

## Year 8 Science

### Topic(s)

Students are following the KS3 Science Syllabus.

- **Biology: Reproduction, Genetics and Disease** – Students start the Year learning about sexual reproduction in humans. This allows teachers to recap key concepts that were taught during the lockdown period including variation. Students will learn about the discovery of DNA and the controversy concerning Watson, Crick and Franklin. Year 8 students will also learn about diseases and the immune system.
- **Physics: Friction** – This is a highly practical unit which will see students working independently in a science lab. Students will have the opportunity to test different variables and plan their own experiments.
- **Chemistry: Elements and Compounds** – Students will start to look at the periodic table as a tool that scientists use daily. They will look at the origins of names of elements and start to write scientific formulae for compounds. Students refresh their knowledge of acids and alkalis they did last year.
- **Biology: Biological reactions** – Students will look in detail at photosynthesis and respiration – the two main biological reactions studied in KS3 and KS4. They will have the opportunity to link this back to the biology they studied previously – as the processes require materials which get to cells by methods looked at in the beginning of Year 8 and in Year 7. Students will also look at inheritance, and during this they will develop skills in communicating ideas to others.
- **Physics: Energy & Magnetism** – Students look at heat transfer and how this is different depending on whether the energy is transferred by waves or particles. They will look at where we get our energy from and link this back to the previous physics and chemistry unit. Students will start to learn about magnetism and electromagnetism. Students will develop skills in devising questions and collecting data.
- **Chemistry: Chemical reactions** – Students will start to explore how atoms rearrange themselves in chemical reactions. They will look at the two types of reactions in detail: thermal decomposition and combustion. At this point in the year students are also taught how to balance chemical equations.

Students will apply and develop their knowledge by undertaking a range of practical work. This practical work is used to develop transferable skills such as devising and testing questions, identifying and controlling variables, analysing and interpreting data. Students are given the opportunity to build and master practical skills including: using specialist equipment to take measurements, handling and manipulating equipment with confidence and recognising hazards and planning to minimise risk.

### How do you assess the learning?

Students are assessed by the following methods:

- Teacher created assessment for learning opportunities
- Level assessed tasks which allow students to write at length
- Multiple choice assessments
- Examination questions
- Online assessments

Teachers arrange opportunities in lesson for students to present work and do individual and group projects. Practical work is completed in lesson and assessed by teachers.

### End of Year Examination

#### How will I be assessed at the end of the year?

Students are given a one hour final assessment covering topics from the whole of Year 8 and the corresponding prior learning from Year 7. This also covers the skills that students have learnt, students will be assessed on their ability to apply knowledge they have gained in one topic to another. For example, they may have done some work on graph drawing in physics – in their exam they may be asked to draw a graph for chemistry.

### How can I help my child?

#### Guidance and advice from science on how to help.

- **Kerboodle.com** – *all students have a log in for a free version of the textbook used in lessons. This also includes videos, support and extension activities.*
  - **BBC Bitesize** – *KS3 Science. Students can find animations, explanations and questions on this site – organised as Biology, Chemistry and Physics.*
  - **Collins Science KS3 Revision** - *Collins provide KS3 revision books*
  - **Senecalearning.com** - *Students are encouraged to revise using Seneca. There is a Key Stage Three Science course available for free.*
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