

**Dawood Public School**  
**Course Outline 2018-19**  
**Science**  
**Grade II**

**Book and Work book:**

- International Primary Science- 2 (Ho Peck Leng)
- Marshall Cavendish Education

<b>Months</b>	<b>Contents</b>	<b>Pages</b>
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## Syllabus Content

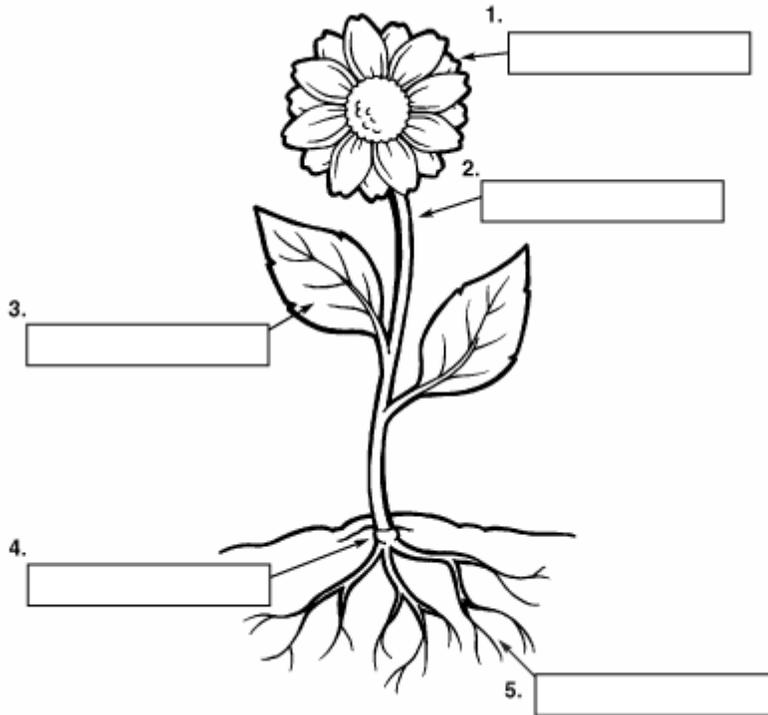
**August**

**Chapter 3: Plants**

Pages: 47-78

Content	Learning Objectives
<p><b>Living things and non-living things.</b></p> <p><b>What do living things need?</b></p> <ul style="list-style-type: none"> <li>• Air</li> <li>• Water</li> <li>• Food</li> </ul> <p><b>Characteristics of living things:</b></p> <ul style="list-style-type: none"> <li>• Reproduce</li> <li>• Respond</li> <li>• Grow</li> <li>• Movement</li> </ul>	<ul style="list-style-type: none"> <li>• List the needs of living things.</li> <li>• List some examples of living things and non-living things.</li> <li>• List characteristics of living things and non-living things.</li> <li>• Differentiate between living things and non-living things.</li> <li>• Differentiate between characteristics of plants and animals.</li> </ul>
<p><b>Different sizes of plants</b></p>	<ul style="list-style-type: none"> <li>• Classify plants on basis of their sizes.</li> </ul>
<p><b>Plant parts and their function:</b></p> <ul style="list-style-type: none"> <li>• Leaves</li> <li>• Stems</li> <li>• Roots</li> <li>• Flowers and fruits</li> </ul>	<ul style="list-style-type: none"> <li>• List the main parts of a plant.</li> <li>• Describe the functions of each plant part.</li> <li>• Label the parts of a plant.</li> </ul>
<p><b>Life cycle of a flowering plant</b></p> <ul style="list-style-type: none"> <li>• Germination and its conditions</li> <li>• Different stages of plant growth</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the process of germination.</li> <li>• List the conditions required for germination.</li> <li>• State the different stages of growth.</li> <li>• State what will happen if plants do not make food.</li> </ul>
<p><b>Plants and their uses</b></p>	<ul style="list-style-type: none"> <li>• List some ways in which plants are used by humans.</li> <li>• Name the parts of plant that store food.</li> </ul>
<p><b>Key Words:</b> reproduce, respond, grow, move, leaves, stems, roots, flowers, fruits, germination, medicine, furniture</p> <p><b>Types of questions:</b></p> <ul style="list-style-type: none"> <li>• Multiple choice questions</li> <li>• True or false</li> <li>• Fill in the blanks</li> <li>• Short question/answers</li> <li>• Sorting</li> <li>• Labeling</li> </ul> <p><b>Sample Questions:</b></p> <p>1. Which characteristic of living thing is shown in the given picture.</p> <div style="text-align: center;">  </div> <ul style="list-style-type: none"> <li>a. Living things can grow</li> <li>b. Living things can reproduce</li> <li>c. Living things can breathe</li> <li>d. Living things can respond to changes</li> </ul>	

2. What does a seed need to germinate?
3. State few uses of plants.
4. Label and write the functions of the following parts of the plant.



**Work book activities:** 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9

**Activities/ Experiments:**

- Students will visit the school zoological patch.
- Students will sow seeds.
- Students will celebrate Fruit Day.

**Practical Applications:**

- To make solution by different solutes.
- To make soluble and insoluble solutions.
- To detect Carbon dioxide by using lime water.

**Surf IT:**

- [http:// www.bbc.co.uk/schools/k2bitesize/science/](http://www.bbc.co.uk/schools/k2bitesize/science/)
- <http://www.mcwn.org/plants/plantsMain/html>
- [http:// www.urbanext.uiuc.edu/gpe/index.html](http://www.urbanext.uiuc.edu/gpe/index.html)
- <http://www.ngfl-cymru.org.uk/vtc/Phase2delivery/Wales/Science/Key stage2>
- <https://www.youtube.com/watch>

<b>Content</b>	<b>Learning Objectives</b>
<p><b>Different types of materials</b></p> <p>Common materials</p> <ul style="list-style-type: none"> <li>• Metal</li> <li>• Wood</li> <li>• Glass</li> <li>• Fabric</li> <li>• Rubber</li> </ul> <p>Metals</p> <ul style="list-style-type: none"> <li>• Gold</li> <li>• Silver</li> <li>• Copper</li> <li>• Iron</li> <li>• Aluminum</li> </ul> <p>Non-metals</p> <ul style="list-style-type: none"> <li>• Plastic</li> <li>• Ceramic</li> <li>• Wood</li> </ul>	<ul style="list-style-type: none"> <li>• Identify different materials on the basis of their properties.</li> <li>• Differentiate between an object and a material.</li> <li>• List some examples of metals and non-metals.</li> <li>• Differentiate between the properties of metals and non-metals.</li> <li>• Classify objects into different materials.</li> <li>• Identify different materials that are used to make an object.</li> </ul>
<p><b>Where do materials come from?</b></p> <p>Materials are of two types with different properties:</p> <ul style="list-style-type: none"> <li>• Naturally found <ul style="list-style-type: none"> <li>➤ Wood</li> <li>➤ Rubber</li> </ul> </li> <li>• Man-made <ul style="list-style-type: none"> <li>➤ Plastic</li> <li>➤ Nylon</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Identify natural and man-made materials.</li> <li>• Differentiate between the properties of natural and man-made materials.</li> <li>• Describe the importance of different materials in our daily lives.</li> </ul>
<p><b>Grouping of materials.</b></p> <p>Classify materials as</p> <ul style="list-style-type: none"> <li>• Metals and non-metals</li> <li>• Natural or man-made</li> </ul>	<ul style="list-style-type: none"> <li>• Recognize different materials.</li> <li>• Classify materials as <ul style="list-style-type: none"> <li>➤ Metals and non-metals</li> <li>➤ Natural or man-made</li> </ul> </li> </ul>

**Key Words:**

Rubber, ceramics, cotton, fabric, man-made materials, natural, ceramics, plastics, metal, non-metals, roller blades, sandals, leather, clogs, boots.

**Types of questions**

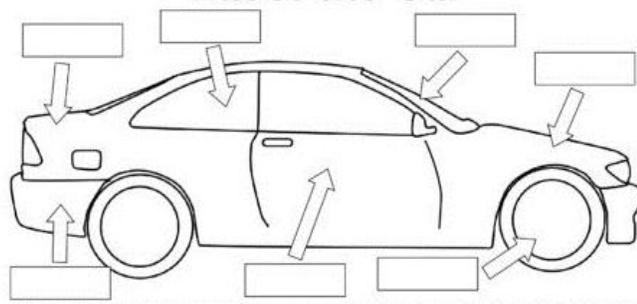
- Multiple choice questions
- True or false
- Fill in the blanks
- Short question/answers
- Sorting
- Labeling

**Sample Questions:**

- Look at the classification of materials below and answer the given questions.

Group A	Group B
Rubber	Leather
Cotton	Feathers
Wood	Silk

- From where do we get the materials of group A?
  - From where do we get the material of group B?
  - Give examples of any two natural materials.
- Which of the following is the most suitable material for making spectacle lenses?
    - wood
    - plastic
    - metal
    - glass
  - Label the materials of the given car.

**Workbook activities**

Workbook activity No: 6.1, 6.2, 6.3,6.5, 6.6, 6.7 and 6.8

**Activities/Experiments**

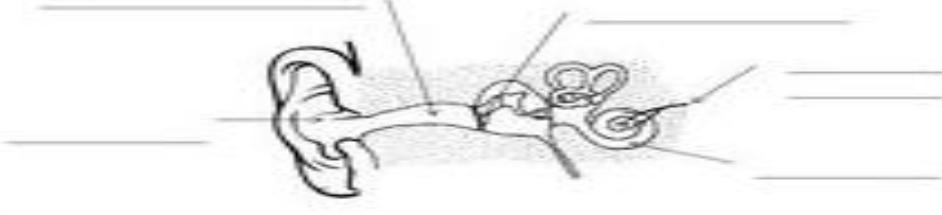
- Students will visit science lab to observe the use of recycled materials.
- Students will collect different scrap fabric and reuse them.
- Students will make a vase or any flower pot by using different types of materials.

**Practical Applications:**

- To identify solid, liquid and gas.
- To compare and group together a variety of everyday materials.
- To observe the movement of water in upward direction.
- To form emulsion.

**Surf IT**

- <http://www.matse1.mse.uiuc.edu/metals.html>
- <http://www.matse1.mse.uiuc.edu/polymers.html>
- <http://matse1.matse.illinois.edu/ceramics/ware.html>
- <http://www.primaryresources.co.u/science/science3a.htm>

Content	Learning Objectives
<p><b>Exploring Sounds</b> Sounds are all around us, we produce sounds. So do animals and machines.</p>	<ul style="list-style-type: none"> <li>• Sort sounds to their sources.</li> <li>• Identify the sounds of different animals.</li> </ul>
<p><b>Recognizing Sounds</b> ➤ Importance of sounds Sounds are made by: ➤ Plucking ➤ Blowing ➤ Beating ➤ Shaking</p>	<ul style="list-style-type: none"> <li>• Write about why some sounds need to be recognized easily.</li> <li>• Develop awareness for why the sounds become softer/louder.</li> <li>• List the ways to make objects vibrate and produce sounds.</li> <li>• Identify different musical instruments.</li> </ul>
<p><b>Can sounds travel?</b> Sounds can travel through the mediums : ➤ Solids ➤ Liquids ➤ Gases The unwanted sounds are called noises.</p>	<ul style="list-style-type: none"> <li>• Identify the medium of sound.</li> <li>• List the ways to stop the sounds in cinemas.</li> <li>• Define 'noise'.</li> <li>• Describe some ways to keep out noises.</li> </ul>
<p><b>How do we hear?</b> Human ear its different parts and functions: ➤ External ear ➤ Ear canal ➤ Ear drum ➤ Inner ear</p>	<ul style="list-style-type: none"> <li>• Identify the medium of sound.</li> <li>• List the ways to stop the sounds in cinemas.</li> <li>• Define 'noise'.</li> <li>• Describe some ways to keep out noises.</li> </ul>
<p><b>How do animals hear?</b> Some animals can hear with their external ears, while others do not have external ears, yet they can hear.</p>	<ul style="list-style-type: none"> <li>• Classify animals with and without external ears.</li> <li>• Identify the animals with sharp sense of hearing.</li> </ul>
<p><b>Key Words:</b> honking, bicycle, warn, siren, ambulance, ringing, telephone, alarms, external, inner, middle, signals, surroundings, tiny hair, canal, vibrate, screeching, neighing, roaring.</p> <p><b>Types of questions</b></p> <ul style="list-style-type: none"> <li>• Multiple choice questions</li> <li>• True or false</li> <li>• Fill in the blanks</li> <li>• Short question/answers</li> <li>• Sorting</li> <li>• Labeling</li> </ul> <p><b>Sample Questions:</b></p> <p>a. How are sounds made?</p> <p>b. Label the following parts of human ear with their functions.</p> <div style="text-align: center;">  </div> <p>1) _____</p> <p>2) _____</p> <p>3) _____</p> <p>4) _____</p> <p>5) _____</p> <p>6) _____</p>	

<p>c. Write down any two sounds that can be heard at the following places.</p> <ul style="list-style-type: none"> <li>➤ In School:</li> <li>➤ At home:</li> <li>➤ In hospitals:</li> </ul> <p><b>Workbook activities</b></p> <ul style="list-style-type: none"> <li>• Workbook activity No: 1.1, 1.2, 1.3, 1.4, 1.5.1.6.1.8 and 1.9</li> </ul> <p><b>Activities/Experiments</b></p> <ul style="list-style-type: none"> <li>• Students will perform an activity in class with sand, water and an empty plastic bag.</li> <li>• Students will observe sounds around school and identify their sources.</li> <li>• Students will observe a 3D structure of human ear.</li> <li>• Students will make sound with different objects such as empty bottle, cutlery, nails, paper clips, stationery boxes to note differences.</li> </ul> <p><b>Practical Applications:</b></p> <ul style="list-style-type: none"> <li>• To make simple telephone by using paper cups.</li> <li>• To produce animal sound by using paper cups.</li> <li>• To explore that sounds travel through solids, liquid and gas.</li> <li>• To observe vibrations.</li> </ul> <p><b>Surf IT</b></p> <ul style="list-style-type: none"> <li>• <a href="http://www.philtulga.com/HomemadeMusic.htm">http://www.philtulga.com/HomemadeMusic.htm</a></li> <li>• <a href="http://www.soundjunction.org/default.aspa">http://www.soundjunction.org/default.aspa</a></li> <li>• <a href="http://www.sfskids.org/play/">http://www.sfskids.org/play/</a></li> <li>• <a href="http://blackgold.ab.ca/ict/Division1/sound_hearing/animal_research.htm">http://blackgold.ab.ca/ict/Division1/sound_hearing/animal_research.htm</a></li> <li>• <a href="http://www.nancymusic.com/PRINThomemade.htm">http://www.nancymusic.com/PRINThomemade.htm</a></li> <li>• <a href="http://www.howstuffworks.com/hearing.htm">http://www.howstuffworks.com/hearing.htm</a></li> </ul>
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**November: Revision for Mid Year Examination 2018**

**December: Mid Year Examination 2018**

**January**

**Chapter 4: Understanding ourselves and other animals**

Pages 79-118

Content	Learning Objectives
<p><b>Animals are living things.</b> What do animals need</p> <ul style="list-style-type: none"> <li>• Air</li> <li>• Water</li> <li>• Food</li> </ul> <p>Characteristics of animals</p> <ul style="list-style-type: none"> <li>• Reproduce</li> <li>• Respond</li> <li>• Grow</li> <li>• Movement</li> </ul>	<ul style="list-style-type: none"> <li>• List the characteristics of living things.</li> <li>• Differentiate between the characteristics of living things and non-living things.</li> <li>• Develop awareness that animals are living things.</li> </ul>
<p><b>Different kinds of animals.</b></p> <ul style="list-style-type: none"> <li>• Animals with backbones are called vertebrates.</li> <li>• Animals without backbones are called invertebrates.</li> </ul>	<ul style="list-style-type: none"> <li>• Define 'vertebrates'.</li> <li>• Define 'invertebrates'.</li> <li>• Classify animals as vertebrates and invertebrates.</li> <li>• Differentiate between the characteristics of vertebrates and invertebrates.</li> </ul>

**Different kinds of vertebrates.**

Characteristics of:

- Fish
- Amphibian
- Reptiles
- Birds
- Mammal

- Label parts of a vertebrates' body.
- List the characteristics of fish.
- Describe the characteristics of birds.
- Sort birds on the basis of:
  - Flying birds
  - Flightless birds
- Label and describe the characteristics of fish.
- Label and describe the characteristics of amphibians.
- Label and describe the characteristics of reptiles.
- Differentiate between the characteristics of reptiles and amphibians.
- Label and describe the characteristics of mammals.
- Identify common mammals.

**The human body**

External parts of the human body and their functions.

Humans with five senses:

- Smell
- Sight
- Taste
- Touch
- Hearing

- Label the parts of a human body.
- Describe the function of each part of the human body.
- List the different stages of human growth.
- Differentiate between the characteristics of humans and other mammals.
- List the five senses in humans.
- State the importance of the five senses in humans.

**Key Words:**

flightless, feathers, wings, beak, webbed feet, nostril, hard shell, scales, fins, tail, molly, guppy, gills, gill cover, sword tail, reproduce, jelly fish, star fish, sea dragon, sea horse, hatch, vertebrate, invertebrate, species.

**Types of questions:**

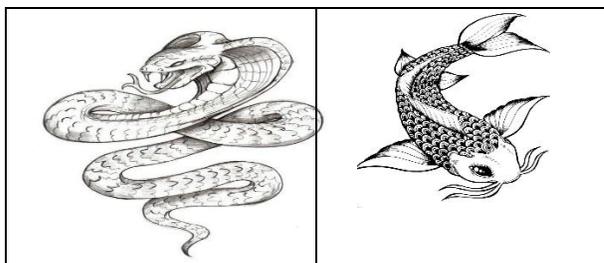
- Multiple choice questions
- True or false
- Fill in the blanks
- Short question/answers
- Sorting into groups
- Labeling of different animals

**Sample Questions:**

1. Amna had placed plates of food in the kitchen. After some time, ants were seen surrounding the plate. Which characteristics of living things can be observed from the given situation.



2. State any two differences between the following animals.



3. Give examples of any four mammals which live in water.

**Workbook activities**

- Workbook activity No: 4.1, 4.2, 4.3, 4.4, 4.5 and 4.7 from International primary Science Work book 2.

**Activities/Experiments**

- Students will visit the school zoological garden to observe different animals.
- Students will collect different types of bird’s eggs, egg shell or feathers.
- Students will collect pictures of different types of birds and classify them as flying birds or flightless birds.
- Students will draw, print or model an animal of their choice.

**Practical Applications:**

- To Identify vertebrates and invertebrates
- To examine the materials that can conduct heat
- To explore how and why different objects sink or float.

**Surf IT**

- <http://www.bbc.co.uk/nature/animals>
- <http://animaldiversity.ummz.umich.edu/site/index.html>
- <http://kids.yahoo.com/animals>
- <http://www.fi.edu/biosci/systems/systems.html>

**February**

**Chapter 2: Magnets**

Pages: 27-46

Content	Learning Objectives
<p><b>What are magnets?</b></p> <p>A piece of metal that can attract magnetic materials.</p> <ul style="list-style-type: none"> <li>• Natural (lodestone)</li> <li>• Man-made</li> </ul> <p>Magnetic force can only pass through non-magnetic materials.</p>	<ul style="list-style-type: none"> <li>• Define magnet.</li> <li>• Name types of magnets.</li> <li>• Classify magnetic and non-magnetic materials.</li> <li>• Identify materials through which magnetic force can pass.</li> <li>• Name and draw the shapes of man-made magnets.</li> </ul>
<p><b>Characteristics of magnets.</b></p> <p>A magnet has two poles, S-pole and N-pole.</p> <p>The poles of a magnet have the strongest pull or attraction.</p> <p>Like poles repel each other, unlike poles attract each other.</p>	<ul style="list-style-type: none"> <li>• Label the poles of a magnet</li> <li>• State the characteristics of magnets.</li> <li>• Identify the strength of a magnet.</li> </ul>
<p><b>Making Magnets</b></p> <ul style="list-style-type: none"> <li>➤ Stroke Method</li> <li>➤ Electrical method</li> </ul> <p>A magnet can be demagnetized by</p> <ul style="list-style-type: none"> <li>➤ Hitting</li> <li>➤ Throwing</li> <li>➤ Heating</li> </ul>	<ul style="list-style-type: none"> <li>• Describe the methods of making temporary magnets.</li> <li>• Identify and list the ways to demagnetize a magnet.</li> </ul>
<p><b>Magnets and their uses.</b></p> <p>Magnets can be used in:</p> <ul style="list-style-type: none"> <li>➤ daily life</li> <li>➤ recycling factories</li> <li>➤ scrap yard</li> <li>➤ compass to find direction</li> </ul> <p>Electromagnets and their uses.</p>	<ul style="list-style-type: none"> <li>• List some ways in which magnets and electromagnets are used by humans.</li> <li>• Name the instrument that helps us to find direction.</li> </ul>
<p><b>Key Words:</b></p> <p>compass, needle, direction, north, south, east, west, holding, separating, lifting, recycling factory, scrap yard, stroke, electrical, flowing, magnetized, battery, electromagnet, coiled, demagnetized pull, push, attract, repel.</p>	

**Types of questions**

- Multiple choice questions
- True or false
- Fill in the blanks
- Short question/answers
- Sorting
- Labeling

**Sample Questions:**

1. Compare the difference between magnetic materials and non-magnetic materials with two examples each.
2. Which of the following material can be attracted by the magnet?
  - a. Steel
  - b. Fabric
  - c. Wood
  - d. Gold
3. Draw and label any two different shapes of magnet.

**Workbook activities**

- Workbook activity No: 2.1, 2.2, 2.3, 2.4, 2.5, 2.6,2.7

**Activities/Experiments**

- Students will visit school physics lab to observe the processes of attraction and repulsion in magnets.
- Students will collect different materials like steel, paper, wood, aluminum foil to identify which materials can attract a magnet.
- Students will be shown different shapes of magnets.
- Students will construct a model of a compass by using common materials.

**Practical Applications:**

- To identify attraction and repulsion of magnets.
- To compare and group the materials that can be attracted by the magnet.
- To identify the strongest part of a magnet.
- To make magnet by using stroke and electrical method.

**Surf IT**

<http://www.le.ac.uk/se/centres/sci/selfstudy.mam.htm>

<http://www.coolmagnetman.com/magnindex.htm>

<http://science.ppst.com/magnets/html>

<http://www.bbc.co.uk/schools/kS2bitesize/science/physical processes/>

**March****Chapter 5: The Earth and beyond**

Pages: 110-134

Content	Learning Objectives
<b>Earth - our home</b> Shape of Earth. Earth is special because it consists of <ul style="list-style-type: none"> <li>• Land</li> <li>• Water</li> <li>• Air</li> </ul> The layer of air that surrounds Earth is called atmosphere.	<ul style="list-style-type: none"> <li>• Develop awareness that combination of land, water and air makes the Earth special.</li> <li>• Define 'atmosphere'.</li> <li>• Identify atmosphere, water and land on a map of Earth</li> </ul>
<b>The Sun</b> The Sun is a star because it has its own light. It gives out heat energy and light energy. Heat is measured by thermometer.	<ul style="list-style-type: none"> <li>• State the importance of Sun`s heat and light energy in our lives.</li> <li>• State the use of a thermometer.</li> </ul>
<b>The Moon</b> The Moon is made up of rocks, it does not have air. It moves around the Earth regularly. It has four phases. <ul style="list-style-type: none"> <li>➤ New moon</li> <li>➤ Gibbous</li> <li>➤ Half Moon</li> <li>➤ Crescent</li> </ul>	<ul style="list-style-type: none"> <li>➤ Describe the conditions on the Moon.</li> <li>➤ Recognize that human beings have landed on Moon.</li> <li>➤ Identify different phases of the moon.</li> </ul>

### The Solar System

It consists of

- Sun
- Eight planets

A planet is a very large object that moves around a Sun.

The earth and planets are all part of a Solar System where they move around the sun.

Revolution is the movement of an object in circle around another object.

- Define 'planet'.
- Label eight planets in the solar system.
- Differentiate between rotation and revolution.

### Key Words:

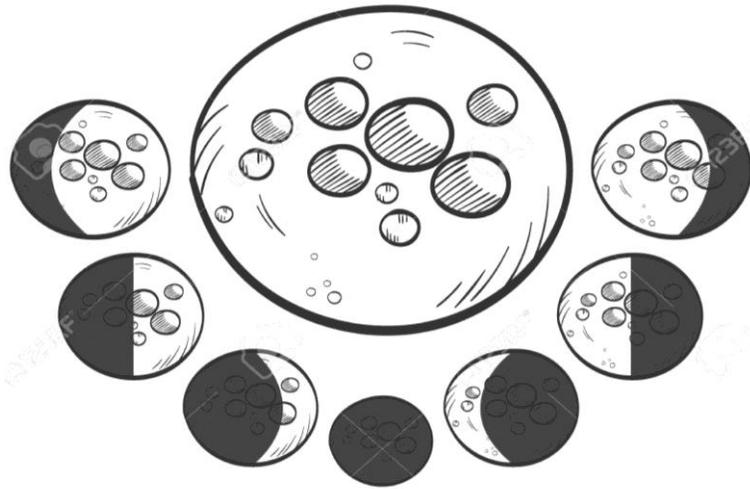
heat, light, space, brighter, closest, dangerous, blind, warm, thermometer, astronauts, phases, gibbous, crescent, half moon, spacesuits, smoke.

### Types of questions

- Multiple choice questions
- True or false
- Fill in the blanks
- Short question/answers
- Sorting
- Labeling

### Sample Questions:

- Who was the first man who landed on the moon?
- How can astronauts survive on the moon?
- What is the difference between revolution and rotation?
- Label the following phases of the moon.



### Workbook activities

- Workbook activity No: 5.1, 5.2, 5.3, 5.35.4, 5.5.5.6.5.7

### Activities/Experiments

- Students will visit the MagnifiScience Lab to see the model of solar system.
- Students will engage in activity of Oreo Biscuits to understand the phases of Moon.

### Practical Applications:

- To record the temperature of hot and cold water.
- To make beard of a man with iron fillings.
- To make playdough by using flour.

### Surf IT

- <http://www.kidsastronomy.com/earth.htm>
- <http://solarsystem.nasa.gov/planets/profile.cfm?object=Moon>
- <http://earthobservatory.nasa.gov/>
- <http://www.esa.int/esaKIDSen/Planetsandmoon.html>

APRIL-REVISION FOR FINAL EXAMINATION 2018-19

MAY- FINAL EXAMINATION 2019