

Year 10 Science Map – Triple

If students choose triple science we follow the AQA triple science specification. All points refer to syllabus points. Students have 3 teachers, one for each specialism. Over a two week cycle they will have biology 6 times, chemistry 5 times and physics 5 times.

Chemistry	Week 1-7	Week 8-13	Week 14 -22	Week 23-26	Week 31- 39
Topic breakdown by lesson	4.2 Bonding, structure, and the properties of matter 1. 4.2.1 Chemical bonds, ionic, covalent and metallic 2. 4.2.2 How bonding and structure are related to the properties of substances 3. 4.2.3 Structure and bonding of carbon 4. 4.2.4 Bulk and surface properties of matter including nanoparticles	C3 Quantitative Chemistry 1. 4.3.1 Chemical measurements, conservation of mass and the quantitative interpretation of chemical equations 2. 4.3.2 Use of amount of substance in relation to masses of pure substances 3. 4.3.3 Yield and atom economy of chemical reactions 4. 4.3.4 Using concentrations of solutions in mol/dm ³ 5. 4.3.5 Use of amount of substance in relation to volumes of gases	C4 Chemical changes 1. 4.4.1 Reactivity of metals a. Metal oxides b. Reactions of metals with water 2. 5.4.2 Reactions of acids a. Making salts b. Neutralisation c. Acids and Alkalis 3. 5.4.3 Electrolysis a. Predicting what will be produced at the anode and cathode in solution and molten b. Constructing half equations	C5 – Energy changes in chemical reactions 1. 5.5.1 Exothermic and endothermic reactions 1. Reaction profiles 2. Overall energy calculations 2. 4.5.2 Chemical cells and fuel cells	C6 The rate and extent of chemical change 1. 4.6.1 Rate of reaction a. Factors affecting rate of reaction b. Catalysts c. Collision theory d. Calculating rates of reaction 2. 4.6.2 Reversible reactions and dynamic equilibrium a. Dynamic equilibrium b. The effect of changing conditions of equilibrium

Biology	Week 1-10	Week 11 -19	Week 20 - 25	Week 31 - 39
Topic	B2 – Organisation 1. 4.2.1 Principles of organisation 2. 4.2.2 Animal tissues, organs and organ systems a. Digestion b. Heart and circulation c. Cancer 3. 4.2.3 Plant tissues, organs and systems	B3 – Infection and Response 1. 4.3.1 Communicable diseases a. Bacteria b. Protists c. Virus d. Fungus e. Human defence f. Vaccination 2. Drug discovery 3. 4.3.2 Monoclonal antibodies 4. 4.3.3 Plant disease	B4 – Bioenergetics (pt 1) 1. 4.4.1 Photosynthesis a. Equation b. Rate of photosynthesis c. Uses of glucose 1. 4.4.2 Respiration a) Aerobic and anaerobic b) Response to exercise c) Metabolism 2.	B7 – Ecology 1. 4.7.1 Adaptations, interdependence and competition 2. 4.7.2 Organisation of an ecosystem 3. 4.7.3 Biodiversity and the effect of human interaction on ecosystems 4. 4.7.4 Trophic levels in an ecosystem 5. 4.7.5 Food production

Physics	Week 1-9	Week 10-16	Week 17-22	Week 23-30		Week 31-39
Topic breakdown by lesson	P2- Electricity <ol style="list-style-type: none"> 1. 4.2.1 Current, potential difference and resistance# 2. 4.2.2 Series and parallel circuits 3. 4.2.3 Domestic uses and safety 4. 4.2.4 Energy transfers 5. 4.2.5 Static electricity 	P3- Particle model of matter <ol style="list-style-type: none"> 1. 4.3.1 Changes of state and the particle model 2. 4.3.2 Internal energy and energy transfers 3. 4.3.3 Particle model and pressure 	P4 Atomic structure <ol style="list-style-type: none"> 1. 4.4.1 Atoms and isotopes 2. 4.4.2 Atoms and nuclear radiation 3. 4.4.3 Hazards and uses of radioactive emissions and of background radiation 4. 4.4.4 Nuclear fission and fusion 	P5 Forces pt 1 <ol style="list-style-type: none"> 1. 4.5.1 Forces and their interactions 2. 4.5.2 Work done and energy transfer 3. 4.5.3 Forces and elasticity 4. 4.5.4 Moments, levers and gears 5. 4.5.5 Pressure and pressure differences in fluids 		P5 Forces pt 2 <ol style="list-style-type: none"> 1. 4.5.6.1 Describing motion along a line 2. 4.5.6.2 Forces, accelerations and Newton's Laws of motion 3. 4.5.6.3 Forces and braking 4. 4.5.7 Momentum