

## Year 9 Science - Chemistry Outcomes

### Atoms and Ions

1. Describe what matter is made of
2. List the parts of an atom, their size and charge, and draw a diagram of an atom
3. Explain how to determine the number of protons, neutrons and electrons from the atomic number and mass number.
4. Explain how to use the group and period of a periodic table to predict how many electrons are in the outer shell
5. Describe how an ion is different from an atom (and remember common valencies)
6. Explain how to predict the valency of an ion based on its group number
7. Describe how to determine the number of each type of atom from a chemical formula (and name those chemicals)
8. Describe how to write chemical formula when ionic compounds form

### Common Substances and Techniques

9. Compare the properties of metals and non metals
- ~~10. Describe how carbon reduction is used to extract a metal from its ore~~
- ~~11. Describe how electrolysis is used to extract a metal from its ore~~
12. Describe how to identify an acid by its formula and list some common properties of acids
13. Describe how to identify a base by its formula and list some common properties of bases
14. Describe how to use the pH scale and universal indicator
15. List which commonly used chemicals are acidic and which are basic

### Chemical Equations

16. List the reactants and products in a neutralisation reaction. Write a chemical reaction for a neutralisation reaction
17. List the reactants and products for an acid and metal reaction. Write a chemical reaction for an acid and metal reaction
18. List the reactants and products for an acid and carbonate reaction. Write a chemical reaction for an acid and carbonate reaction