Primary Science Level 6 Year 5 Learning Outcomes	
Learning Outcome code reference: *Example: 5.1.2 means Year 5 – Learning Outcome 1 – Sub-section 2.*	
Learning Outcome 1 ***What do Scientists do?*** Learning Outcome 1 *What do Scientists do?* will be integrated throughout the framework for Level 6 (Year 5 and Year 6).	
5.1.1	I can ask questions that can be investigated scientifically.
5.1.2	I can find out about a simple scientific idea.
5.1.3	I can use basic scientific knowledge to predict the outcome to an investigation.
5.1.4	I can carry out a simple practical investigation with the teacher's support, ensuring it is a fair test.
5.1.5	I can record observations in a simple format.
5.1.6	I can make simple conclusions from my direct observations and link these using key scientific terms.
5.1.7	I can apply scientific knowledge to practical situations.
5.1.8	I can through a role play exercise, act out simple stories about famous scientists.
5.1.9	I can give examples and explain how technology and science have improved life.
5.1.10	I can present information about some science occupations.
5.1.11	I can name, use and describe the purpose of a range of basic scientific resources referred to in the Learning Outcomes for Level 6 (Year 5).
5.1.12	I can take basic measurements of size, mass and temperature, and express the reading using appropriate units.
5.1.13	I can apply basic safety rules when working on an investigation.

Learning Outcome 2 *How do we stay alive?*			
	LEARNING OUTCOMES *Children will be able to:*	**KEY VOCABULARY**	**LEARNING OPPORTUNITIES** *Children should be encouraged to:*
	<u>LIVING THINGS</u>	**movement** **respiration** **sensitivity** **growth** **reproduction** **excretion** **nutrition** **vertebrate** **invertebrate** **mammal** **bird** **reptile** **fish** **amphibian** **life cycle**	• Identify what makes something living. • Use multimedia resources to distinguish between vertebrates and invertebrates. • Classify pictures of vertebrates into different groups. • Explore life cycles of different organisms.
5.2.1	I can list the seven characteristics of life and explain why each is essential (movement, respiration, sensitivity, growth, reproduction, excretion, nutrition).		
5.2.2	I can distinguish the difference between vertebrates and invertebrates as having a backbone (vertebrates) and not having a backbone (invertebrates).		
5.2.3	I can give basic examples of vertebrates and invertebrates.		
5.2.4	I can name and give examples of the five different groups of vertebrates (mammals, birds, reptiles, fish and amphibians).		
5.2.5	I can classify humans as mammals and can identify some characteristics of being a mammal (have hair or fur; are warm blooded; have lungs; give birth to their young ones; give milk to their young).		

5.2.6	I can describe the lifecycle of birds, butterflies and frogs.		
Learning Outcome 3 ***How do we keep fit and healthy?***			
	LEARNING OUTCOMES *Children will be able to:*	**KEY VOCABULARY**	**LEARNING OPPORTUNITIES** *Children should be encouraged to:*
	<u>MICRO-ORGANISMS</u>	**microbes** **bacteria** **viruses** **useful/beneficial** **fermentation** **probiotics** **illness/disease** **germs** **hygiene** **spread** **fungi** **mould** **yeast**	• Investigate and observe how microbes can be put to good use in the food industry by observing how yeast makes dough rise through the process of fermentation. • Research how microbes can be useful/beneficial e.g. in the production of yoghurt from milk; 'friendly' bacteria in the gut to help digest food; probiotics found in yoghurts and drinks; making bread etc. • Understand that harmful microbes/germs (including viruses and bacterial) can make people sick.
5.3.1A	I can understand that microbes (micro-organisms) are living things that can only be seen using a microscope.		
5.3.2B	I can identify that microbes include viruses, bacteria and some fungi, including yeast and mould.		
5.3.2	I can provide different examples of how microbes can be useful or harmful.		
5.3.3	I can explain how some microbes/germs cause disease and relate to everyday life including washing hands before touching food, taking necessary precautions when sneezing, coughing or when sick.		

			• Provide practical examples of preventing spreading of germs including touching people and surfaces; touching your eyes, nose and mouth can cause germs to enter your body; germs can also spread through air. • Practise proper hygiene in daily activities.
Learning Outcome 4 ***How do our senses help us gather information?***			
	LEARNING OUTCOMES *Children will be able to:*	**KEY VOCABULARY**	**LEARNING OPPORTUNITIES** *Children should be encouraged to:*
5.4.1 **5.4.2** **5.4.3** **5.4.4**	<u>SOUND</u> I can see and feel the vibrations that sounds make. I can show how sound vibrations are carried by waves through solids, liquids and gases. I can explain why sound does not travel in space and how astronauts communicate in space. <u>LIGHT</u>	**vibrations** **waves** **vacuum** **reflect** **eye protection**	• Explore sound using a variety of objects and media (examples of solids, liquids and gases). • Conduct simple investigations to understand how light travels, allowing us to see things around us.

5.4.5 **5.4.6**	I can demonstrate that light travels in straight lines. I can explain that we see an object when it reflects light from a light source into our eyes. I can explain when and how our eyes need to be protected.		
Learning Outcome 5 ***What is energy?***			
	LEARNING OUTCOMES *Children will be able to:*	**KEY VOCABULARY**	**LEARNING OPPORTUNITIES** *Children should be encouraged to:*
5.5.1 **5.5.2** **5.5.3**	<u>ENERGY</u> I can name the main forms of energy namely, kinetic (movement), heat, electrical, light and sound energy. I can demonstrate and give examples of different energy transformations namely how electrical energy is transformed into light, sound, heat and kinetic (movement) energy. I can find out about scientists who were responsible for various electrical discoveries including Benjamin Franklin (lightning) and Thomas Edison (light bulb).	**energy transformation** **kinetic** **heat** **electrical** **light** **sound** **energy** **wire** **battery** **bulb** **motor** **buzzer**	• Use resources such as wires, battery, bulb, motor and buzzer to explore and understand how energy can be transformed from one form to another. • Give examples of energy transformations in everyday life. • Design and create a project to show how energy can be transformed from one form to another. • Research about scientists who made electrical discoveries.

Learning Outcome 6 *What are things made of?*			
	LEARNING OUTCOMES *Children will be able to:*	**KEY VOCABULARY**	**LEARNING OPPORTUNITIES** *Children should be encouraged to:*
	MAGNETISM		
5.6.1	I can investigate and classify materials as magnetic (cobalt, nickel, iron and steel) or non-magnetic.	**magnetic, non-magnetic, solution, soluble, insoluble, mixture, dissolve, separation, filtration, evaporation**	• Explore and investigate different magnetic and non-magnetic materials and classify accordingly. • Investigate different mixtures and solutions to distinguish between the two, using everyday resources. • Investigate the formation of suspensions using everyday resources namely, flour, powder, clay etc. • Investigate how different mixtures can be separated. • Research about scientists such as Melitta Bentz.
5.6.2A	I can investigate everyday uses of magnetism.		
5.6.2B	I can apply scientific knowledge to explain everyday uses of magnetism.		
	MIXTURES AND SOLUTIONS		
5.6.3	I can explain that a solution is a type of mixture.		
5.6.4	I can investigate how some substances dissolve in water to form a solution.		
	SEPARATION TECHNIQUES		
5.6.5	I can plan and conduct simple investigations to separate mixtures using the following separation techniques namely, filtration, evaporation, separation using a magnet.		
5.6.6			

	I can find out about scientists who were responsible for discoveries related to mixing and dissolving substances and separation of mixtures including Melitta Bentz (coffee filters).		
Learning Outcome 7 ***How does planet Earth support life?***			
	LEARNING OUTCOMES *Children will be able to:*	**KEY VOCABULARY**	**LEARNING OPPORTUNITIES** *Children should be encouraged to:*
	<u>SOIL AND SEEDS</u>	**organisms** **seeds** **seed dispersal** **wind** **animals** **water** **explosion/bursting** **minerals** **gases (mainly oxygen)** **organic matter** **rocks** **over-development** **deforestation** **trespassing** **pollution**	
5.7.1	I can identify and compare different means of seed dispersal including wind, animal, explosion and water dispersal.		• Observe different types of seeds. • Handle soil samples and investigate soil components. • Explore different organisms living in soil and their importance for the environment. • I can create a poster to show how human intervention can affect natural habitats and organisms, potentially leading to extinction.
5.7.2	I can understand the importance of soil to support life.		
5.7.3	I can observe that soil is made of different organisms, organic matter and rocks.		
	<u>ENDANGERED SPECIES</u>		
5.7.4	I can find out about the effects human intervention can have on natural habitats and the organisms that live there including over-development, deforestation, trespassing and pollution (air, water, light and noise).		

5.7.5	I can present information on endangered species and describe how human intervention can lead to extinction.		
Learning Outcome 8 ***How do things move?***			
	LEARNING OUTCOMES *Children will be able to:*	**KEY VOCABULARY**	**LEARNING OPPORTUNITIES** *Children should be encouraged to:*
5.8.1 **5.8.2** **5.8.3**	<u>THE SKELETON</u> I can explain that our skeleton is made up of bones and that joints and muscles help us move. I can explain that our skeleton and that of other animals support, protect organs in the body. I can find out about Marie Curie and other scientists who worked on x-ray machines used to show pictures of the skeleton.	**skeleton** **bones** **muscles** **joints** **x-ray** **support** **movement**	• Carry out simple investigations to show how bones support body structures, protect organs and how muscles help us move. • Research about Marie Curie and other scientists.
Learning Outcome 9 ***What is there out in Space?***			
	LEARNING OUTCOMES	**KEY VOCABULARY**	**LEARNING OPPORTUNITIES**

	Children will be able to:		*Children should be encouraged to:*
	<u>EARTH'S ROTATION AND REVOLUTION</u>	**day**	
5.9.1	I can demonstrate using drawings or a model why we have day and night.	**night**	• Demonstrate using simple investigations how day and night form.
		leap year	
5.9.2	I can explain what a leap year is.	**seasons**	• Describe why we have a leap year.
5.9.3	I can explain how seasons change.	**Earth's rotation**	
		revolution	• Demonstrate and explain why different parts of the Earth have different seasons.
		axis	
		Sun	
		tilt	
		northern hemisphere	
		southern hemisphere	
		equator	