Great Park Academy Science Curriculum Overview: Year 5

At GPA, year 5 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. Year 5 science follows the details and topics outlined by the national curriculum for this year group. 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 topics are also sequenced to work synergistically with other curriculum subjects. For example, in year 5 we teach reproductive cycles, where pupils learn about the work of famous biologists such as Sir David Attenborough, at a similar time to when pupils study the "Our amazing Earth" theme in English. This English theme includes compiling a biography of Sir David Attenborough. This collaborative curriculum design drives engagement, understanding and memory, across the curriculum. Year 5 topics carefully and thoughtfully build upon the foundations laid earlier in KS2 and at KS1.

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
5	1. Working scientifically investigation – Helicopters  (a) Safety in science (b) Planning experiments (c) Collecting data (d) Handling data (e) Conclusions	2. Properties & changes in materials (Chemistry)  Key questions of chemistry - What is everything in the Universe made of?  Key questions of chemistry - How do we make new substances?	2. Properties & changes in materials (Chemistry)  Key questions of chemistry - What is everything in the Universe made of?  Key questions of chemistry - How do we make new substances?	3. Forces (Physics)  Key question of physics - How do forces impact objects? (a) Introduction to forces (b) Measuring forces (c) Gravity (d) Friction	4. Earth & space (Physics)  Key question of physics - From small things to big things, what is the structure of the Universe?  Key question of physics	5. Reproductive cycles (Biology)  Key questions of biology - How does life survive and thrive? (a) Introduction to life cycles (b) Famous biologists (c) Life cycles of birds (d) Life cycles of amphibians (e) Life cycles of insects (f) Life cycles of plants

	(f) Evaluating data	 <u>Key questions of chemistry</u> - How can we take care of our planet while also using it to meet our needs? (a) Properties of materials (b) Light & materials (c) Heat & materials (d) Magnetism & materials (e) Properties & uses of materials (f) States of matter	 <u>Key questions of chemistry</u> - How can we take care of our planet while also using it to meet our needs? (g) Dissolving & solutions (h) Solubility (i) Principles of separating mixtures (k) Sieving & filtering (l) Evaporation (m) Reversible & irreversible changes	(e) Air resistance (f) Water resistance (g) Simple machines	<u>-</u> How do forces impact objects?  <u>Key question of physics</u> - How can energy be used to explain what things can do? (a) The Solar system (b) Night & day (c) The Moon (d) Space exploration	(g) Human life cycles (h) Human reproduction (i) Adolescence & puberty (k) Human adulthood & old age