

# KS3 Learning Checklist Chemistry

## Level 4

- I know the meaning of some safety signs
- I know the meaning of 'combustion'
- I know that there are natural acids and alkalis
- I know some everyday examples of chemical reactions.
- I know what is meant by reversible.
- I know that gases can be cooled to give liquids.
- I know how many elements there are.
- I know that atoms can join up.
- I know that the Periodic Table displays the elements.
- I know that we use special symbols for the elements.
- I know that some groups of metals have special names.
- I know that iron rusts.
- I know that acids react with metals.
- I know that metals have special properties.
- I can name examples of metals to show these properties.
- I know that acids and alkalis make salts together.
- I know more than one way to make a salt.

## Level 5

- I know the meaning of most safety signs
- I can explain the fire triangle in terms of combustion
- I know the names of three mineral acids
- I know that indicators can identify acids and alkalis
- I know that indigestion medicines rely on neutralisation
- I can describe what happens in melting.
- I can describe what happens in evaporation.
- I know the difference between freezing and melting.
- I know that some gas mixtures are explosive.
- I know that changes can accompany chemical reactions.
- I can explain what effervescence means.
- I know what happens when magnesium burns.
- I understand how distillation works.
- I know how a condenser works.
- I know the difference between atoms and molecules.
- I know some examples of common chemical symbols.
- I know some differences between metals and non-metals.
- I can correctly use the words brittle, malleable and ductile.
- I know that the Periodic Table shows patterns of elements.
- I know how compounds and mixtures are different.
- I can recognise some chemical symbols.
- I know how the alkali metals react with water.
- I know that rusting is an example of corrosion.
- I know that metals react at different rates with acids.
- I know that the Earth's supply of metals is limited.
- I know that metallic elements are malleable.
- I can distinguish between bases and alkalis and give examples.
- I know the test for carbon dioxide from carbonate salts.

I can explain what is meant by precipitation.

I can explain how the solubility of salts varies with temperature.

### **Level 6**

I know how to use *Hazcards*

I know the importance of oxygen in combustion

I know the part played by oxygen in burning.

I know the colours produced by indicators such as litmus and red cabbage

I know the difference between strong and weak acids and alkalis

I understand the importance of hazard signs on chemical tankers

I can recognise physical changes.

I know how mass changes in burning.

I can describe some examples of chemical reaction

I know what is meant by an irreversible change.

I can identify the changes of state in distillation.

I know some examples of molecules.

I can identify elements as metals or non-metals.

I can use the Periodic Table to classify elements.

I can distinguish between compounds and mixtures by their properties.

I can write chemical symbols from names.

I know the reactivity trend for the alkali metals.

I know that reactivity is linked to rate of corrosion.

I can draw up a reactivity series of metals.

I can decide which metal to use based on reactivity.

I can predict the outcomes of displacement reactions.

I can write and interpret word equations.

I can write general reactions for the chemistry of acids.

I can write word equations for salt preparations.

I can plan an effective method to prepare a range of salts.

I can predict the identity of precipitates formed by mixing solutions.

### **Level 7**

I know how to apply the information in *Hazcards*

I can explain temperature rise in terms of the particle model

I can distinguish between strong and concentrated, dilute and weak when talking about acids and alkalis

I can describe changes of state in detail.

I know why mass increases on burning.

I know that physical changes are often reversible.

I can name **three** common gases and know their tests.

I can count the atoms in the formula of a molecule.

I know the characteristic properties of metals and non-metals.

I know the symbols of many common elements.

I know that there is a gradation in properties in the Periodic Table.

I know in what ways the properties of mixtures differ from those of compounds.

I can understand how to use word equations.

I can predict the reactivity of the alkali metals from data.

I can understand how to prevent metals corroding.

I can interpret the behaviour of metals in terms of the reactivity series.

I can write symbol equations for displacement reactions.

I can name salts and interpret their formulae.

I can summarise salt preparations using both words and symbols.

**Level 8**

I can explain combustion in terms of oxidation

I can write and explain formulae equations for neutralisation

I can give examples of exothermic and endothermic reactions

I can assess the hazards of using materials such as flammable solvents.

I can convert word equations into symbol equations.

I can calculate and explain mass changes in reactions.

I can predict whether the mass will increase or decrease in a particular chemical reaction.

I can use both scientific and economic data to decide on how best to use metals.

I can interpret formulae and equations in terms of the numbers of bonds used by the particles  
involve

I can write balanced symbol equations for salt preparations.