Year 7 Science

Topic(s)

Students are following the following Science Syllabus.

- **How Science works** – *during September teachers spend time getting to know students and what they previously studied before joining us at Alperton. Students will do a range of activities from drawing tables and graphs to planning an investigation on diffusion. Teachers will embed the skills learnt in this topic throughout the whole of the Key Stage Three Science course of study*
- **Biology: Organisms** – *students will look at the levels of organisation in a number of living organisms. Students will learn how muscles work together to allow a body to move. Students will have the opportunity to develop skills in microscopy as they observe cells. Students will complete a flower dissection and look at how plants reproduce.*
- **Chemistry: States of matter** – *students will start to work more practically in the science lab and will look at the particle model of materials. Students will be developing skills in their presentation of data and their ability to write explanations as well as being able to draw conclusions from practical work.*
- **Physics: Forces and Electricity** – *students will look at how forces interact and apply this knowledge to look at motion. Students will refresh their Key Stage Two knowledge of electrical symbols and circuit building and will work in groups to build circuits and investigate current, potential difference and resistance. Students will look at scientific models in detail.*
- **Biology: Ecosystems, variation and reproduction** – *Students will learn how organisms in an ecosystem interact (food chains and webs) and how human activity can affect these relationships. Students will look at variation in humans and animals and then they are taught about reproduction in humans including details of the reproductive system, fertilisation, development of a foetus and the menstrual cycle.*
- **Chemistry: Reactions** – *students look at chemical reactions and will do a range of activities such as working with acids and alkalis, reacting metals with water and displacement reactions. This gives students the opportunity to analyse patterns, discuss limitations of experiments and draw conclusions.*
- **Physics: Energy and waves** – *Students will look at the costs of energy and energy transfer and link this to sound and light. Students will develop skills in drawing scientific diagrams, interrogating sources and examining consequences.*

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, handing 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 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 were encouraged to complete the Key Stage Two Seneca course before starting at Alperton – they are encouraged to continue using Seneca and the Key Stage Three course to aid their revision*