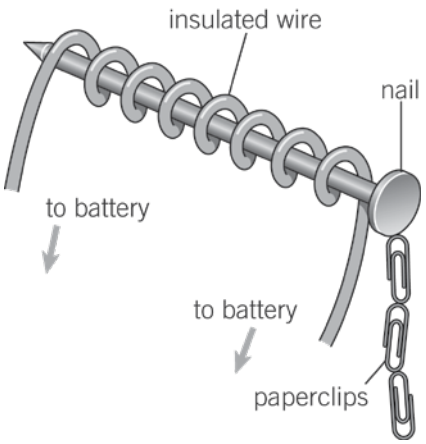
d. Types of magnets.

There are three types of magnets. **Permanent magnets** retain their magnetic properties and exhibit magnetic behaviour for a long period. **Temporary magnets** act like magnets when exposed to a strong magnetic field. We can create temporary magnets by stroking a piece of iron or steel (e.g. a needle) along a permanent magnet. And lastly, **electromagnets**, are a type of temporary magnet created by the flow of electric current through it.



e. Structure of an Electromagnet

An electromagnet is a magnet that can be switched on and off with electricity. When the current flows, it works like a magnet, when the current stops, it goes back to being an ordinary metal.



Unit 8 STRUCTURE OF EARTH

SUBTOPICS

- Describe the structure of the Earth (i.e., crust, mantle, and core) and the physical characteristics of these distinct parts.
- Describe the sources of water on Earth.
- Identify similarities and differences among the different types of soil.
- Investigate the composition and characteristics of different soils.

LESSON PLAN #1

Class: V Subject: General Science

Unit: 8

Topic: Structure of Earth

Sub-Topics:

- Introduction
- Sources of Water on Earth
- Oceans
- Fresh Water
- Rivers And Streams
- Standing Water
- Ground Water

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning Objectives

- To introduce the topic and give clear concepts related to it.

Resources

- Textbook (NAS Book 5)
- Charts –(Structure of earth; Ref pg 208 NAS book 50
- Pictures showing water sources

Starter Activity (5min)

- The teacher will write the following words on the board and students will unscramble. The teacher will facilitate accordingly.

S R C E U S O	W T A E R	O N S E A C
SOURCES	WATER	OCEAN
H F S R E	*S R V I E R*	*S R T E A M S*
FRESH	RIVERS	STREAMS
S G T N A I N D	*U N D O R G*	
STANDING	GROUND	

Plenary (5 min)

- Students will fill quick PMI chart, on board.

Teacher Ideas

Lesson Methodology (30 min)

- After the starter activity teacher will introduce the topic with the help of the chart and keywords.
- The teacher will instruct students to open and read their books to assigned page numbers.
- The teacher will elaborate on the topic while citing examples from daily lives.
- The teacher will do a quick review, asking for answers verbally from students. Then the teacher will facilitate during students reading by taking rounds.

Assessment Opportunities (30 min)

- Have students attempt "Observe and Answer"
- Teacher may give worksheet of the same which student may answer and colour
- Have students attempt Detailed Question no. 1, 2 and 3.

Home Learning

- To reread the topic for revision

Lesson Evaluation

- As a warm up activity in the next class, the teacher shall ask a few questions about whether the concepts are clear and well comprehended.

Further Notes

Teacher Ideas

LESSON PLAN #2

Class: V Subject: General Science

Unit: 8

Topic: Structure of Earth

Sub-Topics:

- Water Cycle
- Soil
- Components of Soil :
  - Rocks And Stones
  - Air
  - Water
  - Microbes
  - Earthworm
- Types of Soil :
  - Clay Soil
  - Sandy Soil
  - Loam
  - Humus

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning Objectives

- To explain with charts, the core of the topic, i.e. Water cycle.
- To describe the soil, and discuss its types and other relevant facts.

Resources

- Textbook (NAS Book 5)
- Charts:
  - Water Cycle. (Ref. NAS Book 5 page 109)
- Quick Review Activity (Ref NAS Book 5 page 111)
- Science lab Quick Review Activity (Ref NAS Book 5 pg 111)

Starter Activity (5min)

- Brainstorming

The teacher will place the chart of the water cycle on board and brainstorm with students about theprocesses that are taking place (i.e. Condensation, Precipitation, Evaporation, Water cycle)

Teacher Ideas

Lesson Methodology (30 min)

- After the starter activity, teacher will instruct students to open their books to the assigned page number, students, as called by the teacher will read aloud.
- The teacher will explain the topic.
- The students will be asked to read silently, while the teacher will stay on round to facilitate.
- The teacher will set up activity as given in the quick review (Ref. NAS Book 5 pg 111) in the laboratory or classroom, before the lesson. At this point, students will observe the result of the practical.
- The unit will be summarized using the Mind Tree and STEM.

Plenary (5 min)

- Students will fill quick PMI chart, on board.

Assessment Opportunities (30 min)

- Have students attempt to complete Chapter Review and do the remaining Detailed Questions.

Home Learning

- To study the topic for revision and reinforcement.
- To write their observation of the Quick Review Activity in form of a brief report.
- Project

Project

- Reference page 116, to be given as a home activity. The results will be displayed after the allotted time.

Lesson Evaluation

- The success of the lesson taught will be analyzed through students' responses as well as written work and Formal/Informal assessment.

Further Notes

Teacher Ideas

ANSWER KEY UNIT 8

Circle the correct answer.

1.	b. mantle
2.	b. ocean
3.	b. streams and rivers
4.	a. humus
5.	a. dam

Vocabulary Review

Match the following

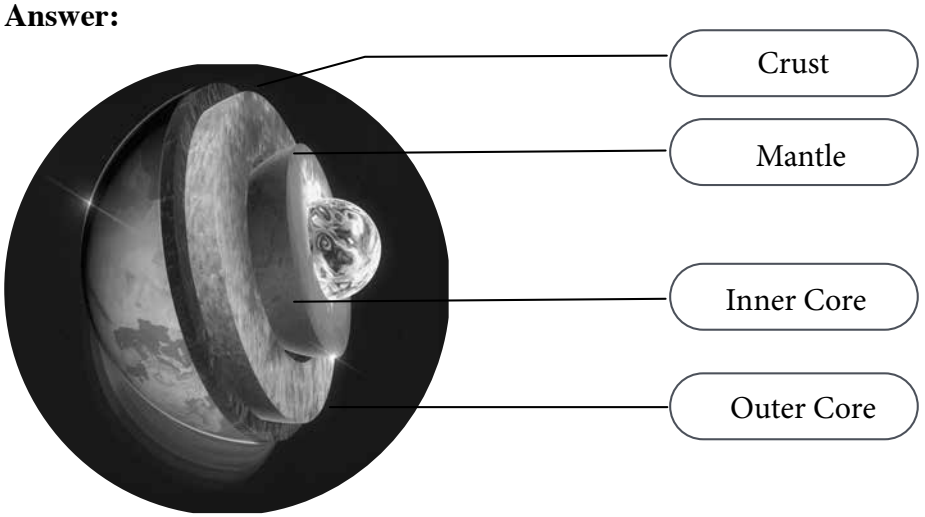
Word	Description
Core	Contains more glacial ice than any other country on earth outside the polar region.
Pakistan	Has two parts and is made up of iron and nickel.
Rivers	Groundwater builds up above the rocky layer and people dig wells to get it.
Groundwater	A mixture of small particles and pieces such as rock, air, minerals, salts, water, humus and microbes
Soil	Begin as streams and eventually end up in oceans.

Observe and Answer

Examples of these water resources include glaciers, running water, rainwater, ponds, lake, reservoirs and wells.

4. Define soil and explain its various components.

Answer:



One-Word Answer

1.	CRUST
2.	INNER CORE
3.	WATER
4.	GLACIER
5.	SOIL

Detailed Questions

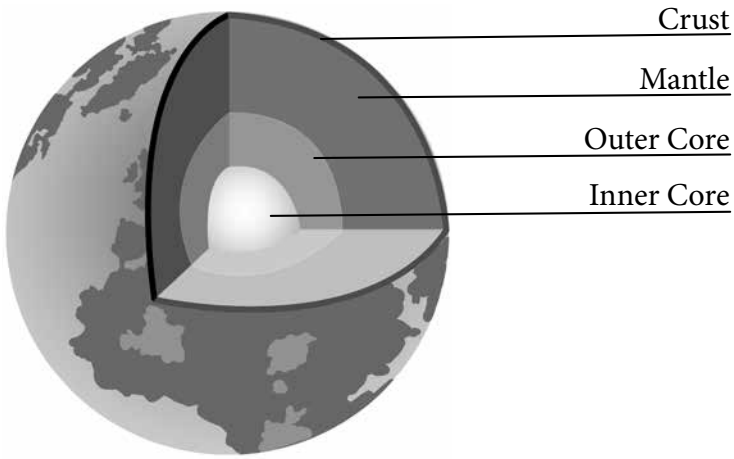
1. Describe the three parts of the Earth.

Answer:

The Earth is divided into three parts: The crust, a thin, solid, and the outermost layer. The second layer is known as the mantle, a thick layer of rock below the crust. The core is the central part of the Earth which, in turn, has an outer part and an inner part. Each layer has its properties. These properties depend on the pressure exerted by the layers above. It also depends on the temperature, which goes up as you go deeper into Earth.

2. Illustrate and label a diagram showing the Earth's structure.

Answer:



3. Describe the different sources of water, with examples.

Answer:

There are four sources of water. They are oceans, groundwater, standing water, rivers and streams.

4. Define soil and explain its various components.

Answer:

Soil is the upper layer of the crust of the Earth. It is a mixture of small pieces of rock, air, minerals, salts, water, humus, microbes, earthworms and some insects.

5. What are the different types of soils based on their particle size? Explain.

Answer:

There are five different types of soil based on their particle size :

CLAY SOIL:

This type of soil is made up of tiny particles which stick to each other. As there are very few air spaces, water is trapped between the particles.

SANDY SOIL :

This type of soil is made up of bigger particles that have large spaces between them so water and air can freely circulate in them. Water drains very quickly from it and takes away most of the minerals with it.

LOAM :

This soil contains a mixture of large and small particles as well as a lot of minerals due to the presence of humus.

HUMUS :

Humus consists of the dead and decaying remains of plants. It helps to keep the soil in good condition for the healthy growth of plants. It binds large particles of sand so that they are not easily blown away by wind, or washed away by flowing water. It helps to loosen up small clay particles so that the water present between them is drained away and more air can circulate.

Further Notes

Unit 9 SPACE AND SATELLITE

SUBTOPICS

- Define the term 'space' and emphasize the need to explore it.
- Recognize the role of NASA (National Aeronautics and Space Administration) in space exploration.
- Define the term 'satellite' and describe its importance.
- Describe the natural satellites of the planets of the solar system.
- Define artificial satellites and explain their importance in exploring the Earth and space.
- Describe the uses of various satellites in space i.e. geostationary, weather, communication and Global Positioning System (GPS).
- Recognize the key milestones in space technology.

LESSON PLAN #1

Class: V Subject: General Science

Unit: 9

Topic: Space and Satellite

Sub-Topics:

- Introduction
- Satellites
- Natural Satellites
- Artificial Satellites
- Geostationary Satellites

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning Objectives

- To introduce the topic with clear concepts.
- To give updated knowledge and awareness of the topic.

Resources

- Textbook (NAS Book 5)
- Model of satellite
- Charts :

  Solar System

  The chart on page 123 NAS book 5

Starter Activity (5min)

- The teacher will show a model of a satellite and ask students to identify some keywords from the picture given in the book on page 23 (the same chart can be printed and placed on a soft board).
- keywords like satellite, moonwalk, humans in space and on the moon.

Lesson Methodology (30 min)

- After the starter activity, the teacher will introduce the topic, mentioning all the important terms through brainstorming.
- The teacher will instruct students to open their books to the assigned page number. Students, called up randomly, will do loud reading.
- The teacher will elaborate on the lesson in detail.

Teacher Ideas

- The students will be instructed to read the lesson silently. The teacher will stay on round and facilitate accordingly.
- The teacher will discuss the two quick reviews orally taking answers from students.
- The teacher will give a quick analysis of the lesson using the Mind Tree.

Plenary (5 min)

- Students will fill quick PMI chart, on board.

Assessment Opportunities (30 min)

- Have students attempt complete chapter review and Detailed Questions facilitate accordingly.

Home Learning

- To reread the topic for revision.
- To analyze the STEM and do the project.

Lesson Evaluation

- Students will be evaluated through written discussion, classroom participation, and through formal/informal assessments.

Further Notes

Teacher Ideas

ANSWER KEY UNIT 9

Circle the correct answer.

1.	d. all of these
2.	b. Moon
3.	a. 365 days
4.	a. 1990
5.	b. weather satellites

Vocabulary Review

WORD	DESCRIPTION
NASA	Communication Satellites
The Universe	Used to transmit and receive signals, reports and pictures from outer space
Planets	National Aeronautics and Space Administration(USA)
Artificial Satellites	All the planets, stars and the space between them
TV live streaming	Natural Satellites that revolve around the Sun

Observe and Answer

Natural Satellite

Artificial Satellite

Artificial Satellite

Ground Station

One-Word Answer

1.	Scientist
2.	Soviet Union
3.	Neil Armstrong (and Buzz Aldrin)
4.	GPS

Detailed Questions

1. a. Define Space.

Answer:

Space is the area beyond the Earth's atmosphere and between the planets and other celestial bodies.

b. Why is the study of space and beyond important for human beings?

Answer:

The study of space and beyond is important as it helps to understand the true nature of the universe.

2. What does "NASA" stand for? Explain its role in space exploration, 20th Century onwards.

Answer:

NASA stands for National Aeronautics, and Space Administration and is an agency of the United States government. NASA has led the way in space exploration. In the 20th century, astronauts began to explore space. They built powerful rockets. The satellites were sent to faraway places. The first human sent to the moon was in 1960. In the 21st century, technology became more advanced and scientists now had higher goals to achieve.

3. a. Define the term 'Satellite'.

Answer:

Satellites are small objects that revolve around larger objects. They can be natural or artificial.

b. How are satellites important in the exploration of the universe?

Answer:

Satellites help scientists to know more about space, the universe, the solar system and Earth. Artificial satellites are used to transmit and receive signals, reports, and sends pictures from outer space.

c. Describe the natural satellites of the planets in the solar system.

Answer:

A natural object that revolves around another larger natural object in outer space is called a natural satellite. Moon and Earth both are natural satellites. The moon revolves around the Earth.

4. Define and state the importance of artificial satellites.

Answer:

Artificial Satellites are man-made objects placed in an orbit around the Earth or a larger natural object in outer space. Artificial Satellites help scientists to know more about space, the universe, the solar system and Earth. These satellites are used to transmit and receive signals, reports, and sends pictures from outer space. We also use these satellites for global communication, television broadcasting, and weather forecasting.

5. Describe the following:

Answer:

a. Geostationary satellites

The Global Positioning System or GPS provides the location and time information to the GPS receiver in our phones.

b. Weather satellites

They provide information about weather patterns, greenhouse gases and climate change. Scientists get to know about hurricanes and severe storms which are on their way.

c. Communication Satellites

They have made it possible to transmit radio and television programmes around the world.

Unit 10 TECHNOLOGY IN EVERYDAY LIFE

SUBTOPICS

- Enlist and practice safety procedures while carrying out the activities.
- Make a model of foot bridge and bookshelf.
- Use spirit level/water level to level different objects (table, picture, frame etc.).
- Use a plumb line to install a flag pole vertically.
- Prepare LED light strings working with 12 volt battery.
- Make a musical instrument from easily available resources.
- Make moveable van, bus, trolley etc.
- Use first aid box to dress a wound.
- Practice shifting a person to hospital.
- Practice earthquake, fire, and flood drill.

LESSON PLAN #1

Class: V Subject: General Science

Unit:10

Topic: Technology In Everyday Life

Sub-Topics:

- Introduction
- How to move an injured person
- In case of emergency
  - The Drill
  - Earthquake
  - Flood
  - Fire

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning Objectives

- To impart knowledge with hands-on experiences to enable students to use technology in their daily life with precautions.

Resources

- Text book (NAS Book 5)
- Charts:

  1)Safety rules (ref. NAS Book 5 page 130)

  2)Drill stops (ref NAS Book 5 page 131)

  3)Pictures (ref NAS Book 5 page 132)

  a. Earthquake

  b . Flood
- First Aid Box (From School Medical Room)

Suggestion

- Emergency Drill
- Lecture of First Aid by Medical Personnel
- To take school round to identify fire extinguishers

Starter Activity (5min)

- The teacher will brainstorm with students about any emergency drill carried out in the school earlier.
- (Emergency Drill is carried out in various schools to prepare children in case of earthquake or fire annually) The key steps will be written on board.

Teacher Ideas

Lesson Methodology (30 min)

- After the starter activity, the teacher will show a poster showing "Safety Rules" and will highlight that while children use everyday gadgets, they must follow safety rules.
- The teacher will instruct students to open their books to the assigned page numbers.
- Loud reading will be done by the students.
- The teacher will explain the topic, making use of relevant charts, medical aid boxes, etc.
- Students will read silently while the teacher takes rounds and facilitates.
- The teacher will explain the lesson, and the teacher will also ask the students to share the knowledge they have from past experiences.
- The teacher will take students on a tour of the school to show various safety and precautionary measures, e.g., the medical room, where first aid boxes and beds will be shown.
- During the round, students must be shown a fire extinguisher, an emergency bell, etc.
- In class, the whole round of activities will be summed up by the teacher through quick analysis.
- Teacher, to arrange a drill if one has not been carried out in school with the consent of the school management for your section.

Plenary (5 min)

- Students will fill quick PMI chart, on board.

Assessment Opportunities (30 min)

- Have students attempt 'One Word Answer' and Detailed Question 2.

Home Learning

- To re-read the topic for revision and comprehension.

Lesson Evaluation

- As a warm up activity in the class, teacher will ask students about safety rules and precautions they understood and follow.

Teacher Ideas

LESSON PLAN #2

Class: V Subject: General Science

Unit: 10

Topic: Technology In Everyday Life

Sub-Topics:

- Re-using Hems
- Making A Moveable Bus
- Making A Guitar
- Making A Bookshelf
- Spirit Level
- Plumb line
- Install A Flag line
- Making A Foot Bridge
- Modern Technology
- Prepare LED Light Strings

Date : _____ Duration: 2x40

Term : _____ Week: _____

Learning Objectives

- To give "hands-on" experiences to students to instil the value of self-help/ responsibility.

Resources

- Textbook (NAS Book 5)
- Charts
- Project material required
- FlashCards

Starter Activity (5min)

- The teacher will show some flashcards on one side photo of the guitar, bookshelf, footbridge and LED lights will be shown, and on the other side, their names will be written. Students will identify the objects in the pictures.

Teacher Ideas

Lesson Methodology (30 min)

- After starter activity, the teacher will share with the students the objects they will be making in groups. The class will be divided into 4 groups, and each will be assigned with 1 project (do not repeat projects).
- The teacher will instruct students to open their books to the assigned page number. Loud reading will be done by the students as called by the teacher.
- The teacher will explain the lesson and give tasks group wise.
- Students in their respective groups, will work together on the projects, while the teacher facilitates learning. The material for the project will be arranged (preferably by the school) earlier.
- The projects will be displayed later on.

Plenary (5 min)

- Students will fill quick PMI chart, on board.

Assessment Opportunities (30 min)

- Have students attempt the complete chapter review and the remaining Detailed Questions.

Home Learning

- Revise the topic for reinforcement
- Students will analyze the STEM activity

Lesson Evaluation

- Students will be evaluated on the basis of written work and class participation.

Teacher Ideas

Further Notes

ANSWER KEY UNIT 10

STATE WHETHER TRUE OR FALSE

1.	True
2.	True
3.	False
4.	True

One-Word Answer

1. First Aid Box contains bandages, tweezers and other medical products.

2. Precautionary measures should be followed handling the technology.

3. Safety Rules helps us stay safe.

ANSWER THE FOLLOWING QUESTIONS

1. How should the pointed objects be handled?

Answer:

Pointed objects should be handled carefully. Learn to hold the pointed objects in such a manner that you and others are safe.

2. What is an evacuation plan?

Answer:

In case of an emergency, like an earthquake or a fire, you need to leave the place to a safe point, following a plan which is known as an evacuation plan. In all civil societies, evacuation plans are made to make citizens safe.

3. What is a plumb line used for?

Answer:

A Plumb line is a weight suspended from a string used to hang things vertically straight, for example, flag pole.

4. What is the advantage of using LED lights?

Answer:

LED lights are very efficient and consume less energy than an incandescent light source.

5. What is a spirit level?

Answer:

A spirit level is a tool that helps you tell if a surface is perfectly straight. All spirit levels measure a

horizontal line, while some also measure a vertical line. There is a bubble in the spirit level that is exactly in the centre of the marked lines on the tube. For example, the surface of a table is perfectly smooth if the bubble is in the centre.