

Year 8 Autumn Term 1

Department: Science

Unit of Work: The Periodic Table

<p align="center">Projection Grades (end of year 11) 1-3</p>	<p align="center">Projection Grades (end of year 11) 4-6</p>	<p align="center">Projection Grades (end of year 11) 7-9</p>
<ul style="list-style-type: none"> <input type="checkbox"/> Recall that different elements have different physical properties <input type="checkbox"/> Identify the chemical symbols for some common elements and record two-letter symbols correctly <input type="checkbox"/> Describe Dalton's ideas about atoms. <input type="checkbox"/> Use a simple (Dalton's) atomic model to describe an element. <input type="checkbox"/> Explain how chemical reactions are different from physical changes. <input type="checkbox"/> Explain the difference between physical and chemical properties of a substance. <input type="checkbox"/> Use observations to decide whether a chemical reaction has taken place. <input type="checkbox"/> Model simple chemical reactions using word equations. <input type="checkbox"/> Use a simple (Dalton's) atomic model to describe a compound. <input type="checkbox"/> Use the periodic table to look up symbols. <input type="checkbox"/> Identify the alkali metals, halogens, (transition metals) and noble gases in the periodic table. <input type="checkbox"/> State what elements in the same group of the periodic table share. <input type="checkbox"/> Recall that the noble gases are chemically inert compared with other elements. <input type="checkbox"/> State what happens at a material's melting, freezing and boiling points. <input type="checkbox"/> Use knowledge of melting/freezing and boiling point to predict the state of a substance at a given temperature. <input type="checkbox"/> Identify metals and non-metals by their physical properties. <input type="checkbox"/> Use ideas about the periodic table to identify the positions of metal and non-metal elements. <input type="checkbox"/> Describe the reactions of metals with oxygen. 2. L5 Describe the reactions of non-metals with oxygen. <input type="checkbox"/> Describe the reactions of metals with water. <input type="checkbox"/> Use the reactions of some alkali metals with water to predict the reactions of other alkali metals with water (in terms of what happens, not reactivity). 	<ul style="list-style-type: none"> <input type="checkbox"/> Use the idea of atoms to explain why different elements have different physical properties. <input type="checkbox"/> Model complex chemical reactions using word equations. <input type="checkbox"/> Describe how atoms are rearranged in chemical reactions. <input type="checkbox"/> Write simple chemical formulae from information on structure. <input type="checkbox"/> Interpret formulae to identify the types of and ratio of atoms in a compound <input type="checkbox"/> Recall the typical properties of alkali metals. <input type="checkbox"/> Recall the typical properties of halogens. <input type="checkbox"/> Explain how Mendeleev made predictions using his table. <input type="checkbox"/> Describe how the periodic table is arranged (in terms of elements in groups of similar properties). <input type="checkbox"/> Recall there is usually a regular gradation in physical properties as you go down a group. <input type="checkbox"/> Use data to identify trends in physical properties within a group. <input type="checkbox"/> Compare the physical and chemical properties of metal and non-metal oxides. <input type="checkbox"/> Recall there is usually a regular gradation in chemical properties as you go down a group <input type="checkbox"/> Use data to identify trends in chemical properties within a group. <input type="checkbox"/> Identify a pattern of reactivity in the reaction between some alkali metals and water and use this to predict the reactivity of other <input type="checkbox"/> alkali metals 	<ul style="list-style-type: none"> <input type="checkbox"/> Use information about reaction ratios to calculate atomic masses <input type="checkbox"/> Give a simple description of the valency of an element and use this to deduce the formula of compounds (containing two main group elements). <input type="checkbox"/> Explain how Mendeleev originally arranged the periodic table by placing the elements in order of atomic weight. <input type="checkbox"/> Recall suitable units to measure particle diameters. <input type="checkbox"/> Compare particle sizes to the sizes of common objects. <input type="checkbox"/> Describe how the sizes of atoms change in the groups and periods of the periodic table. <input type="checkbox"/> State that atoms can be joined up to make molecules or giant lattice structures <input type="checkbox"/> Describe the difference between molecules and giant lattice structures.