Key Stage 3 Curriculum Map 2020-21

Term 1

Year Group: 7	Subject: Science : Physics		
Focus/Topic	**Objectives**	**Key Skills/ UAE Links**	**Home Learning/ Recommended Reading**
• Induction, curriculum orientation, expectations and baseline			
• Lab safety			
• Bunsen Burner License • Investigating salt and boiling point	• 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.	• Recall, application, how science works and maths • Research and explain how the dead sea makes you float more than any other sea	• Guided Reading
• Salt and boiling point graph • Investigating heart rate • Investigating heart rate graph	• 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. • Justify the type of graph for a set of results. • Draw a graph for your results.	• Recall, application, how science works and maths • Research and summarise coronary heart disease within the UAE	• Guided Reading

	• Interpret the graph you have drawn.		
• Scientific skills end of topic assessment • Forces Introduction	• 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	• Recall, application, working scientifically and maths • Create a summary of the forces you can see having an effect within the UAE.	• Guided Reading
• Balanced and unbalanced Forces • Drag - terminal velocity • Hooke's Law	• 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 • Use your knowledge to describe how force and extension are related	• Recall, application, how science works and maths • Justify the importance of knowledge of forces when developing Dubai.	• Guided Reading
• Investigating Hooke's Law - Plot a graph • Forces end of topic test	• Justify the type of graph for a set of results. • Draw a graph of your results • Interpret the graph you have drawn.	• Recall, application, how science works and maths • Justify the importance of knowledge of forces when building the Burj Khalifa	• Guided Reading

Half term			
• Waves Introduction • Speed of Wave • Sound waves – Volume and Pitch	• 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	• Recall, application, how science works and maths • Justify how waves relate to the UAE.	•
• How the ear works (Research) • Speed of Sound, Echoes • Speed end of topic assessment	• 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 • 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	• Recall, application, how science works and maths	• Guided Reading

• Light Introduction • Reflection • Refraction	• Use your knowledge to describe how light travels • Use your knowledge to explain what emission and absorbtion 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	• Recall, application, how science works and maths • Research and outline why the sunset in Dubai show so many different colours.	• Guided Reading
• The eye and camera • Color • Light end of topic test	• Use your knowledge to list the parts of the eye • 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	• Recall, application, how science works and maths	• Guided Reading
• The Night Sky	• Use your knowledge to describe what a star and galaxies are	• Recall, application, how science works and maths	• Guided Reading

• The Solar System	• 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	• Research and outline why we do not see many stars at night in business bay.	
• The Earth/Systems • The Moon • Sizes and Distances in the Universe (Research)	• 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 • 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	• Recall, application, how science works and maths	• Guided Reading
• Space end of topic test • Recap of term 1	• Create a summary of term 1	• Recall, application, how science works and maths	
Winter Break			