



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	Topic: Cell biology
WC 29/08	Introduction to science (expectations, standards, health and safety, introduction of key skills and assessing prior knowledge).
WC 05/09	What types of cells are there? What do we find in cells? How do we observe cells? Required practical: Microscopy.
WC 12/09	How do we calculate magnification? How do you prepare onion cell slides? Why do cells specialise?
WC 19/09	How do cells divide? What is cell differentiation? What are stem cells?
WC 26/09	How do we use stem cells? How do substances move through cells? How do we calculate surface area to volume ratio?
WC 03/10	How does water move across membranes? Required practical: Osmosis. How are substances absorbed against concentration gradients? How do bacteria reproduce? Required practical: Culturing microorganisms
WC 10/10	
Half Term 2	
Date	Topic: Atomic structure and the periodic table
WC 31/10	Where do the electrons go? What are the differences between metals and non-metals? How has the periodic table changed?
WC 07/11	How are group 0 different from other elements in the periodic table?
WC 14/11	Where are alkali metals found and how do they react? Where are the halogens found and how do they react?
WC 21/11	How are ions formed? What is an isotope?
WC 28/11	Why is the mass number of an element always a whole number? Where are transition metals found and what are their properties?
WC 05/12	
WC 12/12	
Half Term 3	
Date	Topic: Energy
WC 02/01	Why do we need energy? How is energy transferred? What is efficiency?
WC 09/01	How does energy change in a system? (GPE) How does energy change in a system? (KE)
WC 16/01	How does energy change in a system? (EPE) Required practical: Force and extension. What is power?
WC 23/01	What does specific heat capacity tell us? How can we measure specific heat capacity? Required practical: SHC
WC 30/01	How can we keep our homes warmer? How can we generate electricity? How do we keep our lights on?
WC 06/02	
Half Term 4	
Date	Topic: Organisation
WC 20/02	How are organisms structured? What are enzymes? What factors affect enzymes? Required practical: Enzymes
WC 27/02	How do we digest our food? How do we test for key food groups? Required practical: Food tests
WC 06/03	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?
WC 13/03	Does the way I live my life mean I'm more likely to get a disease? What is cancer and how is it caused?
WC 20/03	
WC 27/03	How are the structures of plant tissues adapted to their functions? How do water and sugar move through a plant?
Half Term 5	
Date	Topic: Bonding, structure and the properties of matter
WC 17/04	What are the states of matter? How do we show the bonds between metals and non-metals? What are the properties of ionic compounds?
WC 24/04	
WC 01/05	How do we represent bonds between non-metals? What are the properties of simple molecules? What are the properties of giant structures?
WC 08/05	
WC 15/05	What other forms of carbon are there? How is bonding arranged in metals? How can we tell if a substance is ionic, covalent or metallic? What are nanoparticles? What are nanoparticles used for?
WC 22/05	
Half Term 6	
Date	Topic: Particle model of matter
WC 05/06	How are particles arranged? How do we calculate density? How do we measure the density of a regular shape? Required practical: Density.
WC 12/06	
WC 19/06	How do we measure the density of an irregular shape? Required practical: Density. How do we measure the density of a liquid? Required practical: Density.
WC 26/06	
WC 03/07	What is internal energy? What is specific latent heat? How do particles behave in a gas?
WC 10/07	What happens to pressure when volume is changed? How does temperature affect the pressure in a gas?
WC 17/07	End of year exams