Learning Journey – 7E Atoms, Elements and Compounds

What have I done previously in my learning journey?	
Previously….	**You have learnt previously about atoms elements and compounds. This has involved:** • Looking at circle diagrams for elements, compounds, and mixtures. You have been able to find elements on the periodic table and identify which elements make up some compounds.
In this topic…	You will learn about the way we atoms are presented in particle diagrams. You will learn the subatomic particles and find out how to use the periodic table to find out key information about elements. You will look at the journey taken through the years to find out what we now know about atomic structure.

We will develop our learning by studying the following each lesson:	**RAG**	**Skills in Science checklist**
7E.01 Atoms, Elements, and compounds • State what atoms are and represent them using particle diagrams • State what a compound is and represent molecules using particle diagrams • Use particle diagrams and formulae to classify a substance as an element, mixture or compound.		☐ Scientific Methods ☐ Practical ☐ Number skills ☐ Application ☐ Communication
7E .02 Chemical Formulae • Correctly write chemical formulae • Use chemical formulae to determine the number of atoms in different elements • Name compounds using their chemical formulae		☐ Scientific Methods ☐ Practical ☐ Number skills ☐ Application ☐ Communication
7E.03 Inside the Atom • Describe the structure of an atom • Describe the properties of subatomic particles • Determine the number of subatomic particles in atoms using atomic and mass numbers		☐ Scientific Methods ☐ Practical ☐ Number skills ☐ Application ☐ Communication
7E.04 Electronic configuration • Draw the arrangement of electrons around atoms • Represent electron arrangement as electron configuration • Infer electron configuration using an element's position on the periodic table		☐ Scientific Methods ☐ Practical ☐ Number skills ☐ Application ☐ Communication
7E.05 Discovery of the nucleus • State some of the scientists responsible for discovering the particles in an atom • Describe the discoveries made by each scientist • Understand how the nucleus was discovered		☐ Scientific Methods ☐ Practical ☐ Number skills ☐ Application ☐ Communication
7E.06 Model of the atom • Describe the contributions of Bohr and Chadwick in the development of the atom		☐ Scientific Methods ☐ Practical ☐ Number skills ☐ Application ☐ Communication
7E.07 Assessed task		☐ Scientific Methods ☐ Practical ☐ Number skills ☐ Application ☐ Communication

Key Vocabulary

Atom	**Element**	**Compound**	**Molecule**	**Proton**	**Electron**	**Neutron**	**Nucleus**	**Electron Shells**
Atomic Number	**Relative Atomic Mass**	**Symbol**	**Chemical Formulae**	**Subatomic Particles**				

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Future Learning	Will involve looking at the historical development of the periodic table and models of atomic structure which provide good examples of how scientific ideas and explanations develop over time as new evidence emerges. You will also learn that the arrangement of elements in the modern periodic table can be explained in terms of atomic structure which provides evidence for the model of a nuclear atom with electrons in energy levels.
In careers	The periodic table provides chemists with a structured organisation of the known chemical elements from which they can make sense of their physical and chemical properties.