

Year 11 Combined Science			
1	<ul style="list-style-type: none"> CB5, Describe how some diseases can be identified, spread, and prevented, describe the role of modern medicine in health care CC7a Describe trends in the reactions and physical properties of alkali metals, halogens and noble gases. Write word equations for reactions of elements and describe a test for chlorine gas. CP6, Recall the structure of an atom, describe the process of decay & radiation detection methods, the dangers of ionising radiation and the nature of half-life 	<ul style="list-style-type: none"> CB5, Explain how some diseases can be identified, spread, and prevented, explain the role of antibiotics & describe the role of immune system CC7a Describe trends in the reactions and physical properties of alkali metals, halogens and noble gases. Write word equations for reactions of elements and describe a test for chlorine gas. CP6, Explain the structure of an atom, explain the process of decay & radiation detection methods, the dangers of ionising radiation and the nature of half-life 	<ul style="list-style-type: none"> CB5, Explain how some non-communicable & communicable diseases can be identified, treated and prevented, explain the role of antibiotics, vaccines & the role of immune system CC7a Use data to predict the reactions and physical properties of alkali metals, halogens and noble gases. Write word, symbol and ionic equations to describe the reactions of elements in different groups. CP6, Explain the structure of an atom, explain the process of decay & radiation detection methods, the dangers of ionising radiation, calculate half-life
2	<ul style="list-style-type: none"> CB6, Explain how light intensity affects the rate of photosynthesis; describes the role of the xylem and stomata in transporting water through a plant CC7b Describe ways of speeding up or slowing down chemical reactions. Describe what a catalyst is. Describe the difference between exothermic and endothermic reactions. CP7/8 Recall equations for work and power; describe force fields; represent forces in terms of free body diagrams. 	<ul style="list-style-type: none"> CB6, Explain how light intensity and carbon dioxide concentration affects the rate of photosynthesis; describes the plant structures used to transport sucrose, water and mineral ions CC7b Describe ways of speeding up or slowing down chemical reactions. Describe what a catalyst is. Describe the difference between exothermic and endothermic reactions. CP7/8 Calculate work and power; classify types of force and explain forces; resolve forces using scale diagrams. 	<ul style="list-style-type: none"> CB6, Explains how a range of factors limits the rate of photosynthesis in plants; explains how plant structures are adapted to transport water, mineral ions and sucrose. CC7b Use collision theory to explain why changes in temperature, concentration, surface area and pressure affect the rate of reaction (surface area for solids, pressure for gases only).Evaluate the use of catalysts to speed up chemical reactions. Explain exothermic and endothermic reactions in terms of energy changes when bonds are broken and formed. CP7/8 Calculate work and power; classify forces and explain force fields including diagrams; use vector diagrams to resolve forces.
3	<ul style="list-style-type: none"> CB7, Describe the role of hormones in the human body and how some of these influence the menstrual cycle CC8a Describe how hydrocarbons including alkanes and alkenes are produced from crude oil by fractional distillation and cracking. Describe the pollutants produced from combustion of fuels and some problems they cause CP9 Describe current and PD in series and parallel circuits; recall resistance changes and describe safety features of mains power. 	<ul style="list-style-type: none"> CB7, Explain the role of hormones and nervous system on homeostasis and the control of the menstrual cycle CC8a Describe how hydrocarbons including alkanes and alkenes are produced from crude oil by fractional distillation and cracking. Describe the pollutants produced from combustion of fuels and some problems they cause CP9 Calculate resistance in circuits and compare components; calculate energy and electrical power; explain safety features of mains power. 	<ul style="list-style-type: none"> CB7, Explain the interactions of hormones and the nervous system on homeostasis and the control of the menstrual cycle, including contraception and Assisted Reproductive Technology CC8a Explain how hydrocarbons including alkanes and alkenes are produced from crude oil by fractional distillation and cracking. Evaluate the combustion reactions of fuels and the effect they have on health and the environment. CP9 Calculate resistance in circuits; compare components and evaluate models; calculate energy and power; evaluate safety features of mains electricity.
4	<ul style="list-style-type: none"> CB8, Describes the roles of alveoli in gas exchange and the heart and blood in transporting substances CC8b Describe how the Earth's early atmosphere was formed and how the composition of the atmosphere has changed naturally over time. Describe the effects of human activity on the composition of gases in the atmosphere. CP10/11 Plot shape of magnetic field around a wire; explain role of transformers in the National Grid. 	<ul style="list-style-type: none"> CB8, Explain how alveoli, blood vessels and the heart are adapted for their function; be able to use Cardiac output = stroke volume x heart rate CC8b Describe how the Earth's early atmosphere was formed and how the composition of the atmosphere has changed naturally over time. Describe the effects of human activity on the composition of gases in the atmosphere. CP10/11 Explain how current causes a magnetic field; apply Fleming's LH rule; explain role of transformers in the National Grid and use transformer equation. 	<ul style="list-style-type: none"> CB8, Explain in detail how alveoli, blood vessels and the heart are adapted to their function; be able to apply knowledge of respiration to changes in heart rate and breathing rate during exercise CC8b Draw conclusions from evidence about the composition of the early atmosphere. Evaluate the evidence for increased atmospheric greenhouse gas concentrations being part of the cause of global warming and climate change. Explain the projected effects of climate change and how the potential harmful effects of climate change can be addressed and limited. CP10/11 Explain how current causes a magnetic field and EM induction; apply Fleming's LH rule; explain role of transformers in the National Grid and use transformer equation.
5	<ul style="list-style-type: none"> CB9, Be able to list a range of biotic and abiotic factors which influence the size of a community; describe how to sample an area using quadrats and transects; know how humans can positively and negatively influence the environment CP12/13 Recall kinetic theory model; describe temperature changes during changes of state; recall Kelvin scale; describe force-extension graphs. 	<ul style="list-style-type: none"> CB9, Explains why a range of biotic and abiotic factors influences the size of a community; explains how to sample an area using a range of techniques; explain how humans can positively and negatively influence the environment CP12/13 Explain heating curve and calculate energy changes; explain absolute zero in terms of kinetic energy and use Kelvin scale; explain force-extension graph. 	<ul style="list-style-type: none"> CB9, Explains why a range of biotic and abiotic factors, including interdependence, influences the size of a community; explains how to use sampling to estimate the number of organisms in a habitat; explain how humans can positively and negatively impact local and global biodiversity CP12/13 Explain heating curve; calculate energy in relation to specific heat capacity and latent heat; explain force-extension graph and calculate energy.