Stewards Academy
Science Department **ASSESSMENT FEEDBACK** Year 7 – 4

Attainment Band	Matter & The Periodic Table Knowledge and Understanding
Yellow/Yellow +	• Use particle diagrams to explain the differences in energy and the forces on the particles in different states of matter • Use the particle model to explain latent heat • Make predictions, using ideas about particles, relating to factors affecting the rate of diffusion • Use ideas about particles to explain differences in concentration and in pressure • Use the particle model to explain factors relating to density • Explain the difference between pure and chemically pure substances • Consistently use the correct terms to explain factors that affect dissolving • Use data to draw conclusions about solubility • Clearly explain the choice and method of separation using the correct terms • Use a simple model to explain dissolving and separation • Identify the advantages of distillation • Explain the effectiveness of different models in explaining chemical changes • Use evidence from chromatography to explain the composition of mixtures • Identify similarities and differences between chromatography and DNA analysis • Explain and exemplify trends and patterns in the Periodic Table • Use the Periodic Table to calculate the mass of elements and compounds • Accurately describe compounds including the ratio of atoms via chemical formulas • Make links between simple circle models and chemical formulas
Blue	• Draw circle diagrams and other models to demonstrate the differences between the arrangement of particles in solids, liquids and gases • Interpret and explain data relating to melting and boiling points • Explain observations relating to diffusion in terms of particles • Apply ideas of pressure and concentration to explain different applications • Calculate the densities of solids and liquids • Use the particle model to explain differences in the densities of gases • Interpret the names and symbols of common elements and compounds • Explain the differences between types of water such as tap, bottled and seawater • Use the correct terms to describe dissolving • Describe methods for producing crystals • Choose and explain appropriate separation techniques • Use a simple model to explain what happens to mass during dissolving • Explain the physical processes involved in distillation • Use particle models to explain how the solubilities of solids and gases change with temperature • Describe how to separate a mixture using chromatography • Interpret chromatograms and draw conclusions • Explain how the Periodic Table is organised using the correct terms • Use the Periodic Table to identify and provide information about elements • Explain how and why compounds may be formed • Explore the value of a simple circle model for representing compounds

Green	• Use accurate observations to draw inferences about the properties of solids, liquids and gases • Describe and recognise changes of state, using correct terminology and the particle model • Describe how diffusion occurs in liquids and gases • Make liquids of known concentrations • Make predictions about floating and sinking using ideas about density • Link the density of a gas with its uses – e.g. helium, carbon dioxide, argon • Classify substances as materials, pure substances, compounds or elements • Give simple differences between tap water and other water sources, e.g. seawater • Describe what happens when substances dissolve • Describe the effect of temperature on dissolving • Describe how to separate simple mixtures • Recognise pure substances and mixtures • Describe distillation • Use particle models to explain separation processes • Identify mixtures using chromatography • Give examples of common elements • Identify an element from its symbol and atomic number • Describe substances using the terms atom, element and compound • Correctly classify elements and compounds, describe and give an example of a compound • Represent atoms and diatomic molecules using a simple circle model
White	• Some of the above elements have been achieved.