

# MARINA INTERNATIONAL SCHOOL

## SCIENCE SCHEME OF WORK

### YEAR 4 - TERM 1

WEEK	TOPIC	TOPIC DETAILS
1.1	skeleton	To know that humans and some animals have bony skeletons inside their bodies.
1.2	skeleton of different vertebrate animals.	To know the skeleton of different vertebrate animals
1.3	Types of skeletons	To know the different types of skeletons.
2.1	The Human Skeleton	Learners could label the main bones on a picture or a model of a human skeleton.
2.2	Model of a human skeleton.	Learners could use straws (or sticks) to make a physical model of a human skeleton. They could then label the main bones.
2.3	Why Do We Need a Skeleton?	Learners could know the functions of a skeleton.
3.1	Skeletons Grow	Learners should know that skeletons grow as humans grow.
3.2	What Makes Children's Bones Different from Adult Bones?	Learners should know the difference between children and adult bones.
3.3	Important human bones.	
4.1	Important functions of skeletons	Describe some of the important functions of skeletons (limited to protecting and supporting organs, enabling movement and giving shape to the body).
4.2	Exoskeleton animals	Know that some animals have an exoskeleton.
4.3	Endoskeleton animals	Know that some animals have an endoskeleton
5.1	Vertebrate animals	Identify vertebrates as animals with a backbone.
5.2	Vertebrate animals	Identify vertebrates as animals with a backbone.
5.3	Vertebrate animals	Identify vertebrates as animals with a backbone.
6.1	Invertebrate animals	Children could be able to identify invertebrates as animals without a backbone.

<b>WEEK</b>	<b>TOPIC</b>	<b>TOPIC DETAILS</b>
6.2	Invertebrate animals.	Children could be able to identify invertebrates as animals without a backbone.
6.3	Invertebrate animals.	Children could be able to identify invertebrates as animals without a backbone.
7.1	Skeleton and movement.	Know that bones move because pairs of muscles that are attached to them contract and relax.
7.2	Skeleton and movement	Know the main functions of the muscular system
7.3	Skeleton and movement	Know the main functions of the muscular system
8.1	Composition of the earth.	Describe the model of the structure of the Earth which includes a core, a mantle and a crust.
8.2	volcanoes	What causes volcanoes and know they are found at breaks in the Earth's crust.
8.3	volcanoes	Describe common features of volcanoes and know they are found at breaks in the Earth's crust.
9.1	earthquakes	Know that the Earth's crust moves and when parts move suddenly this is called an earthquake.
9.2	types of earthquakes	should be able to know the types of earthquakes and causes.
9.3	Effects and causes of earthquakes	Should be able to know the effects and causes of earthquakes.
10.1	Rotation of the earth	Explain why the spinning of the Earth on its axis leads to the apparent movement of the Sun, night and day, and changes in shadows.
10.2	Revolution of the earth	Should be able to know about the revolution of the earth(seasons).
10.3	Effects of rotation and revolution	Should be able to know about the effects of rotation and revolution of the earth.
11.1	The sun	Know that the Sun is at the center of the Solar System.
11.2	Solar system	Name the planets in the Solar System.
11.3	Solar system	Name the planets in the Solar System.
12.1	Solar system	Name the planets in the Solar System.
12.2	Planetary system	Know that planetary systems can contain stars, planets, asteroids and comets.
12.3	Day and night	Know how day and night are formed.

<b>WEEK</b>	<b>TOPIC</b>	<b>TOPIC DETAILS</b>
13.1	Movement of the sun during the day	Explain why the spinning of the Earth on its axis leads to the apparent movement of the Sun
13.2	Movement of the sun during the seasons	Explain the apparent movement of the sun during the seasons.
13.3	Orbit and phases of the moon	Know how the moon orbit and the different phases of the moon.

# SCIENCE SCHEME OF WORK

## YEAR 4 - TERM 2

WEEK	TOPIC	TOPIC DETAILS
1.1	Different types of materials	Understand the difference between materials, substances and particles.
1.2	Materials made from wood	Know the materials made from wood and the properties of wood.
1.3	Materials made from metal	Know the materials made from metal and the properties of metal.
2.1	Materials made from plastic.	Know the materials made from plastic and the properties of plastic.
2.2	Hard and soft materials	Know and give examples of hard and soft materials.
2.3	Dull and shiny materials	Know and give examples of hard and soft materials.
3.1	Where materials come from	Know where materials come from.
3.2	Materials from plants	Recognize the materials that come from plants.
3.3	Materials from animals	
4.1	Materials from under the ground	Recognize the materials that come from under the ground.
4.2	matter	To know what matter is and the different states of matter.
4.3	Properties of The States of Matter	To know the properties of the states of matter and to know that water exist in all the 3 states of matter.
5.1	Properties of the states of matter	Use the particle model to explain the properties of solids and liquids.
5.2	Behavior of solids	Describe and explain how some solids can behave like
5.3	Differences in the states of matter	learners should be able to know the differences in the states of matter.
6.1	Changing states of matter	Describe solidification/freezing and melting, using the particle model to describe the change of state.
6.2	Phase change of matter	Understand that the change of state of a substance is a physical process.
6.3	Why do phase changes occur	children should be able to know why phase change occur and to know the changes between one state to another.

<b>WEEK</b>	<b>TOPIC</b>	<b>TOPIC DETAILS</b>
7.1	evaporation	Describe and explain evaporation
7.2	Why evaporation is useful	Investigate and know why evaporation is important.
7.3	Investigating evaporation	Investigate and know why and how evaporation takes place
8.1	Evaporation from a solution	How evaporation takes place from a solution
8.2	condensation	Investigate and know why and how condensation takes place.
8.3	Water cycle	Know the process involved in the water cycle.
9.1	boiling	Describe and explain evaporation boiling
9.2	melting	Describe and explain melting
9.3	What is energy	Learners research what energy is and where it can be found.
10.1	Forms/types of energy	Learners know the different forms or types of energy.
10.2	Thermal(heat)energy	Know that energy is present in all matter and in sound, light and heat.
10.3	Motion energy	Learners know what motion energy is and examples.
11.1	Light energy	Learners know what light energy is and examples.
11.2	Sound energy	Learners know what sound energy is and examples.
11.3	Motion energy	Know that energy is required for any movement or action to happen.
12.1	Electrical energy	Know that energy is present in all matter and in sound, light and heat.
12.2	Gravitational energy	Know what gravitational energy is and its examples in daily life.
12.3	Mechanical energy	Investigate and know about mechanical energy and give examples
13.1	Light and light sources	Learners know that light travels from light sources.
13.2	Light travels in straight lines	Know that light travels in straight lines
13.3	Which materials let light through?	Understand the words opaque, transparent and translucent.
14.1	Light changes direction.	Know that light can reflect off surfaces or how does light travel when it reflects.
14.2	Investigating shadow length.	Learners investigate and know the different length of shadows.

# SCIENCE SCHEME OF WORK

## YEAR 4 - TERM 3

WEEK	TOPIC	TOPIC DETAILS
1.1	Living things	Learners know about living things and give examples.
1.2	Non-living things	Learners know about non-living things and give examples.
1.3	Life processes	Learners know the characteristics of living things
2.1	Characteristics of living things	A detailed explanation of each of the life processes (limited to movement, reproduction, sensitivity and growth)
2.2	Characteristics of living things	A detailed explanation of each of the life processes (limited to respiration, excretion and nutrition)
2.3	Sorting living things	Learners could group living things into different groups.
3.1	habitats	Know that different animals are found in, and suited to, different habitats.
3.2	Types of habitats	Learners know the different types of habitats.
3.3	Types of habitats	
4.1	Types of habitats	Discuss and know the different types of habitats (limited to artic, grassland and aquatic)
4.2	Adaptations of animals	Know animals can survive in environments other than their habitats.
4.3	Adaptations of plants	Know plants can survive in environments other than their habitats.
5.1	How plants get their energy to grow, live and be healthy	Know that plants need energy to grow, live and be healthy, and plants get their energy from light.
5.2	How animals get their energy to grow, live and be healthy	Know that animals need energy to grow, live and be healthy, and animals get their energy from eating plants or other animals.
5.3	Diseases that affect plants	Know that plants can have infectious diseases.
6.1	Diseases that affect plants	Know that plants can have infectious diseases.
6.2	Diseases that affect animals	Know that animals can have infectious diseases, and vaccinations can prevent some infectious diseases of animals.

<b>WEEK</b>	<b>TOPIC</b>	<b>TOPIC DETAILS</b>
6.3	Diseases that affect animals	Know that animals can have infectious diseases, and vaccinations can prevent some infectious diseases of animals.
7.1	Prevention of diseases in plants	Know the preventive measures to be taken to prevent diseases in some plants.
7.2	Prevention of diseases in animals	Know the preventive measures to be taken to prevent diseases in some animals.
7.3	Ecosystem and types	Learners know what ecosystem is and the different types of ecosystem.
8.1	How humans affect the ecosystem	Learners know the different ways humans affect the ecosystem.
8.2	Preserving the ecosystem	Children should know the importance of preserving the ecosystem.
8.3	How do energy flow in the ecosystem	Investigate the flow of energy in the ecosystem.
9.1	Food chain	Describe food chains as being made of producers and consumers.
9.2	Food chain	classify consumers as herbivores, omnivores, carnivores, predators and/or prey.
9.3	Food chain	Learners draw diagrams of food chains labelling producers, consumers, herbivores, carnivores, omnivores, predators and prey.
10.1	medicines	Know that medicines can be used to treat some illnesses, and describe how to use them safely.
10.2	Why and how do people take medicines	Learners know the reasons and the ways people take medicines.
10.3	Taking medicine safely	Know the safety measures and ways of taking medicines safely.
11.1	Movement and human health	Describe the importance of movement in maintaining human health.
11.2	electric circuit	children should be able to know how electricity flows in circuits.
11.3	components and simple circuits	Children should be able to know simple circuits and know their components.
12.1	making simple circuits	Children should be able to make simple circuits and know their components.
12.2	where does electricity come from and how does it flow	Children should be able to know the sources of electricity and how it flows.
12.3	electric circuits	Children should be able to know the functions of the components.
13.1	changing circuit	Children should be able to know the effects of changing circuit (brightness and dullness of the bulb).

<b>WEEK</b>	<b>TOPIC</b>	<b>TOPIC DETAILS</b>
13.2	conductors and insulators	Children should be able to investigate and know electric conductors and insulators.
13.3	electricity safety	Children should be able to know the dangers and safety in electricity.