Year 10 Triple Science Curriculum Map

Month	Unit Title	Description
September	B7 Ecology	Pupils continue their study of ecology from year 9, studying decomposition and factors that affect the rate of decomposition. Pupils also evaluate the impact of environmental changes on the distribution of species in an ecosystem. They also learn about trophic levels in ecosystem and about food production.
September	P3 Particle Model	Pupils learn how to calculate the density of different objects. They learn about changes of state and the particle model. Pupils learn about the energy changes involved as objects change temperature and change state including interpreting graphs and carrying out calculations. Finally pupils learn about how particles behave in gases, and the relationship between temperature, volume, and pressure in gases.
October	C2 Chemical Bonding	Pupils learn about the structure and properties of ionic compounds, simple molecules, metals and giant covalent structures and the chemical bonding that helps form them. They also learn about the particle model with reference to the three states of matter and in consideration of forces between the particles. Pupils finally learn about nanoparticles in Chemistry.
November	B4 Bioenergetics	Pupils learn about photosynthesis, including factors that affect its rate. They also learn about differences between aerobic and anaerobic respiration, and how the body responds to exercise. Finally they learn about metabolism with reference to key biological molecules.
December	P4 Radioactivity	Pupils revisit the structure of the atom, including the meaning of isotopes. They then learn about radioactive decay and nuclear radiation with respect to the emission of alpha and beta particles and gamma radiation. Pupils learn how to write nuclear equations and the meaning of half-life in radioactivity. Finally they learn about the differences between contamination and irradiation.
January	C6 Rates of Reaction	Pupils learn about different factors that affect the rate of a reaction and how rates of reaction can be measured and represented graphically. They also learn about equilibria and how the position of an equilibrium may be shifted.
February	B5 Homeostasis	Pupils learn about different control systems in the human boday and how the body's internal environment is kept the same. This includes learning about the nervous system and the hormone (endocrine) system. Pupils investigate factors that also affect reaction time. Finally pupils learn about how hormones in human reproduction, contraception and fertility.
March	C7 Organic Chemistry	Pupils learn about crude oil, how it can be separated, and its uses. They learn about molecules called hydrocarbons in terms of their structure and properties. Within that, they learn about similarities and differences of molecules called alkanes and alkenes. Pupils also learn about the importance of a chemical process called cracking. Pupils then learn about other organic molecules including alcohols, organic acids, amino acids and DNA. Finally pupils learn about different types of polymerisation reactions.
April	P5 Forces and Motion	Pupils recall what they learnt about forces and motion in year 9. They then go on to learn about Newton's three laws of motion, including investigating the relationship between force, mass and acceleration. Pupils then learn about momentum, before moving on to studying pressure. Lastly, they study forces around a turning point.
May	B6 Inheritance, Variation and Evolution	Pupils learn about the differences between sexual and asexual reproduction. They learn about DNA, genes, chromosomes and genetic inheritance. Pupils then go on to learn about evolution through natural selection, including the range of evidence supporting it. They then study both selective breeding and genetic engineering. Finally, pupils learn about different models of classification in Biology.
July	C8 Chemical Analysis	Pupils learn about the identification of metal and non-metal ions.