Archbishop Temple Church of England High School

Science 5 Year Curriculum

* Curriculum outline reflects subject specific teachers leading lessons in these year groups.

KS3	Autumn Term *End of term assessments*			Spring Term *Mid-year assessments*			Summer Term *End of year examinations scheduled*		
	Biology	**Chemistry**	**Physics**	**Biology**	**Chemistry**	**Physics**	**Biology**	**Chemistry**	**Physics**
Year 7	3. Cells	1.Particles and their behaviour	4. Forces	5.Structure and function of body systems	6. Elements, atoms and compounds 8. Reactions	7. Sound	9. Reproduction	10. Acids and alkalis	10.Light 11. Space
	2. Working scientifically – taught within first								
Year 8	2. Health and lifestyle	1. The periodic table	3. Electricity and magnetism	5. Biological processes 7. Ecosystems and adaptations	4. Separation techniques	6. Energy	10. Inheritance	8. Metals and other materials	9. Motion and pressure
	Rotation 1					**Rotation 2**			
Year 9*	**Dining on digestion** Digestive system Enzyme theory Rate of enzyme activity practical Antacids **Powerful Plants & microorganisms** Diffusion Photosynthesis Limiting factors	**Amazing atoms** C2+ C4.1-C4.4 Key terminology The structure and history of the atom The structure and history of the periodic table Useful Reactions The Reactivity Series	**Marvellous Matter** Particle model Changing states Density of materials Specific Heat Capacity Specific Latent Heat Capacity Gas Pressure and temperature **Disciplinary knowledge** Equations Practical skills Disciplinary literacy / oracy	**Powerful Plants & microorganisms** Plant tissues and organs Food security Respiration Useful Plants and microorganisms	**Radical Reactions** C3 + C4.5-C4.6 Chemical Changes Word Equations Conservation of Mass Energy Changes Extracting Metals Catalysts Relative Mass and Yield	**Energetic energy** Reactivate energy Energy stores Energy transfers Energy resources Power Efficiency **Disciplinary knowledge** Equations Practical skills Disciplinary literacy / oracy

KS4	Autumn Term *End of term assessments*			Spring Term *Mid-year assessments*			Summer Term *End of year examinations scheduled*		
	Biology	**Chemistry**	**Physics**	**Biology**	**Chemistry**	**Physics**	**Biology**	**Chemistry**	**Physics**
Year 10*	**Cell biology (Paper 1)** Cell structure *Culturing microorganisms (triple only)* Cell division Cell transport **Organisation (Paper 1)** Tissues Organs Organ systems	**Atomic Structure and The Periodic Table (Paper 1)** Atomic structure and history of the atom Chemical equations and conservation of mass Separation techniques The periodic table *Transition metals (triple only)* **Bonding Structure and the Properties of Matter (Paper 1)** States of matter Ionic Bonding & Structure Covalent Bonding & Structure Metallic Bonding & Structure Nanoparticles	**Atomic Structure** History & structure of the atom Radioactivity and half-lives Nuclear equations *Fission & fusion (Triple only)* **Energy** Energy Equations Power & efficiency Energy resources Reducing energy transfers	**Infection and response** Communicable diseases *Monoclonal antibodies (triple)* *Plant disease (triple)* **Bioenergetics** Photosynthesis Respiration Exercise and metabolism	**Quantitative Chemistry** Relative mass The mole equation Applying the mole equation Concentration *Atom economy* *Percentage yield* *Volume of gases* *Titrations* *Required Practical (Titration)* **Chemical Changes(Paper 1)** Reactions of metals Reactions of acids Electrolysis Extracting metals Required Practical (Making Soluble Salts)	**Electricity** Circuits & symbols Current, Potential Difference & resistance Required Practical (Resistance) Required Practical (IV characteristics) Domestic Electricity	**Ecology** Adaptations, interdependence and competition Organisation of an ecosystem Biodiversity *Food production (triple only)*	**Energy Changes (Paper 1)** Exothermic and endothermic reactions Required practical: Temperature changes Bond energy calculations *Cells, batteries and fuel cells (triple only)*	**Particle model of matter** Consolidate key concepts from KS3 Recall and expand **Forces** Forces and elasticity Weight, work done, forces on a spring Scalars and vectors Resultant and resolving forces
Year 11*	**Homeostasis** Homeostasis Nervous system *Brain and eye (triple only)* Endocrine system Control of blood glucose Control of the menstrual cycle, contraception and IVF *Plant hormones (triple award)* **Inheritance, variation and evolution** Reproduction Meiosis DNA and genome *DNA Structure (triple only)* Genetic inheritance Inherited disorders Sex determination	**Rates and Equilibrium** Measuring and calculating rate Collision theory and factors affecting rates of reaction Reversible reactions and equilibrium Factors affecting the position of equilibrium *The Haber process and fertilisers* **Organic Chemistry** Fractional distillation Crude oil Hydrocarbons *Complex Organic Structures and Uses* *Reactions of Alkenes* *Polymers*	**Forces** Forces and elasticity Forces and motion **Waves (start)** Properties and wave equation	**Inheritance, variation and evolution** Variation Evolution (Natural selection) Selective breeding Genetic engineering *Cloning (triple only)* *Theory of evolution (triple only)* *Understanding genetics (triple only)* Evidence for evolution Fossils Resistant bacteria Classification of living organisms	**Chemical Analysis** Pure substances and formulations Required Practical: Chromatography Testing for Gases *Testing for ions (triple only)* **Chemistry of the Atmosphere** History of the atmosphere Greenhouse effect, global warming and climate change Atmospheric pollutants **Using resources** Finite and renewable resources Water purification and treatment Sustainability Environmental Impact *Materials (triple only)*	**Waves** Properties of waves Electromagnetic waves *Lenses, blackbodies, colour (triple only)* **Magnetism & Electromagnetism** Motors, electromagnets, generator effect ***Space*** *Triple only*	**Final exam preparation** *Exam Preparation and GCSE Examinations* Retrieval and revision Exam techniques Revision of Paper 1 content Paper 1 Required Practical's revision Revision of Paper 2 content Paper 2 Required Practical's revision	**Final exam preparation** *Exam Preparation and GCSE Examinations* Retrieval and revision Exam techniques Revision of Paper 1 content Paper 1 Required Practical's revision Revision of Paper 2 content Paper 2 Required Practical's revision	**Final exam preparation** *Exam Preparation and GCSE Examinations* Retrieval and revision Exam techniques Revision of Paper 1 content Paper 1 Required Practical's revision Revision of Paper 2 content Paper 2 Required Practical's revision