

Subject	Y8 Chemistry Threshold Concepts – Autumn Term	How to support students' learning
The periodic table, elements and groups	Development of the Periodic table 1 • Define a property • List the names of the Scientists who contributed to the development of the Periodic table including their ideas • Recall the key ideas that Mendeleev contributed to the development of the Periodic table • Locate groups and periods on the Periodic table and split into metals and non-metals • Name and state the position of the subatomic particles Development of the Periodic table 2 • Name and state the position of the subatomic particles • Recall the charge and mass of PEN • State the number of PEN in an atom using the Periodic table • Draw the electron configuration of an atom • State the relationship between an atoms electron configuration and the group and period it is in	Encourage your child to watch this video about the development of the periodic table Development of the Periodic Table - GCSE Chemistry - YouTube Encourage your child to visit BBC bitesize to learn about the electronic structure of atoms Electronic configurations and the periodic table - The periodic table - Edexcel - GCSE Combined Science Revision - Edexcel - BBC Bitesize

	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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	Elements and groups (group 2) - Describe patterns in the properties of the group 2 elements - Write word and balanced equations for the reactions of the group 2 elements with water - Relate reactivity to electron configuration Predict reactivity of other elements in group 2 and group 1 metals Group 7 displacement reactions - Describe patterns in the properties of the group 7 elements - Write word and balanced equations for the displacement reactions of the halogens - Relate reactivity to electron configuration Predict reactivity of other elements in group 7 Group 0 - Describe the physical properties of the group 0 elements - From data presented in bar charts, describe patterns in the melting and boiling points of the Group 0 elements. - Use patterns to predict properties of group 0 elements. - Use electron configuration to predict and explain the reactivity of the group 0 elements	Encourage your child to read the information on BBC bitesize on trends in the periodic table Patterns and trends in the periodic table - Periodicity - Higher Chemistry Revision - BBC Bitesize
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