

Key Stage 4 – Double award

	Year 10	Year 11
Autumn 1	<p>P1 The Earth in the universe</p> <ul style="list-style-type: none"> • The sun and the solar system • The expanding universe • Alfred Wegener and continental drift • Plate tectonics • Earthquakes and waves • Structure of the earth <p>B1 You and your genes</p> <ul style="list-style-type: none"> • Inherited and genetic variation • Genes • Genetic testing • Issues of genetic testing • Cloning 	<p>P4 Explaining motion</p> <ul style="list-style-type: none"> • Momentum • Car safety • Potential and kinetic energy • Work done <p>C4 Chemical patterns</p> <ul style="list-style-type: none"> • Elements and periodic table • Alkali metals • Halogens • Atomic structure • Ionic theory
Autumn 2	<p>C1 Air quality</p> <ul style="list-style-type: none"> • Air pollution • The history of the atmosphere • Interpreting the quality of data • How are pollutants formed? • Improving the quality of air <p>P3 Sustainable energy</p> <ul style="list-style-type: none"> • Energy transfers and Sankey diagram • Efficiency of an appliance • Generating electricity using fossil fuels • Generating electricity using nuclear power • Renewable energy 	<p>B4 Processes of life</p> <ul style="list-style-type: none"> • Role of enzymes in the body • Gas exchange • Osmosis • Active transport • Photosynthesis • Aerobic and anaerobic respiration <p>P5 Electric circuits</p> <ul style="list-style-type: none"> • Static electricity • Electrical current • Resistance • Ohm's Law • Potential difference • Variable resistors and sensors • Power • Motors • Electromagnetic induction • National grid and transformers
Spring 1	<p>B2 Keeping healthy</p> <ul style="list-style-type: none"> • Fighting Infection • Immunity and vaccines • Antibiotics • Drug testing • The circulatory system • Heart disease • Homeostasis • The kidneys <p>C2 Properties of materials</p> <ul style="list-style-type: none"> • Properties of materials • Polymers 	<p>C5 Chemicals of the natural environment</p> <ul style="list-style-type: none"> • Bonding • Detecting ions in salt • Chemicals in the lithosphere • Extracting metals <p>B5 Growth and development</p> <ul style="list-style-type: none"> • Cells tissues and organs • Animal and plant growth • Cloning plants • Phototropism • Mitosis

	<ul style="list-style-type: none"> • Polymerisation • Hydrocarbon molecules • Refining crude oil • Nanotechnology 	<ul style="list-style-type: none"> • Gametes • Gene switching • Stem cells
Spring 2	<p>P2 Radiation and Life</p> <ul style="list-style-type: none"> • Electromagnetic radiation • Greenhouse effect • Carbon cycle • Analogue and digital signals • Health studies <p>C3 Chemicals in our life</p> <ul style="list-style-type: none"> • Rocks in Britain • Extracting salt • Salt in the diet • Alkalis and salts • PVC • Life cycle assessment • Chlorine chemicals • Risks and benefits of chemicals 	<p>P6 Radioactive materials</p> <ul style="list-style-type: none"> • Atoms and isotopes • Alpha, beta and gamma radiation • Background radiation • Uses of radioactive materials • Radioactive waste • Nuclear fission and fusion <p>C6 Chemical synthesis</p> <ul style="list-style-type: none"> • Acid and alkalis • Neutralisation • Endothermic and exothermic reactions • Rates of reaction • Yields
Summer 1	<p>B3 Life on Earth</p> <ul style="list-style-type: none"> • The variety of life • Carbon cycle • Nitrogen cycle • Evolution of life • Biodiversity 	<p>B6 Brain and mind</p> <ul style="list-style-type: none"> • Receptors and effectors • Drugs and the nervous system • Brain structure • Learning and behaviour • Memory
Summer 2	<p>P4 Explaining motion</p> <ul style="list-style-type: none"> • Interaction forces • Friction • Describing motion – speed, acceleration, velocity • Travel graphs 	