

Investigating science

Topic	We are learning to:	😊	😐	😞
What is Science?	State the names of the main areas of Science.			
	List some activities which are carried out in Science.			
	Give examples of jobs Scientists do			
Bunsen Burners	Label and correctly spell the parts of a Bunsen burner.			
	Light a Bunsen burner safely.			
	Draw a conclusion from our observations in an experiment.			
Apparatus	Accurately draw the symbols for apparatus used in KS3 Science.			
	Correctly spell the names for this apparatus.			
	Identify and locate the apparatus around the Science laboratory.			
Measurements	Understand the importance of units when recording measurements.			
	Choose appropriate scientific apparatus to make basic measurements.			
	Use basic measurement apparatus to make accurate measurements.			
Thinking like Scientists	List in order the main processes of the scientific method			
	Plan a simple experiment using the scientific method			
	Discuss the meaning of a <i>fair test</i> and plan a fair test experiment			
Investigating Boiling Water	List the main things to be included in an experiment write up.			
	Briefly describe an experiment to investigate how water boils.			
How to draw a line graph	Know when to use a line graph to represent our results			
	Successfully draw a line graph			
How to draw a bar graph	Know when to use a bar graph to represent our results			
	Successfully draw a bar graph			
Safety	State 10 safety rules of a Science lab			
	Identify Hazard symbols			
	Carry out a risk assessment			

Chemical and physical changes

Topic	We are learning:	☺	☹	⊗
Changes	To describe what happens when some substances are heated or cooled			
	To understand the idea of reversible change			
	To distinguish between reversible and irreversible changes			
Dissolving or melting?	that some substances are soluble and some are insoluble			
	that insoluble substances can be separated by filtering			
	that soluble substances can be recovered by evaporation			
	to understand that these changes are reversible			
	To know the steps necessary to obtain pure salt from rock salt			
Changing materials	To give the definitions of the words used in the preparation of pure salt			
	That when materials are mixed changes can happen			
Heating or burning?	The relevance of chemical changes in everyday products.			
	That when materials burn a flame can be seen			
	That heat causes chemical changes			
What is needed to make things burn?	That new substances are formed in a chemical change, some of which may be invisible			
	That fire happens when a material burns			
Fire safety	That fire needs oxygen, fuel and heat energy and that fires can be put out by removing one of these essential things			
	The importance of sensible precautions when dealing with anything which may cause a fire to go out of control			
	An awareness of the dangers of unsafe practices with fireworks			

Life, body systems and cells

Topic	We are learning to:	😊	😐	😞
What is a living thing?	recognise living things			
	List the seven characteristics of living things			
Cells	Know that all living things are made of cells			
	Label the parts of an animal and a plant cell and describe their functions			
	Identify similarities and differences between plant and animal cells			
	Prepare an onion slide			
	Label a microscope and develop practical skills using microscopes			
What type of cell?	List and describe some specialised animal and plant cells			
	Work out the magnification of a microscope			
Tissues, organs and organ systems	Recognise that similar cells make up tissues, tissues make up structures called organs and they work together in organ systems			
	Identify the main organs of the organ systems and describe their functions			
	Relate the body systems to the characteristics of life.			

Forces everywhere

Topic	We are learning to:	😊	😐	😞
Introduction to Physics and Forces	Understand what Physics is and what physicists do			
	Research about two important Physicists (Albert Einstein and Sir Isaac Newton)			
Observations and Measurements	That physics involves observations and measurements			
	That units are vital for all quantities			
	That physics ranges from the extremely small to the extremely large			
Forces	Forces are pushes and pulls			
	Define what a force is and its units			
	List different forces and observe their effect			
	Know the four possible effects of forces on an object			
	How to measure forces			
	Investigate the extension of a loaded spring			
Gravity and Forces	Give a definition for gravity			
	Know the difference between mass and weight			
	Know how to calculate weight on different planets			
Density Floating and Sinking	to compare materials using their density			
	to calculate the density of materials using the Density equation			
	to explain floating and sinking			

Solutions and separation

Topic	We are learning	😊	😐	😞
Solutions	What a solvent is.			
	What a solute is.			
	What a solution is.			
	What dissolving means.			
	What soluble means.			
	How temperature affects the solubility of a solid.			
	How stirring affects the solubility of a solid.			
Separating techniques	How to separate Immiscible liquids.			
	How to separate miscible liquids.			
	How to separate pigments.			
	How to separate a soluble substance from an insoluble substance.			
	How to separate pure water from salt water.			
	What a Liebig Condenser is.			

Reproduction

Topic	We are learning:	😊	😐	😞
Changes	To identify the physical changes that happen in puberty			
	To compare the changes of males and females at puberty			
	To identify the emotional changes that happen in puberty			
Sex cells	To identify the different parts of sperm cells			
	To identify the different parts of ovum cells			
	To understand the different functions of the cells' parts			
Reproductive systems	To identify the different parts of the female reproductive system			
	To identify the different parts of the male reproductive system			
	To understand the different functions of both reproductive systems			
Fertilisation and implantation	To understand the events that occur that lead to fertilisation			
	To identify the changes in the uterus			
Characteristics	To identify different characteristics between people			
	To understand what influences different characteristics			
Development of the baby	To identify the stages of foetal development			
	To understand how the foetus survives in the uterus			
Birth	To identify the three stages of birth			