



**AVANTI HOUSE**

Excellence · Virtue · Devotion

**2019-2020**

**Programmes of Study**

**Key Stage 3**

**Science**

# SCIENCE

## OVERVIEW OF COURSE

The Key Stage 3 Science curriculum is clearly divided into Biology, Chemistry and Physics units and all students will follow a balanced and broad curriculum. As well as developing our students' knowledge and understanding of scientific theory, our curriculum has integrated working scientifically with a clear focus on literacy and communication that seeks to develop students' confidence in articulating their ideas.

Schemes of work and resources have been developed by specialist teachers within the department and are tailored to meet the needs of all students to ensure each child makes expected levels of progress.

In Year 9, the curriculum increases in difficulty as we stretch the students by delving deeper into the learning surrounding the transitional topics, giving them the best head start before entering their GCSE curriculum in Key Stage 4.

## PROGRAMME OF STUDY

Term	Year 7	Year 8
<b>Autumn</b>	Starting Science Energy Transfer Cells and Growth Elements and Periodic Table	Digestion Metals and Non-Metals Electricity Separating Mixtures
<b>Spring</b>	Animal Reproduction Acids and Alkalis Contact Forces Particle Model	Bioenergetics Types of Reaction Motion Chemical Change
<b>Summer</b>	Climate and Earth Resources Classification and Interdependence Magnets and Electromagnetism	Inheritance and Evolution Rates of Reaction Waves Disease and Microbes

Term	Year 9		
	Biology	Chemistry	Physics
<b>Autumn</b>	Inheritance and Evolution Cell Structures and Transport	Atomic Structure The Periodic Table and Relative Formula Mass	Foundation Electricity
<b>Spring</b>	Organisation and Digestive System	Structure and Bonding	Wave Properties Energy Resources
<b>Summer</b>	Organising Plants and Animals Photosynthesis Respiration	Crude oil and Fuels	Electric Circuits Conservation and Dissipation of Energy

## SKILLS / KNOWLEDGE / UNDERSTANDING

Students will be expected to develop the following Knowledge, Application and Investigation Skills (How Science Works):

- AO1 - Demonstrate knowledge and understanding of: scientific ideas; scientific techniques and procedures.
- AO2 - Apply knowledge and understanding of: scientific ideas; scientific enquiry, techniques and procedures.
- AO3 - Analyse information and ideas to: interpret and evaluate; make judgments and draw conclusions; develop and improve experimental procedures.

## METHODS OF ASSESSMENT

We will use a range of assessments:

- Formal assessments at end of each unit
- AO3 Tasks
- Differentiated Tasks – a graded, creative activity
- Differentiated Marking Grids – questions allocated based on individual students' progress

We will also use a range of different styles of feedback to students:

- Bubble Assessment Feedback
- Follow-up questions to stimulate further progress after a Formal Assessment
- Differentiated Marking Grids
- Peer/Self-Assessment opportunities during Differentiated Tasks
- Non-written feedback that can take the form of verbal, peer and self-assessment.

**The Formal Assessments (End of Topic Assessments and the End of Year Examination) will contribute to the data published on Progress Reports**

**All Formal assessments will be kept at School in assessment folders to build archaeology.**

## HOW PARENTS / CARERS CAN HELP

- Promote Science as one of the core subjects and its relevance in many careers and jobs
- Use KS3 BBC Bite-Size Science and Seneca learning to recap or read ahead on each topic
- Buy a revision guide from WHSmith or online
- Encourage them to view Science in the media
- Make sure they know how to write up a practical correctly
- Support them with homework
- Ask them about everyday events and how Science links in

## EXTRA-CURRICULAR

Science club is run every week – carry out fun science experiments or sign up for a CREST Award

## RECOMMENDED READING / OTHER RESOURCES

<https://www.khanacademy.org/science/>

<https://www.bbc.com/education/subjects/zng4d2p>

<http://www.docbrown.info/ks3science.htm>

<https://www.emaths.co.uk/index.php/student-resources/past-papers/key-stage-3-ks3-sat-past-papers>