QPHS Year 10 Combined Science Curriculum Map

Half term	Title	Unit summary	Assessment
1	P1 Energy (Teacher 1)	• Energy changes in a system, and the ways energy is stored • Conservation, efficiency and dissipation of energy • National and global energy sources	• Required practical – investigation to determine the specific heat capacity of materials. • End of topic test with cumulative content from year 9 physics 2.
2	B1/2 Cells and Organisation (Teacher 2)	• Chromosomes, mitosis and the cell cycle • Transport in cells; osmosis and active transport • Organisation; enzymes in digestion and the circulatory system	• Required practical – investigate the effect of a range of concentrations of solution on the mass of plant tissue. • Required practical – investigate the effect of pH on the rate of reaction of amylase enzyme. • End of topic test with cumulative content from year 9 biology 2.
3	C2 Structure and Bonding (Teacher 1)	• Chemical bonds; ionic covalent and metallic • Bonding and structure of substances • Structure and bonding of carbon	• End of topic test with cumulative content from year 9 chemistry 1 and 2.
3	P2 Electricity (Teacher 2)	• Current, potential difference and resistance in series and parallel circuits • Electrical power • Domestic uses of electricity	• Required practical – use circuits to investigate the effect of length of a wire on resistance. • Required practical – construct circuits to investigate the I-V characteristics of a filament lamp, diode and a resistor. • End of topic test with cumulative content from year 10 physics.
4	C3 Quantitative Chemistry (Teacher 1)	• Conservation of mass and relative formula mass • Moles and amount of substance (HT) • Concentration of solutions	• End of topic test with cumulative content from year 10 chemistry.
4	P4 Atomic Structure (Teacher 1)	• Atoms and isotopes • Radioactive decay, nuclear equations and half life • Radioactive contamination	• End of topic test with cumulative content from year 10 physics.
5	B3 Infection and Response (Teacher 2)	• Communicable diseases • Defences against diseases • Non communicable diseases; health issues, CHD and cancer	• End of topic test with cumulative content from year 10 biology.
5	C4 Chemical reactions (Teacher 1)	• Reactivity of metals • Reactions of acids • Electrolysis	• Required practical – preparation of a pure, dry sample of a soluble salt. • Required practical – investigate what happens when aqueous solutions are electrolysed. • End of topic test with cumulative knowledge from year 9 chemistry 1.
6	B4 Bioenergetics (Teacher 2)	• Plant tissues, organs and systems • Photosynthesis • Respiration and metabolism	• Required practical – investigate the effect of light intensity on the rate of photosynthesis. • End of topic test with cumulative content from year 10 biology.
6	C5 Energy Changes (Teacher 1)	• Exothermic and endothermic reactions • Reaction profiles • Energy changes in reactions (HT)	• Required practical – investigate the variables that affect temperature changes in reacting solutions. • End of topic test with cumulative knowledge from year 10 chemistry.