

Subject	Year	Term
Science	8	1
Topic		
8C1 Properties of elements		
Content (Intent)		
<p>Prior Learning (Topic) KS1 curriculum - everyday materials, KS2 – uses of everyday materials, states of matter, properties and changes of materials. 7C1 Physical changes and the particle model</p>		
<ul style="list-style-type: none"> • Changes of State – Describe the changes in motion and the distance between the particles. Describe the energy changes during a change of state. • Endothermic and Exothermic reactions – Understand what happens, in terms of energy in an endo and exothermic reaction. • The Periodic Table – Understand the principles behind the arrangement of the periodic table. Identify patterns on the periodic table. • Metals, Non-Metals and their oxides– Know the properties of metals and non-metals. Know how to make metal and non-metal oxides. • Reactivity of Metals – Understand that metals in the periodic table exhibit different levels of reactivity. • Displacement Reactions – Know the effect more reactive metals have on metal compounds. • Extracting metals – Know how carbon is used to extract metals from metal oxides. • Useful Materials – Understand how particular properties can make materials useful. • Composites and Polymers – Know what composites and polymers are. Know what properties of a composite makes them useful. • Required Practical – Identifying hazards and making a risk assessment. 		
<p>Future Learning (Topic) 8C2 Chemical Reactions & the Earth (lessons 10 and 13), C5 Energy changes, C10 Using resources (lessons 1 and 4), C1 Atomic structure and the periodic table, C2 Bonding, structure and properties of matter and C4 Chemical changes.</p>		
How will knowledge and skills be taught? (Implementation)	How will your understanding be assessed & recorded (Impact)	
<p>Demos Endothermic reaction between barium hydroxide and ammonium chloride Group 1 metals reactions in water Reactions of calcium in water and with acid Making nylon polymer</p> <p>Practical work Energy changes when a change in state occurs Exothermic and endothermic reactions Investigating the properties of metals and non-metals Investigating the reactivities of metals Displacement reactions Extracting copper using carbon Investigating plaster composites Investigating the properties of a polymer. Required practical: Identifying hazards and making a risk assessment</p>	<p>- 2 x standard homeworks (Level given. Written feedback. Response expected.) -1 x end of topic test (Level given. Verbal feedback to class and individuals.)</p> <p>OPTIONAL.</p> <p>- Table of results for endothermic and exothermic reactions: in exercise book. Oral or written feedback given.</p> <p>-Risk assessment written for the reaction between magnesium and dilute hydrochloric acid: in Required Practical booklet. Oral or written feedback given.</p>	

Written
Research and identify patterns on the periodic table.
Write a simple risk assessment.

How can parents help at home?

Look at the topic specific resources on the VLE
Use appropriate youtube channels: cognito, primrosekitten, khan academy, freesciencelessons, BBC bitesize.
Take an interest! Ask your children what they have learnt and be curious about their learning.

Helpful further reading/discussion

Reading

The Periodic Table Book: A Visual Encyclopedia of the Elements by DK (DK books)

The Periodic Table by Primo Levi (Penguin books)

Vocabulary Lists

- Endothermic
- Exothermic
- Element
- Group
- Period
- Conductor
- Oxide
- Displace
- Composite
- Polymer

Careers Links

Materials scientist
Engineering
Health and Safety Officer