KS3 Physics - Sound & Light			
Unit Summary: Students will have studied sound and light waves throughout KS2. Now they will study the properties of these waves in greater detail. There will also be links to Biology as they learn how these waves are processed by our bodies through the senses. **Future You:** Sound professional, IT Systems operator - British army, Broadcast engineer, Physical oceanographer			
Substantive Knowledge	• frequencies of sound waves, measured in hertz (Hz); echoes, reflection and absorption of sound • sound needs a medium to travel, the speed of sound in air, in water, in solids • sound produced by vibrations of objects, in loudspeakers, detected by their effects on microphone diaphragm and the ear drum; sound waves are longitudinal • auditory range of humans and animals. • the similarities and differences between light waves and waves in matter • light waves travelling through a vacuum; speed of light • the transmission of light through materials: absorption, diffuse scattering and specular reflection at a surface • use of ray model to explain imaging in mirrors, the pinhole camera, the refraction of light and action of convex lens in focusing (qualitative); the human eye • light transferring energy from source to absorber leading to chemical and electrical effects; photo-sensitive material in the retina and in cameras • colours and the different frequencies of light, white light and prisms (qualitative only); differential colour effects in absorption and diffuse reflection.		
(Procedural)	4.1.3 Frequency and pitch - Relate the changes in the shape of an oscilloscope trace to changes in pitch and volume 4.2.4 The eye and vision - Use ray diagrams to model how light passes through lenses and transparent materials		
Academic literacy	**Vocabulary introduced:** *amplitude, auditory nerve, cochlea, lens, decibel, echo, eclipse, frequency, image, luminous, refraction*		
Outcomes	**Support students should…** … name materials that sound can travel through … define amplitude, frequency, and wavelength … define auditory range … name some parts of the ear … state the speed of light … identify examples of specular and diffuse reflection … describe what happens when light is refracted … name parts of the eye … state the effect of coloured filters on light	**Core students should…** … contrast the speed of sound and the speed of light … describe the link between loudness and amplitude, using Diagrams … describe the link between frequency and pitch … describe how your hearing can be damaged … explain how ray diagrams can explain the formation of Shadows … explain how images are formed in a plane mirror using a ray diagram … record observations using a labelled diagram … name the lens used to correct short sight, and the lens used to correct long sight … explain what happens when light passes through a prism	**Extend students should…** … explain what is meant by supersonic travel … describe in detail the behaviour of sound as it travels in matter or hits a boundary … compare and contrast waves of different frequency using a diagram … explain, in detail, risks of hearing damage linked to sound level and time of exposure … use ray diagrams to explain what observers see during an eclipse … predict how light will reflect from different types of Surface … draw ray diagrams to show what happens when light goes through a convex or concave Lens … explain how the eye forms an image … predict how coloured objects will appear given different coloured lights and filters
Assessment	30 minute test followed by improvements Regular formative assessment throughout lessons in the form of short questions and activities		

KS3 Chemistry - Year 7 Unit 7: Earth

Unit Summary: This unit (9 content lessons) is subdivided into two sections: **7.1 Earth structure** and **7.2 Universe**. The first section classifies the earth's structure and introduces minerals. Igneous metamorphic and sedimentary rocks are explored, and the rock cycle defined. Learners find opiate about ceramics .The second section considers what we see in our night sky, details the components of the solar system, considers why we have seasons and moon phases.
Future You: Environmental education officer, Mine geologist, astronaut, working for space x
Big Ideas: Moon landing

Core Knowledge

- The Earth has a **crust, mantle** and an inner and outer **core**; **Minerals** are mixtures of naturally occurring elements or compounds
- **Sedimentary** rocks have characteristic features and properties, e.g. they are usually **porous**; They are formed through weathering into sediments; **Erosion** which means *'the breaking of rock into sediments and their movement away'*. **Transport** processes eventually leads to **deposition** into layers or **strata**; Compaction and cementation then occur
- **Igneous** rocks are hard and **durable; Magma** can cool slowly and form large crystals as with granite**,** or quickly such as under water with basalt, forming small crystals; **Metamorphic** rocks are formed from pre-existing rocks due to the effects of heat, high pressure or both
- Rocks change from one type to another through the **rock cycle**; **uplift** provides evidence for the rock cycle
- **Ceramics** are compounds, they include metal silicates, metal oxides, metal carbides and metal nitrides; **Ceramics** have unique properties that make them useful for specific purposes
- A look into the night sky will show you **natural and artificial satellites orbiting** the **Earth**. The planets form part of our **sun's solar system**; Our **galaxy** is called the **milky way**. It contains billions of **stars**, their **solar systems** and **exoplanets.** Everything that exists is within the **Universe;** A **light year** is how far light can travel in one year (9 million, million kilometres)
- Our **solar system** contains the **sun**, the **planets** (the inner rocky planets and outer gas giants) and the **asteroid belt**
- The **Earth** spins on its **axis**, causing **day** and **night**. The **orbit** of the **Earth** around the sun takes a year; the seasons are caused by the tilt of the Earth; during the different **seasons** the height of the sun in the sky changes, the average daily temperature and the stars or **constellations** you see at night change
- There are different **phases of the moon**; we have had different models for our **solar system**- the **geocentric mode**l and the **heliocentric model**

Core practical lessons

7.1.4 The rock cycle: Model the processes that are responsible for rock formation and link these to the rock features
7.2.3 The Earth: Relate observations of changing day length to an appropriate model of the solar system

Academic literacy

Academic Literacy: Planet holidays - Produce a leaflet detailing information about visiting another planet in the solar system.
Vocabulary introduced: *Note key terms in bold in the Knowledge section above*

Outcomes

Support students should…	In addition, Core students should…	In addition, Extend students should…
Identify the different parts of the Earth; State simply how sedimentary, igneous and metamorphic rocks are formed; state how rocks may be recycled in the rock cycle; list common objects made from ceramics and state their properties; List the main objects in the night sky and their descriptions; Describe some of the main features of the solar system; say what causes day and night and a year; explain that the moon goes around the Earth and that it has different phases over its cycle;	Detail the characteristics of the different parts of the Earth; describe the processes that lead to the formation of sedimentary rock; link the cooling rate of igneous rock to crystal size; compare the formation of marble and slate; link all three rock types together in the rock cycle; describe the properties of ceramics and detail some specific uses; Detail the objects in the night sky and arrange them in order of size; list the objects in our solar system in order from the sun, explaining what keeps them in their positions; explain what causes the Earth's seasons; explain what causes the phases of the moon; compare the geocentric and heliocentric models of the solar system	Contrast 'freeze-thaw' physical weathering with chemical weathering and biological weathering; Explain how uplift as a process provides evidence for the rock cycle; describe how the arrangement of particles in ceramics gives the substance its key properties of high melting point and hardness; Explain why objects use the unit 'light year' and compare the time it takes for light from different objects in the sky to reach us; describe and explain how planet temperature varies with distance from the sun, detailing why Venus is unique; explain why shadows are longer at noon in winter than at noon in the summer; detail some evidence that led to the heliocentric model replacing the geocentric model of the solar system

Assessment

30 minute summative test followed by improvements and improvement targets which address gaps in knowledge
Regular formative assessment throughout lessons in the form of short questions and activities

KS3 Biology - Breathing & Digestion

Unit Summary: in year 6, students learned about the impact of diet, exercise, drugs, and lifestyle on the human body. They will look at these factors in greater detail at KS3 while also learning the mechanics behind breathing.
Future You: Respiratory physiologist, Gastroenterologist, Nutritional therapist, Food technologist
Big Ideas: Deep diving

Knowledge (Substantive)

- content of a healthy human diet: carbohydrates, lipids (fats and oils), proteins, vitamins, minerals, dietary fibre and water, and why each is needed
- calculations of energy requirements in a healthy daily diet
- the consequences of imbalances in the diet, including obesity, starvation and deficiency diseases
- the tissues and organs of the human digestive system, including adaptations to function and how the digestive system digests food (enzymes simply as biological catalysts)
- the importance of bacteria in the human digestive system
- the structure and functions of the gas exchange system in humans, including adaptations to function
- the mechanism of breathing to move air in and out of the lungs, using a pressure model to explain the movement of gases, including simple measurements of lung volume
- the impact of exercise, asthma and smoking on the human gas exchange system
- the effects of recreational drugs (including substance misuse) on behaviour, health and life processes.

(Procedural)

8.3.2 Breathing - Investigate a claim linking height to lung volume
8.4.4 Digestive system - Evaluate how well a model represents key features of the digestive system

Academic literacy

Challenge task: Journey of a cheese sandwich - students will detail the journey of food through the digestive system.
Vocabulary introduced: *addiction, alveolus, anus, carbohydrase, catalyst, digestive system, medicinal drug, protease, withdrawal*

Outcomes

Support students should…
… name the parts of the gas exchange system … state what happens to the ribcage and diaphragm during inhaling and exhaling … state one effect of a drug on health or behaviour … name one effect of alcohol on health or behaviour … name an effect of tobacco smoke on health … name some nutrients in a given diet … state that food tests show colour changes … state one potential problem for someone with an unhealthy diet … name the main parts of the digestive system … name some enzymes used in digestion

Core students should…
… describe how the parts of the gas exchange system are adapted to their function … explain how to measure lung volume … describe the difference between recreational and medicinal drugs … describe the effect alcohol has on conception and pregnancy … describe the effects of tobacco smoke on pregnancy … explain the role of each nutrient in the body … describe how to test foods for starch, lipids, sugar, and protein … calculate the energy requirements of different People … describe the process of Digestion … describe the role of bacteria in digestion

Extend students should…
… interpret data given to explain the difference in the composition of inhaled and exhaled Air … explain the similarities and differences between the bell jar and the breathing system … explain how recreational drugs can have a negative effect on people's lifestyles … explain the importance of providing information about drinking to the general public, not just pregnant women … explain how smoking causes disease … interpret nutritional information to make health comparisons between foods … use appropriate techniques to carry out a full range of food tests safely. I can interpret the findings and relate them to everyday situations … explain how an unhealthy diet causes health issues … give a detailed explanation of digestion in Sequence … explain how enzymes affect the rate of digestion

Assessment

30 minute summative test followed by improvements and improvement targets which address gaps in knowledge
Regular formative assessment throughout lessons in the form of short questions and activities

KS3 Physics - Contact forces & Pressure			
Unit Summary: Students learned about the mechanics behind forces in the Speed & Gravity unit. In this unit, students will apply their knowledge of forces to some more abstract scenarios such as springs, pivots, and drag, as well as understanding how the particle model of nature leads to air pressure. **Future You:** Astronomer, Nanotechnology, Radiation protection, Prosthetist **Key Ideas Revisited:** Balanced and unbalanced forces			
Substantive Knowledge	• forces: associated with deforming objects; stretching and squashing – springs; with rubbing and friction between surfaces, with pushing things out of the way; resistance to motion of air and water • work done and energy changes on deformation • opposing forces and equilibrium: weight held by stretched spring or supported on a compressed surface. • force-extension linear relation; Hooke's Law as a special case • atmospheric pressure, decreases with increase of height as weight of air above decreases with height • pressure in liquids, increasing with depth; upthrust effects, floating and sinking • pressure measured by ratio of force over area – acting normal to any surface. • forces being needed to cause objects to stop or start moving, or to change their speed or direction of motion (qualitative only) • moment as the turning effect of a force • energy as a quantity that can be quantified and calculated; the total energy has the same value before and after a change • comparing the starting with the final conditions of a system and describing increases and decreases in the amounts of energy associated with movements, temperatures, changes in positions in a field, in elastic distortions and in chemical compositions • using physical processes and mechanisms, rather than energy, to explain the intermediate steps that bring about such changes.		
(Procedural)	1.3.1 Friction and drag - Investigate factors that affect the size of frictional or drag forces 1.4.3 Pressure on solids - Investigate how pressure from your foot onto the ground varies with different footwear		
Academic literacy	**Vocabulary introduced:** *pressure, compression, deformation, drag, fluid, friction, Hooke's law, moments, pivot, upthrust*		
Outcomes	**Support students should…** … identify examples of drag forces and friction … state an example of a force deforming an object … state the equation to calculate a turning force … describe the motion of particles in a fluid … state simply what happens to pressure with depth … predict qualitatively the effect of changing area and/or force on stress.	**Core students should…** … describe the effect of drag forces and friction … explain how solid surfaces provide a support force … calculate the moment of a force … describe how atmospheric pressure changes with height … use the equation for calculating fluid pressure … apply ideas of stress to different situations.	**Extend students should…** … explain why drag forces and friction slow things down in terms of forces … apply Hooke's Law to make quantitative predictions with unfamiliar materials … apply the concept of moments to everyday situations … explain a range of observations in terms of fluid Pressure … explain why an object will float or sink in terms of forces or density … calculate stress in multi-step problems.
Assessment	30 minute test followed by improvements Regular formative assessment throughout lessons in the form of short questions and activities		

KS3 Chemistry - Year 7 Unit 5: Matter Part 2

Unit Summary: This unit Is subdivided into two sections: **5.3 Elements** and **5.4 Periodic Table**. The first section builds from year 7 introductions to elements, atoms and word equations. It reviews the nature of atoms of elements, distinguishes molecules and compounds and introduces chemical formula. The second section identifies key trends in the Periodic Table, and explores Group 1, 7 and 0.
Future You:
Big Ideas: Vinyls

Core Knowledge

- **Elements** are defined; the **chemical symbols** of the first 16 **elements** are memorised
- **Atoms** are the smallest piece you can have of an **element.** The **properties** of **elements** are caused by the effect of very many **atoms** joined together
- **Compounds** are formed of **atoms** from two or more different **elements** bonded together, **Atoms** can bond together to form **molecules;** Most **non-metals** and **compounds** of **non-metals** exist as small or giant **molecules; Forces** between **molecules** explain the **melting** and **boiling points** of many substances;
- **Compounds** can be represented using particle diagrams and by **chemical formula**; Name **compounds** using their **chemical formula**; write chemical formula for simple molecules and compounds; identify the proportion of different elements in a substance by examining its chemical formula; Recognise **hydroxides** e.g. NaOH, **nitrates**, e.g. $NaNO_3$, **sulfates** e.g. **$CuSO_4$** and **carbonates** e.g. $CACO_3$
- **Polymers** are long **molecules** made from repeating subunits**;** we can distinguish **natural** and **synthetic polymers;** the **properties** of a **polymer** depends on its **molecules;**
- Know what is meant by **physical properties**; Understand the importance of **groups** and **periods** in the **Periodic Table, and that some trends** in **physical properties** can be identified
- Know that **Group 1** contains the **alkali metals**; describe some patterns in **physical** and **chemical properties** for **Group 1**
- Know that **Group 7 contains** the **halogens;** describe patterns and **properties** for **Group 7;** understand how **displacement reactions** occur between **halogen salts**
- Know that **Group 0** contains the **noble gases;** describe some of the **properties** of the **noble gases** including their **unreactivity**

Core practical skills

5.4.2 Group 1 - Observe the reactions of group 1 metals with water and comment on reactivity.
5.4.3 Group 7 - Observe displacement reactions and conclude reactivity of group 7 elements.

Academic literacy

Vocabulary introduced: *Note key terms in bold in the Knowledge section above*

Outcomes

Support students should…	In addition, Core students should…	In addition, Extend students should…
Know what is meant by the term atom and element; know some chemical symbols; Know that compounds contain more than one type of element joined together; draw particle diagrams to represent simple chemical formulae; write formula to represent simple molecules or compounds; know what a polymer is and give an example; Say simply what the Period Table is; identify Group 1 and state simple facts about some of the elements; identify Group 7 and state simple facts about some of the elements; Identify Group 0 and state simple facts about some of the elements	Define the terms atom element; list the chemical symbols for the first 16 elements; draw diagrams to distinguish an atom from a molecule and an element from a compound; name compounds using their chemical formula; draw particle diagrams for substances according to their chemical formula; distinguish natural and artificial polymers; explain what *groups* and *periods* are and their importance; state the trends and key properties of Group 1 elements; state the trends and key properties of Group 7 elements; state trends and properties of Group 0 elements	Know some limitations of the 'solid sphere' model of an atom; explain melting and boiling points be reference to bonds between atoms/molecules; Describe how forces between molecules can explain melting and boiling points of substances like hydrogen or water; use chemical formula to deduce the elements present in a substance and their relative proportions; recognize hydroxides, nitrates, sulfates and carbonates; link the properties of named polymers to the behaviour of their polymer chains; detail some trends in the Periodic Table; detail some of the reactions of Group 1 elements; use world equations to explain displacement reactions between halogen salts; describe how noble gases are unreactive, perhaps with a reason

Assessment

30 minute summative test followed by improvements and improvement targets which address gaps in knowledge
Regular formative assessment throughout lessons in the form of short questions and activities

KS3 Biology - Respiration & Photosynthesis			
Unit Summary: To build on top of student's knowledge of animal and plant cells, they will learn about the mechanisms that allow those cells to produce energy and food within organisms. Those being, photosynthesis in plant cells and respiration within all other cells with mitochondria. **Future You:** Sports scientist, Brewer, Baker, Agronomist **Big Ideas:** Deadly plants **Key Ideas Introduced:** Photosynthesis **Key Ideas revisited:** Respiration			
Knowledge **(Substantive)**	• plants making carbohydrates in their leaves by photosynthesis and gaining mineral nutrients and water from the soil via their roots • the role of leaf stomata in gas exchange in plants. • the reactants in, and products of, photosynthesis, and a word summary for photosynthesis • the dependence of almost all life on Earth on the ability of photosynthetic organisms, such as plants and algae, to use sunlight in photosynthesis to build organic molecules that are an essential energy store and to maintain levels of oxygen and carbon dioxide in the atmosphere • the adaptations of leaves for photosynthesis. • aerobic and anaerobic respiration in living organisms, including the breakdown of organic molecules to enable all the other chemical processes necessary for life • a word summary for aerobic respiration • the process of anaerobic respiration in humans and microorganisms, including fermentation, and a word summary for anaerobic respiration • the differences between aerobic and anaerobic respiration in terms of the reactants, the products formed and the implications for the organism.		
(Procedural)	9.3.2 Anaerobic respiration - Use data from investigating fermentation with yeast to explore respiration 9.4.3 Investigating photosynthesis - Use lab tests on variegated leaves to show that chlorophyll is essential for photosynthesis		
Academic literacy	**Challenge task:** How does a plant grow - Students produce a poster ***explaining*** how plants acquire and process nutrients to grow **Vocabulary introduced:** aerobic, anaerobic, fermentation, photosynthesis, stomata		
Outcomes	**Support students should…** … give the name of the process by which energy is released in cells … state one difference between aerobic and anaerobic Respiration … name the organism used to make bread, beer, and wine … state where photosynthesis occurs in a Plant … name the main structures of a leaf … list the factors that affect the rate of photosynthesis … name the minerals required by plants	**Core students should…** … state the word equation for aerobic respiration … state the word equation for anaerobic respiration … write the word equation for fermentation … state the word equation for photosynthesis … explain the distribution of the chloroplasts in a leaf … carry out and record observations for an experiment to test for the presence of starch in a leaf … explain the role of nitrates in plant growth	**Extend students should…** … plan an investigation to explain the effect of exercise on respiration rates … explain the uses of the products from anaerobic Respiration … explain why temperature is important in the making of bread, beer, and wine … carry out and record observations for an experiment to prove that oxygen is produced during photosynthesis … explain the role of chloroplasts in photosynthesis … describe why low temperature, shortage of carbon dioxide, and shortage of light limit the rate of Photosynthesis … explain deficiency symptoms in plants
Assessment	30 minute summative test followed by improvements and improvement targets which address gaps in knowledge Regular formative assessment throughout lessons in the form of short questions and activities		

KS3 Physics - Magnetism & Electromagnets			
Unit Summary: Students won't have studied magnets since Year 3 but magnets have wide reaching application beyond just "Satisfying video compilations" on youtube. They'll be reminded about the basic properties of magnets but introduced to electromagnets, the technology behind electricity generation. **Future You:** MRI technician, Auto mechanics, Wind turbine technician, Theatre technician, **Big Ideas:** Orienteering: compasses and the stars **Key Ideas Introduced:** Magnetic fields			
Substantive Knowledge	• magnetic poles, attraction and repulsion • magnetic fields by plotting with compass, representation by field lines • Earth's magnetism, compass and navigation • the magnetic effect of a current, electromagnets, D.C. motors (principles only).		
(Procedural)	2.4.1 Electromagnets - Investigate ways of varying the strength of an electromagnet 2.3.1 Magnets and magnetic fields - Explore the magnetic field pattern around different types or combinations of magnets		
Academic literacy	**Challenge task:** Scrap Heap magnet challenge - ***Discuss*** how you think a scrap heap magnet works? **Vocabulary introduced:** *electromagnet, magnet, magnetic field, poles, solenoid*		
Outcomes	**Support students should…** … draw the magnetic field lines around a bar magnet … state the main features of an electromagnet … state some uses of electromagnets.	**Core students should…** … describe how magnets Interact … describe how to change the strength of an Electromagnet … describe how an electric bell, circuit breaker, or loudspeaker works.	**Extend students should…** … explain how a compass works … predict the effect of changes made to an electromagnet, using scientific knowledge to justify the claim … suggest investigations about electromagnets used in different applications.
Assessment	30 minute test followed by improvements Regular formative assessment throughout lessons in the form of short questions and activities		

KS3 Chemistry - Year 8 Unit 6: Reactions Part 2

Unit Summary: This unit Is subdivided into two sections: **6.3 Types of reactions** and **6.4 Chemical energy**. The first section considers the importance of the conservation of mass in chemical reactions. Combustion and thermal decomposition reactions are considered in detail. The second section introduces exothermic and endothermic reaction types. It also explores some quantitative chemistry: writing balanced symbol equations; energy level diagrams and bond energies
Future You: Crime scene investigator, Teaching lab technicians, H&S inspector, Waste management officer
Big Ideas: Fireworks

Core Knowledge

- **Chemical reactions** involve **reactants** forming **products.** During a **chemical reaction** the number of atoms is **conserved,** as is the **mass** of atoms
- **Fuels** are substances that store energy as a chemical store**. Fuels** may be **renewable** or **non-renewable (**e.g. **fossil fuels).** Burning is also called **combustion.** During **combustion** a substance reacts with oxygen, releasing energy to the surroundings
- as heat and light**.**
- Know what happens in a **decomposition** reaction, for example hydrogen peroxide **decomposing** into water and oxygen**;** Recognize **thermal decomposition** reactions in which heat is used to break a substance down into simpler substances
- Explain what is meant by **conservation of mass**; write **balanced symbol equations**
- Distinguish **endothermic** from **exothermic** reactions; Interpret **energy level diagrams** for chemical reactions, identifying whether each is **endothermic** and **exothermic** in nature
- Know what the **catalyst** does in a **catalytic converter**; Know that **bond-breaking** is **endothermic** and **bond-making** is **exothermic**; Know that a reaction is **exothermic** if the energy needed to break **chemical bonds** in the reactants is less than in making bonds in the products; Know that a reaction is **endothermic** if the energy needed to break bonds in the reactants is more than the energy needed to make bonds in the products; Calculate **bond energies** in a chemical reaction

Core practical skills

6.3.2 Combustion - demonstrating combustion and testing for the presence of its products
6.3.3 Thermal decomposition - demonstrating thermal decomposition and the danger of 'suck back'

Academic literacy

Vocabulary introduced: *Note key terms in bold in the Knowledge section above*

Outcomes

Support students should…
Identify the reactants and products in a chemical reaction; know what a fuel is, and name some renewable and non-renewable fuels; recognize that in decomposition reactions a substance is broken down into smaller substances; in simple terms, recognize that in a reaction there is conservation of mass- or that the total number of atoms (and therefore their mass) is unchanged

Know that exothermic reactions release heat, and in endothermic reactions the products get colder; Know that an energy level diagram shows the energy stored in the chemical bonds of substances; State that a chemical bond is are strong forces that hold atoms together, and that the energy needed to make or break a bond is called bond energy

In addition, Core students should…
Write word equations that correctly name reactants and products in simple chemical reactions; explain pros and cons of some renewable and non-renewable fuels; write word equations for simple combustion reactions; recognize decomposition and thermal decomposition reactions; Explain in their own words what is meant by 'conservation of mass'; write balanced symbol equations for simple reactions

Compare endothermic and exothermic reactions, knowing examples for each; Interpret energy level diagrams in order to explain whether a given reaction is endothermic or exothermic; know that bond breaking is endothermic and bond making is exothermic; recognize if a reaction is endothermic or exothermic by comparing the energy needed to break bonds in a reaction to the energy needed to form new n=bonds in a chemical reaction

In addition, Extend students should…
Explain how during chemical reactions there is conservation of mass; detail how the use of hydrogen as a fuel *may* have environmental benefits; predict the products of the decomposition of a given reactant; write balanced symbol equations for a range of chemical reactions; Calculate the bond energies for a given reaction, and explain if the reaction is endothermic or exothermic

Assessment

30 minute summative test followed by improvements and improvement targets which address gaps in knowledge
Regular formative assessment throughout lessons in the form of short questions and activities