Year 7 Science

What will be studied?

Topic(s)

Students are following the AQA year 7 Smart Science Syllabus based on the below 5 pillars:

- **Coherence:** *building and maintaining a coherent curriculum as well as ensuring coherence between curriculum and assessment*
- **Academic attainment and progress:** *holding high expectations and aspirations for all learners*
- **Preparation for successful futures:** *developing cognitive and metacognitive skills*
- **Equity, inclusion, and belonging:** *promoting the roles of identity, diversity, and inclusion*
- **Wellbeing:** *delivering experiences of awe and wonder*

Students will be learning the following topics in year 7:

- **Working scientifically:** – *In this unit students will learn how to take an idea and turn it into the scientific question which can be tested. They will start to develop their own plans and use a range of scientific equipment to collect and record measurements and observations in a suitable results table. Throughout the practical work, students will develop the skills to work safely and independently. They will also begin to evaluate their work to spot random and systematic errors and suggest improvement.*

- **Biology: Cells and Reproduction:** – *In this unit students are introduced to cells as the building blocks of all life. They study the structures within the plant and animal cells and will have opportunities to observe cells and unicellular organisms under a microscope. Students will also look at the structure and the function of the respiratory, skeletal and reproductive system in detail. They will also compare the process of sexual reproduction in plants and the conditions needed for germination.*

- **Chemistry: States of matter and Chemical reactions** – *students will start to work more practically in the science lab and will look at the particle model. Students will use the particle model and use it to describe and explain the properties and the behaviour of the matter. They will also use the particle model and practical experiments to explore the chemical reactions. 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: Force, sound, light and space** –*In this unit students are introduced to abstract representation of forces and how contact forces arise from microscopic interactions. They meet the idea of a 'field 'and learn how to calculate weight. They will develop their understanding of vector quantities for forces by learning about balanced and unbalanced forces. Students will also have the opportunity to apply the wave model to a range of the observations e.g. echoes, human hearing, ultrasound and infrasound etc. Later on in the unit students will develop the model involving the spinning and the orbiting of the earth and the moon about the sun to explain the phases of the moon, eclipses, and seasonal changes.*

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
- Extended response tasks which allow students to write at length
- Multiple choice assessments
- Examination questions
- Online assessments
- Spelling tests
- In class AfL as appropriate such as: use of mini whiteboards, traffic light cards, exit cards etc.

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 based on the AQA KS3 science syllabus.*
- **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*