

B1, 1 Cells	B1, 2 Body systems	B1, 3 Reproduction
1.1 Microscopes (<i>practical</i>) - Describe how to use a microscope - Use a microscope to observe a prepared slides - Explain what each part of the microscope does and how it is used - Use a microscope to observe a prepared slide and calculate the magnification	2.1 Levels of organisation - State what is meant by a tissue, an organ, and an organ system - State the sequence of the hierarchy of organisation in a multicellular organism - list the organs found in a given organ system, and state the function of that system - Explain how the different tissues in an organ, and the different organs in an organ system function together	3.1 Reproductive systems - Name the main structures of the male and female reproductive system - Describe the function of the main structures in the male and female reproductive systems - Explain how different parts of the male and female reproductive systems work together to achieve certain functions
1.2 Plant and animal cells - Describe what a cell is - Describe the similarities and differences between plant and animal cells - Describe the functions of the components of a cell - Explain the functions of the components of a cell by linking them to life processes	2.2 Respiratory System (<i>lung dissection practical</i>) - Name the parts of the respiratory system - Describe how the parts of the respiratory system are adapted to their function - Explain how the adaptations of the parts of the respiratory system help them perform their function	3.2 Fertilisation and Gestation - Describe the structure and function of gametes - Describe the process of fertilisation - Describe how the foetus develops during gestation - Describe what happens during birth
1.3 Observing cells key Practical - Prepare and observe an animal and a plant cell on a microscope slide safely - Prepare and observe cells on a microscope slide safely calculating magnification	2.3 Breathing - State what happens to the ribcage and diaphragm during inhaling and exhaling - Interpret data given to compare the difference in the composition of inhaled and exhaled air - Describe the processes of inhaling and exhaling	3.3 Adolescence - State the definitions for adolescence and puberty - Describe the main changes which take place during puberty to the bodies of boys and girls
1.4 Specialised cells - Name some examples of specialised animal and plant cells - Describe specialised features of plant and animal cells, - Describe examples of specialised plant cells, linking structure and function	2.4 Exercise and Breathing Key Practical Write up - Collect data on the effect of exercise on breathing rate - Write a method, identifying key experimental variables - Make and record observations - Interpret observations graphically and draw conclusions	3.4 The menstrual cycle - State what the menstrual cycle is - Describe the main stages in the menstrual cycle - Give examples of different types of contraception - Compare effectiveness of different types of contraception

1.5 Movement of substances Key Practical - Name some substances that move into and out of cells - State simply what diffusion is - Make sets of observations or measurements of diffusion in a practical (gummi bears or potato cylinders) - Explain the process of diffusion	2.5 Skeleton • Name the main parts in the skeleton • List the functions of the skeletal system		
	2.6 Joints and muscles • State the function of major muscle groups • State the definition of antagonistic muscles - State where joints are found in the body • State how a muscle exerts force during movement		
C1, 1 Particles and their behaviour	C1, 2 Elements, and compounds	C1, 3 Reactions	C1, 4 Acids and alkalis
1.1 States of Matter - Identify a substance in its three states - Describe the properties of a substance in its three states - Use observations to decide if substances are solids, liquids, or gases	2.1 Elements - State simply what atoms are - State what an element is - Compare the properties and uses of different elements - Describe how we represent elements using symbols - Discuss an atom in terms of sub-atomic particles	3.1 Chemical reactions (practical) - State some signs of a chemical reaction - Describe what happens to atoms in chemical reactions - Compare chemical reactions to physical changes - Explain the differences in physical and chemical changes	4.1 Acids and alkalis - Name some common acids and alkalis - Compare the properties of acids and alkalis - Identify and describe the meaning of hazard symbols and offer suitable safety precautions - Describe differences between concentrated and dilute solutions of an acid
1.2 The particle model - State that materials are made up of particles - Draw the accurate particle model for each state of matter - Match particle models to the properties of a material - Use the particle model to explain why different materials have different properties	2.2 Compounds - State what a compound is - Explain why a compound has different properties to the elements in it - Use particle diagrams to represent elements and compounds - Describe what a molecule is	3.2 Word equations - Identify reactants and products in word equations - Write observations seen when two elements react - Write word equations to represent chemical reactions - Convert word equations into formula equations	4.2 Indicators and pH (practical) - State that indicators will be different colours in acids, alkalis, and neutral solutions - Describe broad colours of universal indicator for acids, alkalis, and neutral solutions - Use the pH scale to categorise substances as acid, alkali, or neutral using experimental observations - Categorise substances as strong or weak acids and alkalis using pH values

1.3 Changing State Key Practical - Name the different changes of state - Describe how particles change in their arrangements during changes of state - State the meaning of the term melting point - Describe the observations seen as stearic acid cools - Interpret melting point data to decide the state of a substance at a given temperature	2.3 Making compounds (practical) - Identify risks and precautions for a practical - Describe changes in properties between a compound and its elements - Explain using particle diagrams what happens when two elements react together	3.3 Burning fuels Key Practical - State what fuels react with when they burn - Predict products of combustion reactions - Compare the energy transferred for different fuels - Define the term oxidation	4.3 Neutralisation Key Practical Write up - State what happens during a neutralisation reaction - State examples of useful neutralisation reactions - Write a method, identifying key experimental variables, to investigate which indigestion remedy is the best - Interpret observations graphically and draw conclusions - Describe how pH changes in neutralisation reactions
1.4 Boiling and Evaporation - State the meaning of the term boiling point - Recognise that different substances boil at different temperatures - Explain the differences between evaporation and boiling - Describe how particles change during sublimation	2.4 Chemical Formulae - Name the elements in a compound - Write the chemical names for some simple compounds - Interpret chemical formula to state the number of atoms of each element in a compound	3.4 Thermal Decomposition - State what decomposition means - State what thermal decomposition means - Identify decomposition from word equations and predict reactants and products.	4.4 Making salts Key Practical - Describe what a salt is - Predict the salts formed when acids react with metals or bases - Describe the different stages in the method used to make copper sulphate
1.5 Diffusion (practical) - Define diffusion - Use the particle model to explain diffusion - Collect data to investigate the effect of temperature on diffusion - Describe why diffusion is faster at higher temperatures, using the concept of how fast particles are moving		3.5 Conservation of mass (practical) - State what happens to the mass of the reactants and products in chemical reactions - Explain conservation of mass - Describe how to find out the mass of a reactant or product	
1.6 Gas Pressure (practical) - State examples of gas pressure in everyday situations - Use the particle model to explain gas pressure - Describe the factors that affect gas pressure - Explain, using particle diagrams, what happens to gas pressure as the temperature increases		3.6 Exothermic and endothermic (practical) - State what happens in endothermic and exothermic changes - Identify a reaction as endothermic or exothermic - Record temperature changes during an exothermic and an endothermic change - Calculate the temperature change and classify a reaction as exothermic or endothermic	

P1, 1 Forces	P1, 2 Light and Sound	P1, 3 Space Project
1.1 Introduction to forces - Identify some forces acting on objects - Explain what forces do - Describe what is meant by an interaction pair - Explain the differences between contact and non-contact forces	2.1 Light - Describe some ways that light interacts with materials - Draw ray diagrams to show how we see different objects - State the speed of light - Calculate the distance travelled by light in a light-year	- Name some objects in the Solar System - Name the planets in the Solar System - Describe the structure of the Universe - Describe how objects in the Solar System are arranged - Describe some similarities and differences between the planets of the Solar System - Compare features of different
1.2 Balanced and unbalanced - Describe the difference between balanced and unbalanced forces - Draw force diagrams to represent balanced and unbalanced forces - Describe the effect on speed or direction of motion of objects due to unbalanced forces - Calculate resultant forces from force diagrams	2.2 Reflection Key Practical - Describe the features of a mirror image - Draw a ray diagram showing how an image is formed in a plane mirror - Describe the law of reflection - Discuss the difference between specular reflection and diffuse scattering	
1.3 Drag forces and friction Key Practical Write up - Describe the effect of drag forces and friction - Describe how drag forces and friction arise - Plan and carry out an experiment to investigate friction, stating the independent, dependent, and control variables	2.3 Refraction (practical) - Describe and explain what happens when light is refracted - Draw ray diagrams to show reflection - Describe what happens when light travels through a lens	
1.4 Gravity - Describe the effect of gravitational forces on Earth - Describe the difference between weight and mass - Calculate the weight of an object given its mass - Discuss how gravitational field strength varies on different planets	2.4 The Eye • Describe the structure of the eye • Discuss how the eye forms an image • Explain how an image is formed in the brain	

1.5 Stretching Key Practical Write up	2.5 Colour (<i>practical</i>)
- Describe how forces deform objects - Plan and carry out an experiment to investigate Hooke's Law - Present data in a line graph and identify a pattern Use Hooke's Law to predict the extension of a spring	- Explain what happens when light passes through a prism - Describe how primary colours add to make secondary colours - Describe how different colour filters work - Predict how coloured objects will appear given different coloured lights and filters
1.6 Speed (<i>practical</i>)	2.6 Sound
- Calculate speed using the speed equation - Carry out an investigation into reaction time - Rearrange the speed equation to calculate distance or time -	- Describe how sound is produced and travels - Explain why the speed of sound is different in different materials - Contrast the speed of sound and the speed of light - Explain why sound cannot travel through a vacuum
1.7 Motion graphs	2.7 Loudness and pitch
- Use a distance–time graph to describe a journey - Plot data given on a distance–time graph Calculate speed from a distance–time graph	- Describe the link between loudness and amplitude - Describe the link between pitch and frequency - State that frequency is measured in hertz - Compare the range of human hearing and the range of hearing in animals - Compare and contrast waves of different loudness and frequency using a diagram
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objects in the Solar System

- Explain the motion of the Sun, stars, and Moon across the sky