



OVERVIEW	<p>At The Lowry Academy our aim is to ensure all children are scientifically literate individuals who can critically evaluate information to make informed decisions about their lives. At The Lowry Academy we equip pupils with both the knowledge and skills to understand the world around them and develop curiosity. A wealth of opportunities to learn about our local and diverse scientific community shows every child how they can involve science in their future, should they wish to. In Science at Year 8, we study digestion and nutrition which leads into detail of certain types of specialised cells, building on prior knowledge built in the Y7 Cells unit. We also learn about the history of the periodic table which builds on students learning of particles in Year 7. In Physics, students will learn about electricity and magnetism. This follows on from the energy topic in year 7.</p>		
AUTUMN	<p>8PL – Light and Space The unit begins by looking at light as a wave, that transfers energy and what happens when it meets different surfaces. Then moves to reflection and refraction, before moving on to vision and problems with vision, the colours of the spectrum and how colour is seen. The final section deals with the Earth in space, the cause of seasons and the Earth’s place in the universe.</p> <p>8CP – Periodic Table This unit of work begins what an element is and how elements can combine/mix to form compounds and mixtures. Following this, compounds are studied in more detail including naming them and how to write a formula. This links to the next area of conservation of mass showing the same numbers of atoms on each side of a balanced symbol equation. The periodic table is then looked at in more detail starting first with the Dalton atomic model and moving on to the nuclear model and electron configuration.</p>	<p>ASSESSMENT</p> <p>Fluency is completed once a week which is based on skills.</p> <p>December End of Topic Assessment on 8PL & 8CP (30 mins).</p>	<p>PERSONAL DEVELOPMENT</p> <p>Students learn about the beauty of natural objects, like rainbows.</p> <p>Students learn about John Dalton – a chemist from Manchester.</p>
SPRING	<p>8BD – Digestion and Nutrition This unit begins by establishing the components of food and the use of each within the body. Student will look at what is meant by a balanced diet and the consequences when nutritional and calorie intake is not inadequate or excessive. Students then move on to look at the organs of the digestive system and the role each plays in digestion.</p> <p>8PE – Electricity and Magnetism This unit begins with electricity – what it is and how current behaves in series and parallel circuits. Ohm’s Law is introduced in a simple way. The unit then switches to magnetism and then the link between the two before investigating how to make electromagnets and some uses of them.</p>	<p>ASSESSMENT</p> <p>Fluency is completed once a week which is based on skills.</p> <p>March End of Topic Assessment on 8BD & 8PE (30 mins).</p>	<p>PERSONAL DEVELOPMENT</p> <p>Students learn about what the different nutrients for a healthy balanced diet are. They learn diseases that can come from lack of vitamins and/or minerals.</p>
SUMMER	<p>8CM – Materials and Earth The unit begins by looking at the structure of the Earth and basic plate tectonics. The formation of the three different types of rock and their physical properties is then covered, as well as fossil formation. The unit then moves on to the atmosphere, how it has changed over the Earth’s history and more recently.</p> <p>9BP – Plants and Photosynthesis The unit starts with exploring the structure and function of roots, with emphasis on its adaptations. Pupils then look at the process of photosynthesis and its importance. This will include understanding that the carbon dioxide for photosynthesis comes from the air and that chlorophyll enables a plant to utilise light in photosynthesis.</p> <p>9PM – Matter In this topic students will reinforce their understanding of the particle model, kinetic theory and resultant forces. They will learn to apply these to situations revolving around pressure and diffusion.</p>	<p>ASSESSMENT</p> <p>Fluency is completed once a week which is based on skills.</p> <p>June End of Topic Assessment on 8CM & 9BP (30 mins).</p>	<p>PERSONAL DEVELOPMENT</p> <p>Students learn about the damaging effects of greenhouse gases on the environment and how they can recycle to reduce the impact.</p>

Useful resources for supporting your child at home:

- **BBC Bitesize** - KS3 Science - [KS3 Science](#) - [BBC Bitesize](#)
- **Knowledge Organiser** – The science knowledge organiser contains all the key definitions students need to know for each unit. You could test your child on their ability to remember these facts, or get your child to self-quiz using the ‘Look, Cover, Write, Check’ technique

Homework

Homework will be set weekly on Sparx Science and we will inform students which section of the knowledge organiser to self-quiz themselves on.