



Year 5

In Year 5 at Upland, developing and nurturing our learners' knowledge of the challenging curriculum and building on previous skills learned, is a daily occurrence. High expectations in behaviour for learning, presentation and everyday conduct is actively encouraged. Our intention is that all children can become independent students, able to demonstrate resilience when faced with new and sometimes daunting experiences. This is vital preparation for their final year at Upland, as they build towards their end of key stage assessments.

Year 5 are fortunate enough to take part in a wide range of exciting opportunities within the classroom environment, as well as extra-curricular activities, which promote and encourage personal growth, well-being and pride in their own achievements.

A highlight at the beginning of the academic year, is the privilege Year 5 children have in preparing and performing a Harvest assembly. This provides them with an opportunity to work collaboratively with their parallel class to highlight a topical issue and encourage charitable giving. Later in the year, the children's confidence and creativity are called upon again when they deliver a class assembly which focuses on a theme linked to the curriculum.

The children are lucky enough to experience their first ever 5 day residential to Ullswater in Cumbria. This rewarding event allows the children to participate in activities that they would not usually have the opportunity to take part in. They are required to work exceptionally well in teams, listen carefully to adult instructions, but above all they are expected to take ownership of their own actions and responsibilities. They return to school armed with a skill set which is easily transferable to their own learning and are encouraged to do so.

The transference of skills learned, becomes invaluable; they are provided with many opportunities throughout the year in which to showcase them through cross-curricular projects. Learning is linked and this allows for children to transfer knowledge and skills from one subject to another, whenever possible, making the learning contextual and relevant.

Writing opportunities are often generated through carefully selected texts, which reinforce knowledge learned in other areas.

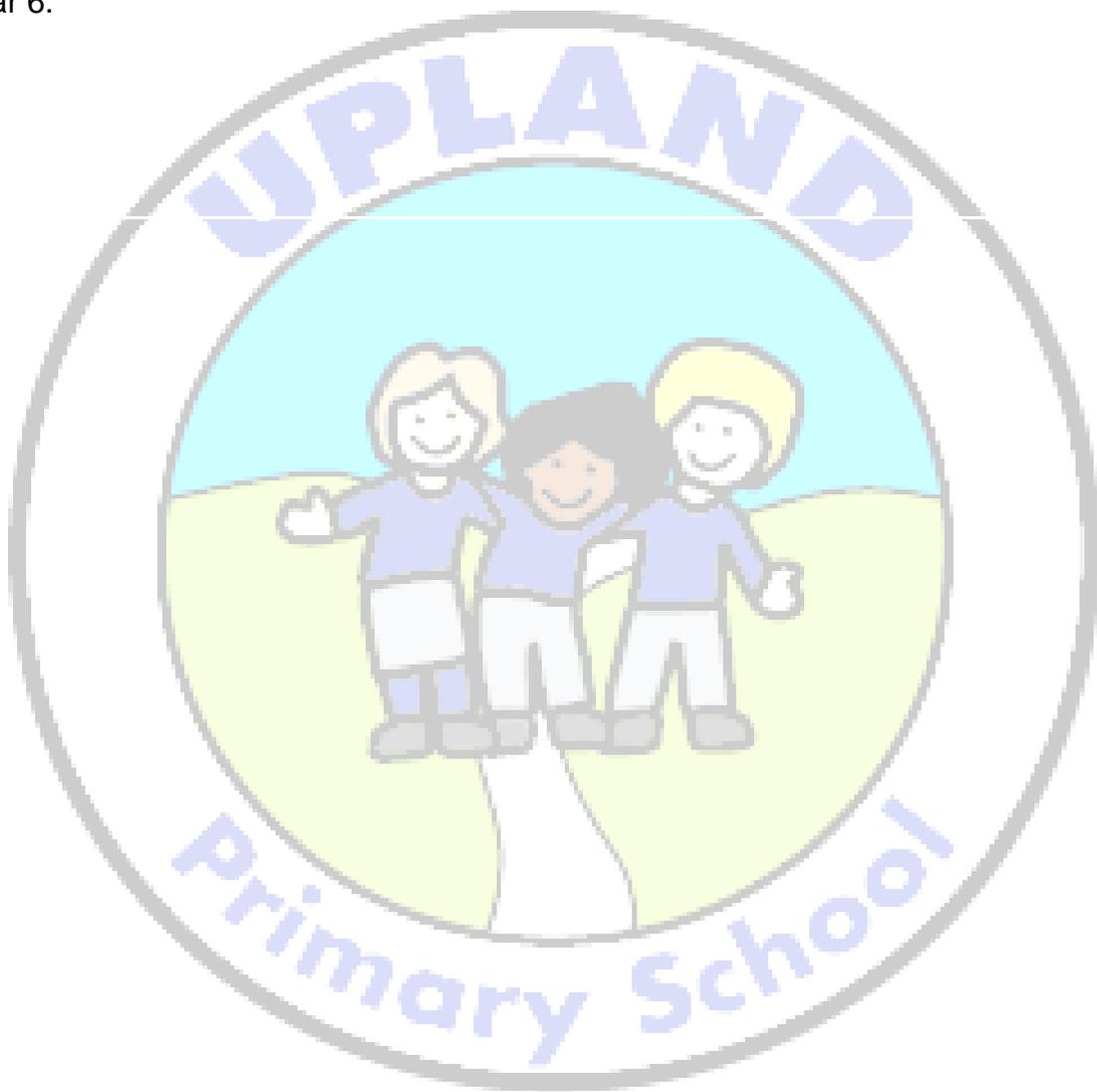
This is further supported through school trips which enhance the learning that takes place at school. Visits have included an Ancient Egyptian workshop at Maidstone Museum, providing children with hands on experiences of artefacts from the time. Our

trip to the National Gallery enhanced the children's understanding of how pictures can tell a story.

Building and developing on their swimming abilities from Year 4, our children continue their lessons with the aim of participating in an inter-schools swimming gala at the end of the year.

To enable our learners to gain an insight into where their education will lead them, they are invited to attend a series of taster sessions at BETHS Grammar School, where they participate in a modern foreign language and other core subjects.

Our intention is that our learners leave Year 5 with the tools necessary to succeed in Year 6.



Year 5

Autumn

Knowledge

organiser

Mexico and the

Mayans

History Focus	The Maya
National Curriculum objective	A non-European society that provides contrasts with British history – Mayan civilization c. AD 900
Historical Background	
<p>The Mayan, or Maya, people made their home in a place called Mesoamerica (modern day Mexico). All Maya shared a common culture and religion but each state governed themselves and had a noble ruler. Mayan kings were constantly at war with each other fighting for tributes and prisoners to sacrifice to the gods.</p>	
Key Knowledge	
11,000 BC	First hunter-gatherers settle in the Maya region
2500 BC	Mayan civilisation begins
500 AD	Tikal becomes the first major Mayan city.
683 AD	Emperor Pacal dies and is buried in the Temple of inscriptions
715 AD	Alliances break down, trade declines and interstate conflict begins.
869 AD	Construction stops in Tikal and begins the city's downfall
899 AD	Tikal is abandoned
900 AD	Mayan civilisation collapses
1528 AD	Spanish arrive to the land and bring disease killing over 90% of the natives.
1541 AD	The Spanish conquer
Key Skills	
<p>Place current study on timeline in relation to other studies. Know and sequence key events of time studied use relevant terms and periods labels. Relate current studies to previous studies. Make comparisons between different times in history. Study different aspects of life of different people – differences between men and women. Examine causes and results of great events and the impact on people. Compare life in early and late times studied, Study an ancient civilization in detail.</p>	
Key Vocabulary	
Mesoamerica	The Maya lived in Mesoamerica which is now made up by the following countries- Guatemala, Honduras, Nicaragua, Costa Rica, Panama, Belize, El Salvador, 9 states in Mexico.
Tikal	One of the largest Maya city-states. A one time more that 100,000 people lived there.
El Castillo, Chichen Itza	Ancient Maya temple still standing today- each of the four sides of the pyramid has 91 steps.

	With the step on the top platform, that makes a total of 365 steps. Equal to the number of days in a year.
Equinox at El Castillo	During the Spring and Autumn equinox (March 21st and September 22nd), the sun lights up one side of the stairway that has a sculpture of a snake head at the bottom of it. It is said that during these events, it looks like the snake is slithering down the stairs.
Homes	Maya people lived in huts made from wood, mud and thatch. They buried dead members of the family under the mud floor.
Calendars	They had three calendars: one with 365 days which kept track of the movements in the sky; one with 260 days used for sacred rituals and the long count calendar which counted the days since they believed creation began. This calendar ended on December 2012, thankfully the world didn't end!
Hieroglyphics	For the Maya script, also known as hieroglyphs, they used pictures as their writing system. stelae Tall, stone, engraved monuments made by the Maya.
Sacrifice	Sacrifice was a religious activity that involving either the killing of animals or members of the community, used during rituals held by priests to please the Gods.
Pok-ta-pok	Pok-ta-pok was a popular sport sometimes used to settle disagreements- the losers would often end up being sacrificed with their head on a stake or being the next ball.
Food	Beans, maize, squash, chilli peppers, cacao beans made into a drink (xocolat), atole—a porridge made from maize, avocado, quinoa

Key Knowledge: People

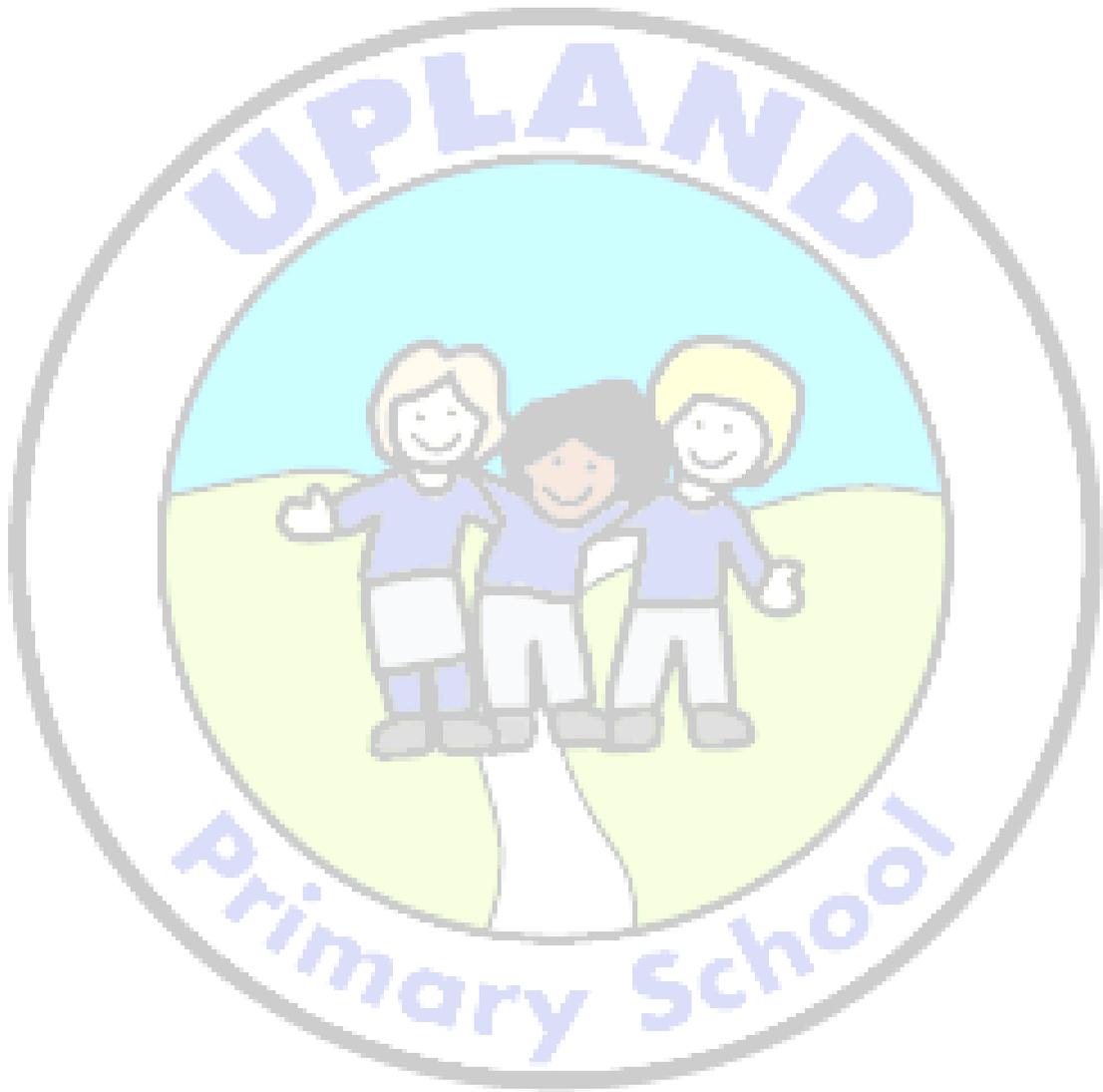
Kings	Known as divine kings—they were the most important people in Mayan society. The more important you were the bigger the headdress.
Priests	The Ancient Maya believed in rituals. They believed that the priests were in touch with the spirit world of the Gods.
Mayan society	Society was made up of kings, priests, merchants, farmers and slaves.
Gods	The Maya had many gods. Some of the key ones were: Itzamna—a creation god and sun god and the creator of writing; Chac the god of rain and storms; Ix Chel was the wife of Itzamna and the god of childbirth and the moon.

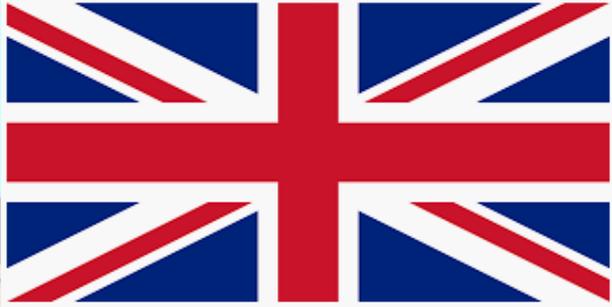
Key Questions

Which event had the most impact on daily life?
If you could remove one layer from the social hierarchy, which one would it be and why?

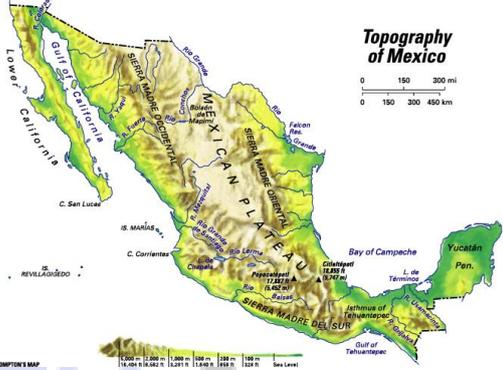
Assessment

As a class, devise a quiz with at least 3 questions from each lesson studied, to ask another Y5 class.



Geography focus	Comparison of UK and Mexico
National Curriculum objective	Understand geographical similarities and differences through the study of human and physical geography of a region of the United Kingdom, a region in a European country, and a region in North or South America
Key Knowledge - United Kingdom	
Key facts	<p>OFFICIAL NAME: United Kingdom FORM OF GOVERNMENT: Her Majesty's Government CAPITAL: London POPULATION: 66.04 million OFFICIAL LANGUAGE: English MONEY: British Pound Sterling AREA: 242,495 km² TALLEST MOUNTAIN: Ben Nevis LONGEST RIVER: Severn FLAG:</p> 
Where?	In Europe. The mainland areas lie between latitudes 49°N and 59°N and longitudes 8°W to 2°E
Bordered	The UK lies between the North Atlantic and the North Sea, and comes within 35 km (22 mi) of the north-west coast of France, from which it is separated by the English Channel. It shares a 499 km international land boundary with the Republic of Ireland.[2][3] The Channel Tunnel bored beneath the English Channel, now links the UK with France.
Physical geography	<p>England consists of mostly lowland terrain, with upland or mountainous terrain only found north-west. The upland areas include the Lake District, the Pennines, North York Moors, Exmoor and Dartmoor. The tallest mountain in the UK (and British Isles) is Ben Nevis, in the Grampian Mountains, Scotland. The longest river is the River Severn which flows from Wales into England. The largest lake by surface area is Lough Neagh in Northern Ireland, though Scotland's Loch Ness has the largest volume. The total land area of England is 129,720 km² (50,085 sq mi). Crops and fallow land accounts for 30% of the land area, grasses and rough grazing 36%, other agricultural land 5%, forest and woodland 8%, and urban development 21%.</p> 
Traditions	Remembrance day

Key Knowledge - Mexico (United Mexican States)

<p>Key Facts</p>	<p>OFFICIAL NAME: United Mexican States FORM OF GOVERNMENT: Republic of federated states CAPITAL: Mexico City POPULATION: 120,286,655 OFFICIAL LANGUAGE: Spanish MONEY: Peso AREA: 1,964,375 square kilometers MAJOR MOUNTAIN RANGES: Sierra Madre MAJOR RIVERS: Rio Grande, Yaqui FLAG:</p> 
<p>Where?</p>	<p>In North America. 23° N 102°W</p>
<p>Bordered</p>	<p>Mexico is bounded to the north by the United States (specifically, from west to east, by California, Arizona, New Mexico, and Texas), to the west and south by the Pacific Ocean, to the east by the Gulf of Mexico, and to the southeast by Belize, Guatemala, and the Caribbean Sea.</p>
<p>Physical geography</p>	 <p>Mexico is a land of extremes, with high mountains and deep canyons in the center of the country, sweeping deserts in the north and dense rainforests in the south and east. Mountains cover much of Mexico. Between the Sierra Madre Oriental mountain range in the east and the Sierra Madre Occidental in the west lie small mountain ranges on the Central Plateau. These regions are rich with valuable metals like silver and copper.</p>
<p>Traditions</p>	<p>Day of the dead</p>

Key Skills

Link words to theme e.g. land use - terrains, mountain, sea level etc. Ask questions: what is this landscape like? how has it changed since Mayan times? what made it change? how is it changing?. Analyse evidence and draw conclusions e.g. compare historical maps of varying scales: temperature of various locations – influence on people/ everyday life. Compare the traditions within each culture i.e. how the dead are remembered. Identify and explain different views of people including themselves design and use questionnaires to obtain views of community on subject. Collect and record evidence. Conduct a land use survey categorise codes. Use key to make deductions about landscape/ industry/ features etc.

Key Questions

How are the dead remembered in different cultures?
Should a life be mourned or celebrated?

Assessment

Comparative video. Wanted down under?

Art focus	3D art - Sculpture
National Curriculum objective	To create sketch books to record their observations and use them to review and revisit ideas. To improve their mastery of art and design techniques

Maya Stela



Sketch Books	Outcomes
<p>The Maya are perhaps most famous for their work in stone. They built many monumental structures including tall pyramids and palaces. They also made a lot of sculptures out of stone.</p> <p>One popular type of Maya sculpture was the stela. A stela was a large tall stone slab covered with carvings and writing. The stela was popular during the Classic Maya period when most major cities had stela built in honor of their kings. Stela were often located near altars.</p> <p>Research Maya stone work and its significance before designing own.</p>	<p>Using a range of techniques in the style of Maya stone work. Create own sculpture from clay.</p>

Key Skills

Work in a safe, organised way, caring for equipment. Secure work to continue at a later date. Show experience in combining pinch, slabbing and coiling to produce end pieces. Develop understanding of different ways of finishing work: glaze, paint, polish. Gain experience in modelling over an armature: newspaper frame for modroc. Use recycled, natural and manmade materials to create sculptures, confidently and successfully joining. Use sketchbooks Plan a sculpture through drawing and other preparatory work. Use the sketch book to plan how to join parts of the sculpture. Adapt work as and when necessary and explain why. Use language appropriate to skill and technique. Compare the

style of different styles and approaches. Discuss and review own and others work, expressing thoughts and feelings, and identify modifications/ changes and see how they can be developed further. Explore a range of great artists, architects and designers in history and identify those who have worked in a similar way to them.



Science focus	Properties and changes of materials
National Curriculum objective	<p>Compare and group materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical & thermal) and response to magnets</p> <p>Know that some materials dissolve in liquid to form a solution, and describe how to recover a substance from a solution</p> <p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda</p>

Key Knowledge: Comparing and Grouping Materials

Materials can be grouped by their properties (is it hard or soft?) or by more than one of their properties (is it hard and magnetic?).

Key Knowledge: Properties of materials we can compare

Hard	Difficult to scratch, like the head of a hammer.
Soft	Easy to shape, like fabric.
Soluble	Can be dissolved, like coffee granules.
Insoluble	Cannot be dissolved, like pebbles.
Transparent	See through, like glass.
Opaque	Not see through, like a wooden door.
Electrical conductor	Lets electricity pass through easily, like copper wire.
Electrical insulator	Do not let electricity flow through easily, like plastic or rubber.
Thermal conductor	Lets heat pass through easily, like a metal kettle.
Thermal insulator	Does not let heat pass through easily, like a wood pan handle.
Magnetic	Is attracted to a magnet, like a steel spoon. Note: Not all metals attract to magnets.
Not magnetic	Is not attracted to a magnet, like a wooden spoon.

Key Knowledge: Mixtures and Solutions

A mixture	Where substances are mixed together, but dissolving hasn't taken place. For example, mixing, cucumber slices, egg slices and tomato slices to make a salad.
A solution	Some substances dissolve in a liquid. When this happens the liquid is called a solution. For example, when gravy granules dissolve in water, this is a solution

Key Knowledge: Separating a mixture

We can separate a mixture by sieving and/or filtering	Sieving - sorting out the big bits from the small bits, e.g. stones from soil. Filtering - separating solid bits from a liquid, e.g. sand from sand and water.
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Key Knowledge: Separating a solution

We can separate a solution by evaporation	Because the soluble substance is too mixed into the water, it can't be removed by sieving or filtering. Evaporation - A liquid evaporates into a gas when it is heated. This removes the liquid and leaves the substance behind.
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Key Knowledge: Reversible Changes

What is a reversible change?	A change that doesn't last forever. For example, water can turn to ice when frozen, but can be turned back to water by heating it.
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Key Knowledge: Irreversible Changes

What is an irreversible change?	Lasts forever Usually caused by heat. E.g. Eggs, flour, butter and sugar heated to make a cake. The original ingredients can't be recovered.
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Key Skills

Begin to take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings where appropriate. Begin to identify patterns that might be found in the natural environment. Begin to make their own decisions about what observations to make, what measurements to use and how long to make them for and whether to repeat them. Choose the most appropriate equipment and explain how to use it accurately. Begin to interpret data and find patterns. Select equipment on my own. Can make a set of observations and say what the interval and range are. Begin to take accurate and precise measurements – N, g, kg, mm, cm, mins, seconds, cm²V, km/h, m per sec, m/ sec Graphs – pie, line

Key Vocabulary

Dissolved	To become incorporated into a liquid so as to form a solution.
Separating	The action of moving things apart.
Evaporation	When a liquid turns to a gas due to an increase in temperature.
Properties .	A specific quality of something

Diagrams and Symbols





Key Question

Can you suggest a way of separating a solution?
 How can chemical reactions be useful in everyday life?
 If you were to design a boat, which had to float on water, what materials would you use and why?

Assessment

Quiz

PE focus	Invasion Games - Tag Rugby and Handball
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National Curriculum Objective	Use running, jumping, throwing and catching in isolation and in combination. Play competitive games and apply basic principles suitable for attacking and defending
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Key Knowledge

The focus of learning is to develop passing and moving to create space to beat an opponent and score a try.	The focus of the learning is to see how effectively pupils can apply their passing and moving skills to keep possession, developing this concept into mini game situations.
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The focus of the learning is to combine passing and moving to develop ways of creating space to beat an opponent to score a try.	The focus of the learning is to develop passing and creating space, building up into mini games, where pupils explore the transition between attack and defence, working out simple tactics for creating space and keeping possession.
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The focus of the learning is to develop tagging and to explore different ways the defending team can prevent the attackers from scoring.	The focus of the learning is to combine passing, moving and shooting to create an attack which results in a shot on target against another team.
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Key Skills

Tag Rugby
 To develop our passing and receiving skills.
 To develop an understanding of our roles and responsibilities when defending and attacking in tag rugby.
 To develop strategies to outwit your opponent.
 To develop our understanding of a tag rugby game.

Handball
 To develop our passing and receiving skills in isolation i.e 2v2, 3v2, 3v3
 To understand how and why we need to create space to receive the ball in an invasion game.
 To develop our technique when shooting at a different target.
 To show an understanding of the transition between attack and defence, working out simple tactics for creating space and keeping possession.

Key Vocabulary

Passing	<p>Selecting the correct passing technique for the situation i.e chest, bounce or shoulder pass.</p> <p>Rugby - the ball must travel backwards to a teammate.</p>
Foot Work	<p>We can't travel with the ball in our hands but we can pivot on the spot.</p>
Attacking and Defending	<p>Attacking - keeping possession of the ball to create an opportunity to shoot.</p> <p>Defending - Stopping the attacking team getting into positions where they could score.</p>
Possession	<p>The ability to work as a team and keep the ball away from the opposite team.</p>
Offside Rule	<p>A player is in an offside position if that player is further forward (nearer to the opponents' goal line) than the team mate who is carrying the ball.</p>

Key Questions

Handball

How do we pass in handball? Where can we pass? Why? What is the consequence in a game of an inaccurate pass? Why don't we stand behind the defender when finding a position to receive the ball? Where should we stand when we are attacking? Why do we need to pass and move? How are we going to pass and move to get the ball into a suitable place to score? Where is a suitable place to shoot from? When we have possession of the ball what is our role? How can we win the ball back if you lose possession? What do we need to do to win the ball back?

Tag Rugby

How do we tag? Why do we tag? Can we describe the method of tagging? Why do we need to stop, hold up the tag and shout tag once we have tagged someone? Are we on our toes ready to make the tag? Are we able to angle our bodies to force an attacker wide? Can we accurately tag in a game situation? What does the term, "offside," mean in tag rugby? Once the ball carrier has been tagged, what must the defenders do? What are the consequences of running off the pitch, or dropping the ball to avoid being tagged? How can we work with a partner to prevent an attacker from scoring?

Year 5

Spring

Knowledge

organiser

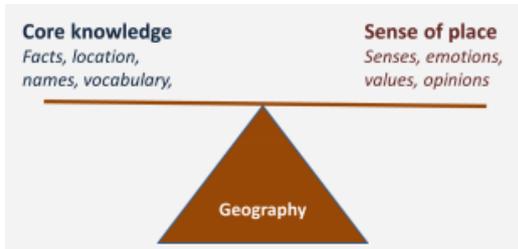
*What does it take
to climb a
mountain?*

Geography focus	Mountains
National Curriculum Objective	Describe and understand key aspects of: physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle
Key Knowledge - Scafell Pike Lake District	
What?	The tallest mountain in the Lake District
Size	978 m above sea level
Where?	It is located in the Lake District National Park, in Cumbria, and is part of the Southern Fells
How old?	Scafell Pike consists of igneous rock dating back 400 million years
Land marks	Scafell Pike is one of three British peaks climbed as part of the National Three Peaks Challenge, and is the highest ground for over 90 miles.
Dates	The summit was donated to the National Trust in 1919 by Lord Leconfield "in perpetual memory of the men of the Lake District who fell for God and King, for freedom peace and right in the Great War 1914-1918
How has the mountain changed?	In 2018, work began to restore the large stone structure at the top of the summit. https://www.nationaltrust.org.uk/wasdale/features/scafell-pike---restoring-the-summit-cairn
Visitors	As of 2014 there were over 100,000 people per year climbing Scafell Pike
Key Knowledge - Mont Blanc	
What?	The highest mountain in the Alps
Size	It rises 4,808 m above sea level
Where?	Between France and Italy
How old?	300 million year
Land marks	In 1965, a 11,611m tunnel opened to link France with Italy
Dates	1786: The first ascent, by MichelGabriel Paccard and Jacques Balmat
How has the mountain changed?	Global warming has begun to melt glaciers and cause avalanches on Mont Blanc, creating more dangerous climbing conditions
Visitors	20,000 mountaineer-tourists each year
Key Skills	

link words to theme e.g. mountain - peak, summit, sea level etc. Ask questions: what is this landscape like? how has it changed? what made it change? how is it changing? Analyse evidence and draw conclusions e.g. compare historical maps of varying scales: temperature of various locations – influence on people/ everyday life, Communicate in ways appropriate to task and audience e.g. persuasive writing – show information on map overlays in showing levels of information e.g. old/ new, use key to make deductions about landscape/ industry/ features etc.

Fieldwork

The purpose of fieldwork: To learn how, where, why and when human and physical geography interacts to create, sustain and change the world around us.



Core Knowledge	LOCATION	Where is it? Why here? How does it connect to ...?
	PLACE	What is this place like and why?
	SCALE	How does this place fit together? What's the bigger (or smaller) picture?
Personal knowledge		What do you see/hear/smell? How do you feel in this place?
Empathic knowledge		What would it be like to live in this place? Why is this place important? What do people say about this place?

Key Knowledge: Position and significance

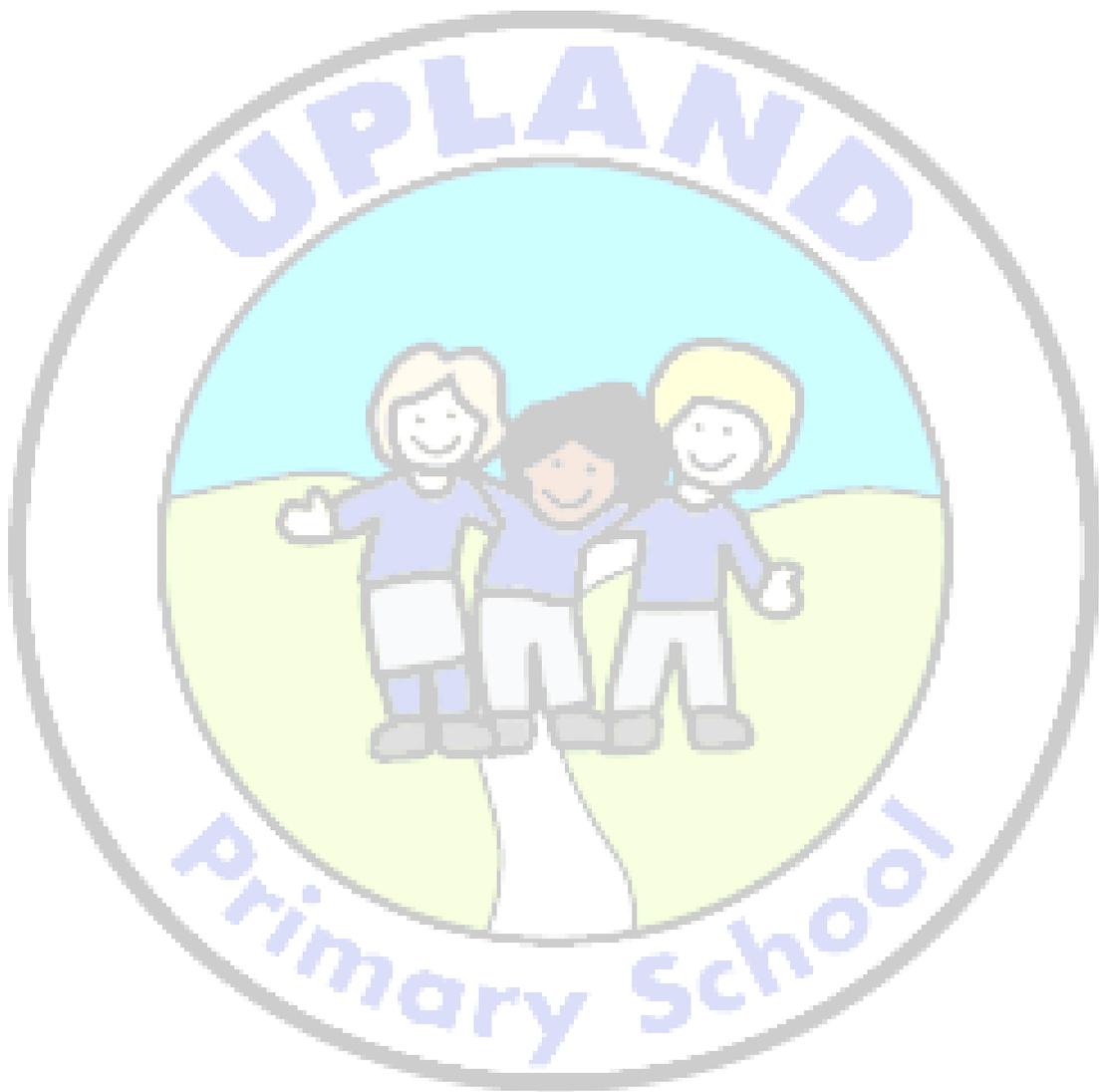
The Prime/Greenwich Meridian	The prime meridian divides Earth into the Western Hemisphere and the Eastern Hemisphere.
Timezones	As Earth rotates, the Sun shines in a part of the world. That's why we have time zones.
Latitude and Longitude	Lines of latitude and longitude are used to locate places accurately on the Earth's surface.
Equator	An imaginary line drawn on the Earth and spaced equally between the North and South Pole
Northern Hemisphere and Southern Hemisphere	Area of the Earth's surface either North or South of the Equator
Western and Eastern Hemisphere	Area of the Earth's surface either West or East of the Prime/Greenwich Meridian
Tropics	The region of Earth's surface that is closest to the Equator
Arctic Circle	An imaginary circle around the Earth about three-quarters of the way from the equator to the North Pole
Antarctic Circle	An imaginary circle around the Earth about three-quarters of the way from the equator to the South Pole

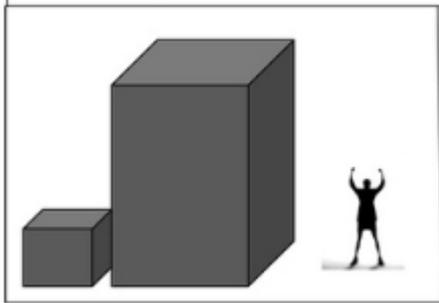
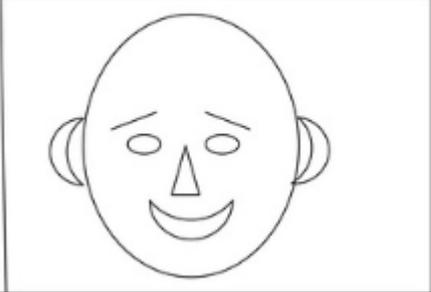
Key Questions

What is the most challenging aspect of climbing a mountain?
 What is the most essential attribute a mountaineer needs?
 Is it safe to live near a mountain?

Assessment

Produce a fact based leaflet on chosen mountain.



Art focus	David Hockney
National Curriculum objective	<p>Pupils should be taught:</p> <p>To create sketch books to record their observations and use them to review and revisit Ideas</p> <p>To improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay]</p> <p>About great artists, architects and designers in history</p>
Key Knowledge	
Born	1937
Lives	London
Interesting fact	Sold his first painting for £10
Methods	Loves Drawing on an iPad
Famous Quote	Enjoyment of the landscape is a thrill
Key Vocabulary	
Composition	The placement or arrangement of visual elements
Scale	<p>Scale refers to the size of an object (a whole) in relationship to another object (another whole)</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>SCALE</p>  </div>
Proportion	<p>Proportion refers to the relative size of parts of a whole (elements within an object)</p> <div style="border: 1px solid black; padding: 5px; text-align: center;"> <p>PROPORTION</p>  </div>
A good example of Landscape artwork	



Sketch Books	Outcomes
<p>Exploration of shades of blue and green Exploration of patterns with geometric shapes Sketching of rural landscapes Exploration of lines to create background, middle ground and foreground</p>	<p>A natural landscape, with perspective, using patterns within geometric shapes Must not be a copy of the example Must include curving road/river Must include geometric shapes (e.g. fields) Must include patterns within geometric shapes Must include shades of blue in background and shades of green in mid to foreground Must include hills</p>
Key Skills	
<p>Confidently control the types of marks made and experiment with different effects and textures inc. blocking in colour, washes, thickened paint creating textural effects. Mix and match colours to create atmosphere and light effects. Mix colour, shades and tones with confidence building on previous knowledge. Use sketchbooks to collect and record visual information from different sources as well as planning and collecting source material for future works. Start to develop their own style using tonal contrast and mixed media. Have opportunities to develop further simple perspective in their work using a single focal point and horizon. Begin to develop an awareness of composition, scale and proportion in their paintings. Use drawing techniques to work from a variety of sources including observation, photographs and digital images. Develop close observation skills using a variety of viewfinders. Discuss and review own and others work, expressing thoughts and feelings, and identify modifications/ changes and see how they can be developed further.</p>	

Science focus	Earth and Space
National Curriculum Objective	Describe the movement of the Earth, and other planets, relative to the Sun in the solar system describe the movement of the Moon relative to the Earth Describe the Sun, Earth and Moon as approximately spherical bodies Use the idea of the earth's rotation to explain day and night and the apparent movement of the sun across the sky
Key Knowledge	
What is the Earth?	The only planet in the solar system which has an atmosphere made up of 21% Oxygen, liquid and life (we think!)
The Earth's surface	The Earth is fragile. Its surface is split into plates (tectonic plates) which float on a rocky mantle – the layer between the surface of the earth, its crust, and its hot liquid core. The inside of the Earth is active and earthquakes, volcanoes and mountain building takes place along the boundaries of the tectonic plates.
What is Space?	The vast gaps between the stars and planets filled with huge amounts of thinly spread gas and dust.
Sun	It is a huge ball of very hot gas at the center of our solar system. All the planets revolve around it. The sun has such powerful gravity it tries to pull the planets towards it.
Solar System	The solar system is made of the eight planets that orbit our sun it is also made of asteroids, moons, comets and lots, lots more.
What is a planet?	A body which orbits around a star
Moon	A moon is a ball of rock that orbits a planet. Earth has one moon and Jupiter has four large moons and numerous small ones.
How is the Moon related to the Earth?	The Moon orbits the Earth. It takes about 28 days for the Moon to orbit the Earth. The Moon is held in its orbit round the Earth by the Earth's gravitational pull.
Why does the Moon change shape?	IT DOESN'T. It appears to change shape because we cannot always see the side of the Moon that's in sunlight or we can only see part of the sunlit side of the Moon as it orbits Earth.
How else does the Earth move?	The Earth spins on its own axis. The Earth takes 24 hours (1 day) to completely rotate on its axis.
What causes day and night?	The Earth spins once in a day. The side of the Earth facing the Sun is in daytime. The side of the Earth facing away from the Sun is in night time.
What causes Sunrise and Sunset?	The Sun doesn't move - it is us that moves. Because the Earth is rotating, the Sun appears to move across the sky as the day goes on.

Geocentric model	The Earth is at the centre of the solar system
Heliocentric model	The Sun is at the centre of the solar system
Who was Ptolemy?	Ptolemy used math to describe how the planets, Sun and stars moved around the Earth. He calculated that each planet moves in its own small circular path, while at the same time moving in a large circle around the Earth.
Who was Copernicus?	Nicolaus Copernicus was an astronomer who changed how we viewed the positioning of the Sun, Earth and other objects in space.

Key Skills

Begin to recognise which secondary sources will be most useful to research their ideas.

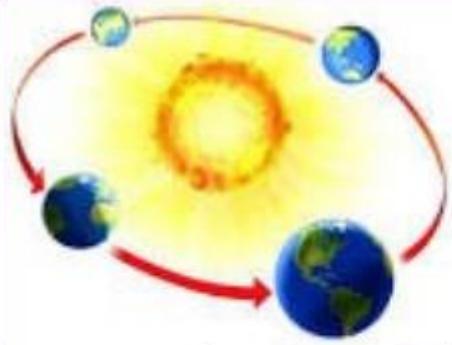
Key Vocabulary

Orbit	The regularly repeated course of an object or spacecraft about a star or planet
Day	The time a planet or moon takes to make one turn on its axis
Night	The period from sunset to sunrise in each twenty-four hours, when the Sun is below the horizon

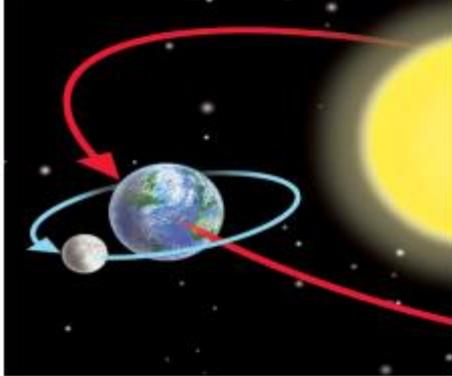
Diagrams and Symbols



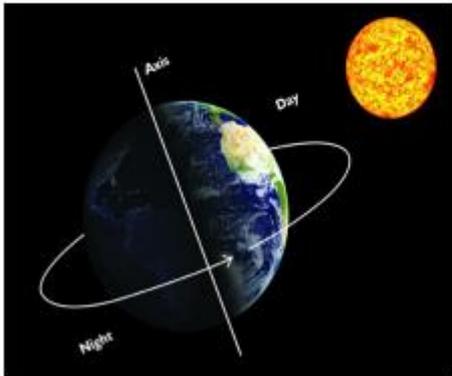
Note Pluto was redefined as a dwarf planet in 2006



The Earth orbiting the Sun, which takes one year.



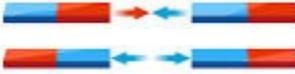
The Moon orbiting the Earth, which takes about 28 days.



The Earth spinning on its axis, which takes 24 hours.

Key Questions

What would happen if the Earth didn't spin on its axis?
What would happen if the Earth rotated faster?
Why is the sun at the centre of our solar system?

Science focus	Forces
National Curriculum objective	Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object Identify the effects of air resistance, water resistance and friction, that act between moving surfaces Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect
Key Knowledge	
What is a force?	A force is either: A push or A pull
Forces can make things...	Speed up Slow down Change shape Change direction
A force that speeds something up .	The child is pushing the car to speed it up 
A force that slows something down	The girls is pulling the dog to slow it down. 
A force that changes the shape of something r.	The can is being squeezed so that it changes shape and becomes smaller 
A force that changes the direction of something	When the ball is hit with the racket, it will change direction 
Magnetism	Magnets attract or repel each other or other objects Attract: Repel: North and South attract. But North and North or South and South will repel. 
Air Resistance	Air resistance slows down moving objects, because air slows you down as you move through it To travel faster through the air, things need to be streamlined.
Water Resistance d.	Water resistance slows down moving objects, because water slows you down as you move through it To travel faster through the water, things need to be streamline
Friction	Friction happens when two surfaces touch each other. Friction gives us grip. Friction produces heat. Rougher surfaces slow things down a lot. Smoother surfaces don't slow things down as much.

<p>What is gravity?</p>	<p>Gravity is the forces that pulls objects down towards the centre of the Earth. Gravity stops things from floating away into space. When things go into the air (like a football) gravity pulls them back down.</p>
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Key skills

Begin to use test results to make predictions to set up further comparative and fair tests. Begin to recognise when and how to set up comparative and fair tests and explain which variables need to be controlled and why. Begin to suggest improvements to my method and give reasons. Begin to decide when it is appropriate to do a fair test. Begin to record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables and bar and line graphs. Begin to report and present findings from enquiries. Begin to decide how to record data from a choice of familiar approaches. Begin to choose how best to present data.

Key Vocabulary

<p>Streamlined</p>	<p>A shape that presents least resistance to air or water</p>
<p>Surface</p>	<p>The top layer of something</p>
<p>Grip</p>	<p>To have a good connection with a surface</p>
<p>Drag</p>	<p>To cause to slow down</p>
<p>Centre</p>	<p>The middle</p>

Diagrams and Symbols

Diagrams of forces in action

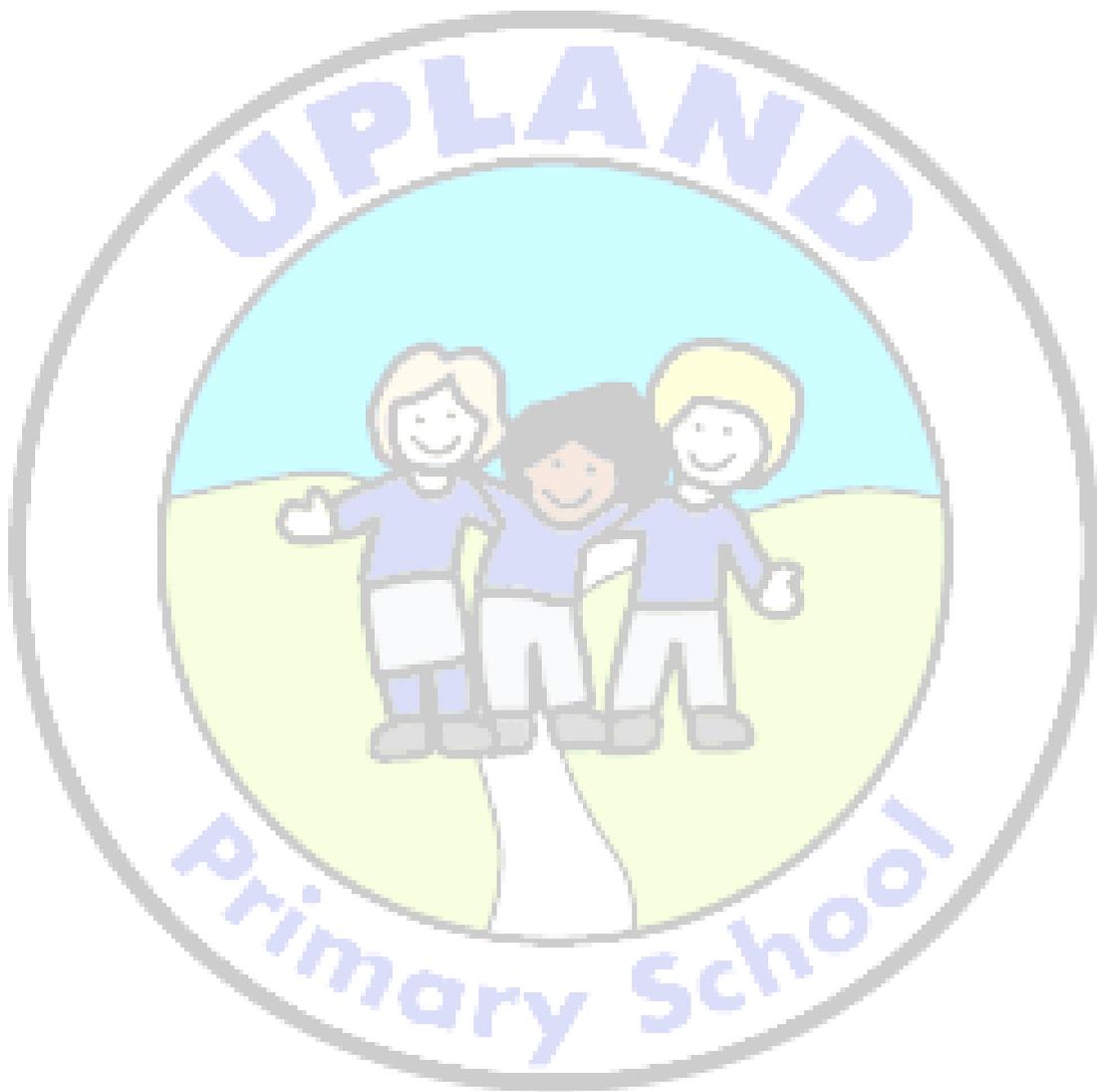
The image contains two diagrams illustrating forces in action. The top diagram shows a person pushing a box to the right. A red arrow labeled 'Push' points to the right, and a black arrow labeled 'Friction' points to the left. The bottom diagram shows a cyclist moving forward. A red arrow labeled 'Thrust' points forward, and a blue arrow labeled 'Air resistance (drag)' points backward.

Key Questions

Could we survive without friction?

How can you tell the greater force-out of gravity or air resistance?

Does the shape of an object affect the rate it travels through water?



Design and technology focus		Lego NXT	
National Curriculum objective		Apply their understanding of computing to program, monitor and control their products.	
Challenge		Build a working Lego NXT model which will be able to navigate around a course (link with Computing)	
The Journey			
Key Technical Knowledge	Design	Make	Evaluate
<p>How can lights, buzzers and motors make rides more interesting?</p> <p>A light can add visual effect to a ride.</p> <p>A buzzer can add sound to the ride experience.</p> <p>A motor allows the ride to move on its own.</p> <p>What is a control box?</p> <p>A control box is an intelligent box that can remember the order and duration in which switches are pressed, and the time between the presses, then play back from memory.</p> <p>The control boxes we are using can store up to 64 actions and allow for multiple outputs (motors, LEDs, buzzer) to be controlled simultaneously.</p>	<p>Look at designs for moon buggies and evaluate useful parts</p>	<p>Follow the guidance to build the buggy</p> <p>Adapt the design based on the course given and research completed</p>	<p>Design of buggy based on criteria and how well it navigated the course</p>
Key Skills			
Start to evaluate a product against the original design specification and by carrying out tests. Evaluate their work both during and at the end of the assignment. Begin to evaluate it personally and seek evaluation from others.			

PE focus	Basketball and Cricket
National Curriculum Objective	<p>Use running, jumping, throwing and catching in isolation and in combination.</p> <p>Play competitive games and apply basic principles suitable for attacking and defending.</p>
Key Knowledge	
Pupils will develop an understanding of how to dribble the ball keeping possession to beat an opponent.	The focus of the learning is to refine pupils' understanding of batting, applying simple batting tactics into mini games.
The focus of the learning is to develop passing and receiving skills in order to keep possession of the ball as	The focus of the learning is to refine pupils fielding skills; catching, stopping and throwing.

a team.	
The focus of the learning is to introduce pupils to shooting. Pupils will understand not just how they shoot but where they shoot from on the court in order to increase their chances of scoring.	The focus of the learning is to refine pupils understanding of bowling, applying simple bowling tactics into mini games.
The focus of the learning is to develop passing and dribbling to create space, building up into mini games where pupils explore the transition between attack and defence.	Pupils will learn where, when and why they can apply different physical and thinking skills when bowling to prevent the batters from scoring runs.

Key Skills

Cricket
 To increase our accuracy when bowling overarm.
 To develop our fielding techniques and show an understanding why we need to field the ball quickly and accurately.
 To learn and understand where we need to hit the ball to gain runs.
 To understand the objective of both batting and fielding teams including the wicket keeper.

Basketball
 To develop our passing and receiving skills in order to keep possession of the ball as a team.
 To increase our control of the ball when dribbling and turning in various different games i.e 1v1, 2v1, 3v3.
 To understand how and why we need to create space to receive the ball in an invasion game.
 To develop our technique when shooting at a target.
 To show an understanding of attacking and defending principles.

Key Vocabulary

Traveling/double dribble	A violation of the rules.
Possession	The ability to work as a team and keep the ball away from the opposite team.
Shooting - Rebounds	If a shot is missed can you collect the rebound and shoot again.
Wide and no ball	Wide - The ball is bowled wide of the wicket. No ball - the ball bounces more than once or does bounce at all.
Fielding - Outs	Different ways to get the batting team out i.e caught, bowled, stumped.
Batting and fielding	Batting team - Through batting try to gain runs to win the match. Fielding team - Try to stop the batting team from gaining runs.

Key Questions

Basketball

What do we do when we receive the ball? When and where do we dribble? What happens if we lose possession of the ball? Can we dribble with alternate hands? Can we change direction at speed? When should we bounce/chest pass? What is the consequence in a game of an inaccurate pass? How can we create space? Why do we need to pass and move? What techniques do we use when shooting? Where should we shoot from?

Cricket

What is the difference between batting and fielding? What is the role of the wicket keepers? How can we win a game if we are batting? How can we win a game if we are fielding? How do we hold the bat safely? What different ways of fielding are there? Can we name them? i.e. catching, throwing, etc. Where can we strike the ball? Why are we striking the ball there? Can we strike the ball with intent? How can we get the batter out? Why is it important to aim where we throw? What is the consequence of an inaccurate throw?

Year 5
Summer
Knowledge
organiser
Ancient Egypt

History Focus	Early Civilisation: Ancient Egypt
National Curriculum objective	The achievements of the earliest civilizations – an overview of where and when the first civilizations appeared and a depth study of one.
Historical Background	
<p>A civilization is an advanced society with farming, division of labour, multiple cities, organized religion, science/technology, some form of government, and a written language. The main factor that allowed civilization to develop was farming. Humans were forced to live in one place and farming also provided enough food to support large numbers of people.</p>	
Key Knowledge: When? Timeline of events	
7,500 BC	The first settlers arrive in the Nile Valley
3,200 BC	Hieroglyphics are used.
2,640 BC	First pyramid is built.
2,520 BC	The Great Sphinx is built.
1,332 BC	The 10-year rule of Tutankhamun begins.
51 BC	Queen Cleopatra's reign begins, the Egyptian civilisation ends.
Key Skills	
<p>Place current study on timeline in relation to other studies. Know and sequence key events of time studied use relevant terms and periods labels. Relate current studies to previous studies. Make comparisons between different times in history. Study different aspects of life of different people – differences between men and women, examine causes and results of great events and the impact on people. Compare life in early and late times studied. Compare an aspect of life with the same aspect in another period studied.</p>	
Key Vocabulary	
Afterlife	A life after death
Archaeology	The study of lives and cultures of ancient people.
Crop	Plants grown on a farm
Fertile	Capable of producing many crops.
Hieroglyphics .	A picture used as a form of writing instead of letters
Irrigation	Watering the land to prepare it for growing crops.
Mummy	A dead body, which has been preserved or dried out.
Pharaoh	An ancient Egyptian ruler (king or queen).

Preservation	The process of saving something from loss, danger or decay.
Pyramid	A triangular building built as an Egyptian tomb (a place to bury the dead)
Sarcophagus	A stone coffin for burying the dead.
Trade	The process of buying, selling or exchanging goods or services.

Key Knowledge: Ancient Egyptian Gods

Ra	The Sun God
Isis	The Mother Goddess
Osiris	The Ruler of the Underworld
Horus	The God of the Sky
Thoth	The God of Knowledge
Hathor	The Goddess of Love and Joy
Anubis	The God of the Dead

Key Questions

Who do you think is the most important god and why?
 What personal objects/possessions would you take with you to the afterlife and why?
 What jobs would you ask your shabtis to do?

Assessment

Compare different aspects of life from Ancient Maya and Egyptians. Class vote at the end. Notes made from other group comparisons and then justification based on the notes they have collected.

Geography focus	The River Nile
National Curriculum objective	Physical geography, including: climate zones, biomes and vegetation belts, rivers, mountains, volcanoes and earthquakes, and the water cycle Human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water
Key Knowledge	
Name of the longest river in the world	River Nile
Length	6650km
Which continent is it in?	Africa
Which sea does it start in?	Mediterranean Sea
Which countries does it run through?	The river passes through 11 countries: Tanzania, Uganda, Rwanda, Burundi, the Democratic Republic of the Congo, Kenya, Ethiopia, Eritrea, South Sudan, Sudan and Egypt
Key Knowledge: Reasons for settlement	
Water	Large and generally reliable water source
Food	River Nile provided a rich food source including fish, frogs and water birds. It also provided papyrus.
Agriculture	The very fertile mud washed down in the yearly Nile floods combined with Egypt's warm climate allowed the Egyptians to develop agriculture and settle in one place
Transport	The Egyptians didn't build roads to travel around their empire. They didn't need to. Nature had already built them a superhighway right through the middle of their empire called the Nile River . Most of the major cities in Ancient Egypt were located along the banks of the Nile River. As a result, the Egyptians used the Nile for transportation and shipping from very early on. They became experts at building boats and navigating the river.
Types of boats designed by the Egyptians	Early Boats Wooden Boats Cargo Ships Funeral Boats Rowing or Sailing
Key Skills	
link words to theme e.g. river – erosion/ deposition/ transportation: coasts – long shore drift/ headland, ask questions: what is this landscape like? how has it changed? what made it change? how is it changing?, analyse evidence and draw conclusions e.g. compare historical maps of varying scales. Communicate in ways appropriate to task and audience e.g. persuasive writing – show information on map overlays in showing levels of information e.g. old/ new, use key to make deductions about landscape/ industry/ features etc.	
Key Questions	

If The Nile flooded sporadically, what effect would this have on farming?
Order the reasons for settlement 1-4 in order of most important. Explain reasons why.

***Opportunity to reinforce forces work from previous term**

Assessment

Create a model of a section of The River Nile showing the following: transportation, agriculture, statistics, food and boats.

Science focus	Living things and their habitats
National Curriculum objective	Describe the differences in life cycles of a mammal, an amphibian, an insect and a bird Describe the life processes of reproduction in some plants and animals
Key Knowledge: Life Cycles	
Life Cycle	A life cycle shows how things are born, how they grow and how they reproduce.
Key Knowledge: Life Cycles of a mammal, insect, bird and an amphibian	
Life cycle of a mammal	Live young born Grow from babies to adults Reproduce Live young born
Life cycle of an insect	Egg Growth to adult or transformation to adult Reproduce Egg
Life cycle of a bird	Egg Growth to adult Reproduce Egg
Life cycle of an amphibian	Egg in water Growth to adult Reproduce Eggs in water
Key Knowledge: Reproduction	
What is reproduction?	Living things creating other living things. Animals have babies. Plants have seeds which turn into new plants.
Key Knowledge: Reproduction in plants	
Sexual reproduction (Two parents)	When the Pollen from one flower joins the Egg of the new flower and a seed or many seeds are formed.
Asexual reproduction (One parent)	This is when a small part of a plant breaks off and it starts to grow until it is the same size as the plant it came from and this is repeated. (Flowers are not needed)
Key Knowledge: Examples of plant reproduction	
Sexual	Apple Tree
Asexual	The Spider Plant
Key Knowledge: Reproduction in animals	
Usually sexual.	Reproduction in animals is most commonly sexual involving two parents

Key Knowledge: Examples of animal reproduction

Sexual	Lion
Asexual	Starfish

Key Knowledge: Scientists we need to know about

<p>5 facts about David Attenborough Born on 8th May 1926 British Famous wildlife film maker Knighted in 1985 He is the only person to have won BAFTAs for programmes in each of black and white, colour, HD, and 3D.</p>	<p>5 facts about Jane Goodall Born on 3rd April 1934 British Considered to be the world's foremost expert on chimpanzees Has studied chimpanzees for 45 years in Gombe Stream National Park which is located in Tanzania Goodall is the author of a number of books that have earned her tremendous fame globally.</p>
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Key Skills

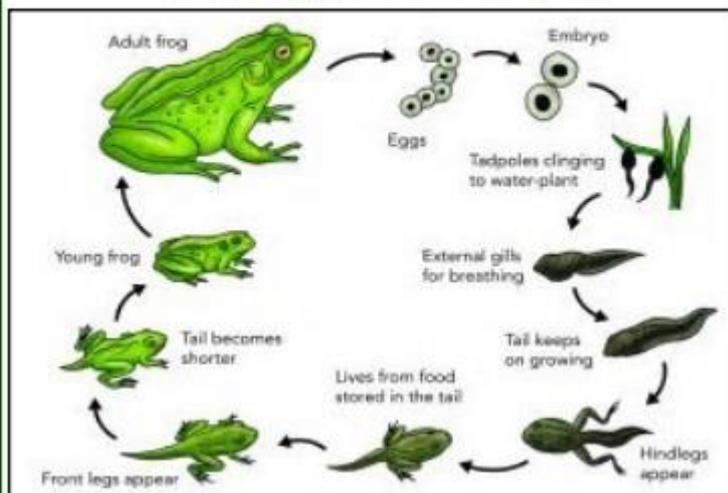
Begin to use and develop keys and other information records to identify, classify and describe living things and materials.

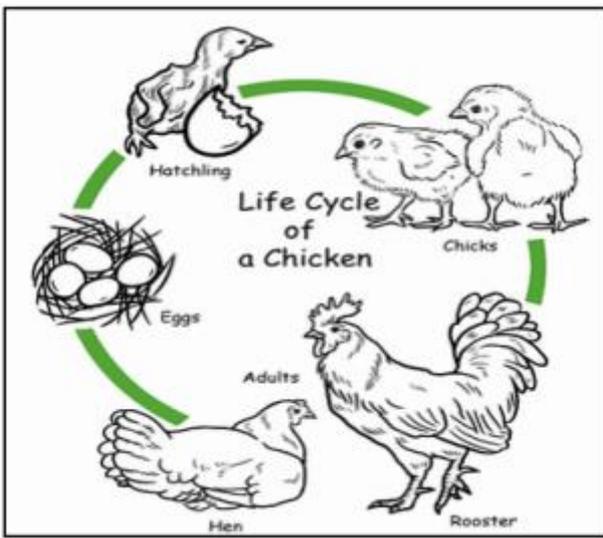
Key Vocabulary

Transformation	Changing in very clear ways.
Knighted	To be recognised as a very important person by the Queen.
Chimpanzee	A small African monkey.
BAFTA.	A British Academy of Film and Television Arts award

Diagrams and Symbols

Detailed Life Cycle of an Amphibian (Frog)





Key Questions

What came first, the chicken or the egg?
Which form of reproduction has the most advantages? Why?

Science focus	Animals including Humans
National Curriculum objective	Describe the changes as humans develop to old age. (Pupils should draw a timeline to indicate stages in the growth and development of humans. They should learn about the changes experienced in puberty. Pupils could work scientifically by researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows).

Key Knowledge: Human Growth

Human Growth The stages of human life	Fertilised egg Foetus Baby Toddler Child Teenager Adult Old age Death
Average UK life expectancy	Men: 79 Women: 82

Key Knowledge: Puberty

What is puberty?	Puberty is when the body develops. Puberty usually happens between the ages of 10 and 18. During puberty, the bodies of boys and girls begin to change.
Changes for girls	Hair starts to grow on their bodies. Breasts develop and hips widen. Periods start.
Changes for boys	Hair starts to grow on their bodies. Hair starts to grow on their faces. Testicles start to produce sperm.

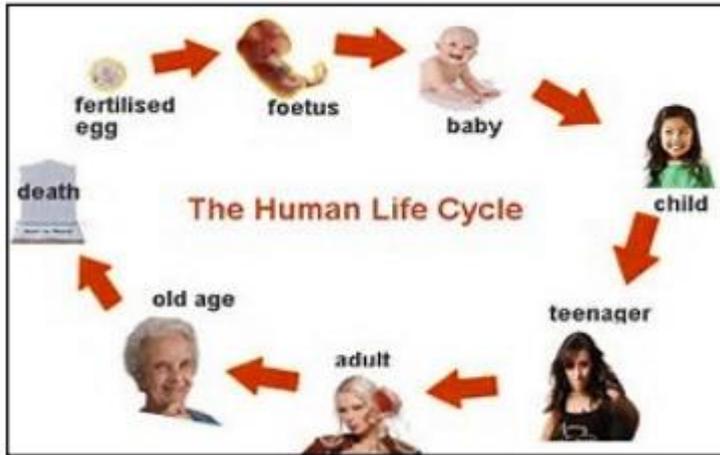
Key Skills

Begin to recognise which secondary sources will be most useful to research their ideas.

Key Vocabulary

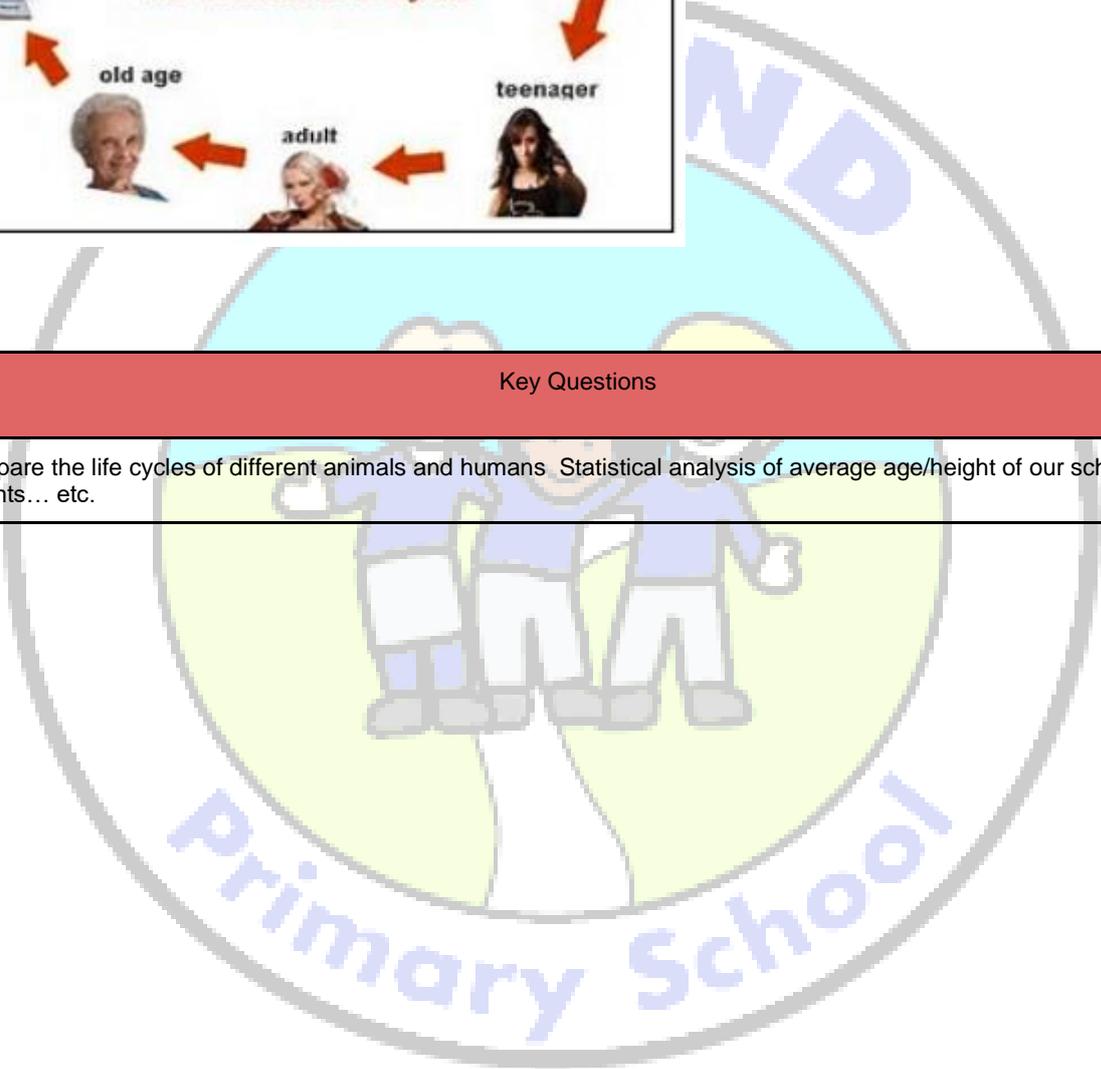
Testicles	The part of the body in men where sperm is produced
Sperm	The fluid that fertilises the egg

Diagrams and Symbols



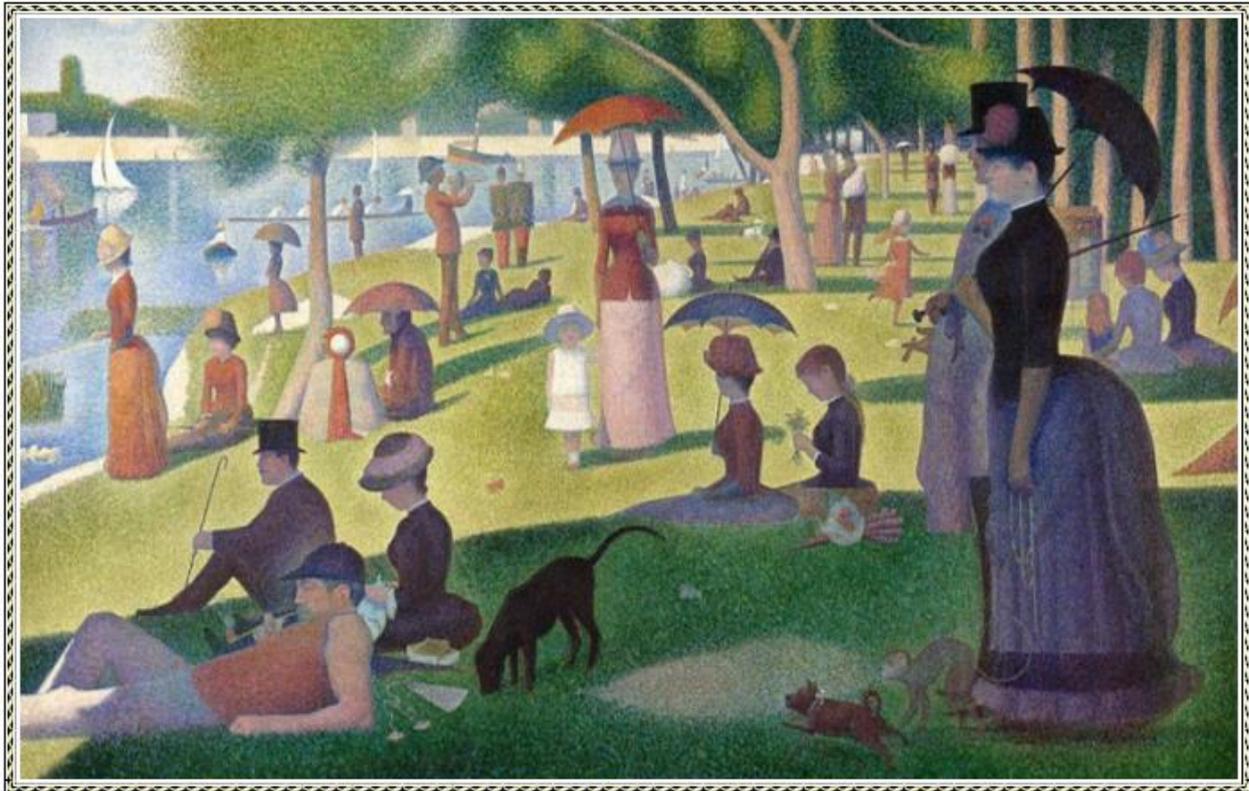
Key Questions

Compare the life cycles of different animals and humans. Statistical analysis of average age/height of our school, parents... etc.



Art focus	Create a piece of art that uses techniques learned from real artists
National Curriculum objective	<p>To create sketch books to record their observations and use them to review and revisit ideas</p> <p>To improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay]</p> <p>About great artists, architects and designers in history.</p>

A Sunday on La Grande Jatte, by Georges Seurat



Sketch Books	Outcomes
Fragment study (a small part of the example art work) Colour 'mixing' - using dots of different colours Light and shade Perspective Sketching of people	A pointillism painting of a scene involving people Must not be a copy of the example Must use distinct dots (pointillism) - not brushes Must show light and shade Must show perspective

Key Skills

Work in a sustained and independent way to create a detailed drawing. Develop a key element of their work: line, tone, pattern, texture. Draw for a sustained period of time at an appropriate level. Use different techniques for different purposes i.e. shading, hatching within their own work. Start to develop their own style using tonal contrast and mixed media. Recognise the art of key artists and begin to place them in key movements or historical events. Discuss and review own and others work, expressing thoughts and feelings, and identify modifications/ changes and see how they can be developed further. Identify artists who have worked in a similar way to their own work. Explore a range of great artists, architects and designers in history.

PE focus	Net and Wall - Tennis Athletics
National Curriculum Objective	Use running, jumping, throwing and catching in isolation and in combination Play competitive games. Develop strength, technique, control and balance (for example, through athletics)
Key Knowledge	
The focus of the learning is to continue to develop racket technique, exploring the forehand and volley shot.	To understand and show how to run for distance and speed.
The focus of learning is to develop pupils ability to think tactically about which shot to play, during a game.	To consolidate & improve the quality, range & consistency of the techniques they use for particular activities.
The focus of the learning is to look at how players can control the game from the beginning (serve)by thinking about how and where to serve.	To describe & evaluate the effectiveness of performances, & recognise aspects of performance that need improving.
Key Skills	
<p>Tennis To increase control and accuracy when playing a forehand/ volley shot. To increase our 'court' awareness i.e returning to the center of the court after a shot is played. To develop their understanding of when, where and why they are selecting to play that shot to win a point. To develop pupils ability to think tactically about which shot to play, during a game. To understand how to officiate and score a game of tennis.</p> <p>Athletics To develop running styles when sprinting and running a distance. To describe how the body reacts to different types of activity To develop and understand different throwing styles. To understand how technique can improve my distance when jumping.</p>	
Key Vocabulary	
Forehand and Volley	Types of shots played in tennis
Baseline	An area of the court.
Let	The umpire calls a let whenever a serve touches the net and still lands in the service box. The serve is then replayed
Cross Court	A shot that is hit diagonally into the opponent's court
Athletics	The sport of competing in track and field events, including running races and various competitions in jumping and throwing.
Pace	To avoid doing something too quickly or doing too much at one time, so that you have enough energy left to complete an activity.

Tennis

How can we win a game of tennis? How do we hit the ball? Where should we hit the ball? What is the consequence in a game of throwing / hitting the ball out of the court or letting it bounce more than once? Why do we not stand still in tennis? Where should we stand? Why do we need to return to the middle of the court (baseline) to be ready? What does the ready position look like? What happens if we throw the ball into the space in one of the corners at the back of the court?

Athletics

Why do we need to be able to run fast in sport? Which athletic events are sprinting events? What is the consequence of a sprinter running out of their lane in a race? What should we do with our head when we are sprinting? Why? Do we feel quicker when we apply the correct head technique? What should we do with our arms when we are sprinting? Why? What does pace mean? What race would you pace yourself in? Why? What is the consequence of a thrower releasing the object too late or too early? What should we do with our body position/stance when we throw? Why? Can we throw further when we apply the correct technique? What is the difference between throwing for accuracy and throwing for distance? How do we jump? What should we do with our arms? Why? What should we do with our legs? Why? Can we jump further when we apply the correct technique?

