

## Chemistry

Outcomes	Particle Model	Metals and Non-Metals	Earth Structure	Separating Mixtures	Acids and Alkalis	Universe
<b>Basic</b>	I can use the correct key words to describe changes in state.	I can state some properties of metals.	I know that the Earth has three layers; the crust, mantle and core.	I know the difference between a pure substance and a mixture.	I know that the pH scale is a measure of acidity and alkalinity.	I can draw a picture of our solar system including the sun, moon and planets.
<b>Adequate</b>	I can draw diagrams to show the arrangement or particles in solids, liquids and gases.	I can use the word oxidation to describe a reaction in which a metal reacts with oxygen.	I can describe the differences between the three types of rock.	I can choose the most suitable technique to separate a mixture of substances.	I can use data and observations to determine the pH of a solution and explain what this shows.	I can use a model of our solar system to explain day length and seasons.
<b>Secure</b>	I can explain the properties of solids, liquids and gases based on the arrangement and movement of their particles.	I can place an unfamiliar metal into the reactivity series based on information about its reactions.	I can identify the causes of weathering and erosion and describe how they occur.	I can use evidence from chromatography to identify unknown substances in mixtures.	I know that strong acids have lower pH values than weak acids and can name some strong and weak acids.	I can use the words galaxy, light year, stars, orbit and exoplanet correctly and in context.
<b>Advanced</b>	I can explain changes in states in terms of changes to the energy of particles.	I can use particle diagrams to represent oxidation, displacement and metal-acid reactions.	I can construct a labelled diagram to identify the processes of the rock cycle.	I can explain how substances dissolve using the particle model.	I can describe a method for how to make a neutral solution from an acid and alkali.	I can explain why places on the Earth experience different daylight hours and amounts of sunlight during the year. I can explain the choice of particular units for measuring distance.
<b>Excelling</b>	I can argue for how to classify substances which behave unusually as solids, liquids or gases.	I can deduce a rule from data about which reactions will occur or not, based on the reactivity series.	I can describe similarities and differences between the rock cycle and everyday physical and chemical processes.	I can suggest a combination of methods to separate a complex mixture and justify the choices.	Given the names of an acid and an alkali, work out the name of the salt produced when they react.	I can predict patterns in day length, the Sun's intensity or an object's shadow at different latitudes.