Year 7 Chemistry

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit	**C1F Particles**		**C2F Atoms, Elements and Compounds**	**C3F Pure and impure substances**		**C4F Chemical Reactions**
Knowing what… (Declarative knowledge)	Define the term meniscus Link measurements in ml to cm^3 Choose an appropriate measuring cylinder for a given volume Name and accurately use a range of measurement apparatus Name the parts of a Bunsen burner and understand how to light it safely change the flame colour Describe the shape and volume of a solid, a liquid and a gas Describe how particles are arranged and draw a particle diagram of a solid, a liquid and a gas Describe the forces between the particles in solids, liquids and gases Describe how the particles move in a solid, a liquid and a gas Name the changes of state Define the term prediction Describe how the temperature of a substance can change as it evaporates.		Describe the main ideas of Dalton's Atomic Theory. Define an atom, element and molecule and compound. Recognise common elements, like oxygen, and describe how we represent them as symbols. Identify the states of some common elements and their properties Identify the elements that form diatomic molecules Recognise common compounds, like carbon dioxide, and describe how we represent them using a formula. Match chemical formulae to chemical names. State the properties for some common compounds and elements.	Define the terms dissolve, solute, solvent solution and saturated solution Describe what happens to particles when a substance dissolves Define solubility Describe factors that affect solubility Investigate the effect of temperature on solubility Describe what is meant by concentration Describe how a mixture of two solids can be separated Describe what is meant by pure and impure Give an example of a common mixture Give an example of an impurity Describe the processes involved in distillation		Define an oxidation reaction Describe the observations you could make if a reaction produces a gas Identify reactants and products from chemical equations. Define a precipitation reaction Define a thermal decomposition reaction Define a displacement reaction Define conservation of mass Describe observations that show chemical change Define a combustion reaction
Knowing how… (Procedural knowledge)	Collect valid data to compare the effect of flame colour on heating time. Draw a particle diagram of a solid, a liquid and a gas Link the names of the changes of state that occur at the same temperature Plot a graph to show changes of state. Identify on a 'cooling curve' the areas on the graph that show the 3 states of matter and where change of state is taking place Explain the process of diffusion using particles in liquids and gases Explain gas pressure using particles Compare the properties (hardness) of ceramics, polymers and composites Explain the properties (hardness) of a range of common solids using particles Explain how the temperature of a substance can change as it evaporates.		Draw a particle diagram of an atom, element and molecule. Draw a particle diagram of a compound. Compare the properties of compounds with those of elements made of the same atoms. Draw particle diagrams to show mixtures of elements and compounds Compare mixtures to formulations Determine the numbers of each different type of atom in a compound from a given formula	Explain what is meant by the term mixture Investigate what happens to mass when a solid dissolves Carry out a simple filtration to separate a solid from a liquid. Carry out evaporation to separate a dissolved solid from a liquid Investigate the preparation of a pure solid (copper sulphate) Carry out chromatography to separate to assess the purity of a coloured substance Interpret a chromatogram		Use word equations to represent a chemical reaction. Use particle diagrams to show the rearrangement of atoms in a chemical reaction. Balance symbol equations to represent a chemical reaction. Control combustion reactions by applying the fire triangle Link the production of carbon dioxide to human activity and the impact on climate. Identify oxidation, precipitation, thermal decomposition, displacement and combustion reactions