

The Sultan's School Year 6 Medium Term Curriculum plan for Science 2018-19

Ongoing Working Scientifically Objectives

- Can plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
- Can take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate.
- Can record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
- Can use test results to make predictions to set up further comparative and fair tests.
- Can report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations.
- Can identify scientific evidence that has been used to support or refute ideas or arguments.

Block	Unit	Key Targets and Learning Objectives	Key Activities	Key vocabulary
1	Humans and animals	<ul style="list-style-type: none"> ➤ Use scientific names for some major organs of body systems. ➤ Identify the position of major organs in the body. ➤ Describe the main functions of the major organs of the body. 	<ul style="list-style-type: none"> ➤ Identifying which body parts are used during different activities. ➤ Prepare talks about the different systems in the body. ➤ Create games which require the player to position the organs correctly. ➤ Create a 'job description' for the brain. ➤ Produce leaflets about heart health. ➤ Investigate what happens to breathing when we exercise. ➤ Investigate how the stomach and intestines work. 	structure function organism nervous system circulatory system respiratory system digestive system nerves stimulus response pump blood vessels oxygen carbon dioxide digestion absorb
			<p>Going Green Link: Explain problems related to air quality. Research the benefits of having more green plants at home.</p>	

<p>2</p>	<p>Living things in their environment</p>	<ul style="list-style-type: none"> ➤ Explore how humans have positive and negative effects on the environment. ➤ Explore a number of ways of caring for the environment. ➤ Know how food chains can be used to present relationships in a habitat. ➤ Know that food chains begin with a plant, which uses energy from the sun. ➤ Understand the terms <i>producer, consumer, predator</i> and <i>prey</i>. 	<ul style="list-style-type: none"> ➤ Explore and investigate different environmental issues. ➤ Research conservation efforts. ➤ Design posters about how we can make a difference. ➤ Research local food chains. ➤ Investigate what happens when something disappears from a food chain. <p>Going Green Link: Research environmental issues in Oman. Compare and contrast man-made environments and natural environments</p>	<p>habitat species extinction conservation food chain feeding relationships producer photosynthesis consumer herbivore carnivore omnivore predator prey</p>
<p>3</p>	<p>Forces and motion</p>	<ul style="list-style-type: none"> ➤ Describe friction, including air resistance and understand it is a force which opposes movement. ➤ Draw diagrams to show forces acting in different directions. ➤ Understand that when forces are balanced an object will not speed up, slow down or change direction. ➤ Make accurate observations and measurements. ➤ Understand the need to repeat observations and measurement. 	<ul style="list-style-type: none"> ➤ Investigate the action of gravity on objects. ➤ Compare the friction of different surfaces using toy cars. ➤ Investigate pulling forces and resistance. ➤ Investigate upthrust acting on objects in water. ➤ Record results as bar charts and line graphs. <p>Going Green Link: What is your carbon footprint?</p>	<p>air resistance water resistance unbalanced balanced stationary force meter friction gravity Newtons weight mass upthrust</p>

4	Material Changes	<ul style="list-style-type: none"> ➤ Understand how properties of materials in a mixture may be used to separate them. ➤ Understand that dissolving and evaporation are reversible and inverse reactions. ➤ Understand the difference between a mixture and a solution. ➤ Explain how to separate solids from liquids by filtering and evaporation. ➤ Learn how to plan and set up a fair test. ➤ Learn how to discuss, evaluate, adapt and overcome difficulties. ➤ Describe changes that take place when materials are mixed and identify reversible and irreversible changes. ➤ Know that new materials can be made by mixing chemicals. ➤ 	<ul style="list-style-type: none"> ➤ Use filters to separate soluble and insoluble materials. ➤ Prepare a fair test to compare the effectiveness of filters. ➤ Plan and carry out a fair test into the dissolving of solids and their recovery by evaporation. ➤ Investigate irreversible changes by mixing a range of chemicals, to create new materials. ➤ Consider and investigate slower irreversible changes, such as rusting and those caused by acid rain. <p>Going Green Link: What is acid rain? What happens when we burn fossil fuels?</p>	dissolve evaporate evaporation condensation filter solution soluble solvent solute mixture suspension reversible irreversible effervesce substance material
5a	Electricity	<ul style="list-style-type: none"> ➤ Construct a series circuit from a circuit diagram, recognising circuit diagram symbols. ➤ Discuss the need for a circuit to be complete for it to work. ➤ Identify changes that take place when components are added or removed. 	<ul style="list-style-type: none"> ➤ Construct simple circuits and record them, making accurate use of circuit diagram symbols. ➤ Investigate how varying the components of a circuit affects the brightness of bulbs. ➤ Construct a circuit using the greatest variety of electrical conductors. <p>Going Green Link: Research renewable energy in Oman.</p>	components battery cell bulb buzzer circuit conductor insulator electrical motor mains resistance series switch brighter dimmer

5b	Welcome to Science (Year 7 Transition Unit)	<ul style="list-style-type: none">➤ Understand the safety rules in the science laboratory➤ Bunsen burners➤ Recording data➤ Data handling	<ul style="list-style-type: none">➤ Safety rules➤ Bunsen burners➤ Recording data➤ Data handling	
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