Great Park Academy Science Curriculum Overview: Year 7

At GPA, year 7 science begins with a helicopter-themed investigation, where pupils will revisit and enhance some fundamental scientific skills. These scientific skills are then revisited at appropriate times across the year, within other topics. The biology, chemistry and physics topics have been carefully sequenced across the academic year to support pupil understanding and their long-term memory; learning is a change to long-term memory, so this is a crucial consideration. The year 7 topics carefully and thoughtfully build upon the foundations laid at KS2.

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
7	1. Working scientifically investigation - Helicopters  (a) Safety in science (b) Planning experiments (c) Collecting data (d) Handling data (e) Conclusions (f) Evaluating data 2. Forces (Physics)  Key question of physics - How do	4. Particles (Chemistry & Physics)  Key question of physics - From small things to big things, what is the structure of the Universe?  Key questions of chemistry - What is everything in the Universe made of? (a) The particle model (b) States of matter (c) Density (d) Changes of state (e) Diffusion	6. Chemical reactions (Chemistry)  Key questions of chemistry - How do we make new substances? (a) Introduction chemical reactions (b) Word equations (c) Oxidation reactions (d) Decomposition reactions (e) Conservation of mass (f) Exhaustive and endothermic reactions 7. Cells (Biology) 	8. Structure & function of body systems (Biology)  Key questions of biology - How does life survive and thrive? (a) Levels of organisation (b) The respiratory system (c) The musculoskeletal system 9. Sound (Physics)  Key question of physics - How can energy be used to explain what things can do?	10. Light (Physics)  Key question of physics - How can energy be used to explain what things can do? (a) Introduction to light (b) Reflection (c) Refraction (d) Detecting light (e) Colour 11. Acids and alkalis (Chemistry) 	12. Reproduction (Biology)  Key questions of biology - How does life survive and thrive? (a) Adolescence (b) Reproductive systems (c) Fertilisation and implantation (d) Development of a foetus (e) The menstrual cycle (f) Flowers and pollination (g) Fertilisation and germination (h) Seed dispersal

	forces impact objects? (a) Introduction to forces (b) Squashing and stretching (c) Drag forces and friction (d) Forces at a distance (e) Balanced and unbalanced forces 3. Energy 1 (Physics)  Key question of physics - How can energy be used to explain what things can do? (a) Introduction to energy (b) Conservation of energy (c) Food and fuels (d) Energy resources	5. Elements, atoms and compounds (Chemistry)  Key questions of chemistry - What is everything in the Universe made of? (a) Elements and atoms (b) Compounds (c) Chemical formulae	Key questions of biology - What are living things made of? (a) Life processes (b) Animal and plant cells (c) Observing cells (d) Specialised cells (d) Substances moving in and out of cells (e) Multicellular and unicellular organisms	(a) Introduction to waves (b) Sound (c) Detecting sound (d) Echoes	Key questions of chemistry - How do we make new substances? (a) Acids, alkalis and indicators (b) Neutralisation (d) Salts	13. Space (Physics)  Key question of physics - From small things to big things, what is the structure of the Universe?  Key question of physics - How do forces impact objects?  Key question of physics - How can energy be used to explain what things can do? (a) The Universe (b) The Solar system (c) The Earth (d) The Moon

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