

Building Cognitive Architecture – Coherent and Connected – Knowledge and Skill Based

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
School Value	Thankfulness	Justice	Endurance	Compassion	Koinonia	Trust
Year 7	Introduction to Science Cells	Particles	Electricity	Reproduction	Forces	Periodic Table Earth and Space
Key Concepts/Ideas	Safety and how to use key pieces of equipment and write up investigations Structure and function of animal & plant cells, tissues, joints and skeleton	Particle theory, mixtures & separation techniques	Measuring current and potential difference in series and parallel circuits, measuring resistance, static electricity, magnetism and electromagnets	Human reproductive systems, menstrual cycle, pregnancy and birth, Plant reproductive systems.	Looking at different types of forces and their effects	Atoms, elements, compounds, periodic table, word equations, chemical reactions The Earth, moon, Sun, days, months, years, the solar system and the universe.
Sequence of Learning	We start year 7 ensuring all pupils are lab safe. This includes the use of equipment such as Bunsen Burners and Microscopes and ensuring ALL lab safety is known and understood. We then start with the foundation topics in chemistry (particles) and biology (cells) as this will allow all the pupils to have a solid understanding of the basics of all the subject areas. We then rotate through the 3 sciences so that pupils do not feel dejected if a specific area of science is not their strongest area. We have also put the Periodic table in year 7 as we felt they needed to understand about elements and compounds before they progress to the chemical reactions in acids & alkalis and Earth and Atmosphere. Particles, reproduction, forces and space all recap their modules in Year 5 and so doesn't leave a long period of time before spiralling back to the content. Space is also not taught again at KS4 so we ensure that pupils get time to truly explore this module as thoroughly as they can as this is one area pupils are fascinated by. Electricity was introduced to them in year 6 and we continue to develop their understanding in year 7. It is purposefully placed near the end of the year to ensure there is plenty of time between the content to ensure retainment and show their true understanding.					
Year 8	Acids & Alkalis	Systems for survival	Light	Sound	Ecosystems	Heating & Cooling Earth & Atmosphere
Key Concepts	Properties of acids and alkalis, salts, neutralisation	Digestive system including enzymes, respiratory system, circulatory system	How light travels, ray diagrams, reflection, refraction, colour filters	How sound travels, frequency, amplitude, the ear	Pyramids of numbers, biomass, how living things interact	Conduction, convection and radiation, temperature and heat, changes of state Weathering, erosion, types of rock, the rock cycle, acid rain, global warming, climate change, recycling
Sequence of Learning	In year 8 the same method has been adopted as in year 7 with the 3 science disciplines being rotated. We have started the year with two exciting modules to engage year 8 back into Science. Systems for survival, Ecosystems and light all recap their modules in Year 6 and so doesn't leave a long period of time before spiralling back to the content. Acids & Alkalis build on their new knowledge of elements and compounds from year 7. Sound was last investigated in year 4 but fits nicely in with light module as they are both explained using waves and understanding their differences. Heating & Cooling uses the Big Idea of particles that has run throughout their Science lessons from states of matter through to separation techniques in Year 7 and puts all those ideas together to explain how heat travels through different mediums. Earth & Atmosphere is the last chemistry module as it relies on the pupils recalling chemical equations from a number of different topics in KS3.					



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Key Opportunities						
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