The King's (The Cathedral) School
Peterborough

A Family Achieving Excellence

Key Stage 3 CURRICULUM OVERVIEW 2023-2024

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	22	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
Year/Term	**Autumn 1**							**Autumn 2**						**Spring 1**								**Spring 2**					**Summer 1**							**Summer 2**					
7	**Starting Science** Safety Investigation introduction Graphs			**Cells** Plant and animal cells Using a micro-scope				**Changing State** Solids Liquids and Gases			**Energy Transfers** Types of energy Transfers and transfor mations			**Nutrition** Balanced diet Food groups Food tests			**Separating Mixtures (solutions)** Purification of solutions			**Energy Resources** Energy as a resource. Diverse energy sources		**Adaptations** Adaptations Evolution		**Forces** Force diagrams Types of force		**Rocks and Weathering** Types of rock Rock cycle Earth structure Fossils			**Ecology** Variation, diversity of species. Interdependence of species.			**Space** Solar System Planetary motion			
8	**Elements, Compounds, Fuels** Conservation of mass Formula equations Fuels Pollution							**Light and Sound** White and coloured light Reflection/ray diagrams Pitch/frequency Human ear						**Health and Variation** Microbes Disease Variation Natural selection								**Respiration, Photosynthesis, Movement** Circulation Breathing Respiration Photosynthesis Musculoskeletal system Exercise Smoking					**Electricity and Magnetism** Circuit diagrams Linear and parallel Electrical safety Magnets Electromagnets					**Acids, Alkalis, Metals** pH scale Neutralisation Reactions of metals Rust Making salts				
9	**Energy Resources** – types of energy, renewable and non-renewable fuels							**Starting Electricity** – recap of basic key terms & ideas, current, voltage & resistance, parallel/series circuits, combining resistors and resistance of a wire						**Basic Forces** – recap on weight, centre of mass & stability, effect of forces on shape, Hooke's law													**Year 9 Mock** **Matter** – review of solid, liquid & gases, internal energy, SHC & latent heat										

10 Triple	**Energy** – builds on energy in Years 7 and 9, types of energy, SHC, calculations	**Electricity** – build on Years 8 & 9, more complex series & parallel circuits, rules for them, electrical power, static electricity & electrical fields.	**Atomic Structure** – builds on matter and Year 7 particles, links with chemistry, structure of the atom, radiation, half-life and background radiation, fission & fusion.	**Year 10 Mock** **Forces** – Building on Year 7 and 9, speed, acceleration & motion graphs, resultant forces, Newtons laws, terminal velocity, stopping distances, momentum, moments, gears & lever, pressure in fluids.		
10 Combined	**Energy** – builds on energy in Years 7 and 9, types of energy, SHC, calculations	**Electricity** – build on Years 8 & 9, more complex series & parallel circuits, rules for them, electrical power.	**Atomic Structure** – builds on matter and Year 7 particles, links with chemistry, structure of the atom, radiation, half-life.	**Year 10 Mock** **Forces** – Building on Year 7 and 9, speed, acceleration & motion graphs, resultant forces, Newtons laws, terminal velocity, stopping distances, momentum.		
11 Triple	**Forces** – See Year 10 summary	**Waves** – links to energy Years 9 & 10, light and sound Year 8, types of waves, waves speed, sound waves, EM spectrum, light waves, lenses, black body radiation **Mock**	**Electromagnetism** – links with electricity and magnetism in Year 8, magnetic fields & types, using fields to make objects move (motor effect), generating voltages/electricity	**Space** – Links with forces Year 10, space and forces Year 7, the solar system & the universe, centripetal motion, life cycle of stars, red shift & the big bang.	**Revision**	
11 Combined	**Forces** – See Year 10 summary	**Waves** – links to energy Years 9 & 10, light and sound Year 8, types of waves, waves speed, sound waves, EM spectrum, light waves. Does link with Atomic **Mock**	**Electromagnetism** – links with electricity and magnetism in Year 8, magnetic fields & types, using fields to make objects move (motor effect).	**Revision**		

12 Teacher 1	**Electricity** – builds on Year 10, DC circuits, Combining resistors, EMF & internal resistance. **Assessment 1**			**Waves** – links to Year 11, types of waves, standing waves, polarisation, EM spectrum, lenses, ultrasound & doppler effect **Assessment 2**			**Further Mechanics** – building of Year 12 mechanics, momentum, impulse, momentum at angles **KSAS**	
12 Teacher 2	**Mechanics** – building on forces Year 10, equations of motions, motion graphs, acceleration due to g, resultant forces, Newtons laws, momentum, moments. **Assessment 1**			**Materials** – building on Year 9 Forces and Year 12 mechanics, density, effect of forces on solids, Hooke's law, Youngs modulus, forces in fluids, type of flow, viscosity, Stokes Law.	**Lenses** – taken from waves topic **Assessment 2** **Revision of all topics**		**Electric Fields** – building on Years 10 and 12 electricity, electric fields, Coulombs law, electric potential, will link to Nuclear & particles. **KSAS**	
13 Teacher 1	**Capacitors** – links to Year 12 electricity and electric fields, capacitance, capacitance graphs, capacitance equations and associated graphs	**Magnetic Fields** – builds on Year 11 electromagnetism, magnetic fields, forces on conductors in mag fields, the motor effect, EMF induction, Faraday and Lenz's laws, rms values.		**Thermodynamics** – building on energy and matter, energy in substances, SHC, latent heat, Gas laws, Kinetic theory.	**Mocks** **Oscillations** – building on forces, materials & further mechanics, types of oscillations, defining SHM, equations and graphs of SHM, pendulums, masses on spring, resonance and damping.		**Revision paper 1**	
13 Teacher 2	**Further Mechanics** – building of Year 12 mechanics, momentum, impulse, momentum at angles	**Particles** – linking with atomic in Year 10, will link in with electric & magnetic fields, structure basics, alpha scattering, sub atomic particles, particle accelerator and tracks.	**Nuclear & Radiation** – links with Year 10 atomic structure, energy, mass energy equivalence, binding energy, fission & fusion, radiation, half-life and applications	**Gravitational Fields** – Builds on further mechanics and links with electric fields, defining gravitational fields & equations	**Mocks** **Space** – Builds on Year 11 space & waves, standard measurements in space, black body, life cycle of stars, red shift & fate of the universe.		**Revision paper 2**	