Year 9 Science Curriculum Map

Content (Intent)	Links to prior learning	Skills and Assessment (Implementation)	Expected Learning Outcomes (Impact)
Terms 1-5 Different classes will learn different topics at different times covering Biology, Chemistry and Physics			
Biology **Intro to Biology** Food Chains Animal and Plant Cells Photosynthesis Respiration **B1 Cells and Exchange** Microscopes Eukaryotic and Prokaryotic Cells Specialism in Cells Diffusion Osmosis Osmosis in plants Active Transport Exchange **B16 and 17 Ecology** Communities Distribution Competition Adaptions Food Webs Carbon Cycle	Year 7 Cells Topic Body Systems Topic Year 8 Ecosystems Topic Year 7 Cells Topic and intro to Biology Year 8 Ecosystems	Skills: Practical Skills, Exam Skills, Subject Knowledge, Maths skills, literacy Assessment: End of topic tests covering content from each topic. Tests includes multiple choice, structured, closed short answer, and open response questions	Understand the very fundamentals of Biology. Compare the function and structures of different types of cells. Explain how substances move in cells and between cells. Explain the relationships and interdependence between different species and organisms. Understand how materials are recycled and reused.
Chemistry **C1 Atoms** Atomic Structure Equations Separating Mixtures Fractional Distillation and paper chromatography History of the Atom	Year 7 Separating Mixtures topic	Skills: Practical Skills, Exam Skills, Subject Knowledge, Maths skills, literacy Assessment: End of topic tests covering content from	Draw and label an atom and recall the properties of the subatomic particles Explain how different types of mixtures can

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Ions Isotopes Electronic Structure		each topic. Tests includes multiple choice, structured, closed short answer, and open response questions	be separated using laboratory techniques. Deduce the number of subatomic particles in an atom and draw the electronic configuration. Describe key events in the development of our ideas around the atom.
C2 Periodic Table History of the periodic tables Electronic Structure of the periodic table Group 1 Group 7 Trends in reactivity	Year 8 Periodic Table Topic		Describe how Newlands and Mendeleev put together their periodic tables. Compare to the modern periodic table. Explain how the periodic table is arranged now. Describe and explain the properties and reactions of Group 1 and Group 7.
C8 Rates Collision Theory and Activation energy Changing Conditions Measuring the rate of reaction	Year 8 Chemical Reactions Topic		Explain the requirements for a chemical reaction to take place. Explain the effect of changing temperature, concentration, surface area, pressure and using catalysts has on the rate of reaction.

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			Outline how to monitor and calculate rate of reaction.
Physics **Fundamentals of physics** Fractions and Percentages Graphs Standard Form and Rearranging Equations **P9 Motion** Speed and Velocity Distance-time Graphs Velocity-Time Graphs Analysing Motion Graphs **P10 Force and Motion** Forces and Acceleration Weight Terminal Velocity Braking Momentum Elasticity **P12 & P13 Waves and EM Waves** Properties of Waves Reflection and Refraction Electromagnetic Spectrum Uses of the EM Spectrum	Links to KS2/KS3 Maths Year 7 Intro to Science Year 8 Practical project Year 8 Motion topic Year 8 Motion Topic Year 7, Light and sound topic	Skills: Practical Skills, Exam Skills, Subject Knowledge, Maths skills, literacy Assessment: End of topic tests covering content from each topic. Test includes multiple choice, structured, closed short answer, and open response questions	Use fundamental maths skills for physics including using and analysing graphs, rearranging equations and writing numbers in standard form Using Distance-Time Graphs and Velocity-Time Graphs describe the motion of an object. Outline differences between speed and velocity and calculate. Describe the effects of forces on the motion of an object. Apply Hooke's Law to elastic objects. Calculate and describe the momentum of an object. Explain the factors that effect the braking distance of a car. Understand the properties of a wave.

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			Explain reflection and refraction and use refractive index. Explain the uses and dangers of each part of the radioactive spectrum.
Term 5-6 Revision	Revisit all year 9 Science topics.	Skills: How to revise Practical Skills, Exam Skills, Subject Knowledge, Maths skills, literacy Assessment: End of year test covering content from this topic. Test includes multiple choice, structured, closed short answer, and open response questions	Recap and review all the content of this year using effective strategies.
Practical Project	Year 8 Practical Project	Assessment: Formative assessment in class including quizzes	Develop planning, analysing and evaluating skills for practical work.

Type of resource	Where to find it	Why?
Textbook	Kerboodle: www.kerboodle.com	Use for research, to consolidate class work, complete summary questions
Revision notes and past paper questions by topic	Physics and Maths tutor https://www.physicsandmathstutor.com/biology-revision/gcse-aqa/ Save My Exams https://www.savemyexams.co.uk/gcse/biology/aqa/18/	It saves you time making your own revision notes. Answering questions allows you to apply what you have learned and identify gaps in your knowledge. Also has notes on the required practicals

PiXL KnowITs and GraspITs	Teams	KnowITs contain revision notes and fact recall questions to check your knowledge. GraspITs are exam-style questions that allow you to apply your knowledge
Revision videos/pods	Cognito on Youtube https://youtube.com/playlist?list=PLidqgIGKox7X5UFT-expKIuR-i-N3Q1g GCSE pod www.gcsepod.com FreeScienceLessons.co.uk	Quick summaries of the content that you can watch/listen to if you are more of a visual/aural learner
Revision notes	CGP Combined Science revision guide (Higher and Foundation versions can be purchased from Amazon)	A good resource to go over the content, look up areas you are unsure about