

St Vincents - Science scheme of work

Yearly overview for KS3 and KS4 Science course (3 lessons/wk)

Year	Sept-Dec (autumn) Approx 15 weeks – 45 lessons	Jan- April (spring) Approx 11 weeks – 33 lessons	May-July (summer) Approx 13 weeks – 39 lessons
7 – S3 (Nat Curr)	<ul style="list-style-type: none"> • Investigating science - measuring observing predicting etc. • Making and using materials- elements intro, pure substances and separating simple mixtures • Energy changes and diet • Cells, functions and microscopes • Friction and moving – basic forces • Acids and alkalis • The pH scale and indicators 	<ul style="list-style-type: none"> • Growing body, health and reproduction • Magnets, magnetic fields and lines • Solids, liquids and gases- particle model and changes of state • Diffusion in liquids and gases • Chemical symbols and intro to Periodic Table • Harry Potter science • Space science 	<ul style="list-style-type: none"> • Environment relationships and food webs, seasons • Rocks and weathering - intro • Mirrors and light through materials • Geography science • Recap of Year 7 work
8 – S4 (Nat Curr)	<ul style="list-style-type: none"> • Work done, energy changes and Hooke's Law • Speed and distance time graphs • Chemical formulas • Metals and non-metals • Reactivity series and displacement • Digestive system and enzymes • Earth magnetism • Waves and light • Breathing, lungs and smoking • The heart and muscles 	<ul style="list-style-type: none"> • Photosynthesis and leaves • Pollination and food security • Combustion and catalysts • Power rating and domestic fuel bills • Ceramics, other materials • Carbon cycle and climate effects • DNA • Biodiversity • Conservation of mass 	<ul style="list-style-type: none"> • Science investigations • Forensic science • Conspiracy theories • Recap of Year 7 and 8 work
9 – S5	<ul style="list-style-type: none"> • Pollution, toxic accumulation and decay cycle • Conduction, convection, radiation, insulators • Dalton model, chemical formulas 	<ul style="list-style-type: none"> • Health – Growth, diet imbalances and disease • Speed, levers, moments and pressure • Rockets and satellites 	<ul style="list-style-type: none"> • Inheritance • Chromosomes and DNA • Chemical reactions - acids and metals and acids and alkalis • Useful reactions inc. thermal

(Nat Curr)	and patterns in the Periodic table <ul style="list-style-type: none"> • Conservation of mass in reactions • Rock cycle • Skeleton recap, muscles, reflexes and control • Reflection and refraction • Light and sound 	<ul style="list-style-type: none"> • Gravity forces and on other planets • Matter and chemical change • Photosynthesis and respiration recap 	decomposition <ul style="list-style-type: none"> • Endo and exothermic and energy transfer • Electrical circuits and magnetism – electromagnets and motors • Cinema science • Recap of Year 7,8 and 9 work
10 – S6 (AQA single biology GCSE 8461)	<ul style="list-style-type: none"> • Cell structure and transport • Diffusion, osmosis and active transport • Cell division and stem cells • Organisation and the digestive system 	<ul style="list-style-type: none"> • Enzymes and the digestive system • Organising animals and plants • Blood, heart and transport 	<ul style="list-style-type: none"> • Communicable diseases • Preventing/treating disease • Non-communicable disease • Photosynthesis • Respiration • Recap year 10 work
11 – S7 (AQA single biology GCSE 8461)	<ul style="list-style-type: none"> • Adaptations, interdependence and competition • Organising an ecosystem • Biodiversity and ecosystems • Human nervous system 	<ul style="list-style-type: none"> • Reproduction • Variation and evolution • Genetics and evolution • Hormonal coordination • Revisit year 10 and exam practice 	<ul style="list-style-type: none"> • Revisit year 10 and exam practice • After exams start relevant Btech