BEACONSFIELD HIGH SCHOOL

Chemistry Y9 AQA Grade Descriptors

In Science (Biology, Chemistry and Physics), students begin their GCSE courses at the start of Year 9. As a result, the attainment descriptors used within Science (Developing, Proficient, Confident and Mastery) are directly aligned to GCSE grading standards for Year 9. These descriptors will reflect how much progress they are making this year and will be the students' current working level in relation to GCSE expectations in science only. They should be interpreted alongside the corresponding GCSE grade ranges shown below.

- Developing GCSE grade 3-4
- Proficient GCSE grade 4-5
- Confident GCSE grade 5-6
- Mastery GCSE grade 6-7

Topic	Developing	Proficient	Confident	Mastery
C1 – Atomic Structure & Separating Mixtures	• Identifies simple particle model (atoms, elements, compounds). • Describes basic separation methods (filtration, evaporation). • States parts of the atom without detail.	• Explains electron shells and atomic number. • Selects appropriate separation methods for mixtures. • Describes simple chromatography results.	• Balances simple chemical equations using atomic structure knowledge. • Explains limitations of separation techniques. • Interprets chromatograms with Rf values.	• Explains isotopes. • Can calculate the size of a nucleus in metres and nanometres • Deduce the formula of ions and linking it to the stability of the element.
C3 – Structure & Bonding	• Identifies ionic and covalent bonding. • Recognises simple diagrams of particle arrangements. • States properties of solids, liquids and gases.	• Explains how electrons are transferred/shared in bonding. • Links bonding type to simple properties (melting point, conductivity).	• Explains giant structures and their properties in detail. • Describes metallic bonding using delocalised electrons. • Compares ionic, covalent and metallic bonding effectively.	• Explains bonding and structure using energy and force ideas. • Predicts properties of unfamiliar substances from structure. • Evaluates models of bonding vs real behaviour.

		• Draws correct dot-and-cross diagrams for simple molecules.		
C2 – The Periodic Table	• Recalls groups and periods. • Identifies metals vs non-metals. • Describes simple trends in Groups 1 and 7. • Recall Mendeleevs Periodic Table	• Explains group reactivity trends using electron structure. • Predicts reactions of alkali metals and halogens. • Explains displacement reactions in halogens. • Explain why scientists preferred Mendeleevs Periodic Table	• Describes reactivity using attraction to outer electrons. • Describe transition metals' key properties. • Compare Newlands and Mendeleevs Periodic Table	• Explains reactivity of Group 1 and 7 • Compare Group 1 and Transition Metal Properties • Uses trends to predict unfamiliar element behaviour.
C9 – Organic Chemistry	• Define hydrocarbon • Identifies alkanes and alkenes as simple hydrocarbons. • Describes crude oil as a mixture.	• Explains fractional distillation. • Describes combustion of hydrocarbons. • Use the general formula of alkanes and alkenes to draw the first four.	• Describes cracking and the conditions • Writes balanced equations for combustion reactions. • Describes and predict products of addition reactions of alkenes.	• Compare cracking and fractional distillation • Evaluates environmental impact of hydrocarbons using evidence. • Explains homologous series with deep structural reasoning.
C13 – History of the Atmosphere	• Recalls rough composition of Earth's atmosphere today. • Describes early atmosphere as CO_2-rich. • States basic greenhouse effect.	• Explains how oceans and plants reduced CO_2 levels. • Describes formation of oxygen via photosynthesis. • Explains simple climate change causes.	• Describes greenhouse effect with radiation transfer. • Interprets graphs of atmospheric gas changes. • Explains role of human activity in climate change.	• Analyses long-term atmospheric evolution using evidence. • Evaluates climate-change mitigation strategies. • Compare today's atmosphere to the Early atmosphere