

Key Stage 3 Curriculum Map 2021-22

Term 1

Year Group: 7			Subject: Science: Physics	
Focus/Topic	Objectives	Key Skills/ UAE Links	HPL Links	Home Learning/ Recommended Reading
<ul style="list-style-type: none"> • Induction, curriculum orientation, expectations and baseline • Lab safety 				
<ul style="list-style-type: none"> • Bunsen Burner License • Investigating salt and boiling point 	<ul style="list-style-type: none"> • Use your knowledge to label a Bunsen burner. • Set up a Bunsen burner safely. • Outline how to use a Bunsen burner. • Use your knowledge to identify variables • Choose the correct titles for a scientific table. • Collect results from a scientific investigation. 	<ul style="list-style-type: none"> • Recall, application, how science works and maths • Research and explain how the dead sea makes you float more than any other sea 	<p>VAA: Empathetic Collaborative: <i>The ability to seek out opportunities to receive responses to your work; present your own views and ideas clearly and concisely; listen to the views of others; be willing and able to work in teams; take a variety of roles and be able to evaluate your own ideas and contributions.</i></p>	<ul style="list-style-type: none"> • Guided Reading
<ul style="list-style-type: none"> • Salt and boiling point graph • Investigating heart rate 	<ul style="list-style-type: none"> • Justify the type of graph for a set of results. • Draw a graph for your results. • Interpret the graph you have drawn. • Use your knowledge to identify variables • Choose the correct titles for a scientific table. • Collect results from a scientific investigation. 	<ul style="list-style-type: none"> • Recall, application, how science works and maths • Research and summarise coronary heart disease within the UAE 		<p>ACP: Analysing Critical thinking: <i>The ability to deduct, hypothesise, reason, seek supporting evidence</i></p>

<ul style="list-style-type: none"> Investigating heart rate graph 	<ul style="list-style-type: none"> Justify the type of graph for a set of results. Draw a graph for your results. Interpret the graph you have drawn. 			
<ul style="list-style-type: none"> Scientific skills end of topic assessment Forces Introduction 	<ul style="list-style-type: none"> Use your knowledge to describe what a force is Use your knowledge to list examples of forces Use your knowledge to separate forces into contact and non-contact 	<ul style="list-style-type: none"> Recall, application, working scientifically and maths Create a summary of the forces you can see having an effect within the UAE. 		<ul style="list-style-type: none"> Guided Reading
<ul style="list-style-type: none"> Balanced and unbalanced Forces Drag - terminal velocity Hooke's Law 	<ul style="list-style-type: none"> Use your knowledge to explain what balanced and unbalanced forces are Use your knowledge to describe the motion of objects where the forces are balanced and unbalanced Use your knowledge to apply what you have learnt to various scenarios Use your knowledge to explain the cause of air resistance Use your knowledge to explain why falling objects reach terminal velocity Use your knowledge to explain how we can reduce air resistance Use your knowledge to set up a practical investigation safely Use your knowledge to collect data for an investigation 	<ul style="list-style-type: none"> Recall, application, how science works and maths Justify the importance of knowledge of forces when developing Dubai. 		<ul style="list-style-type: none"> Guided Reading

	<ul style="list-style-type: none"> Use your knowledge to describe how force and extension are related 			
<ul style="list-style-type: none"> Investigating Hooke's Law - Plot a graph Forces end of topic test 	<ul style="list-style-type: none"> Justify the type of graph for a set of results. Draw a graph of your results Interpret the graph you have drawn. 	<ul style="list-style-type: none"> Recall, application, how science works and maths Justify the importance of knowledge of forces when building the Burj Khalifa 		<ul style="list-style-type: none"> Guided Reading
Half term				
<ul style="list-style-type: none"> Waves Introduction Speed of Wave Sound waves – Volume and Pitch 	<ul style="list-style-type: none"> Use your knowledge to define wavelength and frequency Use your knowledge to define amplitude Apply the formula wave speed = wavelength x frequency Use your knowledge to carry out a practical investigation safely Apply the formula Speed: Wavespeed = Distance / Time Use your knowledge to list improvements we could make to a practical Use your knowledge to link amplitude to loudness Use your knowledge to link frequency and wavelength to pitch Use your knowledge to describe a sound given the waveform 	<ul style="list-style-type: none"> Recall, application, how science works and maths Justify how waves relate to the UAE. 	<p>VAA: Agile Open minded: <i>The ability to take an objective view of different ideas and beliefs; become more receptive to other ideas and beliefs based on the arguments of others; change ideas should there be compelling evidence to do so.</i></p> <p>ACP: Linking Connection finding: <i>The ability to use connections from past experiences to seek possible generalisations</i></p>	<ul style="list-style-type: none">
<ul style="list-style-type: none"> How the ear works (Research) 	<ul style="list-style-type: none"> Use your knowledge to list the key parts of the human ear Use your knowledge to investigate using online resources Use your knowledge to explain how we can hear a sound 	<ul style="list-style-type: none"> Recall, application, how science works and maths 		<ul style="list-style-type: none"> Guided Reading

<ul style="list-style-type: none"> • Speed of Sound, Echoes • Speed end of topic assessment 	<ul style="list-style-type: none"> • Use your knowledge to describe a practical that we could do to find the speed of sound • Use your knowledge to explain how echolocation works • Use your knowledge to explain why sound travels fastest in solids 			
<ul style="list-style-type: none"> • Light Introduction • Reflection • Refraction 	<ul style="list-style-type: none"> • Use your knowledge to describe how light travels • Use your knowledge to explain what emission and absorption mean • Use your knowledge to research how the speed of light was first measured • Use your knowledge to state the law of reflection • Use your knowledge to describe a practical to demonstrate the law of reflection • Use your knowledge to explain the difference between specular and diffuse reflection • Use your knowledge to describe what refraction is • Use your knowledge to explain how speed affects the direction of light • Use your knowledge to describe how a lens works 	<ul style="list-style-type: none"> • Recall, application, how science works and maths • Research and outline why the sunset in Dubai show so many different colours. 		<ul style="list-style-type: none"> • Guided Reading
<ul style="list-style-type: none"> • The eye and camera 	<ul style="list-style-type: none"> • Use your knowledge to list the parts of the eye 	<ul style="list-style-type: none"> • Recall, application, how science works and maths 		<ul style="list-style-type: none"> • Guided Reading

<ul style="list-style-type: none"> • Color • Light end of topic test 	<ul style="list-style-type: none"> • Use your knowledge to describe how a camera forms a simple image • Compare an eye and camera • Use your knowledge to list the primary colors • Use your knowledge to explain how filters interact with light • Use your knowledge to explain why objects have certain colors 			
<ul style="list-style-type: none"> • The Night Sky • The Solar System 	<ul style="list-style-type: none"> • Use your knowledge to describe what a star and galaxies are • Use your knowledge to list the 5 closest stars • Use your knowledge to list the 5 closest galaxies • Use your knowledge to describe the objects that can be found in the Solar System • Create a mnemonic to remember the name and order of the planets • Use your knowledge to explain the difference between natural and artificial satellites 	<ul style="list-style-type: none"> • Recall, application, how science works and maths • Research and outline why we do not see many stars at night in business bay. 		<ul style="list-style-type: none"> • Guided Reading
<ul style="list-style-type: none"> • The Earth/Systems • The Moon 	<ul style="list-style-type: none"> • Use your knowledge to describe what is meant by "tilt of the Earth" • Use your knowledge to explain how the tilt is responsible for the seasons • Use your knowledge to describe how the height of the Sun changes during the seasons • Use your knowledge to describe the orbit of the Moon 	<ul style="list-style-type: none"> • Recall, application, how science works and maths 		<ul style="list-style-type: none"> • Guided Reading

<ul style="list-style-type: none"> Sizes and Distances in the Universe (Research) 	<ul style="list-style-type: none"> Use your knowledge to describe why the Moon has phases Use your knowledge to explain how a solar eclipse happens Use your knowledge to find the distance to the closest star Use your knowledge to explain what a light year is Research what the size of our galaxy is 			
<ul style="list-style-type: none"> Space end of topic test Recap of term 1 	<ul style="list-style-type: none"> Create a summary of term 1 	<ul style="list-style-type: none"> Recall, application, how science works and maths 		
Winter Break				