Subject	Term 2 (Jan - Apr)

This term, we are studying…

Year	Topic(s)	Why this? Why now?
Year 7	Reproduction	This is a great opportunity to revisit some of the ideas we have learned about cells and organs. As this topic also covers the menstrual cycle, it is relevant for many students at this stage in their lives.
	Electricity	This topic introduces new scientific equipment and builds a foundation for our topic on Energy in Year 8.
	Separating Mixtures	This topic bridges the content that students have learned in their particle topic and will support them in learning Acids and Alkalis next term. There is also a range of new equipment in this topic that will develop practical skills.
Year 8	Heating and Cooling	This topic brings together ideas about energy and particles as well as adding context to ideas about chemical reactions and temperature change.
	Waves	This topic follows on from the work students have done on energy and develops many of the ideas about light and sound that students learn in KS2. Waves is also an important topic at KS4, so a good understanding of the key ideas is essential.
	Chemical Reactions	This topic outlines the main types of chemical reactions that students will study in other topics, such as Extracting Metals. They also develop an understanding of how chemical equations are written, which is a key skill in Chemistry.
Year 9	Gas Exchange	This follows on directly from Pressure in last term, using students understanding to describe how organisms, including human exchange gases with the environment. It also builds on previous work on cell, particles and diffusion.
	Earth and Atmosphere	This topic makes use of the students understanding of Photosynthesis and Respiration in the formation and changes of the Earth's Atmosphere and will be needed later in the year, when we study climate change.
	Electricity and Magnetism	This topic develops the work done in Year 7 on electricity and introduces the link between electricity and magnetism, which will be developed further in KS4.

Year 10	Reactions of Metals	Students will use the priciples learned in the periodic table and bonding topics to explain chemical reactions.
	Human Organ Systems	This builds on organelles and specialised cells (small intestine epithelial) and movement of substances and provides a basis for learning about human diseases particularly cardiovascular diseases, which is at the start of the diseases topic. Enzymes also links to rate of reaction.
	Health	Students will use ideas learned in their work on organ systems to develop their understanding of the immune system specifically and how humans control the spread of disease.
	Electricity	This topic builds on work done in KS3 and students understanding of electrons from Term 1. It also introduces the idea of Power, which will be needed for the upcoming Energy topic.
Year 11	Homeostasis	This topic develops students understanding of Human Organ Systems.
	Forces	This topic builds on previous calculations, providing plenty of opportunity to practise calculations and changing the subject of equations. It develops work from Y9 around the motion and introduces Newton's Laws
	Organic Chemistry	This introduces hydrocarbons and will lay the foundations for the upcoming topic of Earth's Atmosphere. It will also link back to work on bonding and how structures relate to properties.
	Magnetism	This topic builds on the work of Forces and Electricity.

Year 12	Biology	Students are now developing their understanding of exchange surfaces and different methods of transport across membranes, in the context of mammal and insect gas exchange systems.
Year 13	Biology	Students are continuing to develop their understanding of Genome technologies and their applications.
	Physics	Students complete their work on and Thermal and Gas Physics and begin their work on Nuclear Physics this term which will link to their final, optional module towards the end of this term.
	Chemistry	Students are working on their final Physical Chemistry topic of Acid Base Equilibria,

		which incorporates a range of skills from AS. They also complete their work in Organic Chemistry, looking at another type of spectroscopy. They will finish the course with the final Inorganic unit about transition metal complexes.