

The Sultan’s School Year 4 Medium Term Curriculum plan for Science 2019-20

Ongoing Working Scientifically Objectives

- Can ask relevant questions and using different types of scientific enquiries to answer them.
- Can set up simple practical enquiries, comparative and fair tests.
- Can make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.
- Can gather, record, classify and present data in a variety of ways to help in answering questions.
- Can record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables.
- Can report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.
- Can use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.
- Can identify differences, similarities or changes related to simple scientific ideas and processes.
- Can use straightforward scientific evidence to answer questions or to support their findings.

Block	Unit	Key Targets and Learning Objectives	Key Activities	Key vocabulary
1	On the Move	<ul style="list-style-type: none"> ➤ Explain the functions of a skeleton. ➤ Locate and name bones in human body. ➤ Explain changes in human body. ➤ Explain how human skeletons differ from animals. ➤ Describe and understand joint and muscles movement. ➤ Record observations using tables and bar graphs. 	<ul style="list-style-type: none"> ➤ Create skeletons: skeleton art – label and describe. ➤ Discuss fair testing and using bar graphs to record results. ➤ Carry out fair tests to discover how bones grow as we grow older. ➤ Relate muscle groups to different activities. ➤ Explore muscle movement and joints. ➤ Research how animal skeletons are suited to their environment. 	Skeleton (names of bones), muscles, joints, bones, contract, relax, organs, support, protect, movement, pulse, animals, body
			<p>Going Green Link: Students can study dietary habits of humans and animals and how eating a plant based diet can strengthen bones and enhance development of the</p>	<p>Integration of technology: Using apps to explore the human body: -Anatomy4Kids -Science for Kids -Systems of the Human Body</p>

			<p>skeleton. Students will look at plants and growing more trees in our environment.</p>	
2	Sound	<ul style="list-style-type: none"> ➤ Know that sounds are made when objects vibrate. ➤ How to measure sound. ➤ Explore how the pitch of a sound can be changed. ➤ Explore how sounds are made when objects, materials or air vibrate. ➤ Plan an investigation. ➤ Make accurate observations and measurements. 	<ul style="list-style-type: none"> ➤ Exploring different sounds. ➤ Investigate how sound can travel through air, water and solid. ➤ Experiment with sound vibration and making phones from string and cups. ➤ Making musical instruments. ➤ Explore how we can change pitch and loudness of different musical instruments. ➤ Look at the ear and how to keep the ear safe. 	<p>Sounds, vibration, vibrate, volume, decibel, soundproof, transmission, muffle ,pitch</p>
			<p>Going Green Link: Discuss noise pollution in different environments. Why is noise a pollution? Is there a difference in noise levels in rural, urban and suburban areas?</p>	<p>Integration of technology: Using data loggers- logging decibels as the distance away increases.</p>
3	Life in Habitats	<ul style="list-style-type: none"> ➤ List the characteristics of living things. ➤ Explain why organisms live in particular habitats. ➤ Identify organisms within a habitat. ➤ Use an identification key. ➤ Put forward own ideas. 	<ul style="list-style-type: none"> ➤ Classifying animals. ➤ Researching varied habitats. ➤ Exploring how animals adapt to their different environment. ➤ Exploring identification keys. ➤ Look into different food chains. ➤ Trip to Al Ansab to investigate species of animals in their habitats. 	<p>Organism, mammal, reptile, insects, bird, fish, amphibian, classification key, habitat, adaptation, marine, food chains, producer, consumer, predator, prey, life cycle, nutrition</p>

			<p>Going Green Link: Study different animals' habitats and the effects of pollution- plastic in the oceans, deforestation of rainforest, etc. Students will consider actions that could be taken and ways that we can help.</p>	<p>Integration of technology: Exploring Habitats, using the National Geographic's kids- Habitats app.</p>		
4	Circuits and Conductors	<ul style="list-style-type: none"> ➤ Construct electrical circuits to make devices work. ➤ Recognise components in a circuit diagram from symbols. ➤ Describe electrical conductors and insulators. ➤ Make a series of relevant observations. 	<ul style="list-style-type: none"> ➤ Construct a simple electrical circuit. ➤ Match images of circuits to symbols. ➤ Draw circuits, using symbols. ➤ Investigate changes in a circuit, with alterations to a component. ➤ Investigate which materials allow electricity to run through them. ➤ Highlight the dangerous of using electrical components. 	<p>Going Green Link: Study the use of energy efficient devices and why it is better to use energy efficient devices compared to others. Discuss alternative measures to power our homes: wind turbines, solar panels, etc.</p>	<p>Integration of technology: Simple Circuits App – simulates how to create various circuits, including different components</p>	<p>Battery, bulb, circuit, electrical conductor, electrical insulator, mains electricity, leads, motor, switch, positive terminal, negative terminal, electrical components</p>

5	Separating Solids and Liquids	<ul style="list-style-type: none"> ➤ Explain differences between solids and liquids. ➤ Separate solids from liquids by sieving and filtering. ➤ Make predictions. ➤ Draw conclusions and provide explanations. 	<ul style="list-style-type: none"> ➤ Investigate properties of solids and liquids . ➤ Investigate which solids dissolve and which do not. ➤ Explain how some liquids have properties similar to a solid. ➤ Use different object to separate solids. <p>Going Green Link: Discuss oil spills in the oceans and the effect on marine life. How can we separate the oil from the sea water? Discuss specific oil spills.</p>	<p>Integration of technology: -Using an app which simulates how matter changes within states, especially in relation to heating & cooling.</p>	Solids, liquids, dissolve, separate, sieve, filter, vapour, melted, heating, freezing, cooling, evaporate, condensation
---	--------------------------------------	--	--	---	---