



W.S ideas to be consolidated:

- 1 Development of scientific thinking
- 2 Experimental skills and strategies
- 3 Analysis and evaluation
- 4 Scientific vocabulary, quantities, units, symbols and nomenclature

Sandbach School Science Curriculum:

Year 10 Science Curriculum Sequence

Intent: To build on prior knowledge from the transition & induction phase & Y9 topics : Students will continue to visit these 10 key topics of forces, electromagnetism, energy, waves, matter, reactions, earth, organisms introducing a GCSE perspective. In addition students will develop their knowledge of the scientific method within the contexts of AQA GCSE required practical's.

HT1	HT2	Term 2	Term 3
Combined Recap B8-9 Bioenergetics Biology As above + start B10-12 Homeostasis	Combined B1 Transport * Biology Finish B10-12 Homeostasis	Combined B10-12 Homeostasis Biology B13 Reproduction & genetics	Combined B16-18 Ecology Biology B16-18 Ecology (complete 1 st 10 lessons)
Combined C13 Our Atmosphere, C12 Start Chemical analysis. Chemistry As above + triple content	Combined Finish C12 Chemical analysis, C4 Chemical calculations F tier content only, C7 start energy changes. Chemistry C7 Energy changes, C8 Rates of reaction.	Combined Finish C7, C8 Rates of reaction, Start C9 Crude oil. Chemistry C9 Crude oil	Combined Finish C9 Crude oil, C14 Earths resources. Chemistry C14 Earths resources, C15 Using Materials
Combined P5 Electricity in the home recap, P6 Molecules & matter. Physics As above also start P7 Radioactivity	Combined P7 Radioactivity, P8 Forces in balance. Physics Finish P7 Radioactivity, P8 Forces in balance, P9 Motion, Start P10 Forces & motion.	Combined P9 Motion, P10 Forces & motion, Physics Finish P10 Forces & motion, P12 Wave properties, P13 EM Waves	Combined (Complete P10 Forces & motion) P12 Wave properties Physics P15 Electromagnetism ,Various triple lessons * see PoS document for further detail.
Why start here?* Y10 Biology recaps the complicated ideas of Bioenergetics & completes the transport section of B1/B2 Cells (this was left out of Y9 due to the high level of demand)	Why move onto these units? B10-12 Allows the consolidation of the key principles from Y9 including cells & cell division & organisation. C4 F only due to this being the most challenging unit, higher level work left unit Y11.	Why move onto these units? * Biology – Students need to recap required practical's from earlier topics due to these being missed in Y9 during Covid19 lock down.	Why move onto these units? * Biology – Students need to recap required practical's from earlier topics due to these being missed in Y9 during Covid19 lock down. Ecology – Summer term is suitable for these out door required practical's
Spec links: 4.4.1 Photosynthesis, 4.4.2 Respiration, 4.1.3.1 Diffusion, 4.1.3.2 Osmosis, 4.1.3.3 Active transport . 5.9.1.1 The proportions of different gases in the atmosphere, 5.9.1.2 The Earth's early atmosphere, 5.9.1.3 How oxygen increased, 5.9.1.4 How carbon dioxide decreased, 5.9.2 Carbon dioxide and methane as greenhouse gases, 5.9.2.4 The carbon footprint and its reduction 5.8.1.1 Pure substances, 5.8.1.2 Formulations, 5.8.1.3 Chromatography, 5.8.2 Identification of common gases 6.2.3 Domestic uses and safety, 6.2.4 Energy transfer, 6.2.4.3 The National Grid, 6.3.1 Changes of state and the particle model, 6.3.2 Internal energy and energy transfers	Spec links: 4.5.1 Homeostasis, 4.5.2 The human nervous system, 4.5.3 Hormonal coordination in humans, 4.5.3.1 Human endocrine system, 4.5.3.2 Control of blood glucose concentration 5.3.1 Chemical measurements, conservation of mass and the quantitative interpretation of chemical equations (foundation level only) 5.6.2 Reversible reactions and dynamic equilibrium 5.5.1 Exothermic and endothermic reactions 6.4.2 Atoms and nuclear radiation, 6.4.2.4 Radioactive contamination, 6.5.1 Forces and their interactions,	Spec links: 4.5.3.3 Hormones in human reproduction, 4.5.3.4 Contraception, 4.5.3.5 The use of hormones to treat infertility (HT only), 4.5.3.6 Feedback systems (HT only) 5.6.1 Rate of reaction, 5.6.2 Reversible reactions and dynamic equilibrium, 5.7.1 Carbon compounds as fuels and feedstock 6.5.4 Forces and motion, 6.5.4.1 Describing motion along a line , 6.5.4.2 Forces, accelerations and Newton's Laws of motion, 6.5.4.3 Forces and braking, 6.5.5 Momentum (HT only), 6.6.1 Waves in air, fluids and solids	Spec links: 4.7.1 Adaptations, interdependence and competition, 4.7.2 Organisation of an ecosystem, 4.7.3 Biodiversity and the effect of human interaction on ecosystems. 5.7.1 Carbon compounds as fuels and feedstock, 5.10.1 Using the Earth's resources and obtaining potable water, 5.10.2 Life cycle assessment and recycling 6.6.2 Electromagnetic waves, 6.6.2.1 Types of electromagnetic waves, 6.7 Magnetism and electromagnetism, 6.7.1 Permanent and induced magnetism, magnetic forces and fields
Teaching these topics here supports: B8-9 Bioenergetics from Y9,	Teaching these topics here supports: B8-9 Bioenergetics – respiration links to blood glucose control, C4 Chemical calculations HT topic in Y11.	Teaching these topics here supports: Further physics topics on waves Eg EM Waves.	Teaching these topics here supports:
These topics feed from: 7A Cells and Organisms, B1-2 Cells & cell division. 8C breathing & respiration, 8E Combustion.	These topics feed from: B1-2 Cells & Cell division. 7A Cells and Organisms	These topics feed from: Previous Y9 Biology topics Eg B1 Cells for microscopes RP. C5 Chemical changes 7K Forces, 8L Fluids, 7L Sound & Light supports wave properties.	These topics feed from: 7D Ecosystems, 8E Combustion,