

Name _____ Class _____ Date _____

Atomic structure

Lesson	Aiming for 4 (Foundation / Intermediate)		Aiming for 6 (Intermediate / Higher)		Aiming for 8 (Higher / Exceptional)	
C1.1.1 Atoms	I can define the word element.	<input type="checkbox"/>	I can describe the basic structure of an atom.	<input type="checkbox"/>	I can use chemical symbols of atoms to produce the chemical formulae of a range of elements and compounds.	<input type="checkbox"/>
	I can classify familiar substances as elements or compounds.	<input type="checkbox"/>	I can explain in detail, including diagrams, the difference between a pure element, mixture and compound.	<input type="checkbox"/>	I can explain the significance of chemical symbols used in formulae and equations.	<input type="checkbox"/>
	I can use the periodic table to find the symbols or names of given elements.	<input type="checkbox"/>	I can name and give the chemical symbol of the first 20 elements in the periodic table.	<input type="checkbox"/>		
C1.1.2 Chemical equations	I can describe familiar chemical reactions in word equations.	<input type="checkbox"/>	I can explain why mass is conserved in a chemical reaction.	<input type="checkbox"/>	I can justify in detail how mass may appear to change in a chemical reaction.	<input type="checkbox"/>
	I can state that mass is conserved in a chemical reaction.	<input type="checkbox"/>	I can describe familiar chemical reactions with balanced symbol equations including state symbols.	<input type="checkbox"/>	I can describe unfamiliar chemical reactions with more complex balanced symbol equations, including state symbols.	<input type="checkbox"/>
			I can balance given symbol equations.	<input type="checkbox"/>	I can write balanced symbol equations.	<input type="checkbox"/>
C1.1.3 Separating mixtures	I can define the word 'mixture'.	<input type="checkbox"/>	I can explain the difference between a compound and a mixture.	<input type="checkbox"/>	I can use experimental data to explain the classification of a substance as a compound or a mixture.	<input type="checkbox"/>
	I can identify a mixture and a compound.	<input type="checkbox"/>	I can explain how the chemical properties of a mixture relate to the chemical it is made from.	<input type="checkbox"/>	I can suggest an appropriate separation or purification technique for an unfamiliar mixture.	<input type="checkbox"/>
	I can list different separation techniques.	<input type="checkbox"/>	I can describe different separation techniques.	<input type="checkbox"/>	I can explain in detail how multi-step separation techniques work.	<input type="checkbox"/>

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C1.1.4 Fractional distillation and paper chromatography	I can state when fractional distillation would be used.	<input type="checkbox"/>	I can describe the process of fractional distillation.	<input type="checkbox"/>	I can explain in detail how fractional distillation can separate miscible liquids with similar boiling points.	<input type="checkbox"/>
	I can safely make a paper chromatogram.	<input type="checkbox"/>	I can explain the main processes occurring in paper chromatography.	<input type="checkbox"/>	I can evaluate separation or purification techniques for a given mixture.	<input type="checkbox"/>
C1.1.5 History of the atom	I can list the significant models proposed for atoms.	<input type="checkbox"/>	I can describe the differences between the plum-pudding and the nuclear model of the atom.	<input type="checkbox"/>	I can justify why the model of the atom has changed over time.	<input type="checkbox"/>
	I can identify the key parts of the plum-pudding model and the nuclear model of the atom.	<input type="checkbox"/>	I can explain how evidence from scattering experiments changed the model of the atom.	<input type="checkbox"/>	I can evaluate the current model of an atom.	<input type="checkbox"/>
C1.1.6 Structure of the atom	I can state the relative charges and masses of subatomic particles.	<input type="checkbox"/>	I can describe atoms using the atomic model.	<input type="checkbox"/>	I can use the periodic table to find atomic number and mass number data and use it to determine the number of each subatomic particle in any given atom.	<input type="checkbox"/>
	I can state that atoms have no overall charge (are neutral).	<input type="checkbox"/>	I can explain why atoms have no overall charge.	<input type="checkbox"/>	I can recognise and describe patterns in subatomic particles of elements listed in the periodic table.	<input type="checkbox"/>
	I can label the subatomic particles on a diagram of a helium atom.	<input type="checkbox"/>	I can use atomic number and mass numbers of familiar atoms to determine the number of each subatomic particle.	<input type="checkbox"/>	I can explain why we can be confident that there are no missing elements in the first 10 elements of the periodic table.	<input type="checkbox"/>
C1.1.7 Ions, atoms, and isotopes	I can state what an ion is.	<input type="checkbox"/>	I can describe isotopes using the atomic model.	<input type="checkbox"/>	I can use the periodic table to find atomic number and mass number data and use it to determine the number of each subatomic particle in an ion.	<input type="checkbox"/>
	I can define an isotope.	<input type="checkbox"/>	I can explain why ions have a charge.	<input type="checkbox"/>	I can use SI units and prefixes to describe the size of an atom and its nucleus in standard form.	<input type="checkbox"/>
	I can state the relative sizes of an atom and its nucleus.	<input type="checkbox"/>	I can use atomic number and mass numbers of familiar ions to determine the number of each subatomic particle.	<input type="checkbox"/>	I can explain why chlorine does not have a whole mass number.	<input type="checkbox"/>

AQA Chemistry

GCSE Year 9 Knowledge Grid

Christleton High School

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C1.1.8 Electronic structures	I can state that electrons are found in energy levels of an atom.	<input type="checkbox"/>	I can write the standard electronic configuration notation from a diagram for the first 20 elements.	<input type="checkbox"/>	I can use the periodic table to find atomic number and determine the electronic structure for the first 20 elements .	<input type="checkbox"/>
	I can state the maximum number of electrons in the first three energy levels.	<input type="checkbox"/>	I can explain why elements in the same group react in a similar way .	<input type="checkbox"/>	I can make predictions for how an element will react when given information on another element in the same group.	<input type="checkbox"/>