

## Curriculum Map: Year 7 Science

	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
<b>Topic</b>	<b>Cells</b>	<b>Atoms, elements and compounds</b>	<b>Energy</b>	<b>Cell organisation and systems</b>	<b>Forces</b>	<b>Chemical Changes</b>
<b>Intent</b>	<p>Students develop an understanding of cells as the building block of life and develop some key practical skills, including safety in the lab.</p> <p>Students will learn the structure and function of cell components of both animal and plant cells. They will develop their ability to use a microscope to identify cells and record observations.</p>	<p>Learn key knowledge about the atomic structure as well as have an understanding the work of some scientists from different backgrounds (some who are not mentioned in books) who developed the Atom and the Periodic table.</p>	<p>Learn key knowledge about how energy is needed to make things happen. Students learn about how decisions they make could impact on the environment they live in. i.e., walking/cycling to school to make fossil fuels last longer.</p>	<p>Revisit previous learning of organisation from topic 1. Include further depth by looking into organ systems such as circulatory system. Students learn the principles of organisation of the whole organism of animals and plants. Being able to relate their year's work on the building blocks of life to the whole organism and the 7 life processes – MRS GREN.</p>	<p>Learn key knowledge about what forces are and how they act on all objects around us. Students learn about motion, driving safety and how reaction times are affected by drugs and alcohol.</p>	<p>Learn key knowledge about how chemical reactions occur. How particles are arranged in the three states of matter and how these states can be changed in relation to the particle model.</p>
<b>Key Knowledge</b>	<ol style="list-style-type: none"> <li>1. Structure and function of animal and plant cells.</li> <li>2. The differences between a plant cell and animal cell. For example; plant cells contain chloroplasts, cell wall and a vacuole.</li> <li>3. How to set up and use a microscope to analyse prepared slides – e.g onion cell.</li> <li>4. Safety in the lab and in introduction to planning a scientific investigation.</li> </ol>	<ol style="list-style-type: none"> <li>1. The structure of an atom</li> <li>2. The elements in the periodic table are arranged in order of atomic (proton) number.</li> <li>3. Compounds contain two or more elements chemically combined.</li> <li>4. A mixture consists of two or more elements or compounds not chemically combined together.</li> </ol>	<ol style="list-style-type: none"> <li>1. compare the amounts of energy in different foods or used by different activities or devices.</li> <li>2. Describe energy transfers where input energy is transferred as more than one type of energy.</li> <li>3. Renewable energy resources are alternatives to fossil fuels to produce electricity - i.e. solar energy.</li> </ol>	<ol style="list-style-type: none"> <li>1. Define and identify tissues, organs and organ systems in plants and animals.</li> <li>2. Describe the function of plant and animal tissues. Know the functions of different organ systems and how they link to MRS GREN.</li> <li>3. That the heart pumps blood round the body.</li> </ol>	<ol style="list-style-type: none"> <li>1. Contact forces need to touch the thing that they are affecting. i.e. friction.</li> <li>2. Some forces do not need to touch the thing that they are affecting. They are called non-contact forces. i.e magnetism.</li> <li>3. Use simple force diagrams to explain how the shape or</li> </ol>	<ol style="list-style-type: none"> <li>1. In a chemical reaction a new substance is always formed.</li> <li>2. Solids are made up of particles that are very close.</li> <li>3. Liquids are made up of particles that are fairly close together.</li> <li>4. Gases are made up of particles that are well spread out, with no bonds between them.</li> </ol>



<b>End Point</b>	Students are competent in answering structured and longer response exam style questions. Able to structure comparative sentences. Can recall scientific equation.	Students are competent in answering structured and longer response exam style questions. Able to structure explanations.	Students are competent in answering structured and longer response exam style questions. Students can plot and analyse line graphs.	Students are competent in answering structured and longer response exam style questions.	Students are competent in answering structured and longer response exam style questions.	Students are competent in answering structured and longer response exam style questions. Group presentations.
<b>Form of Assessment</b>	Topic assessment Extended writing tasks	Topic assessment Extended writing tasks	Topic assessment Mock style assessment	Topic assessment Extended writing tasks	Topic assessment Extended writing tasks	Topic assessment Extended writing tasks
<b>Enrichment Opportunities</b>	Some opportunities to take part in STEM activities/ projects.					
<b>Leadership Opportunities</b>	Student helper to support other students especially in core practical work. Student example to demonstrate good quality work.					



**AMBITION**



**RESILIENCE**



**COURTESY**



**KINDNESS**