

Year 8 Science

It is an instinctive human need to understand our world. Science is born of our curiosity and it is perhaps the surest path to discovery. With science, we can explain natural phenomena and develop technologies that improve our lives, communities and future. Science permeates our world and it is increasingly important that we develop scientifically-literate citizens. We aim to:

- Instil in our learners a curiosity and love of science.
- Provide a safe and secure learning environment.
- Ensure all students progress to meet challenging targets.
- Deliver an enjoyable and engaging learning experience which motivates students..
- Develop scientific skills and understanding to enable all students to make informed scientific decisions.
- Demonstrate the relevance of science with links to technology, the environment, industry and medicine.
- Promote the core values of Northallerton School & Sixth Form in all of our work.

The Year 8 curriculum builds upon the core concepts that were introduced in Year 7 by introducing more complex topics that often draw upon several topics explored in previous years. The three sciences are taught discretely, however the interdependence of scientific disciplines will be emphasised when appropriate. There are 12 units in Year 8, with four biology, chemistry and physics topics. These will be organised in blocks of three, to align with the timings of the SAIL themes, but without the intent to align thematically. Most units include an extended investigation to help students to think, speak, write and report as scientists. We have planned our curriculum to maximise seasonal opportunities for astronomy, ecology and to use fine weather to explore motion.

Methods of deepening and securing knowledge:

Projects	Each of our 12 topics has an independent study project that will allow students to consolidate their learning from the classroom and extend their learning into an area of personal interest.
Knowledge organisers	Knowledge organisers for each of our 12 topics enable students to develop higher level thinking skills, whilst having the key knowledge to hand.
Extended reading and watching	Each of the 12 topics has the opportunity for extended reading to deepen knowledge and understanding. Each topic will also have extended viewing to help students consolidate and extend their learning.
Low stake testing	Every lesson features low-stakes testing of knowledge in our starter activity, both from the current topic and recalling prior learning. Each of the 12 topics has a 15-mark low stakes test.
Assessment for progress	Each of the 12 topics will have an 'Even Better If' (EBI) assessment where students are provided with bespoke tasks, designed to help them reach the next level in their learning.

	Block 1	Block 2
Topic(s)	<ul style="list-style-type: none"> • Musculo-skeletal system. • Chemical Reactions. • Electrical Circuits. 	<ul style="list-style-type: none"> • Gas Exchange. • Rocks and Atmosphere. • Sound, Light & Waves.
Assessment	<ul style="list-style-type: none"> • 3 x end of topic low stakes quiz. • 1 x end of block test. • Ongoing teacher assessment. 	<ul style="list-style-type: none"> • 3 x end of topic low stakes quiz. • 1 x end of block test. • Ongoing teacher assessment.
CEIAG <i>(Careers that are linked to these topics)</i>	<ul style="list-style-type: none"> • Physiotherapists. • Orthopaedic surgeons. • Chiropractors. • Doctors. • Electrical engineers. • Electricians. 	<ul style="list-style-type: none"> • Environmental scientist. • Climatologists. • Geologists. • Sound engineers. • Radiologists.

	Block 3	Block 4
Topic(s)	<ul style="list-style-type: none"> • Health & Sex Education. • Materials. • Magnetism. 	<ul style="list-style-type: none"> • Genetics. • Patterns of Reactivity. • Internal Energy and Particles.
Assessment	<ul style="list-style-type: none"> • 3 x end of topic low stakes quiz. • 1 x end of block test. • Ongoing teacher assessment. 	<ul style="list-style-type: none"> • 3 x end of topic low stakes quiz. • 1 x end of block test. • Ongoing teacher assessment.
CEIAG <i>(Careers that are linked to that topic)</i>	<ul style="list-style-type: none"> • Health visitors. • Dieticians. • Counsellors. • Psychologists. • Product designers. • Material scientists. • Architects. • MRI technicians. • High-speed train engineers. 	<ul style="list-style-type: none"> • Geneticists. • Gene therapists. • Metallurgists. • Cryogenic space scientists.

Independent Study

Our Independent study is planned so that each Key Stage 3 topic will have:

- Extended reading opportunities.
- Extended viewing opportunities.
- Educake assignments.
- Additional revision resources.
- An independent assignment.