

Dawood Public School
Course Outline 2018-19
Science
Grade III

Book and Workbook

- International Primary Science 3 (HO Peck Leng)
- Marshall Cavendish Education

Syllabus Content:

Month	Contents	Pages
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May	Final Exams	-

Contents	Learning Objectives
<p>Food and Nutrition Food provides nutrients that give us energy. Different types of nutrients are,</p> <ul style="list-style-type: none"> • Carbohydrates • Proteins • Fats • Vitamin • Minerals • Fiber 	<ul style="list-style-type: none"> • Develop an understanding for the terms Food and Nutrition. • State the importance of food for living things. • Name the five main nutrients • Describe the importance of each nutrient present in foods.
<p>Balanced diet</p> <ul style="list-style-type: none"> • Food that we eat is called diet. • A balanced diet has a variety of food in the right amounts to keep us strong and healthy. 	<ul style="list-style-type: none"> • Differentiate between diet and balanced diet.
<p>Types of food</p> <ul style="list-style-type: none"> • Healthy food • Junk food 	<ul style="list-style-type: none"> • Sort between healthy and junk food.
<p>Food and storage method Food is stored for later use by various methods. If food is not stored properly, it may rot or spoil.</p>	<ul style="list-style-type: none"> • Explain that how different food items start turning bad. • List the methods of food storage for different types of food.
<p>Human teeth Humans have specific number of teeth at different ages of their lives. These are of the following types:</p> <ul style="list-style-type: none"> • Incisors • Canines • Premolars • Molars <p>Each set of human teeth have specific functions. Human teeth must be taken care of to stay healthy and without decay.</p>	<ul style="list-style-type: none"> • Identify and label different types of human teeth. • Explain the function of different types of teeth. • List the numbers of different types of teeth in a complete set of an adult human being. • Discuss the importance of brushing the teeth regularly. • Describe how teeth should be brushed. • Define plaque. • State the reasons of cavities formation.
<p>Animal teeth Animals can be classified according to their feeding habits as:</p> <ul style="list-style-type: none"> • Herbivores • Carnivores • Omnivores 	<ul style="list-style-type: none"> • Define the following: <ul style="list-style-type: none"> ➤ herbivore ➤ carnivore ➤ omnivore • Identify and explain herbivore, carnivore and omnivore by observing their skulls. • Sort different animals into herbivores, carnivores and omnivores.
<p>Exercise and sports Different types of exercises and sports keep us active and healthy.</p>	<ul style="list-style-type: none"> • List the exercises and sports that help to make our muscles and heart stronger. • List the exercises and sports that help to build our muscles. • List the exercises and sports that help to improve the movement of our joints
<p>Ways to live healthy Healthy living is a lifestyle choice. This makes our life easier and better.</p>	<ul style="list-style-type: none"> • List the ways of healthy living

Key Words:

nutrients, fats, carbohydrates, protein, vitamins, minerals, fiber, diseases, germs, diet, deficiency, obesity, balanced diet, canning, spoiled, air tight containers, softening, moisture, incisors, canines, premolar, molar, herbivores, carnivores, omnivores, plaque, cavity, rotten, muscles, joints, brisk walk

Types of Questions:

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

Sample Questions:

1. Write down the difference between diet and balanced diet.
2. Name five main nutrients and describe their importance.
3. Identify and state the function of each type of human teeth.

				
Name				
Number				
Function				

Work book Activities:

- Activity 1.1, 1.2, 1.3, 1.4,1.5, 1.6, 1.7,1.9

Activities/ Experiments:

- Students will find pictures of food and stick appropriate images to depict a plate of balanced diet. Emphasis will be made on the correct amount of each nutrient required to be present in our meals.
- Students will observe different stored food items (meat, milk, tomato, cooked rice, cookies) and discuss the benefits of each. They will observe the condition of food after a day by smelling and touching to comprehend importance of proper storage.
- Students will observe how a hardboiled egg left in sugar solution for a day may be brushed and cleaned to remove plaque.
- Students will be asked to observe their friends' teeth to inspect for cavities.
- Students will be encouraged to do different exercises and benefits will be discussed. For example: skipping with a rope, lifting 1 kg weight, playing football.

Practical Applications:

- To know the concept of chemical reaction.
- To observe how water keeps balloon cool.
- To introduce the concept of pressure.
- To prepare a solution with the help of solute and solvent.

Surf I.T:

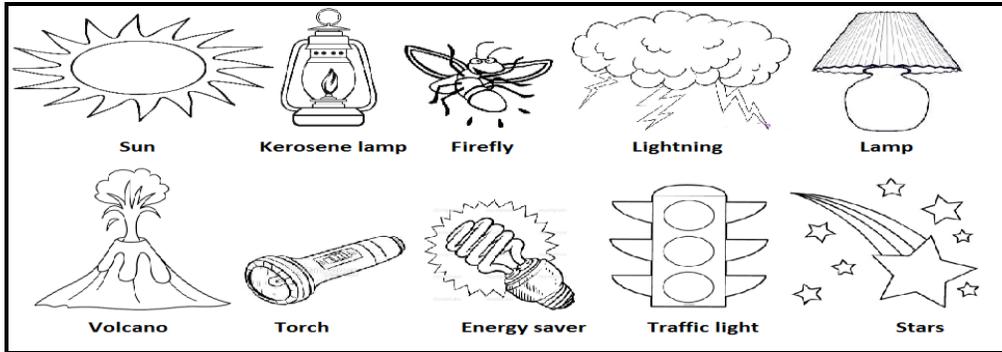
- www.school.discovery.com/lessonplans/programs/frictioninourlives/index.html
- <http://www.sciencekids.co.nz/gamesactivities/gases.html>

September**Chapter 6: Light****Pages 129-144**

Contents	Learning Objectives
<p>Sources of Light Light is a form of energy which is primarily received from the Sun. It is an important aspect for any life to survive.</p>	<ul style="list-style-type: none"> • Define light. • State that light is a form of energy that enables us to see. • Describe how the Sun is the main source of light on Earth. • Explain how light is important for the survival of organisms (plants and animals).
<p>Luminous and Non-luminous Objects</p> <ul style="list-style-type: none"> • The objects that give out light are called luminous objects. • The objects that do not give out light are called non-luminous objects. 	<ul style="list-style-type: none"> • Identify luminous and non-luminous objects. • Differentiate between luminous and non-luminous objects.
<p>Natural and Man-made light sources</p> <ul style="list-style-type: none"> • Light sources made by man are called man-made light source. • Light sources that are made naturally are called natural light source. 	<ul style="list-style-type: none"> • Identify natural sources and man-made sources of light. • Differentiate between natural and man-made sources of light.
<p>Light and Materials Materials can be differentiated into the following types:</p> <ul style="list-style-type: none"> • Transparent • Translucent • Opaque 	<ul style="list-style-type: none"> • Define the following: <ul style="list-style-type: none"> ➤ transparent ➤ translucent ➤ opaque • Identify and sort transparent, translucent and opaque materials. • Suggest the materials used for making different objects like windscreen, copy cover, room window, doors, walls etc. • Observe and identify the materials through which light can pass. • Explain why each object uses different materials.
<p>Shadows A shadow is an area of darkness formed when light is completely or partially blocked by an object.</p>	<ul style="list-style-type: none"> • State that shadows are formed when light travelling from a source is blocked. • Observe the formation of different types of shadows.
<p>Key Words: source, luminous, non-luminous, transparent, translucent, opaque, shadow, horizon, overhead, blur, sharper</p> <p>Types of Questions:</p> <ul style="list-style-type: none"> • Multiple Choice Questions • True or False • Structured Questions • Detailed Questions • Reasoning Questions • Fill in the blanks • Labeling of diagrams 	

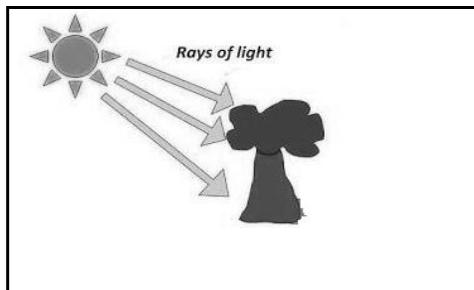
Sample Questions:

1. Define luminous and non-luminous sources of light.
2. Sort out the man-made sources and natural sources of light.



Man-made sources	Natural sources

3. Draw a shadow of the given tree.



Work book Activities :

- Activity 6.2, 6.3, 6.4, 6.5

Activities/ Experiments

- Students will be taken to the ground at different times to observe their shadows.

Practical Applications:

- To record the temperature of hot and cold water.
- To find out how oxygen supports burning.
- To form shadows of different materials.
- To observe changes in size of shadow.

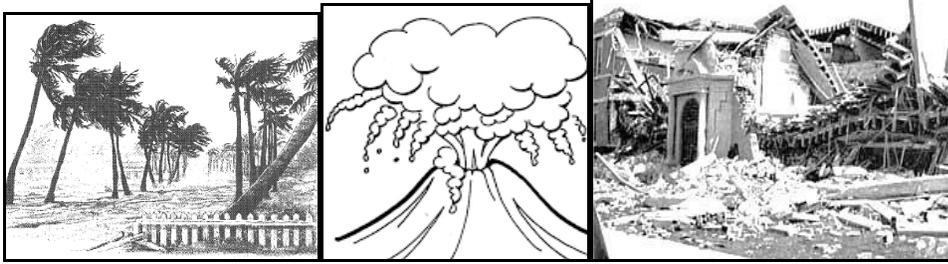
Surf I.T:

- <http://www.sciencekids.co.nz/gamesactivities/gases.html>

Contents	Learning Objectives
<p>Push and pull in action</p> <ul style="list-style-type: none"> • A force is any action made on an object; a push or pull. • Forces can have many effects in daily life. • Activities like kicking the ball or opening and closing the zip of a pouch etc. are examples of force on objects. 	<ul style="list-style-type: none"> • Define force. • Describe the effects of any force. • Differentiate between the force of push and pull. • Identify, from given pictures, the different forces of push and pull.
<p>Forces around us</p> <ul style="list-style-type: none"> • Force can be exerted by machines and muscles. • Forces can be found in nature too. <ul style="list-style-type: none"> ➤ Typhoon ➤ Earthquake ➤ Tornado ➤ Hurricane 	<ul style="list-style-type: none"> • Identify different types of force. • Differentiate forces used by machines, muscles and in nature.
<p>Different types of forces</p> <ul style="list-style-type: none"> • Magnetic • Electric • Gravitational • Friction 	<p>Define the following terms:</p> <ul style="list-style-type: none"> ➤ magnetic force ➤ electric force ➤ gravitational force ➤ friction <ul style="list-style-type: none"> • Identify and sort magnetic and non-magnetic material. • State some uses of magnets in our daily life. • Identify the force of attraction or repulsion by looking at the pictures of magnets, facing same or different poles. • State the ways we can charge a balloon or comb to attract pieces of paper, hair or thin stream water from a tap. • Identify and name the surface which produces more friction and less friction.
<p>Contact and non-contact force</p>	<p>Classify different type of forces as a contact or a non-contact force.</p>
<p>Key Words: stretch, exert, muscles, typhoon, earthquake, attraction, gravity, friction, force meters, Newton meter, spring balance</p> <p>Types of Questions:</p> <ul style="list-style-type: none"> • Multiple Choice Questions • True or False • Structural questions • Detailed questions • Reasoning questions • Fill in the blanks • Labeling of diagrams 	

Sample Questions:

1. State the difference between push and pull with two examples of each.
2. Look at the given pictures and identify some damages caused by forces in nature.

**Work book Activities :**

- Activity 3.1, 3.2, 3.4, 3.6

Activities/ Experiments:

- Students will roll a toy car on different surfaces (carpet, wood, glass and tiles) and observe which surface it travels the furthest on:
 - a mat
 - a glass table top
 - a wooden desk top

Practical Applications:

- To observe force of attraction between different types of magnets.
- To observe electric force in action.
- To observe the force applied on different objects.
- To observe friction by rolling a ball on different surfaces.

Surf I.T:

- <http://www.sciencekids.co.nz/gamesactivities/gases.html>

November: Revision for Mid-Year Examination 2018-19

December: Mid-Year Examination 2018

January

Chapter 2: Fish and Frog

Pages 37-58

Contents	Learning Objectives
Vertebrates <ul style="list-style-type: none"> • Animals with backbones are called vertebrates. • Animals without backbones are called invertebrates. • Fish and frogs are examples of vertebrates. 	<ul style="list-style-type: none"> • Define vertebrates and invertebrates. • Identify and classify animals as a vertebrate or an invertebrate.
Habitat of fish and frog <ul style="list-style-type: none"> • Habitat is a place where organism lives and can find food, shelter and protection. • Fish live in water. • Frogs live on both land and water. 	<ul style="list-style-type: none"> • Define habitat. • Describe the habitat of fish. • State that frogs are amphibians; they can live on water and on land.
Comparing a fish and a frog <ul style="list-style-type: none"> • Fish have fins tail and a streamlined body. • Frogs have moist skin and webbed feet. 	<ul style="list-style-type: none"> • Describe the general body features of a fish and a frog. • Explain how the body structure of a fish and a frog helps them to survive in their habitats.

<p>Comparing a fish and a sea horse</p> <ul style="list-style-type: none"> • Fish move horizontally. • Sea horses move vertically. 	<ul style="list-style-type: none"> • Explain how a sea horse is different from a fish. • Explain how a sea horse is similar to a fish.
<p>Food sources of a fish and frog</p> <ul style="list-style-type: none"> • Fish eat plankton, small fish, shrimps, crabs etc. • Frog eats insects and small animals. 	<ul style="list-style-type: none"> • Identify the types of food eaten by different fish and frogs.
<p>Lifecycle of a fish and frog. The life cycle of fish consists of three stages: egg; fry; fish. The life cycle of frog consists of four stages: egg; tadpole; frog let; adult frog.</p>	<ul style="list-style-type: none"> • Differentiate between the life cycle of a fish and a frog. • Identify different stages of growth of a frog and a fish.
<p>Camouflage</p> <ul style="list-style-type: none"> • Blending in with their surroundings is called camouflage. • Most animals camouflage to hide from their enemies. 	<ul style="list-style-type: none"> • Describe a camouflage for an animal. • Describe how camouflage may be helpful to animals.

Key Words:

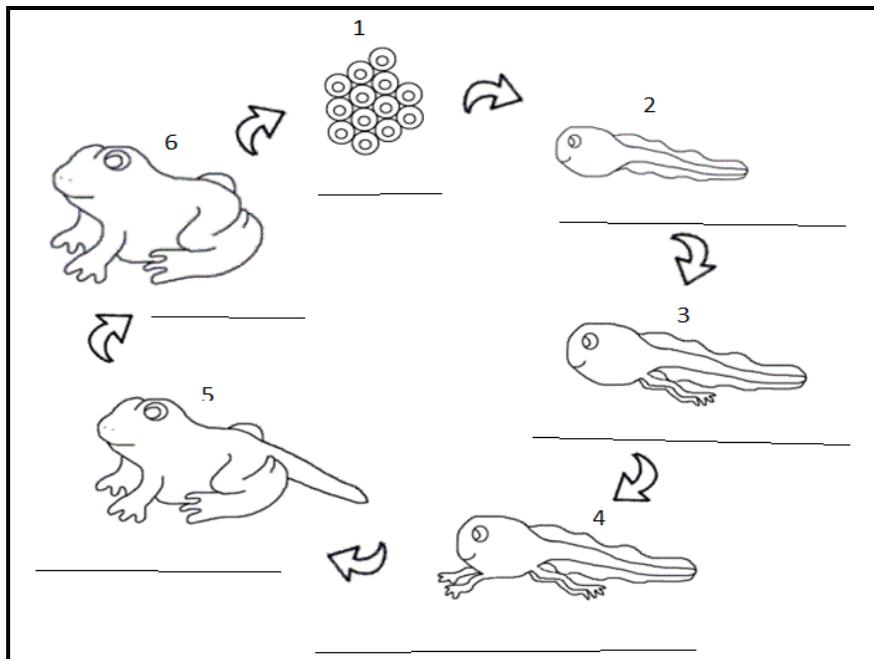
vertebrate, invertebrate, amphibians, streamlined body, plankton, carnivores, camouflage, blending, webbed feet, moist skin, forelegs, hind legs, skeleton, aquatic, terrestrial, limbs, camouflage, prey, predators, species, algae, glide, frog let, tadpole

Types of Questions:

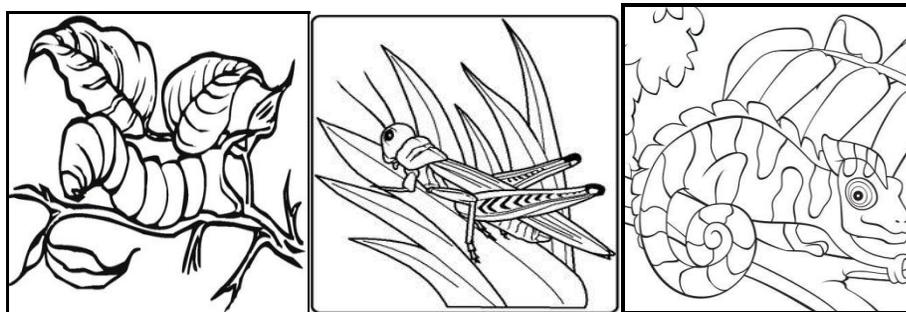
- Multiple Choice Questions
- True or False
- Structural questions
- Detailed questions
- Reasoning questions
- Fill in the blanks
- Labeling of diagrams

Sample Questions:

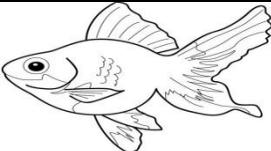
1. Study the life cycle of a frog and label its different stages.



2. Identify and colour the camouflage animals in the given figures.



3. Differentiate between the characteristics of fish and sea horse.

Work book Activities:

- Activity 2.2, 2.3, 2.5, 2.6, 2.8

Activities/ Experiments

- Students will arrange the pictures of different stages in the growth of a frog.

Practical Applications:

- To observe and identify the characteristics of different invertebrates and vertebrates.
- To observe air is a matter.
- To investigate which material is a good conductor of heat.
- To produce sound with the help of different objects.

Surf I.T:

- <https://www.studyladder.com/games/activity/animal-camouflage-28644>
- <https://www.youtube.com/watch?v=qS-lq6XxE20>

February

Chapter 4: Materials and their properties

Pages 77-105

Contents	Learning Objectives
<p>Different types of material Materials can be classified into different types:</p> <ul style="list-style-type: none"> • Metals or non-metals • Natural or manmade • Flexible or hard 	<ul style="list-style-type: none"> • Classify materials into different groups: <ul style="list-style-type: none"> ➢ Metals or non-metals ➢ Natural or manmade ➢ Flexible or hard
<p>Properties of materials and their uses Different materials are used for different purposes. The properties of materials can be on the basis of:</p> <ul style="list-style-type: none"> • Flexibility • Absorbency • Hardness • Strength 	<ul style="list-style-type: none"> • List the properties of materials. • Describe how materials have various properties that make them suitable for different uses. • Identify the uses of different materials for different purposes.
<p>Importance of diversity of materials</p> <ul style="list-style-type: none"> • A diversity of materials gives a wide range of materials to choose from for different uses. 	<ul style="list-style-type: none"> • Explain why a variety of materials are important.

How properties of materials can be changed

Properties of materials can be changed by using different methods:

- hitting
- twisting
- squeezing
- adding materials

- List some methods which can change the property of materials.
- Suggest some materials which can be altered by:
 - hitting
 - twisting
 - squeezing
 - adding materials

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. Identify the material of the following objects and write the reason for their use.

Material	Objects	Reasons
	 Pot	
	 Tyre	

2. Differentiate between metals and non-metals.

Metals	Non-metals
e.g.	e.g.

Work book Activities:

- Activity 4.1,4.2,4.3, 4.5, 4.6, 4.7,4.8, 4.9, 4.10

Activities/ Experiments:

- Students will list the clothes they would take with them to the beach or on snowy areas: to show that they understand the material they have chosen.

Practical Applications:

- To observe which substance can dissolve in water.
- To conduct fair tests.
- To test the absorbency of materials.
- To test the absorbency of different types of paper.

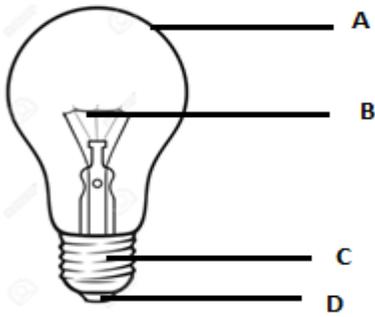
Surf I.T:

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

Contents	Learning Objectives
<p>What is electricity Electricity is a form of energy that enables things to work.</p>	<ul style="list-style-type: none"> Define electricity.
<p>Electric circuits Components of circuit:</p> <ul style="list-style-type: none"> battery or cell bulb wires switch 	<ul style="list-style-type: none"> Describe an electric circuit. List the components required to form an electrical system.
<p>Open and closed circuit There are different types of circuits which can be used to provide energy for electricity:</p> <ul style="list-style-type: none"> A circuit with a gap is called an open circuit. A circuit without any gap is called a closed circuit. 	<ul style="list-style-type: none"> Identify and differentiate between an open and a closed circuit.
<p>A short circuit A short circuit occurs when a wire is connected directly to the two ends of a battery.</p>	<ul style="list-style-type: none"> Describe a short circuit.
<p>Electrical conductors and insulators A conductor allows electricity to travel through. An insulator does not allow electricity to pass.</p>	<ul style="list-style-type: none"> Define the following: <ul style="list-style-type: none"> conductor insulator Identify and sort electrical conductors and insulators Give examples for conductors and insulators.
<p>Using electricity safely Safety is very important when using electricity.</p>	<ul style="list-style-type: none"> Explain why safety is very important. List some safety measures of using electricity.
<p>Switches, motors and buzzers</p>	<ul style="list-style-type: none"> Identify a switch, motor and buzzer in a circuit. Describe the use of switch, motor and buzzer in a circuit.
<p>Key Words: electrostatic charge, positive, negative, insulator, attraction, repulsion, circuit diagram, buzzer, motor, short circuit, components, conductor, electric current</p> <p>Types of Questions:</p> <ul style="list-style-type: none"> Multiple Choice Questions True or False Structural questions Detailed questions Reasoning questions Fill in the blanks Labeling of diagrams 	

Sample Questions:

1. Label the parts of the given bulb and state the function of its labelled parts.



2. Differentiate between an open circuit and a closed circuit.

Open circuit	Closed circuit

Work book Activities:

- Activity 7.2, 7.3, 7.4, 7.5,7.6

Activities/ Experiments

- Students will make a closed or an open circuit using the basic components (wires, battery, bulb and switch).

Practical Applications:

- To make a simple circuit.
- To make closed and open circuit.
- To know the use of a switch in an open and a closed circuit.

Surf I.T:

- http://www.bbc.co.uk/schools/scienceclips/ages/8_9/circuits_conductors_fs.shtml

April-Revision For Final Examination 2018-19

May- Final Examination 2019