

Subject	Year 7 Threshold Knowledge – Autumn/Spring/Summer term	How to support students' learning
Chemistry	<p>Autumn Term</p> <ol style="list-style-type: none"> 1. Link properties of substances with how the particles behave in a particular state. 2. Describe the arrangement of particles in solids, liquids and gases. 3. Describe how a change in temperature affects the state of matter. 4. Define boiling, melting, freezing, evaporation, condensation and sublimation. 5. Define density and how to measure the density irregular objects. 6. Describe the process of diffusion. 7. Describe how gases exert pressure. 8. Describe and label the structure of an atom. 9. Describe how the Periodic Table is grouped and how this can be used to predict properties of elements. 10. Recall properties of sub-atomic particles. 11. Define mass number and atomic number in terms of the number of sub-atomic particles. 12. Define the terms: element, compound and mixture. 13. Draw particle diagrams to represent elements, compounds and mixtures. 14. Describe a pure substance as consisting of only one type of element or compound that has a fixed melting and boiling point. 15. Know that the method chosen to separate a mixture depends on the different physical properties of the individual substances in the mixture. 16. Safely carry out the separation of mixtures using filtration, evaporation, distillation and chromatography. 17. Know that a mixture of liquids can be distilled because they have different boiling points. 	<p>Use BBC bitesize Chemistry:</p> <ul style="list-style-type: none"> • https://www.bbc.co.uk/bitesize/subjects/znxtyrd. • Get pupils to set themselves quizzes on Educake (The Science Department's homework platform) to help them revise topics they are trying to understand. • Talk about science at home and what students have learnt today. As well as discuss new scientific advances in the news. • Watch BBC Four's 'Chemistry: A volatile history' documentary. • Use the link below to help find lessons you need to refresh and want to revise; https://continuityoak.org.uk/lessons

Spring Term

18. Know that all elements are listed in the periodic table.
19. Suggest an element for a specific job based on its chemical and physical properties.
20. Know that the properties of elements change when they react to form a compound.
21. Produce word equations for simple chemical reactions.
22. Understand and use formulae to represent elements and compounds.
23. Explain how to work out the number of electrons for any element on The Periodic Table.
24. Draw the electronic structure of the first 20 elements in The Periodic Table.
25. Know that there are links between the electronic structure of elements and their position in The Periodic Table.
26. Describe some of the properties and trends in group 1.
27. Describe some of the properties and trends in group 7.
28. Construct word equations for halogen displacement reactions.
29. Describe the properties of some elements in groups 2,3,4,5,6 and 0.
30. Recall that chemical changes can be described by a model where atoms and molecules in reactants rearrange to make the products and the total number of atoms is conserved.

Summer Term

31. Recall that chemical changes can be described by a model where atoms and molecules in reactants rearrange to make the products and the total number of atoms is conserved.
32. Use known masses of reactants or products to calculate unknown masses of the remaining reactant or product.

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| | <ol style="list-style-type: none">33. Define combustion as a reaction with oxygen in which energy is transferred to the surroundings as heat and light.34. Define thermal decomposition as an endothermic reaction where a compound is heated and broken down into two or more new products.35. Predict the products of combustion or thermal decomposition reactions.36. Define what exothermic and endothermic reactions are and identify reactions of each type. | |
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