



Year 9 Science Curriculum Overview

Nb. Please note that depending on your child’s understanding of science in Y7 and Y8, they may be taught some bridging units prior to this content being delivered.

- ✓ Each lesson will start with a series of questions linked to both the previous lesson and topics studied previously.
- ✓ Formative assessment of skills linked to practical work will enable students to demonstrate their acquisition of new skills.
- ✓ Students are encouraged to consolidate learning at least once a week and seek tutor help if unsure on any topics.
- ✓ Within each unit, time will be allocated for consolidation and recall before assessment
- ✓ The following questions will be explored within the units

Half Term 1	
Date	Biology Topic: Cells
Week 1	introduction to science (expectations, standards, health and safety, introduction of key skills and assessing prior knowledge).
Week 2	What types of cells are there? What do we find in cells? How do we observe cells? Required practical: Microscopy.
Week 3	How do we calculate magnification? How do you prepare onion cell slides? Why do cells specialise?
Week 4	How do cells divide? What is cell differentiation? What are stem cells?
Week 5	How do we use stem cells? How do substances move through cells?
Week 6	
Week 7	
Half Term 2	
Date	Biology Topic: Cells
Week 8	How do we calculate surface area to volume ratio?
Week 9	How does water move across membranes? Required practical: Osmosis. How are substances absorbed against concentration gradients? How do bacteria reproduce? Required practical: Culturing microorganisms
Week 10	
Week 11	Chemistry Topic: Atomic structure and the periodic table
Week 12	Where do the electrons go? What are the differences between metals and non-metals? How has the periodic table changed?
Week 13	Revision and End of term assessment
Week 14	
Half Term 3	
Date	Chemistry Topic: Atomic structure and the periodic table
Week 15	How are group 0 different from other elements in the periodic table?
Week 16	Where are alkali metals found and how do they react? Where are the halogens found and how do they react?
Week 17	How are ions formed? What is an isotope?
Week 18	Why is the mass number of an element always a whole number? Where are transition metals found and what are their properties?
Week 19	
Week 20	
Half Term 4	
Date	Physics Topic: Energy
Week 21	Why do we need energy? How is energy transferred? What is efficiency?
Week 22	How does energy change in a system? (GPE) How does energy change in a system? (KE)
Week 23	How does energy change in a system? (EPE) Required practical: Force and extension. What is power?
Week 24	What does specific heat capacity tell us? How can we measure specific heat capacity?
Week 25	Required practical: SHC
Week 26	How can we keep our homes warmer? How can we generate electricity? How do we keep our lights on?
Half Term 5	
Date	Biology Topic: Organisation
Week 27	How are organisms structured? What are enzymes? What factors affect enzymes? Required practical: Enzymes
Week 28	How do we digest our food? How do we test for key food groups? Required practical: Food tests
Week 29	How does our heart work to move blood around our body? What makes up our blood and how does it move around our bodies? What is coronary heart disease? What’s the difference between communicable and non-communicable disease?
Week 30	
Week 31	Does the way I live my life mean I’m more likely to get a disease? What is cancer and how is it caused?
Week 32	How are the structures of plant tissues adapted to their functions? How do water and sugar move through a plant?
Half Term 6	
Date	Chemistry topic : Structure and Bonding
Week 33	
Week 34	
Week 35	
Week 36	
Week 37	
Week 38	Revision for End of year assessment
Week 39	End of year assessments.