SC3 Atomic Structure

Topic Progression Checklist

I know this → colour green	I'm not sure → colour yellow	I don't know this → colour red

Subtopics and Learning Objectives	Start	End
SC3a Structure of an atom		
Describe how Dalton's ideas about atoms have changed.		
Describe how the subatomic particles are arranged in an atom.		
Explain how atoms of different elements are different.		
Recall the charges and relative masses of the three subatomic particles.		
Explain why all atoms have no overall charge.		
Describe how the size of an atom compares to the size of its nucleus.		
SC3b Atomic mass and number		
State where most of the mass of an atom is found.		
State the meaning of atomic number.		
State the meaning of mass number.		
Describe how the atoms of different elements vary.		
State the number of electrons in an atom from its atomic number.		
Calculate the numbers of protons, neutrons and electrons using atomic and mass numbers.		
SC3c Isotopes		
State what is meant by an isotope.		
Identify isotopes from information about the structure of atoms.		
Calculate the numbers of protons, neutrons and electrons using atomic numbers and mass numbers.		
Explain why the relative atomic mass of many elements is not a whole number.		
H Calculate the relative atomic mass of an element from the relative masses and abundances of its isotopes.		

SC4 The Periodic Table

Topic Progression Checklist

I know this → colour green	I'm not sure → colour yellow	I don't know this → colour red

Subtopics and Learning Objectives	Start	End
SC4a Elements and The Periodic Table		
Recall the chemical symbols of some common elements.		
Describe how Mendeleev arranged elements into a periodic table.		
Describe how Mendeleev predicted the existence and properties of some elements yet to be discovered.		
Explain how Mendeleev's early ideas were supported by later evidence.		
SC4b Atomic Number and The Periodic Table		
Explain some problems Mendeleev had when ordering the elements.		
Explain the meaning of the term 'atomic number'.		
Describe how the elements are arranged in the modern periodic table.		
Recall the positions of metals and non-metals in the periodic table.		
SC4c Electronic Configuration and The Periodic Table		
State what the term 'electronic configuration' means.		
Show electronic configurations in the form 2.8.1 and as diagrams.		
Predict the electronic configurations of the elements hydrogen to calcium.		
Explain the links between an element's position in the periodic table and its electronic configuration.		