

## Year 9 Science

### Topic(s)

In Year 9 students consolidate the following ideas across the three sciences.

- **Biology:**

**Organisms: The human body**

*Students learn about the Human Body, piecing together the organ systems and processes they learnt in Year 7 and Year 8. Students learn about a range of medical careers throughout this topic. Students will also learn about the immune system and circulatory system for the first time.*

**Ecosystems**

*Students will revise their knowledge of photosynthesis which was taught during the lockdown period and how this is necessary for the continuation of ecosystems. They will learn how animals in an ecosystem depend on each other and how organisms decompose after death and recycle their materials.*

**Genes**

*Students will learn about evolution and natural selection, building upon the knowledge, understanding and skills that were gained during the work during lockdown. Students will look at variation across humans and DNA.*

- **Chemistry:**

**Matter**

*Students look at atoms, elements and compounds in detail. Students are expected to start year 10 being able to name compounds, devise formulae, balance chemical equations and separate mixtures. Students will refine these skills during this unit in Chemistry.*

**Reactions**

*Students will build upon their work in Year 8 by independently working in the science lab. Teachers will expect students to independently follow written instructions to complete reactions including: neutralisation, decomposition and testing rates of reaction. Students will write lab reports based on the practicals they have completed.*

**The Earth**

*Students will look at the Earth as the provider of all materials we have on Earth. This topic will link to Biology as students look at Changes to the Earth's Atmosphere, the burning of fuels from Crude Oil and alternatives to these.*

- **Physics**

**Forces**

*Students will look at how forces are used to move loads, they will build upon their knowledge and understanding of speed and look at stopping distances and safe driving.*

**Electromagnets**

*Students will spend time practicing how to independently build circuits and complete electricity based practicals.*

### Waves

*Students will look at the Electromagnetic Spectrum in detail and will use this knowledge as a basis for a number of concepts.*

#### 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 9 and the corresponding prior learning from Year 7 and Year 8 – students will not be expected to revise their work from Year 7 and Year 8, it is reinforced through normal teaching. 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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