

| Subject                                 | Y8 Chemistry Threshold Concepts – Autumn Term   | How to support students' learning   |
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| The periodic table, elements and groups | <p><b>Development of the Periodic table 1</b></p> <ul style="list-style-type: none"> <li>• Define a property</li> <li>• List the names of the Scientists who contributed to the development of the Periodic table including their ideas</li> <li>• Recall the key ideas that Mendeleev contributed to the development of the Periodic table</li> <li>• Locate groups and periods on the Periodic table and split into metals and non-metals</li> <li>• Name and state the position of the subatomic particles</li> </ul> <p><b>Development of the Periodic table 2</b></p> <ul style="list-style-type: none"> <li>• Name and state the position of the subatomic particles</li> <li>• Recall the charge and mass of PEN</li> <li>• State the number of PEN in an atom using the Periodic table</li> <li>• Draw the electron configuration of an atom</li> <li>• State the relationship between an atoms electron configuration and the group and period it is in</li> </ul> | <p>Encourage your child to watch this video about the development of the periodic table <a href="#">Development of the Periodic Table - GCSE Chemistry - YouTube</a></p> <p>Encourage your child to visit BBC bitesize to learn about the electronic structure of atoms <a href="#">Electronic configurations and the periodic table - The periodic table - Edexcel - GCSE Combined Science Revision - Edexcel - BBC Bitesize</a></p> |

**Chemical reactions**

- State the number of electrons in an elements outer shell using the Periodic table
- Define a chemical reaction
- Recall the difference between a chemical and physical change and suggest indicators of a chemical reaction
- Recall that chemical reactions occur so that atoms can become more stable
- Define an ion
- Determine the charge on an ion using the Periodic table
- Determine the charge on ions using the Periodic table
- Determine the formula of ionic compounds

**Understanding equations**

- Identify reactants and products
- State that in a chemical reaction atoms are rearranged and no atoms are gained or lost
- Recall the formula of common elements and compounds
- Determine the formula of ionic compounds
- Write balanced symbol equations

Interpret balanced symbol equations in terms of ratios

Encourage your child to watch this video on atoms and ions [GCSE Chemistry - Atoms & Ions #1 - YouTube](#)

Encourage your child to watch this video on chemical equations [GCSE Chemistry - Balancing Chemical Equations #4 - YouTube](#)

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|  | <p><b>Elements and groups (group 2)</b></p> <ul style="list-style-type: none"><li>• Describe patterns in the properties of the group 2 elements</li><li>• Write word and balanced equations for the reactions of the group 2 elements with water</li><li>• Relate reactivity to electron configuration</li></ul> <p>Predict reactivity of other elements in group 2 and group 1 metals</p> <p><b>Group 7 displacement reactions</b></p> <ul style="list-style-type: none"><li>• Describe patterns in the properties of the group 7 elements</li><li>• Write word and balanced equations for the displacement reactions of the halogens</li><li>• Relate reactivity to electron configuration</li></ul> <p>Predict reactivity of other elements in group 7</p> <p><b>Group 0</b></p> <ul style="list-style-type: none"><li>• Describe the physical properties of the group 0 elements</li><li>• From data presented in bar charts, describe patterns in the melting and boiling points of the Group 0 elements.</li><li>• Use patterns to predict properties of group 0 elements.</li><li>• Use electron configuration to predict and explain the reactivity of the group 0 elements</li></ul> | <p>Encourage your child to read the information on BBC bitesize on trends in the periodic table <a href="#">Patterns and trends in the periodic table - Periodicity - Higher Chemistry Revision - BBC Bitesize</a></p> |
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