

Key Stage 3 Curriculum Map 2020-21

Term 3

Year Group: 9	Subject: Physics		
Focus/Topic	Objectives	Key Skills/ UAE Links	Home Learning/ Recommended Reading
<p>Topic 1: Energy and power stations</p> <ul style="list-style-type: none"> • Energy types • Energy transfers • Friction and thermal energy 	<ul style="list-style-type: none"> • Use your knowledge to describe what energy is. • Use your knowledge to list different types of energy. • Analyse an example of an energy transfer. • Use your knowledge to give examples of energy transfers. • Use your knowledge to state the law of conservation of energy. • Justify what is meant by useful and wasted energy. • Use your knowledge to describe how friction is caused. • Evaluate ways of how friction can be minimized. • Set up an investigation to see how weight affects friction. 	<ul style="list-style-type: none"> • Recall, how science works, application of knowledge and Maths • UAE Link: Energy transfers and power stations in the UAE • UAE Link: Walking in the desert, friction 	<ul style="list-style-type: none"> • Guided Reading, quizzes on BBC bitesize
<ul style="list-style-type: none"> • Non-renewable energy 	<ul style="list-style-type: none"> • Use your knowledge to define non-renewable energy sources. • Analyse examples of non-renewable energy sources. • Examine the pros and cons of non-renewable energy sources. 	<ul style="list-style-type: none"> • Recall, how science works, application of knowledge and Maths • UAE Link: Renewable energy in the UAE 	<ul style="list-style-type: none"> • Guided Reading

<ul style="list-style-type: none"> Renewable energy Energy and Power stations end of topic test & feedback 	<ul style="list-style-type: none"> Use your knowledge to define renewable energy sources. Evaluate examples of renewable energy sources. Examine the pros and cons of renewable sources. Evaluate your knowledge. Recognise areas of improvement and what went well. Reflect on your knowledge. 	<ul style="list-style-type: none"> UAE Link: Power stations in the UAE Revise and reflect 	
<p>Topic 2: Heat Transfer</p> <ul style="list-style-type: none"> Specific heat capacity (SHC) Conduction Radiation 	<ul style="list-style-type: none"> Use your knowledge to describe what is meant by specific heat capacity (SHC). Calculate energy transferred using the formula. Evaluate everyday applications of SHC. Use your knowledge to explain how particles move in a liquid. Analyse how convection currents are formed. Evaluate examples of where convection currents appear in nature. Use your knowledge to describe what thermal radiation is. Evaluate factors that affect the emission of thermal radiation. Justify which the best materials for different applications are. 	<ul style="list-style-type: none"> Recall, how science works, application of knowledge and Maths UAE Link: Burj Khalifa, what materials to use in the UAE 	<ul style="list-style-type: none"> Guided Reading
<ul style="list-style-type: none"> Investigation – cooling curve 	<ul style="list-style-type: none"> Use your knowledge to explain why fur is a good insulator. Plan an investigation. Analyse data and come to a conclusion. Evaluate your knowledge. 	<ul style="list-style-type: none"> Recall, how science works, application of knowledge and Maths UAE Link: ACs in the UAE, how to stay cool Revise and reflect 	<ul style="list-style-type: none"> Guided Reading

<p>Heat transfer end of topic test and feedback</p>	<ul style="list-style-type: none"> Recognise areas of improvement and what went well. Reflect on your knowledge. 		
<p>Topic 3: Density</p> <ul style="list-style-type: none"> Solids, liquids, gases (SLG) Changes of state Cooling curve 	<ul style="list-style-type: none"> Use your knowledge to describe the motion of particles in SLG. Use your knowledge to describe the arrangement of particles in SLG. Analyse the properties of SLG by considering the arrangement of particles. Use your knowledge to name the changes of state. Research an example of deposition. Research an example of sublimation. Compare heat and temperature. Use your knowledge to describe what happens to temperature as a substance changes state. Analyse what happens to heat energy when heating up a substance. 	<ul style="list-style-type: none"> Recall, how science works, application of knowledge and Maths UAE Link: Evaporation and condensation in the UAE – why do my glasses get foggy on a hot day when I exit Dubai mall? 	<ul style="list-style-type: none"> Guided Reading
<ul style="list-style-type: none"> Density Density practical Density end of topic test and feedback 	<ul style="list-style-type: none"> Use your knowledge to describe what density represents. Calculate density given the formula. Compare the density of different materials. Use your knowledge to describe what density represents. Calculate density given the formula. Compare the density of different materials. Evaluate your knowledge. 	<ul style="list-style-type: none"> Recall, how science works, application of knowledge and Maths UAE Link: Uses of appropriate materials in the UAE Revise and reflect 	<ul style="list-style-type: none"> Guided Reading

	<ul style="list-style-type: none"> Recognise areas of improvement and what went well. Reflect on your knowledge. 		
<p>Topic 4: Designing an investigation</p> <ul style="list-style-type: none"> Planning Practical 	<ul style="list-style-type: none"> Write an investigation title. Produce a method for a scientific investigation. Create a suitable equipment list. Write a risk assessment. Construct a results' table. Collect results from a scientific investigation. 	<ul style="list-style-type: none"> Recall, how science works, application of knowledge and Maths UAE Link: How to build strong buildings in the UAE – being an engineer 	<ul style="list-style-type: none"> Guided Reading
<ul style="list-style-type: none"> Analysis Presenting 	<ul style="list-style-type: none"> Draw a graph of your results. Interpret a graph of your results. Evaluate your scientific investigation. Create a presentation of your scientific investigation. Present your ideas to an audience. Evaluate a peer's investigation. 	<ul style="list-style-type: none"> Recall, how science works, application of knowledge and Maths UAE Link: EXPO2020 – presenting data and discuss, share knowledge and ideas 	<ul style="list-style-type: none"> Guided Reading
Revision			
End of term 3 assessment			
End of term 3			