

Lessons per week: 3 Group(s): Wood

Students will show achievement by being able to describe the structure of the atom and the organisation of the periodic table. They will also build upon previous knowledge of acids. All of the investigation tasks are constructed to encourage independence. The power point presentations and practical work will link to communication. Learning about hazard symbols on chemicals will link to well-being. The use of tools such as Clicker 8, Nearpod, and purple mash will aid differentiation

	Topic	Learning Intentions	Tasks	Assessed IIs
W1	Structure of the atom	<ul style="list-style-type: none"> <li>To be able to describe the structure of the atom and label the electron, proton neutron and nucleus</li> <li>To know the relative mass and charge of the parts of the atom</li> <li>To know the definition of an isotope</li> <li>To know that the existence of isotopes means some RAM are not whole numbers</li> <li>To be able to work out the RAM from the RAM and abundances of its isotopes</li> <li>To be able to describe how electrons are arranged in energy shells 2, 8, 8</li> <li>To be able to draw the electron structure of the first twenty elements</li> </ul>	<ul style="list-style-type: none"> <li>Label the parts of the atom.</li> <li>Create their own model using Hoola hoops</li> <li>Fill in electron configuration on the worksheet and excel spreadsheet</li> <li>Label the atom atomic number and mass number. Worksheet on elements' atomic number</li> <li>Work out the atomic number of given elements</li> </ul>	<b>I can</b> <ul style="list-style-type: none"> <li>Describe the structure of the atom and label electron, proton neutron and nucleus</li> <li>Explain relative mass and charge of the parts of the atom</li> <li>Explain what an isotope is</li> <li>Work out RAM based on abundance and RAM of the isotopes</li> <li>Draw the electron structure of the first twenty elements</li> </ul>
W2	Periodic Table	<ul style="list-style-type: none"> <li>To know how the arrangement of electrons is related to position in periodic table</li> <li>To know that the electron structure of the atom affects its properties</li> </ul>	<ul style="list-style-type: none"> <li>Colour in blank copy of periodic table to show position of given elements, metals or non-metals</li> <li>Label the periodic table groups and periods</li> </ul>	<b>I can</b> <ul style="list-style-type: none"> <li>Recall how the arrangement of electrons in atoms are related to their position in periodic table</li> </ul>

		<ul style="list-style-type: none"> <li>To be able to describe the arrangement of the periodic table as being in groups and periods</li> <li>To be able to recognise which group and period an element is in from its position in the periodic table</li> <li>To be able to identify an element as a metal or non-metal according to its' position in periodic table</li> </ul>	<ul style="list-style-type: none"> <li>Questions on which element am I based on position in the periodic table</li> </ul>	<ul style="list-style-type: none"> <li>Describe the arrangement of the periodic table as being in groups and periods</li> <li>Explain that the electron structure of the atom affects its properties</li> <li>Recognise which group and period an element is in from its position in the periodic table</li> <li>Identify an element as a metal or non-metal according to its' position in periodic table</li> </ul>
W3	Reactions	<ul style="list-style-type: none"> <li>To know that chemicals can react together to produce other chemicals</li> <li>To be able to name at least 3 common reactions</li> <li>To know at least 3 ways that show a chemical reaction has occurred</li> <li>To be able to identify the product and a reactant in a reaction</li> <li>To understand conservation of mass in a reaction</li> <li>To be able to write word equations for reactions</li> <li>To be able to write symbol equations</li> <li>To be able to balance symbol equations</li> </ul>	<ul style="list-style-type: none"> <li>Iron and sulphur experiment</li> <li>Researching different reactions</li> <li>Chemical equations worksheet</li> </ul>	<b>I can</b> <ul style="list-style-type: none"> <li>Recall that chemicals can react together to produce other chemicals</li> <li>Name at least 3 common reactions</li> <li>List at least 3 ways that show a chemical reaction has occurred</li> <li>Identify the product and a reactant in a reaction</li> <li>Describe conservation of mass in an investigation</li> <li>Write word equations for reactions</li> <li>Write symbol equations for a reaction</li> <li>Balance symbol equations</li> </ul>
W4	Reactions of acids	<ul style="list-style-type: none"> <li>To be able to identify acids and alkalis</li> <li>To know what a base is</li> <li>To know what the pH scale is</li> <li>To know the pH of common acids and alkalis</li> </ul>	<ul style="list-style-type: none"> <li>Recap of acids and alkalis</li> <li>pH testing of liquids</li> <li>Reaction of acids with metals investigation</li> </ul>	<b>I can</b> <ul style="list-style-type: none"> <li>Identify acids and alkalis</li> <li>Explain what a base is</li> <li>Explain what the pH scale is</li> </ul>

		<ul style="list-style-type: none"> <li>• To measure and record pH values</li> <li>• To know the formula for common acid and alkalis</li> <li>• To know how acids react with metals and carbonates</li> <li>• To be able to predict the products for the reactions of metals and carbonates</li> <li>• To be able to write the equations for the reactions of acids with metals and carbonates</li> <li>• To know the tests for hydrogen and carbon dioxide</li> </ul>	<ul style="list-style-type: none"> <li>• Reaction of acids with carbonates investigation</li> <li>• Test for hydrogen and carbon dioxide</li> </ul>	<ul style="list-style-type: none"> <li>• List the pH of common acids and alkalis</li> <li>• Measure and record pH values</li> <li>• Write the formula for common acid and alkalis</li> <li>• Describe how acids react with metals and carbonates</li> <li>• Write the equations for the reactions of metals and carbonates</li> <li>• Predict the products for the reactions of metals and carbonates</li> <li>• Write the equations for the reactions of acids with metals and carbonates</li> <li>• Recall the tests for hydrogen and carbon dioxide</li> </ul>
W5	Acid reactions Neutralisation	<ul style="list-style-type: none"> <li>• To state the meaning of a range of hazard symbols</li> <li>• To know what a neutralisation reaction is</li> <li>• To know at least two common neutralisation reactions</li> <li>• To be able to state the equation for a neutralisation reaction</li> <li>• To be able to predict the salts produced in a neutralisation reaction</li> <li>• To complete an investigation to compare the effectiveness of indigestion remedies</li> </ul>	<ul style="list-style-type: none"> <li>• Hazard symbol poster</li> <li>• Vinegar and baking soda investigations</li> <li>• Antacid investigation</li> <li>• Making bath bombs</li> </ul>	<b>I can</b> <ul style="list-style-type: none"> <li>• State the meaning of a range of hazard symbols</li> <li>• Recall what a neutralisation reaction is</li> <li>• Describe at least two neutralisation reactions</li> <li>• State the equation for a neutralisation reaction</li> <li>• Predict the salts produced in a neutralisation reaction</li> <li>• Complete an investigation to compare the effectiveness of indigestion remedies</li> </ul>
W6	Revision and assessment			