Bishop Stopford's School

Curriculum Map Year 10 Science AQA

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit of work	**Infection and response** This unit develops ideas from Key Stage 3 and explores comunicable and non-communicable diseases, the role of the immune systems,as well as diseases in plants. **Quantitative Chemistry** This unit develops ideas from Key Stage 3 and explores calculations in Chemistry. **Electricity** This unit develops ideas from Key Stage 3and explores Electric circuits and electricity in the home with an emphasis on the calcuations used to quantify energy transfers, All units equip students for the modern world, devloping their knowledge and understanding.	**Bioenergetics** This unit develops ideas from Key Stage 3 and explores the reactions of Photosynthesis and respiration in detail including how they are proved through experimentation **Quantitative Chemistry** This unit develops ideas from Key Stage 3 and explores calculations in Chemistry. **Particle Model of Matter** This unit develops ideas from Chemistry and Physics at Key Stage 3 and explores concepts about the states of matter, density and latent heat and internal energy. All units equip students for the modern world, devloping their knowledge and understanding.	**Homeostasis and response** This unit develops ideas from Key stage 3 and explores concepts relating to Homeostasis such as Osmoregulation, diabetes and temperature control. **Chemical Changes** This unit develops ideas from Key Stage 3 and explores ideas about reactivity of metals and extracting metals, as well as introducing the concept of electrolysis. **Atomic Structure** This unit develops ideas from Key Stage 3 about atoms and explores ideas about Radioactivity. All units equip students for the modern world, devloping their knowledge and understanding.	**Homeostasis and response** This unit develops ideas from Key Stage 3 and explores concepts relating to Homeostasis such as Osmoregulation, diabetes and temperature control. **Energy Changes** This unit develops ideas from Key Stage 3 and explores ideas about energy changes in reactions, such as endothermic and exothermic reactions, as well as bond energies. Ideas about changes in energy during a reaction and bond energy calculations. **Atomic Structure** This unit develops ideas from Key Stage 3 and explores ideas about Radioactivity. All units equip students for the modern world, devloping their knowledge and understanding	**Inheritance, variation and evolution** This unit develops ideas from Key Stage 3 about variation and explores concepts about DNA, inheritance, reproduction and variation. **Energy Changes** This unit develops ideas from Key Stage 3 and explores ideas about energy changes in reactions, such as endothermic and exothermic reactions, as well as bond energies. **Forces** This unit develops ideas from Key Stage 3 around balanced adn unbalanced forces and explores ideas in terms of motion and Hooke's Law. All units equip students for the modern world, devloping their knowledge and understanding.	**Inheritance, variation and evolution** This unit develops ideas from Key Stage 3 about variation and explores concepts about DNA, inheritance, reproduction and variation. **Energy Changes** This unit develops ideas from Key Stage 3 and explores ideas about energy changes in reactions, such as endothermic and exothermic reactions, as well as bond energies. **Forces** This unit develops ideas from Key Stage 3 around balanced and unbalanced forces and explores ideas in terms of motion and Hooke's Law. All units equip students for the modern world, devloping their knowledge and understanding.
Core Skills	• Enquiry • Communication (literacy) • Develop extended writing • Critical thinking • Analysis • Critical evaluation • Make judgements • Make arguments • Draw informed decisions • Synthesis of information • Inference • Numeracy	• Enquiry • Communication (literacy) • Develop extended writing • Critical thinking • Analysis • Critical evaluation • Make judgements • Make arguments • Draw informed decisions • Synthesis of information • Inference • Numeracy	• Enquiry • Communication (literacy) • Develop extended writing • Critical thinking • Analysis • Critical evaluation • Make judgements • Make arguments • Draw informed decisions • Synthesis of information • Inference • Numeracy	• Enquiry • Communication (literacy) • Develop extended writing • Critical thinking • Analysis • Critical evaluation • Make judgements • Make arguments • Draw informed decisions • Synthesis of information • Inference • Numeracy	• Enquiry • Communication (literacy) • Develop extended writing • Critical thinking • Analysis • Critical evaluation • Make judgements • Make arguments • Draw informed decisions • Synthesis of information • Inference • Numeracy	• Enquiry • Communication (literacy) • Develop extended writing • Critical thinking • Analysis • Critical evaluation • Make judgements • Make arguments • Draw informed decisions • Synthesis of information • Inference • Numeracy
Core Knowledge	Infection and response Microbes, how the body responds to infections Also testing systems for drugs. Quantitative Chemistry Chemical calculations, including RFM and reacting masses. Electricity How to calculate the flow of charge How to work out the resistance and potential difference in an electric circuit How mains electricity differs from the electricity supplied by batteries How to calculate the power of an electrical appliance	Bioenergetics Photosynthesis and respiration Quantitative Chemistry Chemical calculations, including RFM and reacting masses. Particle Model of Matter Ideas about states of matter, density and latent heat and internal energy.	Homeostasis and response Osmoregulation, diabetes and temperature control. Chemical Changes Ideas about reactivity of metals and extracting metals. Reactions of metals with acids. Atomic Structure How an unstable nucleus changes when it becomes stable and why the radiation it gives out is harmful What nuclear fission and fusion are	Homeostasis and response Osmoregulation, diabetes and temperature control. Energy Changes Ideas about changes in energy during a reaction and bond energy calculations. Atomic Structure How an unstable nucleus changes when it becomes stable and why the radiation it gives out is harmful What nuclear fission and fusion are	Inheritance, variation and evolution Inheritance of characteristics and DNA Reproduction. Energy Changes Ideas about changes in energy during a reaction and bond energy calculations. Forces The difference between a vector and a scalar and how to represent a vector How to find the resultant of two forces and to resolve a force into perpendicular components. The difference between speed and velocity and what is meant by acceleration. What is meant by terminal velocity and why objects fall through water at a constant velocity. What is meant by the conservation of momentum and when we can sue the rule. How to measure the stiffness of a spring and what is meant by elasticity How to calculate the weight on an object from its mass and the gravitational field strength of where it is.	Inheritance, variation and evolution Inheritance of characteristics and DNA Reproduction. Energy Changes Ideas about changes in energy during a reaction and bond energy calculations. Forces The difference between a vector and a scalar and how to represent a vector How to find the resultant of two forces and to resolve a force into perpendicular components. The difference between speed and velocity and what is meant by acceleration. What is meant by terminal velocity and why objects fall through water at a constant velocity. What is meant by the conservation of momentum and when we can sue the rule. How to measure the stiffness of a spring and what is meant by elasticity How to calculate the weight on an object from its mass and the gravitational field strength of where it is.
Assement & Feedback	Formative HW tasks. tasks. End of topic test. Once per two weeks Peer Assessment (PA) and Self Assessment (SA) using green pen. Next steps to be acted upon and monitored.	Formative HW tasks. tasks. End of topic test. Once per two weeks Peer Assessment (PA) and Self Assessment (SA) using green pen. Next steps to be acted upon and monitored.	Formative HW tasks. tasks. End of topic test. Once per two weeks Peer Assessment (PA) and Self Assessment (SA) using green pen. Next steps to be acted upon and monitored. DC1 - Summative assessment of GCSE work covered up to this point	Formative HW tasks. tasks. End of topic test. Once per two weeks Peer Assessment (PA) and Self Assessment (SA) using green pen. Next steps to be acted upon and monitored.	Formative HW tasks. tasks. End of topic test. Once per two weeks Peer Assessment (PA) and Self Assessment (SA) using green pen. Next steps to be acted upon and monitored.	Formative HW tasks. tasks. End of topic test. Once per two weeks Peer Assessment (PA) and Self Assessment (SA) using green pen. Next steps to be acted upon and monitored. DC2 - Summative assessment of Paper 1 content
Link to prior learning	Cells, Keeping healthy, Plant Structures Atomic structure, formulae, the periodic table Series & Parallel Circuits, resistance	Equations for photosynthesis and respiration from Key Stage 3. Tissues in plants and humans. Atomic structure, formulae, the periodic table States of matter, particle diagrams.	Specialised cells, cell structures, diet and keeping healthy. Word and chemical equations, formulae, observing and describing chemical reactions, acids and alkalis. Atomic structure	Specialised cells, cell structures, diet and keeping healthy Word and chemical equations, formulae, observing and describing chemical reactions, types of bonding , atomic structure	What is variation, types of variation, specialised cells, fossils and evolution Word and chemical equations, formulae, observing and describing chemical reactions, types of bonding Balanced & unbalanced forces, measuring force	What is variation, types of variation, specialised cells, fossils and evolution Word and chemical equations, formulae, observing and describing chemical reactions, types of bonding Balanced & unbalanced forces, measuring force
Outside learning/trips	Research tecniques applied beyond the classroom.	Research tecniques applied beyond the classroom.	IT based opportunities to widen broader knowledge.	Small group opportunities to work beyond the classroom based on current topic.	Small group opportunities to work beyond the classroom based on current topic	Small group opportunities to work beyond the classroom based on current topic.