

# Science - Chemistry Road Map

**Year 1**

- \* Sorting materials
- \* Using them to make different objects

**Year 2**

- \* Solid materials do not change shape
- \* Different materials suitable for different uses

**Years 3/4**

- \* Soils are a mixture of rocks and organic matter
- \* Fossils form in rocks

- \* Properties of materials

- \* Changes including baking

- \* Solids, liquids and gases
- \* Changing state when heated or cooled

- \* Mixtures of different materials

**Years 5/6**

- \* Separation by filtering, sieving and evaporating

- Investigating Science:**
- \* Health and Safety in the Lab
  - \* Conducting and planning a fair experiment
  - \* Choosing correct graphs and drawing conclusions

- Particles and Elements:**
- \* Elements and the Periodic Table.
  - \* Further understanding of states of matter

**Year 7**

- Detection:**
- \* Application of chemistry skills to solve crimes

- Products and Purity:**
- \* Further understanding of reactions, including reactivity series of metals in acids and with oxygen

- Chemical Reactions:**
- \* Atoms and compounds
  - \* Introduction to types of reactions and equations

**Year 8**

**Year 9**

- \* Bonding
- \* Further understanding of patterns in the Periodic table

- The Earth and Its Elements:**
- \* Further development of the rock cycle
  - \* The Earth and atmosphere
  - \* Patterns in the Periodic Table

- Chemical Changes:**
- \* Understanding electrolysis

**Year 10**

- Bonding, Structures and Matter:**
- \* Further explanation of states of matter
  - \* Structure and bonding of carbon

- Quantitative Chemistry:**
- \* Extended understanding of conservation of mass
  - \* Further equations, including balancing

**Materials and States, Reactions and Separation**  
Earth and Atmosphere  
Periodic Table and Bonding

- Organic Chemistry:**
- \* Hydrocarbons and their properties
  - \* Cracking

- The Rate and Extent of Chemical Change:**
- \* Reactions in greater depth
  - \* Investigating the factors that affect the rate of a reaction

- Energy Changes:**
- \* Extended understanding of reactions, including exothermic and endothermic

**Year 11**

- Chemical Analysis:**
- \* Separating Techniques in greater depth
  - \* Gas tests

- Chemistry of the Atmosphere:**
- \* The Earth's atmosphere in greater depth, including early atmosphere
  - \* Climate change

- Using Resources:**
- \* Potable water
  - \* Environmental impact of products

