

SCIENCE YEAR 7 - TERM 2.1

I ANALYSE

(Breaking down and evaluating patterns, processes, and results)

1. I can analyse the properties of metals and non-metals and compare their characteristics.
2. I can evaluate the reactivity of different metals and predict their behavior in reactions.
3. I can analyse how water and light waves interact with different materials.

I APPLY

(Using knowledge in practical contexts and real-world applications)

1. I can apply knowledge of metal properties to select appropriate materials for real-world uses.
2. I can apply my understanding of transition metals to chemical reactions.
3. I can use the reactivity series to predict the outcomes of metal reactions.
4. I can apply principles of extracting metals to practical examples like iron extraction.

I INTERPRET

(Explaining, making sense of data, and summarizing findings)

1. I can interpret the results of experiments involving the properties of metals and non-metals.
2. I can explain how light and water waves behave in different mediums.
3. I can interpret data from experiments involving reflection and refraction.
4. I can explain how our eyes detect light and how we perceive colour.

I PRACTISE

(Hands-on tasks and scientific investigations)

1. I can use laboratory equipment safely to test the properties of metals and non-metals.
2. I can conduct experiments to demonstrate the reactivity of metals in different conditions.
3. I can investigate the process of metal extraction, focusing on iron.
4. I can practise using ray diagrams to model reflection and refraction in light.

I READ

BBC BITESIZE – [Metals, Reactivity Series and extraction](#), [Waves and Light](#)
 CGP Revision Guide – Page 67 to 74, page 136 to 143

I LEARN

CHEMISTRY – METALS

1. Properties of Metals and Non- Metals
2. Transition Metals
3. Reactivity Series of Metals
4. Extracting Metals - Iron

PHYSICS – WAVES AND LIGHT

1. Introduction to Waves – Water Waves & Light Waves
2. Reflection
3. Refraction
4. How we see and colour

Scientific Skills

SCIENCE YEAR 7 - TERM 2.2

I ANALYSE

(Interpreting patterns, relationships, and processes)

1. I can analyse how inherited and environmental factors cause variation.
2. I can interpret data on traits and patterns of inheritance.
3. I can analyse the impact of human activity on extinction and biodiversity.
4. I can compare physical and chemical changes based on observations.

I SOLVE PROBLEMS

(Using reasoning, logic, and calculation to reach conclusions)

1. I can solve problems involving natural selection scenarios.
2. I can predict outcomes of chemical reactions based on the type of change.
3. I can classify chemical reactions as exothermic or endothermic.
4. I can identify and correct errors in unbalanced chemical equations.

I APPLY

(Using scientific knowledge in unfamiliar or real-world contexts)

1. I can apply the principles of natural selection to explain species evolution.
2. I can relate variation in traits to survival advantages in changing environments.
3. I can apply conservation knowledge to suggest ways of preserving species.
4. I can use chemical knowledge to classify reactions and predict reactants/products.

I PRACTISE

(Carrying out investigations and developing scientific technique)

1. I can conduct investigations to observe physical and chemical changes.
2. I can model DNA structure and variation using practical tools.
3. I can measure temperature changes in exo- and endothermic reactions.
4. I can practise writing and balancing simple chemical equations.

I READ

BBC BITESIZE - [Variation and Inheritance](#), [Chemical Reactions](#)
CGP Revision Guide – Page 41 to 47, 75 to 79

I LEARN

BIOLOGY – VARIATION AND INHERITANCE

1. DNA and Inheritance
2. Variation
3. Natural selection
4. Extinction and Preserving species

CHEMISTRY – CHEMICAL CHANGES

1. Physical and chemical changes
2. Chemical Reactions - Combustion, Oxidation and Thermal decomposition
3. Exothermic and Endothermic Reactions
4. Writing and Balancing Equations

SCIENTIFIC
SKILLS