

## Key Stage 3 Curriculum Map 2020-21 Term 2

Year Group: 8	Subject: Physics		
Focus/Topic	Objectives	Key Skills/ UAE Links	Home Learning/ Recommended Reading
<p><b>Physics: A)</b> <b>Electricity</b> 1) Circuit symbols and diagrams</p> <p>2) Current in Series</p> <p>3) Voltage in Series</p>	<ul style="list-style-type: none"> <li>• Use your knowledge to identify circuit symbols</li> <li>• Create circuit diagrams</li> <li>• Explain how a multiple cells are drawn</li> </ul> <ul style="list-style-type: none"> <li>• Use your knowledge to describe what is meant by current</li> <li>• Explain how an ammeter is used</li> <li>• Justify why current is the same in a series circuit</li> </ul> <ul style="list-style-type: none"> <li>• Use your knowledge to describe what is meant by voltage</li> <li>• Explain how to use a voltmeter</li> <li>• Justify how voltage changes in a series circuit</li> </ul>	<ul style="list-style-type: none"> <li>• Recall, working scientifically</li> <li>• Electricity in the UAE</li> </ul> <ul style="list-style-type: none"> <li>• Working scientifically, application</li> </ul> <ul style="list-style-type: none"> <li>• Recall, apply and evaluate</li> </ul>	<p>Guided reading and physics and maths tutor exam questions</p> <p>Guided reading and physics and maths tutor exam questions</p> <p>Guided reading and physics and maths tutor exam questions</p>
<p>4) Resistance</p> <p>5) Conductors and Insulators</p> <p>6) Test</p>	<ul style="list-style-type: none"> <li>• Calculate resistance</li> <li>• Collect data for an investigation</li> <li>• Plot data onto a graph</li> </ul> <ul style="list-style-type: none"> <li>• Use your knowledge to draw a parallel circuit</li> <li>• Investigate where parallel circuits are used</li> <li>• Create a parallel circuit with 2 bulbs</li> </ul> <ul style="list-style-type: none"> <li>• Evaluate your knowledge.</li> <li>• Recognise areas of improvement and what went well.</li> <li>• Reflect on your knowledge.</li> </ul>	<ul style="list-style-type: none"> <li>• Recall, working scientifically</li> </ul> <ul style="list-style-type: none"> <li>• Working scientifically, application</li> <li>• Materials in the UAE</li> </ul> <ul style="list-style-type: none"> <li>• Revise and reflect</li> </ul>	<p>Guided reading and physics and maths tutor exam questions</p> <p>Guided reading and physics and maths tutor exam questions</p> <p>Guided reading and physics and maths tutor exam questions</p>

<p>7) Feedback</p> <p><b>B) Magnetism</b> 1) Permanent magnets</p> <p>2) Electromagnets introduction</p>	<ul style="list-style-type: none"> <li>Evaluate your knowledge.</li> <li>Recognise areas of improvement and what went well.</li> <li>Reflect on your knowledge.</li> </ul> <ul style="list-style-type: none"> <li>Use your knowledge to describe how to draw a magnetic field</li> <li>Justify how magnets can attract or repel</li> <li>Evaluate materials that are magnetic</li> </ul> <ul style="list-style-type: none"> <li>Use your knowledge to list the components needed for an electromagnet</li> <li>Explain how we can increase the strength of an electromagnet</li> <li>Plan an investigation</li> </ul>	<ul style="list-style-type: none"> <li>Revise and reflect</li> </ul> <ul style="list-style-type: none"> <li>Working scientifically, application</li> <li>Hyperloop train Dubai-Abu Dhabi</li> </ul> <ul style="list-style-type: none"> <li>Recall, working scientifically</li> </ul>	<p>Guided reading and physics and maths tutor exam questions</p> <p>Guided reading and physics and maths tutor exam questions</p> <p>Guided reading and physics and maths tutor exam questions</p>
<p>3) Electromagnets investigation</p> <p>4) Motors</p>	<ul style="list-style-type: none"> <li>Setup a practical safely</li> <li>Use your knowledge to collect data</li> <li>Identify and evaluate a trend</li> </ul> <ul style="list-style-type: none"> <li>Use your knowledge to list the components of a motor</li> <li>Investigate where motors are used</li> <li>Evaluate factors that affect the speed of a motor</li> </ul>	<ul style="list-style-type: none"> <li>Recall, apply and evaluate</li> <li>Use of electromagnets in the UAE</li> </ul> <ul style="list-style-type: none"> <li>Working scientifically, application</li> </ul>	<p>Guided reading and physics and maths tutor exam questions</p> <p>Guided reading and physics and maths tutor exam questions</p>
<p>5) Generators</p> <p>6) Test</p>	<ul style="list-style-type: none"> <li>Use your knowledge to list the components of a generator</li> <li>Investigate where generators are used</li> <li>Evaluate factors that affect the output of a generator</li> </ul> <ul style="list-style-type: none"> <li>Evaluate your knowledge.</li> <li>Recognise areas of improvement and what went well.</li> <li>Reflect on your knowledge.</li> </ul>	<ul style="list-style-type: none"> <li>Recall, application and working scientifically</li> <li>Motors and generators in the UAE</li> </ul> <ul style="list-style-type: none"> <li>Revise and reflect</li> </ul>	<p>Guided reading and physics and maths tutor exam questions</p> <p>Guided reading and physics and maths tutor exam questions</p>

<p>7) Feedback</p> <p><b>C) Speed, distance, time and moments</b></p> <p>1) Speed - Distance – Time</p> <p>2) Distance - Time graphs</p>	<ul style="list-style-type: none"> <li>Evaluate your knowledge.</li> <li>Recognise areas of improvement and what went well.</li> <li>Reflect on your knowledge.</li> <li>Use your knowledge to state the units of speed, distance and time</li> <li>Apply formula with speed, distance and time</li> <li>Rearrange and apply the formula for speed, distance and time</li> <li>Use your knowledge to explain what is meant by acceleration</li> <li>Explain lines on distance time graphs in terms of motion</li> <li>Create a distance time graph</li> </ul>	<ul style="list-style-type: none"> <li>Revise and reflect</li> <li>Working scientifically, application</li> <li>Recall, working scientifically</li> <li>Distance-time graphs to describe a car travelling from the Frame to Burj Khalifa</li> </ul>	<p>Guided reading and physics and maths tutor exam questions</p> <p>Guided reading and physics and maths tutor exam questions</p> <p>Guided reading and physics and maths tutor exam questions</p>
<b>Half-term</b>			
<p>3) Velocity-Time graphs</p> <p>4) Moments</p> <p>5) Moments investigation</p>	<ul style="list-style-type: none"> <li>Use your knowledge to link lines on a velocity time graph to the motion</li> <li>Create a velocity time graph</li> <li>Analyse and extract information from a velocity time graph</li> <li>Use your knowledge to describe what is meant by a moment</li> <li>Apply the formula for moments</li> <li>Calculate a moment given the formula</li> <li>Use your knowledge to set up a practical safely</li> <li>Collect and evaluate data</li> <li>Explain why we should repeat experiments</li> </ul>	<ul style="list-style-type: none"> <li>Working scientifically, application</li> <li>Speed cameras in the UAE</li> <li>Recall, application and working scientifically</li> <li>Working scientifically, application</li> <li>Moments and stability of buildings in the UAE</li> </ul>	<p>Guided reading and physics and maths tutor exam questions</p> <p>Guided reading and physics and maths tutor exam questions</p> <p>Guided reading and physics and maths tutor exam questions</p>
<p>6) Test</p>	<ul style="list-style-type: none"> <li>Evaluate your knowledge.</li> <li>Recognise areas of improvement and what went well.</li> </ul>	<ul style="list-style-type: none"> <li>Revise and reflect</li> </ul>	<p>Guided reading and physics and maths tutor exam questions</p>

<p>7) Feedback</p> <p><b><u>D) Gas and pressure</u></b> 1) Gases</p>	<ul style="list-style-type: none"> <li>• Reflect on your knowledge.</li> <li>• Evaluate your knowledge.</li> <li>• Recognise areas of improvement and what went well.</li> <li>• Reflect on your knowledge.</li> <li>• Use your knowledge to describe the motion of particles in a gas</li> <li>• Explain what is meant by volume and temperature of a gas</li> <li>• Justify the link between volume and temperature</li> </ul>	<ul style="list-style-type: none"> <li>• Revise and reflect</li> <li>• Recall, apply and evaluate</li> <li>• How gases behave in the UAE where temperature is high</li> </ul>	<p>Guided reading and physics and maths tutor exam questions</p> <p>Guided reading and physics and maths tutor exam questions</p>
<p>2) Pressure in gases</p> <p>3) Pressure in liquids</p>	<ul style="list-style-type: none"> <li>• Use your knowledge to describe what is meant by pressure</li> <li>• Explain the effect of increasing pressure</li> <li>• Evaluate why objects may collapse if temperature drops too quickly</li> <li>• Use your knowledge to describe how pressure changes in a liquid</li> <li>• Explain why pressure changes in a liquid</li> <li>• Justify why dams are build thicker at the bottom</li> </ul>	<ul style="list-style-type: none"> <li>• Recall, working scientifically</li> <li>• Working scientifically, application</li> </ul>	<p>Guided reading and physics and maths tutor exam questions</p> <p>Guided reading and physics and maths tutor exam questions</p>
<p>4) Pressure in solids</p> <p>5) Research - Bernoulli principle and Magnus Effect</p>	<ul style="list-style-type: none"> <li>• Use your knowledge to state the formula for pressure</li> <li>• Calculate pressure using the formula</li> <li>• Calculate the pressure a person exerts on the floor</li> <li>• Use your knowledge to describe the Bernoulli Principle</li> <li>• Use your knowledge to describe the Magnus Effect</li> <li>• Evaluate how the Magnus effect is used in sports</li> </ul>	<ul style="list-style-type: none"> <li>• Recall, working scientifically</li> <li>• Pressure in buildings such as Burj Al Arab and Burj Khalifa</li> <li>• Working scientifically, application, evaluate</li> </ul>	<p>Guided reading and physics and maths tutor exam questions</p> <p>Guided reading and physics and maths tutor exam questions</p>

6) Test	<ul style="list-style-type: none"> <li>• Evaluate your knowledge.</li> <li>• Recognise areas of improvement and what went well.</li> <li>• Reflect on your knowledge.</li> </ul>	<ul style="list-style-type: none"> <li>• Revise and reflect</li> </ul>	Guided reading and physics and maths tutor exam questions
7) Feedback	<ul style="list-style-type: none"> <li>• Evaluate your knowledge.</li> <li>• Recognise areas of improvement and what went well.</li> <li>• Reflect on your knowledge.</li> </ul>	<ul style="list-style-type: none"> <li>• Revise and reflect</li> </ul>	Guided reading and physics and maths tutor exam questions
<b>End of term</b>			