Expectations and sticky knowledge

Art and Design

	Drawing	Painting	Sculpture	Other medium	Artist(s)
Reception	Draw images that represent real objects, such as a self-portrait	Using paints and simple colour mixing	Junk modelling and play dough, natural resources	Collage, cutting and simple mono-printing	Matisse Victorian drawings of animals Kandinski Paul Klee Monet Andy Goldsworthy Lowry
KS1	To choose and use three different grades of pencil when drawing to show how people feel in paintings and drawings. To know how to use pencils to create lines of different thickness in drawings Use viewfinders to focus on a specific artefact before drawing it	Know how to mix paint to mix all secondary colour To know how to mix paint to create all the secondary colours To know how to create brown with paint To know how to create tints with paint by adding white and know how to create tones with paint by adding black	Make a thumb pot, joining two pieces of clay together To cut, roll and coil clay	Use IT paint package to create a picture Collage Know how to create a printed piece of art by pressing, rolling, rubbing and stamping	To describe what can be seen and give an opinion about the work of an artist To ask questions about a piece of art To suggest how artists have used colour, pattern and shape To know how to create a piece of art in response to the work of another artist
LKS2	Facial expressions	Expressions in body language using paint.	To know how to sculpt clay and other mouldable materials.	Collage Digital and taking photographs	Cave paintings Peter Thorpe – Rocket paintings

	Marks and lines to show texture and movement To know how to use different grades of pencil to shade and to show different tones and textures	To know how to create a background using a wash To know how to use a range of brushes to create different effects in painting		To know how to print onto different materials using at least four colours To know how to use digital images and combine with other media know how to use IT to create art which includes their own work and that of others	Vincent Van Gogh – Starry night Monet – water lilies Egyptian art – death masks Propaganda art Lowry – Blitz site Henri Rousseau Frida Kahlo To know how to identify the techniques used by different artists To know how to compare the work of different artists To recognise when art is from different cultures To recognise when art is from different historical periods To experiment with the styles used by other artists. To explain some of the features of art from historical periods. To know how different artists developed their specific techniques To explain the style of art used and how it has been influenced by a famous artist To understand what a specific artist is trying to achieve in any given situation To understand why art can be very abstract and what
UKS2	To experiment by using a full range of pastels, pencils and charcoals to create a piece observational art To experiment with shading to create mood and feeling To experiment with media to create emotion in art To know how to use images created, scanned and found; altering them where necessary to create art To know how to use shading to create mood and feeling	Know which paints is used to maximise impact To know how to overprint to create different patterns	Explain why techniques being used and why that texture	Use a range of e-resources to create art To know which media to use to create maximum impact	

	To know how to organise line, tone, shape and colour to represent figures and forms in movement. To know how to express emotion in art To know how to create an accurate print design following given criteria.				message the artist is trying to convey

Computing

	Basic skills	e-safety	Programming /algorithms	Presentation (software)	Internet
Reception	Beebots and remote cars Pressing buttons and making something move	Use technology safely Keep personal information private and know where to go to help if you're concerned	Use Beebots and basic instructions	Beebots	Educational games
KS1	Open and switch on a computer and open a document/programme Save work onto a computer	Use technology safely Keep personal information private and know where to go to help if you're concerned	Write a simple programme and text it Beebots and Scratch Junior	PowerPoint, Word	Supported search
LKS2	Using Word and PowerPoint Inserting pictures and changing fonts	Use technology respectfully and responsibility Know where to get help Recognise acceptable and unacceptable behaviour when using technology	Programming an onscreen robot to move about on a screen eg use Scratch Junior	Produce and develop a Podcast Word, PowerPoint, Publisher	Search the internet safely and be able to use a search engine to efficiently retrieve information
UKS2	Touch typing and increase speed of typing	Have to make choices Not everything is true and safe Increasingly aware of the dangers of using IT, and use mobile phones	Write a programme with two variables; develop a sequenced programme	Present data collected in a variety of ways that makes it easy for the reader Publisher, Excel	Specific internet searches Understand the unreliability, include fake websites

Design and Technology

	Design	Make and evaluate	Technical knowledge	Cooking/ nutrition
Reception	Thinking about what to make	Using junk modelling and use the construction area	Simple joining	Making cakes as a group
KS1	Think of an idea and plan what to do next	Select from a range of tools and say why they have been chosen Accurately measure materials Explain what went well Diorama, houses, cars (things that move), things that are strong	Use wheels and axles Sawing Sewing Basic joins Make their own designs stronger	Cut food safely Weigh ingredients to use in a recipe Describe the ingredients used when making a dish or cake
LKS2	Plan, adapt Communicate these in a range of ways: sketches, drawings and annotated Measure accurately Prove that a design meets a set criteria. Design a product and make sure that it looks attractive Choose a material for both its suitability and its appearance	Follow a step-by-step plan, choosing the right equipment and materials Make a product which uses both electrical and mechanical components Work accurately to measure, make cuts and make holes Know which tools to use for a particular task and show knowledge of handling the tool Know which material is likely to give the best outcome	Electrical circuits links scientific knowledge by using lights, switches or buzzers use electrical IT knowledge to enhance the quality of the product To know how to strengthen a product by stiffening a given part or reinforce a part of the structure	Describe how food ingredients come together Weigh out ingredients and follow a given recipe to create a dish Talk about which food is healthy and which food is not Know when food is ready for harvesting Know how to be both hygienic and safe when using food Bring a creative element to the food product being designed

	Use ideas from other people when designing	Evaluate and suggest improvements for design Evaluate products for both their purpose and appearance Explain how the original design has been improved Present a product in an interesting way		
UKS2	To use market research to inform plans and ideas. Follow and refine original plans Justify planning in a convincing way Show that culture and society is considered in plans and designs Come up with a range of ideas after collecting information from different sources Produce a detailed, step-by-step plan Explain how a product will appeal to a specific audience Design a product that requires pulleys or gears	Use a range of tools and equipment competently Make a prototype before making a final version Make a product that relies on pulleys or gears Know which tool to use for a specific practical task Know how to use any tool correctly and safely Know what each tool is used for Explain why a specific tool is best for a specific action Know how to test and evaluate designed products Explain how products should be stored and give reasons Evaluate product against clear criteria	Use electrical systems correctly and accurately to enhance a given product Know which IT product would further enhance a specific product Use knowledge to improve a made product by strengthening, stiffening or reinforcing inks scientific knowledge to design by using pulleys or gears Use more complex IT program to help enhance the quality of the product produced	Explain how food should be stored and work within a budget Difference between sweet and savoury Be both hygienic and safe in the kitchen Know how to prepare a meal by collecting the ingredients in the first place Know which season various foods are available for harvesting Explain how food ingredients should be stored and give reasons Work within a budget to create a meal Understand the difference between a savoury and sweet dish

Geography

	Locational knowledge	Place knowledge	Human and physical	Skills and fieldwork	World issues
Reception	Local area – Coaley Family	Find out about other countries from the children's own experiences and from cultural and religious celebrations	Manufactured and natural; Coaley based language: rivers, woods, field,	Local walks	Celebrations from around the world: Divali, Christmas etc
KS1	Names of: 7 continents; 5 oceans Know the names of the four countries that make up the UK and name the three main seas that surround the UK and the 4 capital cities from the UK	Comparing Coaley with a variety of different locations, including Seaside, London, Dursley, and a non-European country Know features of hot and cold places in the world Know where the equator, North Pole and South Pole are on a globe	Mountain, lake, island, valley, river, cliff, forest, beach. Main differences between a city, town and village and advantaged and disadvantages of living there Seasons and basic weather: know which is the hottest and coldest season in the UK; know and recognise main weather symbols	Use world maps: Equator, North and South pole Compass directions: N/S/E/W Know their address, including postcode Left and right, below and next to	Current issues relating to UK People's lives when studying a place

LKS2	Names and locate at least 8 European countries Names and locate 8 major capital cities around the world Name at least 8 counties and 6 cities in UK Main mountain ranges and rivers in the UK Names of 4-countries from the southern and 4 from the north hemisphere Know where the equator, topic of Cancer, Capricorn and where GMT Know what is meant by the term tropics	Know at least five differences between living in the UK and a Mediterranean country Know the names of and locate at least eight counties and at least six cities in England Know where the main mountain regions are in the UK Know, name and locate the main rivers in the UK, including the River Severn	Earthquake and label different parts of a volcano Know different parts of a river Name the longest rivers and highest mountain Explain the cycle of a water-cycle Know why cities are located by a river	Use maps and globes to locate European capitals and countries Know where the equator, topic of Cancer, Capricorn and where GMT Know what is meant by the term tropics Knowing the manes of the 8-points of a compass Know how to plan a journey to somewhere in the UK	Recent world disasters Volcanos Tsunami Issues as they come up
UKS2	Names of a number of European capitals, A number of capital cities from around the world Know about time zones and work out differences	Know key differences between living in the UK and in a country in either North or South America	What are known as a Biomes Label the layers of a Rainforests and know what deforestation is Know some deserts	Know how to use graphs to record temperature and rainfall across the world Use Google Earth to locate places and follow journeys of rivers Know what the symbols on an OS map	

			Know why our industrial areas and ports are important Trade links with other countries Compare a developed and developing countries	Use 6-grid references	

History

	Chronological narrative (UK)	History of the wider world	Historical figures	Historical enquiry
Reception	Change from a baby. Past and present in their own lives and people familiar to them.	As part of the children's own experiences	As part of the children's own experiences	Begin to think how the local area is different to the way it used to be a long time ago
KS1	Know that the toys their grandparents played with were different to their own Organise a number of artefacts by age Know what a number of older objects were used for Know the main differences between their school days and that of their grandparents Know about an event or events that happened long ago, even before their grandparents were born Coaley Village and buildings around Coaley Queen Victoria Comparing toys. Great Fire of London Remembrance Day Know what we use today instead of a number of older given artefacts	Space Race Remembrance Day Explorers	Know about a famous person from the UK and outside the UK and explain why they are famous Know the name of a famous person, or a famous place, close to where they live Neil Armstrong Queen Victoria. Elizabeth I Wright Brothers. Florence Nightingale. Mary Seacole. Guy Fowlkes Charles Darwin Christopher Columbus. Walter Tull Sir Walter Raleigh William Tyndale	Know how the local area is different to the way it used to be a long time ago Differentiate between things that were here 100 years ago and things that were not including buildings, tools, toys, etc. Children to see and describe changes over time using everyday items, such as toys or clothes

	Know that children's lives today are different to those of children a long time ago			
LKS2	Draw a timeline with different historical periods showing key historical events or lives of significant people Know about the main events from a period of history, explaining the order of events and what happened. Stone Age to Iron Age Ancient Greeks Ancient Sumer and the Indus Valley Egyptians Local History Roman Empire	Know some of the main characteristics of the Athenians and the Spartans Know about and can talk about the struggle between the Athenians and the Spartans Know about the influence the gods had on Ancient Greece Know about the link between the Ancient Greeks and the modern Olympics Know at least five sports from the Ancient Greek Olympics Know that there some advanced civilizations in the world 3000 years ago and know that Britain was not one of them. Know about, and name, some of the advanced societies that were in the world around 3000 years ago Know about the key features of the Ancient Egypt; Ancient Greeks	Suffragettes. King Tut Julius Ceaser Robert Scott Peter Scott	Summarise how Britain may have learnt from other countries and civilizations (historically and more recently) Research what it was like for children in a given period of history and present findings to an audience Research to find answers to specific historical questions about their locality Know how their locality has been shaped by what happened in the past Know how historic items and artefacts have been used to help build up a picture of life in the past Know about the impact that one period of history had on the world

UKS2	Draw an accurate timeline with different historical periods showing key historical events or lives of significant people Know how to place features of historical events and people from the past societies and periods in a chronological framework. Know about the main events from a period of history, explaining the order of events and what happened. WW2 Anglo Saxons and Scots, Vikings Space Race Local History Mayans	Know about the impact that one of the following ancient societies had on the world: the Mayan civilization Know why they were considered an advanced society in relation to that period of time in Europe Know that many of the early civilizations gave much to the world	Historical figures linked to topics, eg: Winston Churchill, Neil Armstrong, Michael Collins, Buzz Aldrin, Edward Jenner	Describe events from the past using dates when things happened Know how an event or events from the past has shaped our life today Know how crime and punishment has changed over a period of time Know how Britain has had a major influence on the world. Know how the lives of wealthy people were different from the lives of poorer people. Research in order to find similarities and differences between two or more periods of history.

Languages - French

	Spoken	Read and Write	Topics
Reception	Hello and goodbye Songs		
KS1	Numbers, food and drink, say simple greeting and conversation starters such as my name is and I live in…	Begin to read and write simple words such as numbers and colours	Everyday topics, greetings
LKS2	Name and describe people, place objects. Have a short conversation saying ¾ things. Give a response to an asked question. Songs Start to speak, using a full sentence	Read and understand a short passage using familiar language Explain the main points in a short passage Read a passage independently Use a bilingual dictionary or glossary to look up new words Write phrases from memory Write 2-3 short sentences on a familiar topic Write what they like/dislike about a familiar topic	Family and friends. Days of the week etc. School life and at home

UKS2	Hold a simple conversation with at least 4 responses. Knowledge of grammar and speak correctly.	Understand a short story or factual text and note the main points Use the context to work out unfamiliar words Write a paragraph of 4-5 sentences Substitute words and phrases	What's the time, directions, going shopping, hobbies, life outside the home and linked to the class topics

Music

	Perform	Compose	Evaluate & appreciate (composers/pieces of music)	Singing
Reception	Performing rhymes and simple songs together. Exploring sound	Clap rhythms	Phillip Glass, Beethoven, Vera Lynn, Peter and the Wolf by Prokoviev, old music hall	Singing rhymes and simple songs
KS1	Play and instrument, choose sounds to represent different things Play simple rhythmic patterns on an instrument Order sounds to create a beginning, middle and an end Create music in response to different starting points	Clap and repeat rhythmic patterns. Make a sequence of sounds and respond to different moods. Order sounds to create a beginning, middle and end.	Say whether they like or dislike a piece of music. Make connections between notations and musical sounds. Listen with concentration to a piece of music.	Sing or clap in different tempos. Perform simple patterns, create a stead pulse. Use their voice expressively and follow instructions
LKS2	Clear notes on instruments. Different elements in composition.	Combine different sounds with specific moods and feelings. Using notation to record compositions. Create repeated patterns with different instruments	Use musical words to describe a piece of music. Identify and describe different purposes of music. Listen carefully and repeat phrases from music Explain why silence is often needed and what effect it has. Improve my work; explaining how it has been improved Recognise the work of at least one famous composer	Sing songs from memory with accurate pitch.

UKS2	Maintain own part whilst other are performing theirs. Take a lead.	Compose music which meets a specific criteria. Choose most appropriate tempo. Melody, rhythms and chords.	Analyse features within music. accurately recall a part of the music listened to Describe, compare and evaluate using musical vocabulary. contrast the work of a famous composer with another and explain preferences Explain why the think music is successful or unsuccessful. Compare and contrast the impact that different composer/musical styles from different times have had on people of that time, such as: Samba, Holst, Beethoven, Vera Lynn, Pan Pipe Music, Handel, Bach.	Sing in harmony confidently. Maintain own part whilst others are performing their part Take the lead in a performance

Physical Education

	Games	Gymnastics	Dance	Athletics/outdoor activities	Events
Reception Using the Atlas PE scheme	Throwing, catching, rolling, running, simple rules of games.	Moving with balance. Finding a space.	Moving their body expressively to music.	Running and relay races.	Sports Day.
KS1 Using the Atlas PE scheme	Attacking and defending games. Football. Cricket. Throw underarm and kick in different ways. Use hitting, kicking and/or rolling in a game Decide the best space to be in during a game Use a tactic in a game Follow rules	Plan and perform a sequence of movements. Travelling and balancing in different ways. Make body curled, tense, stretched and relaxed Control body when travelling and balancing Copy sequences and repeat them Roll, curl, travel and balance in different ways Plan and perform a sequence of movements Improve sequence based on feedback Think of more than one way to create a sequence which follows some 'rules'	Perform own dance moves. Change rhythm, speed, level and directions. Copy or make up a short dance Move safely in a space Make a sequence by linking sections together Use dance to show a mood or feeling	Throwing games. Take part in a relay, remembering when to run and what to do	Sports Day. Multi-Sports
LKS2 Using the Atlas PE scheme	Competitive games. Use space. Support team mates	Adapt sequences and criteria. Use apparatus.	Improvise freely and translate ideas from a	Run at different speeds and directions. Relay races	Cross country, District sports, Sports Day,

	Follow rules. Tactics. Rounders, Tennis, hockey, netball Recognise own improvement in ball games Be prepared to listen to the ideas of others Recognise own improvement in ball games	Strength and how it enhancing performance. Work with a partner to create, approve and repeat Compare and contrast gymnastic sequences Provide support and advice to others in gymnastics Be prepared to listen to the ideas of others Compare and contrast gymnastic sequences	stimulus into movement Share and create phrases with a partner and small group Remember and repeat dance perform phrases Take the lead when working with a partner or group Use dance to communicate an idea Provide support and advice to others in dance Be prepared to listen to the ideas of others	Sprint over a short distance and show stamina when running over a long distance Jump in different ways Throw in different ways and hit a target, when needed Be prepared to listen to the ideas of others Follow a map in a familiar context Use clues to follow a route Follow a route safely Follow a map in a (more demanding) familiar context Follow a route within a time limit	Tournaments – football, netball, rounders
UKS2 Using the Atlas PE scheme	Agree and explain rules to others Work as a team and communicate a plan Lead others in a game situation when the need arises Gain possession by working a team and pass in different ways	Make complex extended sequences Combine action, balance and shape Perform consistently to different audiences Combine own work with that of others Sequences to specific timings	How to create movement within a routine. Identify different styles of dance. Choose own music and style. Compose own dances in a creative way	Controlled when taking off and landing Throw with increasing accuracy Combine running and jumping Demonstrate Stamina. Know why own performance was better or not as good as their last plan a route and a series of clues for someone else	As LKS2

	Know why own performance was better or not as good as their last Choose a specific tactic for defending and attacking Use a number of techniques to pass, dribble and shoot Know which sports they are good at and find out how to improve further	Pick up on something a partner does well and also on something that can be improved Know why own performance was better or not as good as their last Know which sports they are good at and find out how to improve further	Perform dance to an accompaniment Dance shows clarity, fluency, accuracy and consistency Pick up on something a partner does well and also on something that can be improved Know why own performance was better or not as good as their last Know which sports they are good at and find out how to improve further	Plan with others, taking account of safety and danger Follow a map into an unknown location Use clues and a compass to navigate a route Change route to overcome a problem Use new information to change route Know which sports they are good at and find out how to improve further	

PSHE

	Relationships	Health/ safety	Community	Emotions	Finances
Reception Using the SCARF resources	Sharing. Taking turns.	Following class/school rules.	Thinking of others. Coaley. People who help us.	Manage their feelings and share things as well as their environment.	
KS1 Using the SCARF resources	Respect privacy. Being a good friend. Giving to others.	Staying safe in the sun. Road safety. Washing hands. Eating a healthy diet. Feeling safe- What secrets are not safe. SRE	Charity – children in need. Understanding similarities and differences within school and wider community. Respect the classroom and their own work.	Learning who to talk to if we need help with emotions. Using reflecting area. Noticing when people are sad or lonely. Explore own feelings.	Raise money.
LKS2 Using the SCARF resources	Bullying SRE Different Types of relationships/families.	Illness and medicine. Smoking and keeping fit. Road/railway safety. Changing bodies. Online safety.	Democracy. British Values. Rules and responsibilities.	Growth mindset Coping with worries. (Stress)	Money Responsibility.
UKS2 Using the SCARF resources	Bullying and unacceptable, including online safety and safe use of social media	Illness and medicine. Smoking and keeping fit. Road/railway safety. Changing bodies, sex education	Democracy. British Values. Rules and responsibilities.	Growth mindset Coping with worries. (Stress)	Keeping to a budget

	Different Types of relationships/families. Healthy and unhealthy relationships.	Legal and illegal drugs.			

RE

	Making sense of beliefs	Making connections	Understanding the impact
Reception	Show compassion and care for all of God's creatures-big and small. Caring for our amazing universe. Know the importance in saying sorry, it's ok to be wrong, we can learn from others.	Be brave and take on a challenge- growth mindset, have a go! Showing we are sorry by having faith in ourselves and others. Superheroes who have forgiven and made the world a better place. Respecting our school rules, adults, peers, our work.	Be honest and always tell the truth, no matter how hard that is.
KS1	Identify core beliefs and concepts studied and describe what they mean. How do stories give examples of what people believe. Give clear simple accounts of what stories mean to believers.	Think, talk and ask questions about what they have studied means to them. Give good reasons for the views.	Give example of how people use stories, text and teachings to guide their beliefs and actions and how they put it into practice.
LKS2	Identify and describe core beliefs. Clear links between texts. Offer informed suggestions about the texts and what they mean to believers.	Simple links between stories, teaching and concepts. How people live individually and in communities. How people show their beliefs through worship and the way they live. Identify some differences with how people put their believes into practice.	Make links between some beliefs practiced and life in the word today. Raise important questions. Give reasons for their views.
UKS2	Give reasoned explanation of how and why selected core believes and concepts are important	Why do people practice their beliefs in different ways.	

	To explore different interpretations of texts.	Link what they have learnt to their own lives and the modern world.	

Science

	Physics	Chemistry	Biology	Working scientifically
Reception	Seasons and seasonal weather	Simple properties of materials such as stretching, solid, liquid Materials – what they are made from, properties, waterproof, float/sink.	Observations of animals and plants Observe changes to beans/sunflowers planted & caterpillars – experiment with growing beans Careful observations of the environment around Highlight the importance of caring for living things and the environment – how we can impact the environment Whether something is dead or alive Using senses	Similarities and differences between themselves and animals Asking simple questions
KS1	Name the seasons and know about the type of weather in each season	Know the name of the materials an object is made from Know about the properties of everyday materials Know how materials can be changed by squashing, bending, twisting and stretching Know why a material might or might not be used for a specific job	Know how to classify a range of animals by amphibian, reptile, mammal, fish and birds Know and classify animals by what they eat (carnivore, herbivore and omnivore) Know how to sort by living and non-living things Know the name of parts of the human body that can be seen Know and name a variety of common wild and garden plants	Using simple equipment Classify according to given criteria Ask questions such as: Why do some trees lose their leaves in Autumn and others do not? Why do some animals have underground habitats? Why are flowers different colours? Set up a test to see which materials keeps things warmest, know if the test

			Know and name the petals, stem, leaves and root of a plant Know and name the roots, trunk, branches and leaves of a tree Classify things by living, dead or never lived Know how a specific habitat provides for the basic needs of things living there (plants and animals) Match living things to their habitat Name some different sources of food for animals Know about and explain a simple food chain Know the basic stages in a life cycle for animals, (including humans) Know why exercise, a balanced diet and good hygiene are important for humans Know and explain how seeds and bulbs grow into plants Know what plants need in order to grow and stay healthy (water, light & suitable temperature)	has been successful and can say what has been learned Explain to someone what has been learned from an investigation they have been involved with and draw conclusions from the answers to the questions asked Measures (within Year 1 and 2 mathematical limits) to help find out more about the investigations undertaken

LKS2	Forces: how objects move on different surfaces; how a simple pulley works and lift an object; how some require contact and some do not and how magnets attract and repel Light: know that dark is the absence of light; needed to see and is reflected; how a shadow is formed; the dangers of direct sunlight Electricity: identify electric things; construct a series circuit; name the components; predict and test a lamp; know about switches; conductor and insulator Sounds: how sound is made and vibrating; how travels; pitch and object producing the sounds; volume and strength of vibrations; sounds as it travels away.	Rocks: compare and give reasons. Know how fossils are formed and soil is made. Know about sedimentary, igneous and metamorphic rocks Know the temperature that objects change state Know the parts played by evaporation and condensation in the water cycle Group materials based on their state of matter: solid, liquid, gas	Know about the importance of a nutritious balanced diet Skeletal and muscular system of a human Know how nutrients, water and oxygen are transported within animals and humans Name parts of the human digestive system and know the functions of the organs Different types of teeth and their functions Use and construct food chains with producers, predators and prey Plants: functions of different plants of flowering trees and plants, how water is transported in plants, know the plant life cycle Group classify and name living things Know how changes to the environment can change living things.	Ask questions such as: •Why do shadows change during the day? •Where does a fossil come from? Use a thermometer and data logger to measure temperature and know there are two main scales used to measure temperature Gather and record information using a chart, matrix or tally chart, depending on what is most sensible Group information according to common factors Observe and describe investigations Make predictions and explain them Use bar charts and other statistical tables (in line with Year 3 and Year 4 mathematics statistics) to record findings Use research to find out about different aspects of science in Year 3 and 4 Know how to use a key to help understand information presented on a chart Use research to find out what the main differences are between objects Be confident to stand in front of others and explain what has been found out Present findings using written explanations and include diagrams when needed Make sense of findings and draw conclusions which help them to

				understand more about scientific information Set up a fair test with different (more than one) variables e.g. the best conditions for a plant to grow Amend predictions according to findings Present findings using graphs and explanations Explain to a partner why a test is a fair one e.g. lifting weights with right and left hand, etc. Be prepared to change ideas as a result of what has been found out during a scientific enquiry Measure carefully (taking account of mathematical knowledge up to Year 3 and Year 4) and add to scientific learning
UKS2	Forces: What is gravity and impact on our lives; air and water resistance; friction. Explain how levers, pulleys and gears allow a smaller force to have a greater effect Earth and space: movement of planets and moon; night and day are formed	Compare and group materials based on their properties; know and explain how dissolves; know and show how to recover from a solution, how some separated, and some are reversible and some are not; sometimes a new materials created	Know about a variety of living things, their life cycles and their habitats Life cycle of different living things; process of reproduction in plants and animals; Classifying living things in broad groups; how living things have been classified and give reasons. Create a timeline of growth in humans	Know which type of investigation is needed to suit particular scientific enquiry e.g. looking at the relationship between pulse and exercise Use a range of written methods to report findings, including focusing on the planning, doing and evaluating phases Set up a fair test when needed e.g. does light travel in straight lines?

	Describe the Sun, Earth and Moon (using the term spherical) Electricity: know how components work in a circuit and draw circuit diagrams. Volts of a cell linked to brightness and sound Light: know how travels; how we see objects; shadows have the same shape; how simple optical instruments work such as a periscope		Human circulatory system; function of heart, blood vessels and blood Impact of life style on health Know how nutrients are transported in animals and humans Evolution: how living things have changed over time; how fossils can be used; know about reproduction and off-spring; how animals have adapted; link adaptation to evolution; know about evolution	Use other scientific instruments as needed e.g. thermometer, rain gauge, spring scales (for measuring Newtons) Clear about what has been found out from their enquiry and can relate this to others in class Know how to set up an enquiry based investigation e.g. what is the relationship between oxygen and blood? Explanations set out clearly why something has happened and its possible impact on other things Know what the variables are in a given enquiry and can isolate each one when investigating Aware of the need to support conclusions with evidence Justify which variable has been isolated in scientific investigation Keep an on-going record of new scientific words that they have come across for the first time and use these regularly in future scientific write ups Use all measurements as set out in Year 5 and 6 mathematics

				(measurement), including capacity, mass, ratio and proportion Use diagrams, as and when necessary, to support writing and be confident enough to present findings orally in front of the class Able to record data and present them in a range of ways including diagrams, labels, classification keys, tables, scatter graphs and bar and line graphs Able to give an example of something they have focused on when supporting a scientific theory e.g. classifying vertebrate and invertebrate creatures or why certain creatures choose their unique habitats Make accurate predictions based on information gleaned from their investigations and create new investigations as a result Frequently carry out research when investigating a scientific principle or theory Able to present information related to scientific enquiries in a range of ways including using IT