بِسۡمِ اللّٰہِ الرَّحۡمٰنِ الرَّحِیۡمِ

Allah's Name to commence with the Most Gracious, the Most Merciful

SPECTRUM Science

SOLVED EXERCISES

3

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Spectrum
Enlightening Generations

Spectrum Science Grade-3
(Solved Exercises)

Table of Contents

Introduction to Spectrum Science Series Book 1 to 5

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

The main aim of *the Science Series Grade-4* textbook is to provide a real-life hands-on experience to the young learners regarding scientific phenomena around us. For this reason, we have ensured multiple sections within a chapter to help students digest scientific knowledge and concepts, through a step-by-step process, rushing nothing.

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

Think

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

Explore

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

Know

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

Activity

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

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

Spectrum Science Teaching Guide Grade-3

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

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

⇒ **Student Learning Outcomes (SLOs)** are carefully planned goals for what students will learn. These also define what students will know and be able to do by the end of the lesson.

⇒ **Prior Knowledge** connects students to what is being taught in class.

⇒ **Resources** are required material in the lesson. Teachers are encouraged to arrange necessary materials in advance.

⇒ **Warm-up** is an icebreaker. These are done to develop students' interest in the subject and generate engagement.

⇒ **Lesson Structure** is the central part of the lesson plan. Its goal is to ensure that learning outcomes are achieved through explanation, demonstration, activities, class discussion, and brainstorming. Referencing the text, illustrations and pictures in the manual will make the lesson engaging and interesting. Teachers are encouraged to collect student feedback to determine if learning outcomes are being achieved.

⇒ **Conclusion** summarizes the topic and often includes an assessment of the topics covered in a particular lesson.

⇒ **Class Assignments** based on worksheets or activities. The teacher can assign it for homework.

⇒ **Homework** is assigned to students during the lesson to reinforce what they have learnt.

Conclusion

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

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

Solved Exercises

Unit.1 Bones, Joints and Muscles

Model Answers

Question 1

Answers of the questions.

i. What is a skeleton?

Answer: All the bones together make up the skeleton.

ii. What is the function of the joints?

Answer: Joints help in the movement of different body parts.

iii. What are the kinds of joints?

Answer: Moveable and fixed joints.

iv. What do you know about muscles?

Answer: The human body has more than 600 muscles. Muscles make it possible for us to move and work.

v. How can we take care of our bones and muscles?

Answer: We can take care of bones and muscles with healthy food and exercise.

Question 2

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

i. All the bones together make up the skeleton. **T**
ii. An adult human body has 300 bones. **F**
iii. Muscles are attached to the bones. **T**
iv. Fixed joints allow you to twist, bend and move. **F**
v. The skull has some moving joints. **F**

Question 3

Choose the correct options to fill in the blanks.

i. Bones, joints and muscles are responsible for the body movement.
   a. bones, joints and muscles
   b. muscles
   c. rib cage
ii. A human body has more than 600 muscles.

a. 400
b. 500
c. 600

iii. Milk and exercise keep our bones strong.
a. milk
b. coffee
c. cold drink

iv. Most skull joints are fixed.
a. fixed
b. moveable
c. none of above

v. The rib cage protects the heart and lungs.
a. kidneys
b. heart and lungs
c. brain

Question 4

Identify moveable joints and fixed joints.

1st Picture=Moveable Joint

2nd Picture= Fixed Joints

Unit.2 Characteristics of Living Things

Model Answers

Question 1

Answers of the questions.

i). Name any four characteristics of living things.

Answer: growth, reproduction, breathing, movement

ii). How do plants breathe?

Answer: Plants breathe through tiny holes called stomata.

iii). Why do animals move from one place to another?

Answer: They move to find food, shelter and to avoid danger.

iv). Why is food essential for living things? Give only one reason.

Answer: All living things need food to survive. It gives them energy.

Question 2

Fill in the blanks with correct words.

plants	eggs	Oxygen	gills

i). Fish take oxygen from water through their gills.

ii). Birds reproduce by laying egg.

iii). Plants grow towards the sunlight.

iv). Oxygen helps to break down food to produce energy.

Question 3

Choose the correct options to fill in the blanks.

i). Stomata help in breathing.

a) movement
b) breathing
c) reproduction

ii). Birds fly with the help of their wings.

a) legs
b) wings
c) bellies

iii). The process of a seed turning into a plant is called growth.

a) reproduction
b) sensitivity
c) growth

iv). All living things get energy from food.

a) reproduction
b) movement
c) food

Question 4

Match each definition in column A with the terms in column B and write the correct answer in column C.

Column A	Column B	Column C
All living things produce young ones	sensitivity	reproduction
Living things change in their size and shape	breathing	growth
All living things have the ability to respond to the environment	growth	sensitivity
All living things take in oxygen and give out carbon dioxide	reproduction	breathing

Unit.3 Plant Growth

Model Answers
Question 1
Answers of the questions.

i. Define the life cycle of a plant.

Answer: The life cycle of a plant is the process of changing from a seed into a fully grown plant.

ii. On what factors does the germination of a sunflower seed depend?

Answer: Germination of a sunflower seed depends on three factors: soil temperature, moisture and oxygen.

iii. How does a seedling grow?

Answer: The shoot of a seedling grows upward and the roots grow downward into the soil.

iv. What is the first step in sunflower reproduction?

Answer: Pollination is the first step in sunflower reproduction.

v.

vi. How are sunflower seeds dispersed?

Answer: Sunflower seeds are dispersed by wind, water and animals.

Question 2
Write 'T' for a true and 'F' for a false statement.

i. The shoot always grows down into the soil. **F**
ii. A seed coat is the inner layer of a seed. **F**
iii. The sunflower plant has large yellow flowers. **T**
iv. A sunflower seedling takes two days to germinate. **F**
v. Sunflower seeds are dispersed by water. **T**

Question 3

1st Picture	2nd Picture	3rd Picture	4th Picture	5th Picture	6th Picture
6	1	5	3	2	4

Question 4

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

Unit.4 Animal Growth

Model Answers

Question 1

Answers to the questions.

i. What are the major changes in an animal's appearance during its life cycle?

Answer: Many animals change their size and shape as they grow.

ii. Name the different parts of a hen's egg-

Answer:shell, yolk, egg white

iii. What is the male and female chickens called?

Answer: A male chicken is called a rooster and a female chicken is called a hen.

iv. Who is bigger? A chick or a chicken?

Answer: A chicken is bigger than a chick.

Question 2

Use the word bank to fill in the blanks.

21	broody hen	life cycle	23 to 26

i. A hen can lay an egg every 23 to 26 hours.

ii. A life cycle is the series of changes from birth until death.

iii. An egg hatches in 21 days.

iv. A hen who sits on eggs to hatch them is called a broody hen.

Question 3

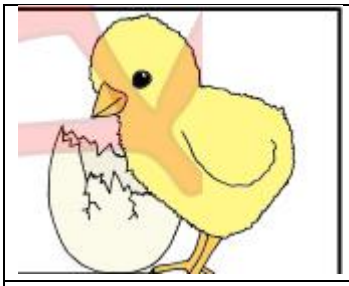
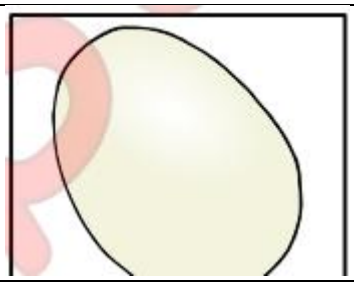
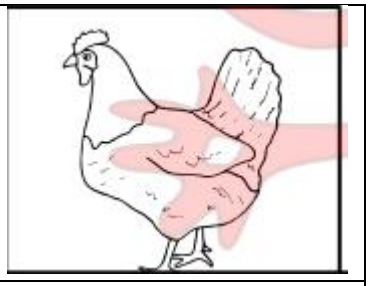
Identify any two physical differences between the young and an adult frog.

Tadpole has a tail.

Adult frog's colour and size is also different from tadpole.

Question 4

Arrange the following pictures in the right order.

		
2nd	**1st**	**3rd**

Unit 5 What Do Animals Eat

Model Answers

Question 1

Answers of the questions.

i. Why do all living things need food?

Answer: Food gives them energy to do work and helps them to grow.

ii. Define the following:

Answer:

a. **Herbivores:** Animals that eat only plants are called herbivores.

b. **Carnivores:** Animals that eat other animals are called carnivores.

c. **Omnivores:** Animals that eat both plants and meat are called omnivores.

iii. What types of teeth do omnivores have?

Answer: Omnivores, like humans and bears, have both sharp pointed teeth for tearing meat and flat teeth for grinding plants.

iv. Which body part of the following herbivores helps them get their food?

b. Giraffe

c. Elephant

Answer: Giraffes have long necks that help them get their food.

Elephants have long trunks that help them get their food.

Question 2

Use the word bank to fill in the blanks.

flat	food	pointed	omnivores

i. All living things need <u>food</u> to live.

ii. Animals that eat both plants and animals are called <u>omnivores.</u>

iii. Tigers have sharp, <u>pointed</u> teeth.

iv. Herbivores have both sharp and <u>flat</u> teeth.

Question 3

Circle the correct answer among the following.

i. (a)

ii. (c)

iii. (c)

iv. (b)

Question 4

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

i. A crow is an omnivore. **F**
ii. All carnivores have powerful jaws. **T**
iii. Herbivores have strong teeth for tearing meat. **F**
iv. Animals need food to get energy. **T**

Question 5
Classify the following animals.

Horse, Snake, Buffalo, Tiger, Crow, Goat, Rat, Zebra, Shark, Raccoon, Lion,

Herbivores	Carnivores	Omnivores
Horse	Tiger	
Buffalo	Shark	Crow
Goat	Snake	Rat
Zebra	Lion	Raccoon

Unit.6 Habitats

Model Answers

Question 1

Answers of the questions.

i). Define a habitat.

Answer: A habitat is the natural home of plants and animals.

ii). Name any four natural habitats.

Answer: grassland, desert, forest, marine

iii). What do you know about tundra habitat?

Answer: Tundra is a vast and extremely cold region which is always frozen below the surface.

iv). Can a lion survive in a water habitat? If no, why?

Answer: No, because a lion cannot breathe in water.

v). Write a short note on the largest habitat of the world.

Answer: Aquatic habitat is the largest habitat on earth. It is further divided into two habitats; freshwater and marine water habitat.

Question 2

Use the word bank to fill in the blanks.

ten	forest	cactus	two	terrestrial

i. The terrestrial habitat is further divided into four major types of habitats.
ii. The tundra habitat covers approximately ten percent of the land.
iii. Cactus is the most common plant found in deserts.
iv. A forest is a large area of land covered mostly by trees.
v. The aquatic habitat is further divided into two habitats.

Question 3

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

i. Grasslands receive less rain than deserts and more rain than forests. **F**
ii. Seventy-one percent of our earth is covered by water. **T**
iii. Polar bears and grey wolves live in tundra habitat. **T**
iv. A desert is cold during the day and hot at night. **F**
v. All habitats have the same kinds of animals and plants. **F**

Question 4

What plants and animals live in the following habitats?

Habitats	Animals	Plants
freshwater	fish, frogs, alligators, whales, sharks, sea turtles	water lilies, algae
desert	camels, scorpions, snakes, fennec foxes	cactus, wildflower
tundra	polar bears, grey wolves, penguins, snow geese, arctic foxes	grasses, mosses, lichen

Question 5

1st=Forest 2nd=grassland 3rd=Desert 4th=Freshwater 5th=Tundra

Unit.7 Material Properties

Model Answers

Question 1

Answers of the questions.

i. Name some materials in your home.

Answer: utensils, chair, glass, wire, etc. (Answers may vary)

ii. Why do we use metallic pots for cooking?

Answer: It is because heat can easily pass through metallic pots.

iii. Write any two properties of wood with examples.

Answer: Wood is a natural resource and not man-made. It catches fire and people use it for various purposes.

iv. What are some uses of plastic in daily life?

Answer: Plastic furniture (chairs and tables) is used in houses and at schools. Bottles are made from plastic. The lightweight plastic is also used as a packaging material

v. Write any three uses of glass.

Answer: Glass is widely used for making mirrors, bottles and electric bulbs.

Question 2

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

i. Heat and electricity cannot pass through metals. **F**

ii. Metals are used to make electrical wires. **T**

iii. Plastic is also used as a fuel. **F**

iv. Plastic is lightweight and durable. **T**

v. Timber is used for building houses and making furniture. **T**

vi. Glass fibres are used to make spectacles. **F**

vii. There are many things about which Science can tell us nothing because they cannot be known through five senses. **T**

Question 3

Mention any three objects made of wood.

Wood	chair
	bed
	door

(Answers may vary)

Question 4

Read the statements and guess the type of material.

a. Heat and electricity can pass through them easily. **Metals**

b. Heat and electricity cannot pass through them easily. **Wood**

Question 5

Glass	Metal	Plastic
tumblers	measuring scale	artificial flowers
	cooking utensil	cups
	tap	artificial plant

Unit.8 Introduction to States of Matter

Model answers

Question 1

Answers of the questions.

i. What is matter? Name the states of matter.

Answer: Anything that has mass and occupies space is called matter. Solid, liquid and gas are states of matter.

ii. Write two properties of a solid.

Answer: A solid has a definite shape and a definite volume.

iii. Write two properties of gases?

Answer: Gases do not have a definite shape and a definite volume.

iv. How does a solid change into a liquid? Give an example.

Answer: When a solid is heated, it turns into liquid. For example, a burning candle changes into liquid wax.

v. How does a liquid change into a solid? Give an example.

Answer: When a liquid is cooled, it turns into a solid. For example, water turns into ice.

vi. What can we not know through Science?

Answer: Science cannot prove or disprove Faith, consciousness, belief and values.

Question 2

Use the word bank to fill in the blanks.

heating	liquid	matter	definite	three

i. Anything that has mass and occupies space is called matter.

ii. There are three states of matter.

iii. Liquids do not have a definite shape.

iv. Solids change into solids by heating.

v. A liquid can flow from a higher level to a lower level.

Question 3

Look at the pictures below. Sort them into solids, liquids and gases.

Solids	Liquids	Gases
bricks, eraser, book,	juice, oil, milk, rain	steam

Question 4

Guess the state of matter from the given hints.

Not a definite shape------ but a definite volume --------. **Liquids**

Neither a definite shape --------- nor a definite volume -------. **Gases**

Unit.9 Simple Machines

Model Answer

Question 1

Answers of the questions.

i. Define a simple machine.

Answer: A simple machine has few or no moving parts.

ii. Name the types of simple machines.

Answer: lever, pulley, inclined plane, wedge, screw, wheel and axle

iii. What are the uses of a lever?

Answer: A lever is used as door handle and a bottle opener.

iv. What is a pulley?

Answer: A pulley is a simple machine that is used to lift or lower objects.

v. How is an inclined plane different from a wedge?

Answer: An inclined plane is a slope while a wedge has inclined planes on opposite sides.

Question 2

Fill in the blanks using suitable words.

screws	seesaw	easier	two	simple machines

vi. Machines have made our life <u>easier</u>.

vii. All modern machines are combinations of <u>simple machines</u>.

viii. A <u>seesaw</u> is an example of a lever.

ix. A wedge is a combination of <u>two</u> inclined planes.

x. Bottle caps and jar lids have <u>screws</u> in them.

Question 3

Identify the given simple machines. Rearrange the letters to write their names.

tenobetorelp = bottle opener	mamhre = hammer	reswircedvr = screw driver

Question 4

Write an example of each simple machine.

Pulley	flagpole
Inclined plane	parking ramps
Wheel and Axle	grocery carts

Unit.10 Effects of Forces

Model Answers

Question 1

Answers of the questions.

i. Define force with examples.

Answer: Force is a pull or push upon an object. For example, we use force to work, to play and to lift objects.

ii. Write two examples of each of the following:

- Forces produced by nature

Answer: Flood, earthquake, volcanic eruption

- Forces exerted by human beings

Answer: pushing, pulling, and lifting an object

iii. What is the effect of a force on the position of an object? Give one example.

Answer: The position of an object can be changed by pushing or pulling it. For example, a boy pushes a desk from one place to another. The force applied on the desk changes the position of the desk.

iv. What is the effect of a force on the shape of an object? Give one example.

Answer: A force can change the shape of an object temporarily or permanently. For example, a stretched rubber band returns to its original shape when the force is removed.

v. What is the effect of a force on the speed of a moving object?

Answer: A force can cause objects to speed up or slow down. For example, the speed of a moving bicycle decreases, when the rider pulls the brakes.

Question 2

Use the word bank to fill in the blanks.

natural	push	see	force	removed

i. A force is a pull or push upon an object.
ii. A storm is a natural force.
iii. We cannot see forces but we can see their effects.
iv. A stretched rubber recovers to its original shape when the force is removed.
v. Kicking a football is an example of the force of push.

Question 3

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

i. Human beings and animals do not produce forces. **F**
ii. A force can change the speed of a moving object. **T**
iii. The position of an object can be changed by pushing or pulling it. **T**
iv. A storm is not a natural force. **F**
v. A force applied on an object can change its shape. **T**

Question 4

Identify each force shown below by writing the correct name under the picture.

push	pull	push

Unit.11 Sources of Energy

Model Answers

Question 1

Answers of the questions.

i. Define energy.

Answer: Energy is the ability to do work.

ii. What are the renewable sources of energy? Describe any one of them.

Answer: Renewable sources of energy are produced by nature. Solar energy is the renewable energy and the Sun is the source of this renewable energy.

iii. What are non-renewable sources of energy?

Answer: Non-renewable sources of energy are limited and will run out one day.

iv. What are fossil fuels?

Answer: Coal, oil and natural gas are fossil fuels. We get thermal energy by burning them.

v. Why non-renewable sources of energy are not environment-friendly?

Answer: It is because non-renewable sources release toxic gases in the air when burnt.

Question 2

Use the word bank to fill in the blanks.

fossil fuels	short	environment	coal	thermal

i. Renewable sources of energy are renewed over a short period of time.
ii. Non-renewable energy sources are harmful for the environment.
iii. Coal, natural gas and petroleum are fossil fuels.
iv. We get thermal energy by burning fossil fuels.
v. Coal is the only solid fossil fuel.

Question 3

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

i. Living things cannot work without energy. **T**
ii. Dams are constructed to produce wind energy. **F**
iii. Renewable energy sources are renewed naturally. **T**
iv. Fossil fuels are renewable sources of energy. **F**
v. We get solar energy from the Sun. **T**

Question 4

Write two differences between renewable and non-renewable sources of energy.

Renewable Sources of Energy	Non-renewable Sources of Energy
Renewable sources of energy are renewed constantly.	Non-renewable sources of energy cannot be produced.
Renewable sources of energy never end up.	Non-renewable sources of energy will end up.

Question 5

Identify renewable and non-renewable sources of energy from the given picture. Put a tick under the correct column.

Sources of Energy	Renewable	Non-renewable
sun	✓	
natural gas		✓
windmill	✓	
coal		✓
dam	✓	
petrol		✓

Unit.12 Form of Energy

Model Answers

Question 1

Answers of the questions.

i. Define energy and name its two basic forms.

Answer: Energy is the ability of a body to do work. Potential energy and kinetic energy are two basic forms of it.

ii. Name any two forms of potential energy.

Answer: Chemical energy and gravitational energy are two forms of potential energy.

iii. Define kinetic energy. Also, name three different forms of kinetic energy.

Answer: The energy of a moving object is called kinetic energy. Sound energy and light energy are forms of kinetic energy.

iv. What is energy conversion and why is it important?

Answer: Energy conversion means energy cannot be destroyed, but it can be changed from one form to another. For example, when we switch on an electric lamp, the electrical energy coverts into light energy. Similarly, when we switch on a torch, the chemical energy of batteries coverts into light energy.

v. What is energy conservation? Explain with two example.

Answer: The reduction of unnecessary energy use is known as energy conservation. Reducing electricity use in homes and use alternate sources of energy like solar energy are the two examples of energy conservation.

Question 2

Use the word bank to fill in the blanks.

form	kinetic	energy	potential	light

i. Energy is the ability of a body to do work.
ii. Gravitational energy is a form of potential energy.
iii. Light energy is a form of kinetic energy.
iv. Energy changes from one form to another.
v. A lit lamp converts electrical energy into light energy.

Question 3
Write 'T' for a true and 'F' for a false statement.

i. The energy of a moving object is called potential energy. **F**
ii. Heat energy is also called thermal energy. **T**
iii. Thermal energy is a form of potential energy. **F**
iv. A stretched rubber band has elastic energy stored in it. **T**
v. Light energy and heat energy are forms of kinetic energy. **T**

Question 4

i. 1st Picture= Elastic Potential Energy 2nd Picture= Kinetic Energy
ii. 1st Picture= Heat Energy 2nd Picture= Electric Energy

Unit.13 Electricity

Model Answers

Question 1

Answers of the questions.

i. How can electricity be generated?

Answer: Electricity is usually generated by burning a fossil fuel (coal, gas, oil). It can also be generated by falling water.

ii. Define mains electricity.

Answer: It is electricity produced in power stations.

iii. What is an electric circuit? Name its components.

Answer: The path through which an electric current flows is called an electric circuit. Its components are an electric device, wires and a power source.

iv. Name any five appliances in which batteries are used.

Answer: Toys, remote control, radio, watch, and cell phones use batteries. (Answer may vary)

v. Describe any two safety measures that must be taken while using electrical appliances.

Answer: i. Never touch an electrical appliance with wet hands or bare feet.

ii. Do not put anything other than a plug into a socket.

Question 2

Use the word bank to fill the blanks.

electric circuit	wet	electricity	power stations	battery

i. All electrical appliances need <u>electricity</u> to work.

ii. We get mains electricity from <u>power stations</u>.

iii. The path through which electric current flows is called an <u>electric circuit.</u>

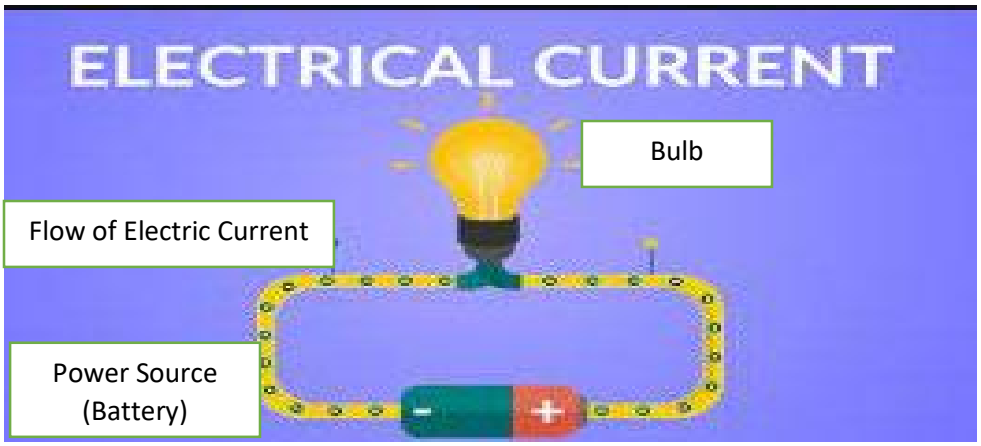
iv. A <u>battery</u> stores a small amount of electricity.

v. Do not touch the fan or light switch with <u>wet</u> hands.

Question 3

Label the components of the circuit.

Sample Image



Question 4

Differentiate between a conductor and an insulator. Also give an example of each.

Conductors	Insulators
Electricity can pass through a conductor.	Electricity cannot pass through an insulator.
Examples: Iron	**Examples:** Glass

Unit.14 Air and Wind

Model Answers

Question 1

Answers of the questions.

i. What does air contain?

Answer: Air contains gases, dust, smoke, and germs.

ii. Which gas is most important to life?

Answer: Oxygen is most important to life.

iii. How do germs enter in the air?

Answer: When someone coughs or sneezes, germs get in the air.

iv. Name different types of wind.

Answer: Breeze, gale, and strorm are different types of wind.

v. Write the difference between a storm and a thunderstorm.

Answer: A strom is a very strong and fast wind while in a thunderstorm, there is thunder and lightning with a lot of heavy rain.

Question 2

Use the word bank to fill in the blanks.

breeze	air	microscope	wind	oxygen

iii. Air is all around us.

iv. We breathe in oxygen gas.

v. Gale and thunderstorm are two types of wind.

vi. A gentle wind is called breeze.

vii. We can see germs through a microscope.

Question 3

Choose the correct option to fill in the blanks.

i. Air contains gases, dust, smoke and germs.

a. Water

b. Soil

c. Air

ii. Smoke is the major cause of air pollution.

a. Oxygen

b. Nitrogen

c. Smoke

iii. Breeze is one of the many types of wind.

a. Breeze

b. Rain

c. Flood

iv. A storm with lightning and thunder and usually heavy rain is called a thunderstorm.

a. Air

b. thunderstorm

c. gale

v. Dust is made up of tiny, dry particles in the air.

a. Dust

b. Smoke

c. Germs

Question 4

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

i. Plants use carbon dioxide for the process of food making. **T**

ii. When the air moves gently, it is called a storm. **F**

iii. Nitrogen gas helps in the growth of plants. **T**

iv. Smoke is the visible component of the air. **T**

v. Germs make us healthy. **F**

Unit.15 Our Solar System

Model Answers

Question 1

Answers of the questions.

i. Name the components of our Solar System.

Answer: The Sun, Planets, moons, and dwarf planets are components of our Solar System.

ii. Write a short note on:

a. a star

Answer: Stars are huge balls of burning gases. They emit their own light and heat. The Sun is the nearest star to our Earth.

b. a planet

The planets are large round objects in space that revolve around the Sun. Each planet revolves around the Sun in its fixed path oval path. For example, our Earth is revolving around the Sun.

iii. Name the eight planets of our Solar System in order of their distance from the Sun.

Answer: Mercury, Venus, Earth, Mars, Jupiter, Satrun, Uranus and Neptune.

iv. What is the difference between a star and the Moon?

Answer: Stars emit their own light and heat. Moon is natural satellite that does not have its own light. It shines because of the reflected light of the Sun.

v. What is the difference between a planet and a dwarf planet?

Answer: A planet has a fixed orbit around the Sun while the dwarf planets do not have a fixed orbit.

vi. What is an orbit? What shape does it have?

Answer: The fixed oval-shaped paths of plannets around the Sun is called orbit.

vii. Does Science provide us an absolute knowledge?

Answer: Science does not provide absolute knowledge. Its knowledge is tentative and subject to change.

Question 2

Use the word bank to fill in the blanks.

dwarf	eight	one	star	Luna

i. A star has its own light.

ii. There are eight planets in our Solar System.

iii. Pluto is a dwarf planet.

iv. The Earth's moon is called the Luna.

v. The Earth has only one Moon.

Question 3

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

i. The Sun is a planet. **F**
ii. The Sun moves around the Earth. **F**
iii. The surface of the Moon is bumpy. **T**
iv. The orbits are oval-shaped. **T**
v. Pluto is considered a natural satellite. **F**

Question 4

Choose the correct option to fill in the blanks

i. There are mountains on the surface of the moon.
   a. oceans
   b. mountains
   c. ice
ii. The Moon reflects light from the Sun.
   a. a dwarf planet
   b. a planet
   c. the Sun
iii. Pluto is considered a dwarf planet of our Solar System.
   a. Sun
   b. Moon
   c. Pluto
iv. Orbit is the fixed oval-shaped path.
   a. Star
   b. Orbit
   c. dwarf planet
v. The Sun is the nearest star to the Earth.
   a. Moon
   b. Pluto
   c. Sun

Term Assessment

1st Term Assessment **Time: 60 Minutes**

SCIENCE 3

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

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

Section-I

Question 1

Write 'T' for true and 'F' for false statement. **/10**

a) All the bones together make up the skeleton.
b) An adult human body has 300 bones.
c) Fixed joints allow you to twist, bend and move.
d) Heat and electricity cannot pass through metals.
e) Plastics are lightweight and durable.
f) Glass fibres are used to make spectacles.
g) Living things cannot work without energy.
h) Renewable energy sources are renewed naturally.
i) Fossil fuels are renewable sources of energy.
j) When the air moves gently, it is called a storm.

Question 2

Use the word bank to fill in the blanks. **/10**
(fossil fuels, short, plants, air, microscope, wind, oxygen, gills, matter, three)

i. Renewable sources of energy are renewed over a _____period of time.
ii. Coal, natural gas and petroleum are _____.
iii. _____ is all around us.
iv. We breathe in _____ gas.
v. Gale and thunderstorm are two types of _____.
vi. We can see germs through a _____.

vii. Anything that has mass and occupies space is called _____.
viii. There are _____ states of matter.
ix. Fish take oxygen from water through their _____.
x. _____ grow towards the sunlight.

Question 3

Choose the correct option below. **/10**

i. _____ are responsible for the body movement.
d. Bones, joints and muscles
e. Muscles
f. Ribcage

ii. A human body has more than _____muscles.
d. 400
e. 500
f. 600

iii. Skull joints are _____.
d. fixed
e. moveable
f. none of above

iv. Stomata help in _____.
d) movement
e) breathing
f) reproduction

v. Birds fly with the help of their _____.
d) legs
e) wings
f) bellies

vi. The process of a seed turning into a plant is called _____.
g) reproduction
h) sensitivity
i) growth

vii. _____ is the major cause of air pollution.
a) Oxygen
b) Nitrogen
c) Smoke

viii. _____ is one of the many types of wind.
a) Breeze
b) Rain
c) Flood

ix. A storm with lightning and thunder and usually heavy rain is called a _____.

a) Air
b) thunderstorm
c) gale

x. _____ is tiny, dry particles in the air.

d. Dust
e. Smoke
f. Germs

Question 4

Match each definition in column A with the terms in column B and write the correct answer in column C. **/10**

Column A	Column B	Column C
All living things produce young ones	Sensitivity	
Living things change in their size and shape	Breathing	
All living things have the ability to respond to the environment	Growth	
All living things take in oxygen and give out carbon dioxide	Reproduction	

Question 5

Guess the state of matter from the given hints. **/10**

Not a definite shape------ but a definite volume --------.

Neither a definite shape --------- nor a definite volume -------.

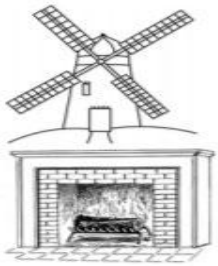
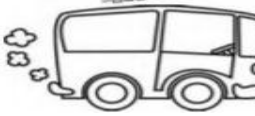
Read the statements and guess the type of material.

Heat and electricity can pass through them easily.

Heat and electricity cannot pass through them easily.

Question 6

Look at the picture below. Identify the renewable and non-renewable sources of energy. /10

	Source:	Renewable or Non-renewable:
		
		
		
		
		
		

Section-II

Question 7

Answer the questions. /20

i. Define skeleton.

Answer:

_____

ii. What are the kinds of joints?

Answer:

_____

_____

iii. Name any four characteristics of living things?

Answer:

_____

_____

iv. Write any three uses of glass.

Answer:_____

_____

v. What is matter? Name the states of matter?

Answer:

_____

_____

vi. Write any two properties of wood with examples?

Answer:

_____

_____

vii. Write two properties of a solid.

Answer:_____

viii. What are the renewable sources of energy?

Answer:

_____

_____

ix. What are fossil fuels?

Answer:

_____

_____

x. Name different types of wind.

Answer:

_____

_____

Practical

Performance of the student in science labs of units 3.2 and 3.14? /10

Viva(Oral Assessment)

Give at least five real life examples from the concepts given below. (Any Five) /10

- **Bones**
- **Joints**
- **Muscles**
- **Characteristics of living Things**
- **Properties of Material (Wood, Plastic, Metals, Glass)**
- **Solids and Liquids**
- **Non-Renewable Sources of Energy**

2nd Term Assessment **Time: 60 Minutes**

SCIENCE 3

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

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

Section-I

Question 1

Write 'T' for true and 'F' for false statement. **/10**

k) Muscles are attached to the bones.
l) Metals are used to make electrical wires.
m) We get solar energy from the sun.
n) The shoot always grows down into the soil.
o) Heat energy is also called thermal energy.
p) Pluto is considered a natural satellite.
q) A sunflower seedling takes two days to germinate.
r) The surface of the Moon is bumpy.
s) A seed coat is the inner layer of a seed.
t) A stretched rubber band has elastic energy stored in it.

Question 2

Use the word bank to fill in the blanks. **/10**
(eggs, thermal, electric circuit, omnivores, 23 to 26, breeze, 21, potential energy, environment, definite)

i. Non-renewable energy sources are harmful for the _____.
ii. We get_____ energy by burning fossil fuels.
iii. A gentle wind is called _____.
iv. Liquids do not have a _____ shape.
v. Birds reproduce by laying _____.
vi. A hen can lay an egg every _____ hours.
vii. An egg hatches in _____days.
viii. Animals that eat both plants and animals are called _____.
ix. Gravitational energy is a form of_____ energy.
x. The path through which electric current flows is called an _____.

Question 3

Choose the correct option below. **/5**

1. _____ and exercise keep our bones strong.
   d. Milk
   e. Coffee
   f. Cold drink

iv. The ribcage protects the _____.
   d. kidneys
   e. heart and lungs
   f. brain
   j) growth

2) All living things get energy from _____.
   a) reproduction
   b) movement
   c) Food

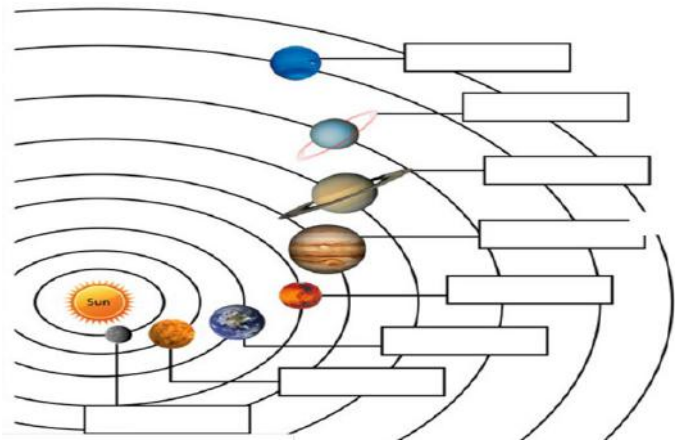
3) _____ contains gases, dust, smoke and germs.
   a) Water
   b) Soil
   c) Air

4) We get mains electricity from_____.
   a) power stations
   b) battery
   c) electric circuit

5) Total plants in Solar System are _____.
   a) seven
   b) eight
   c) nine

Question 4

Identify the planets and write their names. **/10**



Question 5

Differentiate between a conductor and an insulator. Also give an example of each. /10

Conductor	Insulator
Examples:	

Question 6

Search out the names of flowers, fruits and vegetables from the given puzzle. /10

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

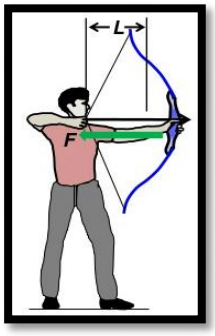
ROSE POTATO SUNFLOWER
APPLE ONION WATERMELON

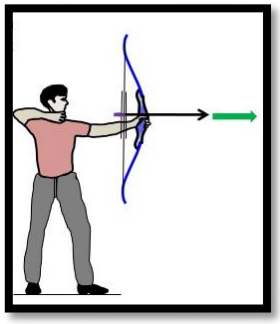
Question 7

/5

Look at the images below and identify the type of energy.

The archer shown below pulled back his bowstring and let the arrow fly. Which image shows elastic potential energy and which shows kinetic energy?





Section-II

Question 8

Answer the questions. /20

xi. What are function of joints?

Answer:

_____

_____

xii. How does plants breathe?

Answer:

_____

xiii. Name the parts of a hen's egg.

Answer:

_____

_____

xiv. Define carnivores.

Answer:

_____

_____

xv. Define kinetic energy and name its two different forms.

Answer:

_____

_____

xvi. Define an electric circuit. Name its components.

Answer:

_____

_____

xvii. Name the components of our Solar System.

Answer:

_____

xviii. What is mains electricity?

Answer:

_____

xix. How are sunflower seeds dispersed?

Answer:

_____

xx. What are herbivore?

Answer:

_____

_____

Practical

Performance of the student in science labs/projects of units 3.5 and 3.15. /10

Viva (Oral Assessment)

Give at least five real life examples from the concepts given below. (Any Five) /10

- **Growth changes in Plants**
- **Growth changes in Animals**
- **Feed of Animals**
- **Forms of Energy**
- **Uses of Electricity**
  Uses of Battery

2nd Term Assessment **Time: 60 Minutes**

SCIENCE 3

Name: _____ Roll No: _____ Date: _____

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

Section-I

Question 1

Write 'T' for true and 'F' for false statement. **/10**

a) The skull has some moving joints.
b) Heat and electricity cannot pass through metals.
c) Nitrogen gas helps in the growth of plants.
d) Smoke is the visible component of the air.
e) Grasslands receive less rain than deserts and more rain than forests.
f) Seventy-one percent of our earth is covered by water.
g) Polar bears and grey wolves live in tundra habitat.
h) A desert is cold during the day and hot at night.
i) All habitats have the same kinds of animals and plants.
j) A force applied on an object can change its shape.

Question 2

Use the word bank to fill in the blanks. **/10**

(ten, liquid, screws, seesaw, simple machines, two, natural, push, force, coal, food and shelter Cactus, cooling, forest)

1. _____ is the only solid fossil fuel.
2. Liquids change to solids by _____.
3. A _____ can flow from a higher level to a lower level.
4. _____ is the most common plant found in deserts.
5. A _____ is a large area of land covered mostly by trees.
6) A _____ is a pull or push upon an object.
7) A storm is a _____force.

8) All modern machines are combinations of _____.
9) A wedge is a combination of _____ inclined planes.
10) Bottle caps and jar lids have_____in them.

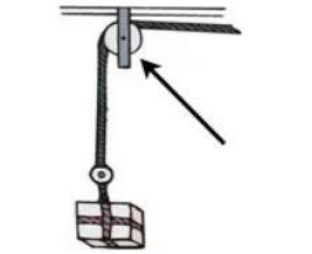
Question 3

Name two plants and animals live in the following habitats. /12

Habitats	Animal	Plant
Water		
Desert		
Tundra		

Question 4

Identify the given simple machines and write their names. /12



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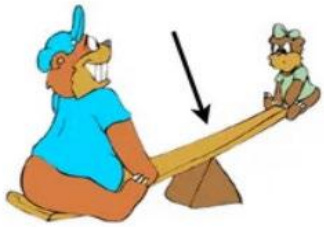

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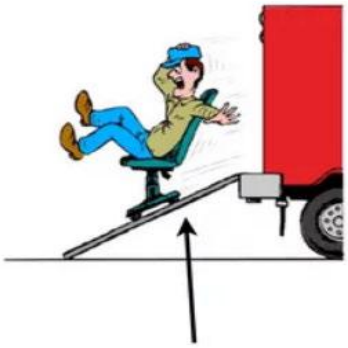

_____
_____

_____
_____

Question 4

Write two examples of each simple machine. /6

Pulley
Inclined plane
Lever

Question 5

Write the push or pull below each picture. **/10**

Section-II

Question 6

Answer the questions. **/20**

i. Name three places of joints in your body.

Answer:

_____

ii. Why do animals move from one place to another?

Answer:

_____

iii. Define a habitat.

Answer:

_____

_____

iv. Describe the largest habitat of the world shortly.

Answer:

_____

_____

v. How does a force change the speed of a moving object?

Answer:

_____

vi. Write two examples of forces produced by nature.

Answer:

_____

vii. What is the effect of a force on the shape of an object?

Answer:

_____

_____

viii. Define simple machines.

Answer:

_____

ix. What are the uses of a lever?

Answer:

_____

x. What is pulley?

Answer:

_____

_____

Practical

Performance of the student in science labs/projects of lessons 3.9 and 3.10. /10

Viva (Oral Assessment)

Give at least five real life examples from the concepts given below. /10

- **Animals found in Water**
- **Simple Machines**
- **Force of Push**
- **Force of Pull**
- **Types of Wind**