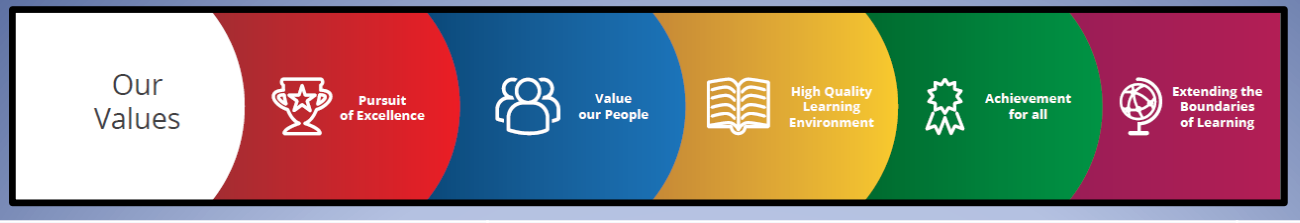
CMAT Cambridge Meridian Academies Trust

Key Stage 3 Science	Curriculum aims	Curriculum content	Curriculum Delivery Typical curriculum allocation: 6-8 hours a fortnight
Year 7 **Year 8**	The KS3 curriculum uses big ideas and mastery goals to equip students for success at GCSE. It also provides a method to follow student progress as their understanding develops during KS3. The content and processes that students need to demonstrate competence are developed in KS3 so that students enter Key Stage 4 (KS4) with a level of proficiency. Students complete KS3 with knowledge of individual concepts and an ability to apply their knowledge to unfamiliar contexts. Using the big ideas principle, the generalisations, principles and models which connect concepts are at the heart of our curriculum. We believe this is how students learn to see the world analytically, to explain phenomena and make predictions – all skills they need for their next stage of scientific learning.	• Across year 7 and 8 the students will be taught across all 3 science disciplines. • **Biology** Structure and Function of living organism Material cycles and energy Interactions and interdependencies Genetics and Evolution • **Chemistry** The Periodic table Matter Chemical Reactions Energetics Materials Earth and the Atmosphere • **Physics** Energy Motion and Forces Waves Electricity and Electromagnetism Matter • **Individual academies will determine the exact sequence of study.**	Students will sit a short, nationally benchmarked **test at the start of year 7 (Progress in Science – GL Assessments).** Typically, each unit will comprise of around 3/4 weeks of teaching and will culminate in a written summative assessment. They will also complete a mid-point assessment half way through the topic. Associated homework will usually be set weekly. Students will sit a short, nationally benchmarked **test at the end of year 8 (Progress in Science – GL Assessments).**



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Key Stage 4 Science	Curriculum aims	Curriculum content	Curriculum Delivery Typical curriculum allocation: 8-10 hours a fortnight
Year 9	The aim of **GCSE study in Year 9** is to develop scientific skills to prepare students for success at GCSE level. Students are introduced to 'Required Practicals' in order to nurture and feed their curiosity. They are also encouraged to develop their fluency in describing and explaining more complex concepts in biology, chemistry and physics. A strong emphasis on securing basic practical and scientific skills will be maintained from key stage 3 and developed further into key stage 4.	**AQA GCSE Combined Science: Trilogy** This qualification is worth 2 GCSEs and students will gain a dual grade. Biology, Chemistry and Physics will all be studied. **Paper 1** Biology – Cells, Organisation, Infection and Response, Bioenergetics Chemistry – Atomic structure and the periodic table, Bonding, structure and the properties of matter, Quantitative chemistry, Chemical changes, Energy changes Physics – Energy, Electricity, Particle model of matter, Atomic structure **Paper 2** Biology – Homeostasis and response, Inheritance, Variation and evolution, Ecology Chemistry – The rate and extent of chemical change, Organic chemistry, Chemical analysis, Chemistry of the atmosphere, Using resources Physics – Forces, Waves. Magnetism and electromagnetism **AQA GCSE Triple Science: Separate sciences.** The triple science content extends on these subject areas. In addition to this GCSE Physics includes the topic Space. **Students studying the separate sciences will take GCSEs in Biology, Chemistry and Physics. They will gain 3 GCSEs.** **Individual academies will determine the exact sequence of study.**	All students will begin on the AQA 'Trilogy' combined Science GCSE. **Students will sit in-class examinations towards the end of Year 9.**
Year 10	In year 10 GCSE Science, students build upon the foundational knowledge from year 9 and explore biology, chemistry and physics in more depth and breadth. There is an emphasis on developing the numeracy, literacy and practical skills required to effectively interpret and communicate scientific ideas. Students are introduced to more abstract concepts and the rigors of scientific research.		Where there is evidence that such an approach might benefit students, academies may decide to change some students from the combined route on to the three separate sciences route. The sequence of teaching will reflect that. **Students will sit full GCSE length Paper 1 examinations at an appropriate time during year 10.**
Year 11	Students are given the opportunity to revisit and revise biology, chemistry and physics in a holistic way, making connections between units and disciplines. Particular focus is placed on the 'Required Practicals', and most of these will be redone in order to assure that students are well versed in practical skills and the underlying scientific theories.		In year 11 GCSE science, students will complete the curriculum early in the academic year. Students will also work on sharpening their exam technique and revision strategies to best prepare them for their exams. Teaching will place strong emphasis upon understanding of the exam. **Students will sit full GCSE length examinations in the Autumn, spring.**