

Unit Overview Collision Theory

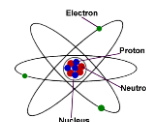
- Rate of reaction and the factors that affect them.
- Collision theory

Key learning points	Key Words
Factors which affect rate of reaction	Collision frequency Concentration Rate of reaction Temperature Catalysts Surface area Reactant Products Activation energy
RP Changes in concentration	
Collision theory	
Links to other subjects: SMSC The influence of ancient Greece on the scientific method. Numeracy Rearranging equation. Substituting numerical values into equations using appropriate units. Interpretation of graphs. Literacy Describe observations in practical work, explain the effect of different factors on rate of reaction, describe collision theory, explain changes in the rate of reaction using collision theory	

Unit Overview – Structure of the atom

You will learn about:

- How scientists have developed their understanding of the structure of the atom.
- The structure of the atom
- The properties of the particles that make up the atom.



You will be able to:

- Draw the electronic structure of atoms.
- Recall the relative charge and mass of subatomic particles.

Key learning points	Key Words
History of the atom	Atom Electrons Proton Neutron Ion Isotope Nucleus Mass Number Atomic Number
Atomic structure and isotopes	
Electronic structure	
Links to other subjects: SMSC: Understand and appreciate the impacts of human development on the environment and describe the effects that this is having. Literacy: Describe observations in practical work. Explain the structure of the atom. Describe how reactivity and trends are linked to position in the periodic table. Numeracy: Use decimal and standard form, make simple calculations, use appropriate significant figures, construct tables and histograms, visualise and represent models in a 2D form	

Unit Overview – The Periodic Table

- How we have developed our understanding of the periodic table.
- Properties of metals, non-metals, and the properties of group 0, 1 and 7.

You will be able to:

- Explain how scientific ideas and explanations develop over time as new evidence emerges.
- Explain how and why the Periodic Table is arranged the way it is.
- Explain the properties of certain elements.

A simplified periodic table with element symbols. It includes groups 1-10, 12-18, and the lanthanide and actinide series at the bottom. The lanthanide series (La to Lu) and actinide series (Ac to Lr) are shown in separate rows below the main table.

Key learning points	Key Words
Development of the periodic table	Alkali metals Halogens Noble gases Metals Reactivity Groups Periods The Periodic Table
Metals and non-metals	
Group 0 and Group 1 properties and reactivity	
Group 7 properties and reactivity	
Transition metal properties (Triple only)	

