Dawood Public School
Course Outline 2019-20
Science
Grade III

Book and Activity book

- Marshall Cavendish Science Pupil's Book 3
- Marshall Cavendish Science Activity Book 3

Syllabus Content:

Month	**Contents**	**Pages**
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May	**Final Examination**	

August:

Chapter 1: Living Things **Pages no: 2 - 33**

Content	Learning Objectives
Living things and their needs • Living things need air, water and food to stay alive. • Plants are the living thing which can make their own food with the help of water and air in the presence of sunlight. • There are different habitats. Some of them have plenty of food and water like a jungle and some of them have very little food and dry weather.	• List the requirements of living things. • Classify living and non-living things. • Compare living things with non-living things. • List what plants need to make food. • Explore living things found in different habitats like desert, jungle and different water habitats.
Characteristics of living things • Living things need air, food and water and they can move by themselves, reproduce, grow and sense and respond to the changes around them. • Non-living things do not have all the features of living things. • Different plants have different ways to reproduce themselves. ➢ Most of plants reproduce by producing seeds. ➢ Some of plants reproduce by producing spores. ➢ Some plants reproduce from plant parts; a process known as vegetative propagation.	• State five main characteristic of living things. • Identify and state the characteristics of living things which help them to: ➢ know and escape from danger ➢ find their food • Compare the movement of a living thing with a toy robot. • Sort out the list of animals in the following categories: ➢ egg laying ➢ natural birth • Name the young of the following different animals: ➢ bear ➢ cat ➢ cow ➢ chicken ➢ deer • Identify and label different stages of the growth of the different living things: ➢ a human ➢ a frog ➢ a butterfly ➢ a plant • Classify the plants into the groups according to the way they reproduce.

	• Name some non-living things which can sense and respond.
Different kinds of living things • There are four types of living things ➢ Animals ➢ Plant ➢ Fungi ➢ Bacteria	• List and sort out living things which are in the following categories: ➢ animals ➢ plant ➢ fungi ➢ bacteria
Different kinds of animals • Animals come in different shapes and sizes. • Animals with backbones are called vertebrates. • Animals without backbones are called invertebrates.	• Define the following: ➢ vertebrates ➢ invertebrates • Classify a given list of animals into vertebrates and invertebrates.
Characteristics of different kinds of vertebrates • Fish are vertebrates which live in water. They have gills to breathe. Most of them lay eggs. Their bodies are covered by scales and have fins and tail to help them to swim. • Birds are vertebrates. They have lungs to breathe in air. Their bodies are covered by feathers and have wings which help them to fly. They reproduce by laying eggs. • Mammals are vertebrates. They have lungs to breathe. Their body is covered by hair and they reproduce by laying eggs.	• List the characteristics of the following groups of animals: ➢ fish ➢ birds ➢ mammals • Identify and label different body parts of the following groups of animals: ➢ fish ➢ birds ➢ mammals • Name birds which cannot fly. • List the mammals which lay eggs. • Identify the fish which gives birth to their young ones.
Characteristics of insects (invertebrate) Insects are invertebrates. They have three main body parts; head, thorax and abdomen. They have six legs attached to the thorax. Their body is coved by a hard covering called chitin. They have antennas which help them to feel. They reproduce by laying eggs.	• Name some common insects. • Describe the characteristics of insects. • Label the diagram of the body of an insect.
Different kinds of plants. • Flowering plants have flowers and fruits. • Non- flowering plants do not have flowers and fruits.	• Identify and label different types of plants. • Name some flowering plants and non-flowering plants.

Different kinds of fungi and their characteristics Fungi are living thing. They cannot make their own food. They grow on plant and animals to absorb the nutrients from them. They also grow on non-living things which were once alive like leather shoe, wooden objects etc. There are different types of fungi. • Mushroom • Mold • Yeast	• Identify and name different types of fungi. • Describe the characteristics of fungi. • Differentiate between a plant and fungi.
Bacteria and their types Bacteria are tiny living things which can be seen by a microscope. They can be found everywhere. Some of them can make their own food and some take in food from where they live. Some of them are harmful, some are harmless and some are even useful. They have different shape. ➢ Round bacteria ➢ Coil-shaped bacteria ➢ Long and thin bacteria	• Define 'bacteria'. • Identify pictures of different shaped bacteria. • Describe the possible shapes in which bacteria may be present. • Describe the characteristics of bacteria.

Key Words:

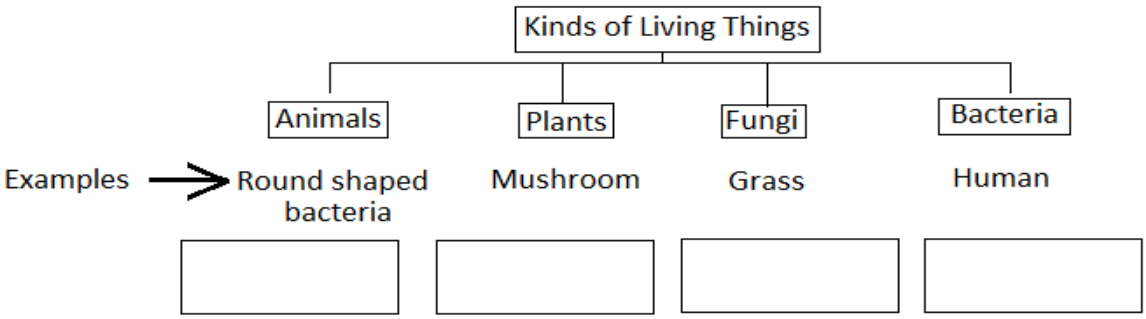
respond, locomotion, reproduce, grow, adult, batteries, coiling, millipedes, mimosa, buttercup, fungi, bacteria, mushroom, fungi, mould, yeast, microscope, mammals, vertebrates, invertebrates, abdomen, thorax, antennae, scales, protection, feathers, gill, breathe, breath, lungs, claws, chitin, fins, propagation, habitat, desert, jungle

Types of Questions:

- Multiple choice questions
- Fill in the blanks
- State true and false
- Reasoning questions answer
- Short question answers
- Identifying and labelling
- Classifying and sorting
- Comparing and contrasting

Sample Questions

1. Look at the following classification flow chart of living things. Identify and rewrite the wrongly classified examples to make them correct.



2. Which of the following statements are true for both plants and animals?

1. Both can grow and die.	2. Both can reproduce by seeds.
3. Both can make their own food.	4. Both can move by themselves.

a) None of them
b) All of them
c) 1 and 4
d) 2 and 4

Workbook Activities:

- Worksheet number 1 to 8 and review

Creative Applications:

- To observe different parts of microscope and their function.
- To observe a grown mould under a microscope.
- To observe that yeast makes dough rise; measure the height of dough before and after rising.
- To observe and identify the characteristics of different invertebrates and vertebrates.
- To observe the amount of air we breathe out in one blow.

Surf IT:

- http://www.sciencekids.co.nz/gamesactivities/plantsanimals.html
- https://www.youtube.com/watch?v=mRidGna-V4E

September:

Chapter 2: Our Senses **Pages no: 34 - 59**

Content	Learning Objectives
Sense of sight • Our eyes are the organs which help us to see. • Our sense of sight can tell us about the sizes, shapes, colours and textures of things. • Our sense of sight helps us to be aware of	• Develop awareness for the sense of sight and the ways we use it to learn about the world. • List the ways in which a sense of sight is helpful. • Name some instruments which help in long

danger and help us recognize the things. • People with weak eye sight use spectacles. • A binocular or a telescope can be used to see long distanced things. • A false image which deceives or misleads our eyes and brain is called illusion.	distance sight. • Describe the use of the following instruments: ➢ a magnifying glass ➢ microscope ➢ binocular ➢ telescope ➢ periscope • Define 'illusion'. • Observe different illusions to appreciate this visual phenomenon.
Sense of hearing • Our ears help us to hear different sounds. They collect the sounds and send messages to the brain and our brain tells us what we are hearing. • Our sense of hearing helps us to communicate. • Our sense of hearing helps us to be aware of changes or danger in our surroundings. • The people with impaired hearing use sign language to communicate.	• List the ways in which the sense of hearing is helpful. • Write the purpose of the following different sounds: ➢ sirens ➢ horns ➢ alarm ➢ doorbell • Identify and compare loud sounds and soft sounds. • Classify different types of sounds in the following categories: ➢ high sounds ➢ low sounds • Name the animals which make the following sounds: ➢ moo ➢ chirp ➢ tweet ➢ mew ➢ buzz ➢ bark
Sense of touch • Our skin gives us our sense of touch. • Our sense of touch can tell us about the shape size and texture of things but it does not help to observe the colour. • It can also tell us whether something is hot or cold, soft or firm, and wet or dry. • In our body, our fingertips are most sensitive as they have more nerve endings.	• Name the body part which helps us to feel. • List the ways in the sense of touch is helpful. • List some things that can be observed by using the sense of touch. • List some things that can't be observed by using the sense of touch. • Define Braille.

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- Our sense of touch helps us to be aware of danger and helps us to move around.
- People without the sense of sight use their sense of touch to read with the help of Braille, an embossed writing system.

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- Suggest how Braille is helpful to people who cannot see.

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Sense of smell

- Our nose gives us our sense of smell.
- Our sense of smell can tell us whether smells are pleasant or unpleasant, strong or mild.
- Our sense of smell can warn us of spoilt food or of people approaching.
- Our sense of smell does not work properly when we have a cold. Our nose is blocked.

</td><td>

- List the ways in which the sense of smell is helpful.
- Name the animals with a very good sense of smell.
- Name the flower which has a very strong smell of rotting meat.
- Suggest the reason flowers are used to make perfumes.

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Sense of taste

- Our tongue gives us our sense of taste.
- It can tell us whether something is sweet, salty, bitter or sour.
- Our sense of smell can warn us of poisonous or spoilt food. It can also tell us whether a fruit is ripe or not.
- Our sense of taste works with our sense of smell to tell the exact taste of something.

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- Define ‘taste buds’.
- Classify a given list of foods in the following categories:
  - sweet
  - sour
  - salty
  - bitter
- List some ways in which the sense of taste is helpful.

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Key Words:

sight, cube, cuboid, cylinder, sphere, pyramid, cone, texture, rough, smooth, bumpy, optician, optical illusion, sign language, magnifying glass, telescope, microscope, binocular, blind, short sighted, scream, roar, chirping, mooing, dripping, deaf, sensitive, communicate, lip reading, Braille, delicious, pleasant, unpleasant, sour, bitter, salty, sweet, umami, tongue, burning, spoilt, rotting, poisonous, paralyzed, taste buds

Types of Questions:

- Multiple choice questions
- Fill in the blanks
- State true and false
- Reasoning questions answer
- Short question answers
- Identifying and labelling
- Classifying and sorting
- Comparing and contrasting

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Sample Questions:

1. Which senses are mentioned in the following sentence?

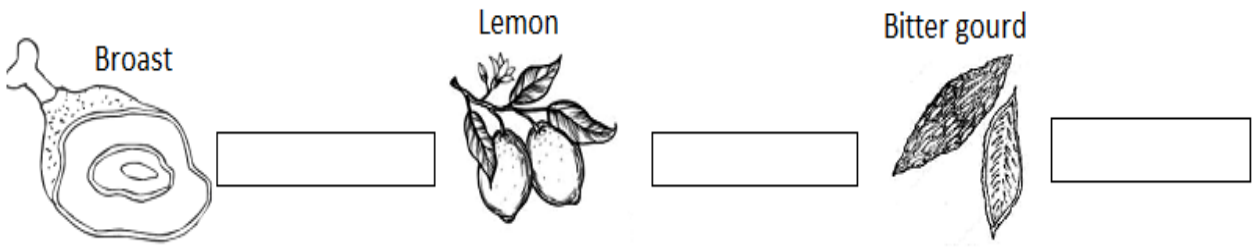
''I went outside and felt the cool breeze on my skin and smelled my neighbor cooking hot dogs on the grill.''

   A. Sight and smell
   B. Taste and sight
   C. Touch and smell
   D. All five senses

2. Circle high or low sound and loud and soft sound for the following sounds.

Sounds	High or low sound (Pitch)		Soft or loud sound (volume)	
A lion roaring in anger	High	Low	Soft	loud
A lioness purring the kittens	High	Low	Soft	loud
Ticking of a clock	High	Low	Soft	loud
Ringing alarm of a clock	High	Low	Soft	loud

3. Write the taste of following food.



Workbook Activities:

- Worksheet number 1 to 7 and review

Creative Applications:

- To make an illusion game and observe.
- To observe that we have two ears to hear and identify the direction sound is coming from.
- To observe that we cannot see without light.

Surf IT:

- https://www.koantum.com/content/sample.2.worksheet.pdf
- https://www.youtube.com/watch?v=VpIhFSA1NVE
- https://www.youtube.com/watch?v=fH6SikL0iNU
- https://www.youtube.com/watch?v=gdGyvGPZ1G0
- http://www.yyardim.com/wp-content/uploads/2015/06/5-duyu.pdf

October:

Chapter 6: Forces **Pages no: 126 – 147**

Content	Learning Objectives
Force and its effects • A force can be push or pull. • Force can make a thing move or stop moving. • Force can make a thing go faster or slower, or change its direction. • Force can affect the shape of a thing. • Same poles of magnet can push each other and opposite poles pull each other. A magnet can also pull magnetic objects. • There are many forces of nature which cause a lot of damage like earthquakes, storms and volcanoes.	• Define the following: ➢ force ➢ magnet • Identify the different effects of force on a given list if objects. • Classify different actions involving push and pull. • Classify a given list of objects into magnetic or nonmagnetic. • Name some forces of nature which may cause damage or destruction. • Describe how a force may affect the shape of an object.
Force meter • Force can be measured by a force meter. • Forces can be measured in unit newton (N)	• Name the instrument used to measure force. • Read the scale in a force meter. • Suggest why measuring a force may be required.
Friction and its effects Friction is a force that works against motion. It produces heat and causes wear and tear.	• Define friction. • List some activities where friction is useful. • List some activities where friction is a problem.
The ways friction can be reduced Friction can be reduced by: • Applying lubricants • Using rollers or wheels	• Suggest how friction can be reduced. • Suggest an appropriate solution to a provided list of problems caused by friction.
Air and water resistance • Air resistance is a type of friction between air and another material that is moving through the air. • Water resistance is a type of friction between water and another material that is moving through it. • Friction is reduced by a streamlined shape of an object/body.	• Define air resistance. • Define water resistance. • Differentiate between air and water resistance. • Suggest how water and air resistance can be reduced.
Key Words: forces, friction, stretching, tugging, poking, squashing, punching, direction, squeeze, earthquakes, force	

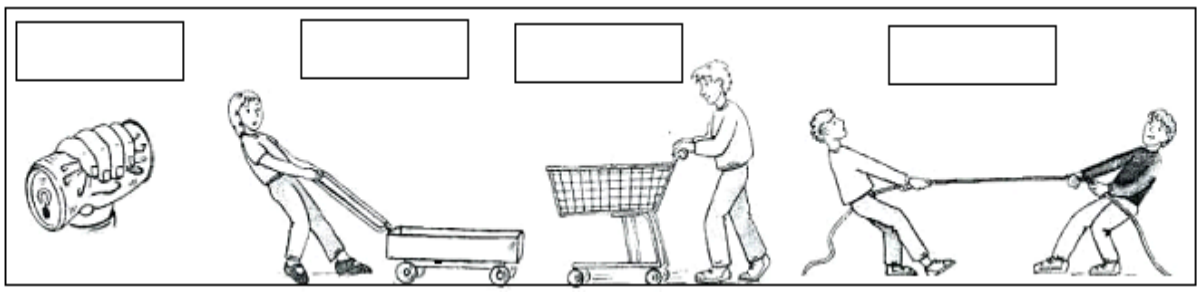
meter, Newton, measure, contact, rough, smooth, grip, friction, wear and tear, resistance, lubricant

Types of Questions:

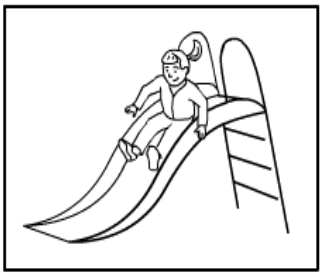
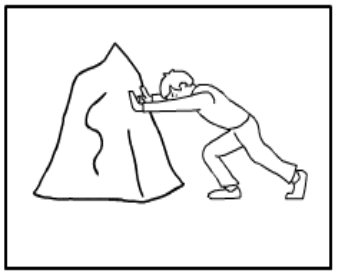
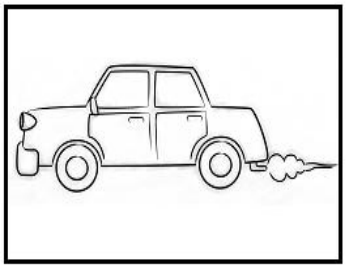
- Multiple choice questions
- Fill in the blanks
- State true and false
- Reasoning questions answer
- Short question answers
- Identifying and labelling
- Classifying and sorting
- Comparing and contrasting

Sample Questions:

1. Observe each of the following action and write 'Push' or 'Pull' in each box.



2. Draw an arrow to show where friction is occurring in each picture?

1.  2.  3. 

Workbook Activities:

- Worksheet number 1 to 6 and review

Creative Applications:

- To observe the force applied on different objects.
- To observe friction by rolling a ball on different surfaces.
- To observe atmospheric pressure.
- To make magnets float in a tube.

Surf IT:

- https://www.youtube.com/watch?v=IJWEtCRWGvI
- https://www.youtube.com/watch?v=qux5wMu9mqI

November:

Revision for Mid – Year Examination

December:

Mid-Year Examination

January:

Chapter 3: Keeping Healthy **Pages no: 60 - 83**

Contents	Learning Objectives
Food Food provides nutrients that give us energy.	• State the importance of food for living things. • Develop awareness that food is a blessing and it must not be wasted.
Nutrients in food Different types of nutrients are: • Carbohydrates • Proteins • Fats • Vitamin • Minerals	• Name the five main nutrients found in food. • Sort different food items according to the nutrients they are rich in. • Describe the importance of each nutrient present in foods.
Types of food There are different types of food • Healthy food • Junk food	• Classify a given list of food items into the following categories: ➢ healthy food ➢ junk food • Compare the effects of healthy and junk food.
Balanced diet A balanced diet has a variety of food in the right amounts to keep us strong and healthy. Taking an imbalanced diet and not taking care of teeth can lead to different health problems like: • Overweight (obesity) • Heart diseases • Gum diseases • Plaque • Tooth decay/ Cavity	• Set a diet plan needed for us to stay healthy. • Differentiate between diet and balanced diet. • Describe a balanced diet. • Describe the effects of having an imbalanced diet. • List some health problems that may be caused by consuming too much junk food. • Describe why oral hygiene is important. • Describe plaque and the way it affects our teeth and gums.

Exercise and sports Different types of exercises and sports keep us active and healthy.	• Name some of the types of exercise needed for us to keep healthy. • List the exercises and sports that help to build our muscles and strength. • List the exercises and sports that help to improve the movement of our muscles and joints.
Ways to live healthy Healthy living is a lifestyle of choice. This makes our life easier and better.	• List some ways of healthy living.

Key Words:

nutrients, fats, carbohydrates, protein, vitamins, fatty food, minerals, fiber, diseases, germs, tooth decay, diet, deficiency, overweight, balanced diet, plaque, cavity, rotten, muscles, joints

Types of Questions:

- Multiple Choice Questions
- True or False
- Structured questions
- Detailed questions
- Reasoning questions
- Fill in the blanks
- Labeling of diagrams

Work book Activities:

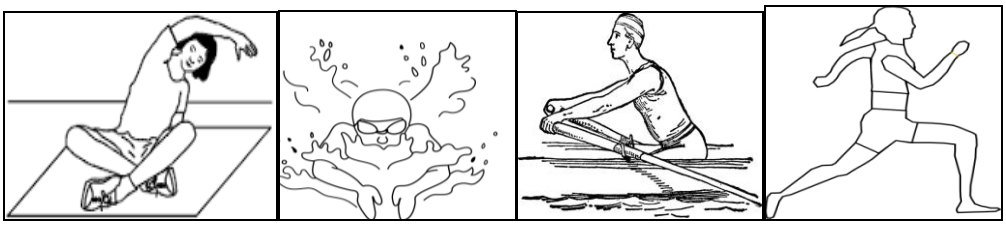
- Worksheet number 1to 8.

Sample Questions:

1. Write down the difference between diet and balance diet.

2. Describe the importance of nutrients in our food. Provide examples for:
   a) Carbohydrates
   b) Proteins
   c) Fats

3. Colour into the exercises which help us to build our muscles and improve our strength.



Creative Applications:

- To investigate the presence of starch in potato.
- To observe the concept of chemical reaction.
- To investigate whether sugar is easy to be digested or food items made with flour that contain starch.
- To observe which substance can dissolve in water.

Surf IT:

- http://www.sciencekids.co.nz/
- https://www.youtube.com/watch?v=YimuIdEZSNY

February:

Chapter 4: Flowering Plants **Pages no: 84 - 103**

Content	Learning Objectives
Parts of a plant Plants are living things. They have different parts and each part of plant has a different function. Main parts of a plants are: • leaves • roots • stems • flowers	• Identify and label different parts of a plant. • State the functions of the following different parts of a plant: ➢ leaves ➢ roots ➢ stems ➢ flowers
Leaves Leaves are the parts which help in identification of plants. Leaves are also responsible for preparation of food with the help of sunlight and water.	• Describe the function of leaves. • Develop awareness that there are lots of shapes and colours of leaves. • Construct a flow chart to show the different types of leaves. • Classify different leaves on the basis of their respective type. • Describe the shape, color, edges, and textures of a given set of pictures of different leaves.
Flowers A plant that bears flowers is called flowering plant. Flowers help plants to reproduce. They are responsible of producing fruits and seeds. Flowers have different sizes, shapes, and colour. Flowering plants grow flowers at certain times of the year and not all year round.	• Describe the functions of a flower. • Name some plants which have: ➢ brightly coloured flowers ➢ dull coloured flowers • State some uses of flowers. • Name some bad smelling flowers. • Label the following different parts of a flower:

	➢ petal ➢ sepal ➢ pedicel
Roots Roots hold plants firmly to the ground and absorb water and minerals that help in growth of a plant.	• State the functions of roots. • Differentiate between the roots of a tree and a weed. • Name some edible roots.
Stem The main function of a stem is to provide support to the plant, holding leaves and flowers. Stems join the roots to the other parts of plants and carry water and important minerals all over the plant. This is done by water-carrying tubes. There are different types of stems: • Woody stems • Non- Woody stems • Underground stem	• State the functions of stems. • Name the different types of stems. • Identify woody and non woody stem. • Identify climbers and creepers with examples. • Suggest what could cause a swollen stem. • Identify underground stems with examples. • Identify and describe the function of water carrying and food carrying tubes in plants.
Healthy growth Nutrients in plants keep them healthy and protect them from the attack of harmful fungi and bacteria.	• Describe how plants can grow in a healthy way. • Name the living things which can attack and damage a plant.
Importance of light and water Plants need water and light to make their food and grow.	• Describe how we know that plants need water to grow. • Describe how we know that plants need light to grow. • Describe a plant which has wilted.
Growth of plant and the effect of temperature Temperature is a measure of how hot something is. Plant grows well when the temperature is not too hot or too cold.	• Name the different seasons in a year. • Define temperature. • State the effects of temperature on the growth of plant. • Describe how plants grow in a green house. • Identify the places where a plant can grow well.
Key words: roots, stem, leaves, flower, fruits, transportation, minerals, absorption, reproduction, nutrients, firmness, anchor, root hair, root tips, branch root, xylem, phloem, tap roots, buttress roots, woody stem, non woody stems, climbers, creepers, toothed edges, parallel veins, netlike veins, carbon dioxide,	

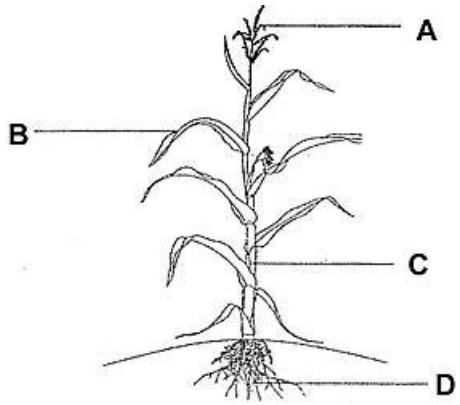
oxygen, pigment, raw material, byproduct, green pigment, petal, sepal

Types of Questions:

- Multiple Choice Questions
- Structural Questions
- Short Reasoning Questions
- Descriptive Questions

Sample Questions:

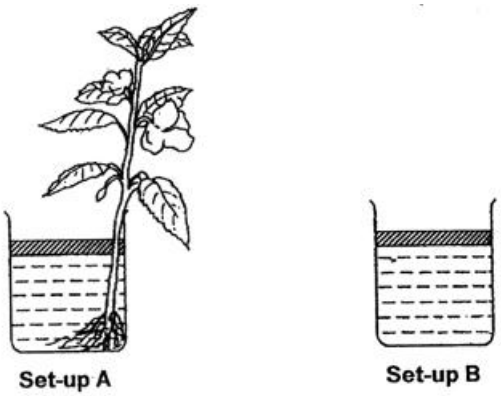
1. The diagram below shows a maize plant.



Which part, A, B, C or D, makes food the plant?

a) A
b) B
c) C
d) D

2. Natalie wanted to find the amount of water a particular plant took in within the duration of 2 hours. She conducted an experiment in a room with the set-ups as shown in the diagram below and recorded the results in the table.



	Set-up A	Set-up B
Amount of water at the start of the experiment	250 ml	250 ml
Amount of water at the end of the experiment	220 ml	250 ml

Based on the information given in the table above, what was the amount of water taken in by the plant?

_____

Workbook Activities:

- Worksheet 1 to 6 and review.

Creative Applications:

- To record the temperature of hot and cold water.
- To investigate which material is a good conductor of heat.
- To make a simple circuit.
- To investigate electric conductors and insulators.

Surf IT :

- https://www.youtube.com/watch?v=X6TLFZUC9gI
- https://www.youtube.com/watch?v=E_HcjcvIyNE
- https://www.youtube.com/watch?v=dUBIQ1fTRzI

March:

Chapter 5: Materials **Pages no: 104 - 147**

Contents	Learning Objectives
Types of materials All objects around us are made of different materials. Materials can be classified into different types.	• Give examples of objects made from the following materials: ➢ metals ➢ rubber ➢ ceramic ➢ wood ➢ fabric ➢ glass ➢ plastic • Classify a given list of materials into the following different groups: ➢ metal and non-metals ➢ natural and man-made

Properties of material Materials can have different properties. • Materials that are easily scratched are soft and the materials that are not easily scratched are hard. • Materials that can absorb water are absorbent and the materials cannot absorb water are non-absorbent or water proof. • Material that can be attracted by a magnet are magnetic materials and the materials that cannot be attracted by a magnet is called non-magnetic materials • Materials that can be bent easily are flexible materials and the materials that cannot be bent are inflexible materials.	• Identify and classify a given list of different materials according to the following properties: ➢ hard or soft ➢ absorbent or non-absorbent /water proof ➢ strong or weak ➢ magnetic or non-magnetic ➢ flexible or inflexible • Describe the properties of a given list of objects based on their materials. • Compare different properties of material.
Uses of different materials Properties of materials help us to choose the suitable material for certain objects.	• State some uses of the following materials: ➢ rubber ➢ metal ➢ plastic ➢ wood ➢ fabric ➢ ceramic • Choose a suitable material for making certain objects. • Describe the properties of a certain material that is selected for making a particular object.

Key Words:

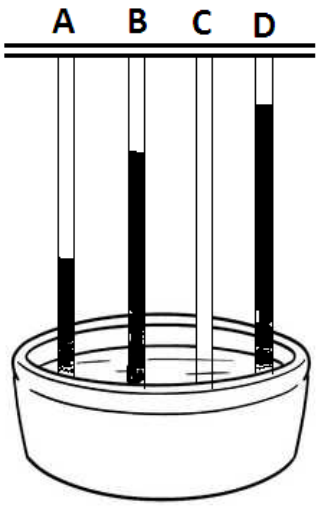
flexibility, strength, absorbency, hardness, diversity, scratches, soaks, perspire, brittle, polyester, nylon, canvas, fiberglass, canoe, plywood, reinforced, concrete

Types of Questions:

- Multiple Choice Questions
- True or False
- Structural questions
- Detailed questions
- Reasoning questions
- Fill in the blanks
- Labeling of diagrams

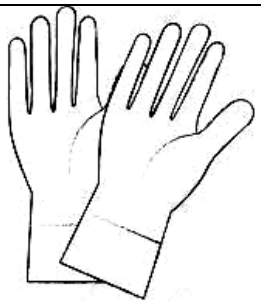
Sample Questions:

1. Which of the following is a nonabsorbent material?



a) A
b) B
c) C
d) D

2. Which of the following objects would you prefer for the given activities?

	Circle your choice		Reason
Going outside while it is raining	 Leather boots	 Canvas shoes	
For holding hot kettle	 Rubber gloves	 Cotton mittens	

Work book Activities:

- Worksheet number 1-7 and review

Creative Applications:

- To test the absorbency of materials.
- To investigate the differences in strength of paper.

- To identify transparent, translucent and opaque material.

Surf I.T:

- https://www.youtube.com/watch?v=xOKr462HLc0
- https://www.youtube.com/watch?v=C4UlCEMlo9k

April:

Revision for Final Examination

May:

Final Examination