

Bradfield School - Curriculum Area Booklets.

Subject name: Science

This booklet contains information about what your child will be studying during years 7 and 8.

Year 7:	Content
Particles and Materials 1.	After an initial introduction to safe laboratory working, students study an introduction to particle theory and the nature of matter.
Energy 1.	Students study the major types of energy and how energy is transferred. They learn about the formation and use of fossil fuels and about electricity generation. They also have a short sequence of lessons about electrical circuits.
Life and Living Processes 1.	In this module, students learn the basic structure of plant and animal cells. They learn how to use a microscope. They then learn about the human reproductive system, fertilisation, conception and pregnancy.
Forces 1.	This unit is an introduction to the idea of forces. Students learn to measure forces using a Newton meter. They study the effects of balanced and unbalanced forces. They also study gravitational and magnetic forces.
Interdependence 1.	Students learn about classification. They also consider the interrelationship between different living things. They learn to construct food webs and pyramids of numbers and they consider the effects of changes to these systems.
Geology	In this unit students learn about the characteristics of the major types of rocks. They learn about their formation and study the rock cycle and the structure of the Earth.
Supporting your child, what can you do to help?	<p><i>Homework is given on a regular but not necessarily weekly basis. It would be a great help if parents could encourage students to aim for their best work.</i></p> <p><i>It is often necessary to research around a topic and students should be encouraged to use a range of sources and to ensure that they don't simply copy.</i></p> <p><i>Good resources are available at:</i> http://www.bbc.co.uk/schools/ks3bitesize/science/ <i>And also on the MLE.</i></p>

<p>Year 8: Particles and Materials 2.</p> <p>Energy 2.</p> <p>Life and Living Processes 2.</p> <p>Forces 2.</p> <p>Interdependence 2.</p> <p>Fit and Healthy.</p>	<p>This unit focuses on the nature of chemical reactions. Students study reactions between acids and a variety of bases. They are introduced to the Periodic Table and to chemical notation. They begin to use word and symbol equations to describe reactions.</p> <p>In this unit, students learn about the nature of light and sound. They study wave behaviour including the differences and similarities between sound and light waves. They learn about the eye and the ear.</p> <p>This unit includes a general introduction to genetics and inheritance. Students learn about how characteristics are passed from parent to offspring. The unit also includes a study of the nervous system.</p> <p>This unit involves the study of pressure and moments. Students also study motion and represent moving objects using graphical methods. The unit concludes with a sequence of lessons about space.</p> <p>In this unit, students are encouraged to think about global environmental issues. They look at the scientific basis for acid rain and global warming. They also study disease transmission and methods of prevention.</p> <p>The final unit of the year aims to equip students to make positive lifestyle choices. Students learn about balanced diets. They learn the functions of the major food groups. They also study the physiological effects of smoking, drinking and taking illegal drugs.</p>
<p>Supporting your child, what can you do to help?</p>	<p><i>Homework is given on a regular but not necessarily weekly basis. It would be a great help if parents could encourage students to aim for their best work.</i></p> <p><i>It is often necessary to research around a topic and students should be encouraged to use a range of sources and to ensure that they don't simply copy.</i></p> <p><i>Good resources are available at:</i> http://www.bbc.co.uk/schools/ks3bitesize/science/ <i>And also on the MLE.</i></p>

Further Information:

As well as content, we also aim to develop many skills during the Key stage 3 course. Students will undertake a variety of activities that will give them opportunities to develop the following skills:

- Plan experiments.
- Identify hazards and control them.
- Represent data in many different forms.
- Analyse risks and benefits of scientific processes.
- Use models to explain ideas.
- Make predictions.
- Draw conclusions.
- Evaluate experimental processes.
- Describe the development of scientific ideas.