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Topic Title: Allotment	
English	Maths
Information texts: Information texts are sometimes called non-chronological reports to distinguish them from newspaper-type reports which tend to be narrative in form and more like recounts. Non chronological reports are typical of encyclopaedia entries – almost every page of Wikipedia is written in this form. They generalise about a subject, to inform people objectively and are usually written in the present tense, which is why we call them information texts. Young children need to encounter this text-type in the classroom because, unlike recounts and instructions, it is not a common style in everyday language. For young children, learning to speak and write information texts should mark an important step towards more abstract and discursive thinking, essential for progress in most subjects of the curriculum. The language and vocabulary used to structure information writing shifts their thinking from the particular to the general, and from concrete towards more abstract ideas. Its aim is to collect, describe, classify and sequence experience according to common characteristics, binding them together as concepts. Information reading and writing should be a pervasive feature of work at every stage in children's progress through the primary school. As with all text types, non chronological reporting is not a discrete form; elements of information writing may well be required in writing recounts, instructions, explanations, persuasive or discussion texts – and vice versa. Writing information texts should be well established by Y5/6 and there should be increasing emphasis on applying these skills in other subjects across the curriculum e.g.: – the natural world: sharks, glaciers – places and people: life in and Indian village, Victorian times, – objects: racing cars, mobile phones – sports and hobbies: football, chess, dance. Consolidate and extend use of information text structure from Y3/4 to include: – expanding the range of connectives and generalisers – use of provisional statements with words and phrases like usually…, seem to be…, tend to…, – opinions as well as facts e.g. Some people still believe that… It used to be thought that… – technical	**Shape** **1. Measure and Classify Angles** • use a protractor to accurately measure angles to the nearest degree. • classify angles as acute, obtuse, right or reflex based on their measurements. • understand that angles are measured in degrees and can explain this using appropriate mathematical vocabulary. **2. Calculate Unknown Angles** • calculate angles by applying their understanding of angle facts (e.g. angles on a straight line = 180°, angles at a point = 360°). • use inverse operations to find missing angle measures in problems involving addition and subtraction of angles. **3. Vertically Opposite Angles** • understand and explain that vertically opposite angles are equal when two lines intersect. • use this knowledge to calculate unknown angles in diagrams with intersecting lines. **4. Angles in a Triangle** • recall and use the fact that the angles in any triangle sum to 180°. • calculate missing angles in a triangle when given the other two angles. **5. Angles in Special Types of Triangles** • identify and describe equilateral, isosceles, and scalene triangles. • understand and explain the properties of angles in equilateral (all angles = 60°) and isosceles triangles (two equal angles). • use properties to calculate unknown angles in special triangles. **6. Angles in Quadrilaterals** • recall and use the fact that angles in a quadrilateral sum to 360°. • identify different types of quadrilateral (e.g. rectangle, square, parallelogram, trapezium) and use their angle properties to solve problems. • recognise and reason about symmetry, parallel and perpendicular sides in quadrilaterals. **7. Angles in Polygons** • calculate the sum of interior angles in regular and irregular polygons using the formula: (n - 2) × 180°.

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vocabulary to add precision e.g. spine, compression, glucose – references to sources of evidence to add authority e.g. Most people now believe…, However, last year, a new variety was discovered…
Write reports for different audiences and purposes e.g.
– to interest or attract: language e.g. The best thing about Stroud on a Saturday morning is the Farmers' Market…Local farmers and gardeners sell honey, home-made cheeses… etc.
– to warn: Some people think that mushrooms are edible and toadstools are poisonous. In fact there is no difference between them, which can get mushroom hunters into a lot of trouble.
– to report objectively: e.g. The bicycle, usually called a bike, is a human powered vehicle with two wheels attached to a frame. Bicycles were introduced in the 19th century in Europe…

Collect interesting nuggets of information to conclude texts and sustain the reader's interest e.g. The Romans ate dormice as a dessert dipped in honey and poppy seeds.
Vary sentence structure, length and type e.g.
– complex sentences to combine information clearly and precisely, and vary sentence style and length to keep the reader interested e.g. Dormice are very small, nocturnal rodents who can hibernate for up to 6 months each year, while the weather is cold.
– sentences with lists of three: Dormice are fast, agile and extremely well adapted to climbing.
– active and passive voices: Baby dormice are born helpless and hairless. They need to be by their mothers for the first 20 days…,
– conditional and hypothetical (if…then) sentences e.g.: If they are woken up too soon…,
– exclamatory sentences: To this day, dormice are hunted and eaten in Slovenia.

Instruction texts:
Instructional language is a familiar part of school and family life from an early age. 'Sit down', 'get your coat on', 'clean your teeth' etc., are common speech patterns, usually internalised before children begin school. The basic organisation of an instruction text is straightforward. The paradigm is a simple recipe with an introduction, some sequenced

- identify and name common polygons, including hexagons, pentagons, and octagons.
- calculate missing angles in polygons when provided with sufficient information.

8. Circles
- correctly identify and use the mathematical terms: radius, diameter and circumference.
- understand the relationship between the diameter and radius (i.e. diameter = 2 × radius).
- label parts of a circle accurately and use this to solve simple problems.

9. Draw Shapes Accurately
- use a ruler and protractor with increased precision to construct shapes with specified side lengths and angles.
- follow a multi-step process to draw 2D shapes, including labelling angles and verifying side lengths and symmetry.
- use mathematical tools appropriately (e.g. compass, protractor, ruler) to support drawing.

10. Nets of 3D Shapes
- identify 3D shapes from given nets and vice versa.
- construct nets of common 3D shapes such as cubes, cuboids, pyramids and prisms, recognising which nets will form a closed 3D figure.
- develop spatial reasoning to visualise and draw their own nets.

Position and Direction

1. Plot and Describe Coordinates in the First Quadrant
- identify and plot coordinates in the first quadrant using ordered pairs (x, y).
- describe the position of points using accurate coordinate notation.
- draw simple shapes based on given vertices in the first quadrant.

2. Read and Plot Points in All Four Quadrants
- read and write coordinate pairs for given points in all four quadrants.
- plot points accurately in four quadrants using proper spacing and scale.
- describe the position of points in relation to the origin and axes.

3. Describe and Construct Shapes Using Coordinates Across Quadrants
- use specified coordinate points to draw polygons in all four quadrants.
- identify missing vertices of regular and irregular shapes using spatial reasoning and coordinate knowledge.
- describe the properties (e.g. line lengths, parallel lines, right angles) of constructed shapes using coordinate-based language.

4. Solve Problems Involving Coordinates
- solve problems involving missing coordinates in a range of shapes such as rectangles, parallelograms, and other polygons.

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steps and a conclusion - mostly written with 'bossy' verbs. It is an important and challenging task to get this work effectively started with young children. However, a rather simplistic conception of instructional writing has led some believe that it has only limited potential for older children – what's the point of carrying on writing recipes? They are wrong. Instructional forms of learning and writing should play a vital part in developing logical understanding especially in maths, science and technology where processes and procedures are at the heart of understanding these subjects. Also, Instructional texts, more than most other text-types frequently depend on graphics: pictures, symbols, diagrams, flowcharts etc. to make processes clear, and this should be an additional challenge. The Y5/6 guidance underlines this, showing how instructional writing, should become progressively more complex. By the end of Y4, if the foundations have been well laid, instructional writing should become significant asset to children's learning.

Other subjects in the curriculum should provide rich content for instruction writing which can be taken to challenging levels with older children. This form of writing is common in e.g.

– Maths: e.g. directions for playing games, solving problems, doing calculations, constructing shapes and designs etc…,

– Science: e.g. writing up processes and procedures: How to build an electrical circuit with a switch…, measuring time using the sun…,

– Geography: calculating the height of trees...

– PHSE e.g. steps to take in dealing with hostile behaviour; Safety First instructions in case of emergencies…,

– Design and technology e.g. rules for safe handling of tools and materials; directions for constructing, assembling programming…

– Etc. Increase the complexity of topics and steps to include to include: – explanations e.g.: who the instructions are intended for; to introduce technical language; to guide readers on how to use the instructions; to describe/define outcomes e.g. what counts as winning, what a product should look or taste like, how it should behave; etc.

– multiple prior or parallel steps e.g. Before this can be done, the ends should be tied off so that …While the glue is setting, cut the wires to fit round …

– Options e.g. at this point you can either (a)…or (b)…; …any player may roll the dice but only the player with…etc.

- apply knowledge of symmetry and properties of shapes to justify calculations and reasoning.
- identify and correct errors within coordinate-based problems.

5. Translate Shapes on a Coordinate Grid

- translate simple shapes in any of the four quadrants and describe the movement using vector terminology (e.g. 3 right, 2 up).
- identify the new coordinates of shapes following translation.
- solve problems involving repeated and compound translations.

6. Reflect Shapes on a Coordinate Plane

- reflect shapes in the x- and y-axes, recording new coordinate points.
- describe reflections using mathematical vocabulary including 'line of reflection' and 'mirror image'.
- determine whether a reflected shape is congruent to the original and explain how the reflection alters position but not size or shape.

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– Advice e.g. Before you take the wrapping away…, You may need another pair of hands to help you do this…, although this could be done without drawing the lines,… Decide whether it will help to use symbols, diagrams, pictures, flow charts etc. to support the text. Vary the tone and formality e.g. to make instructions to sound: – authoritarian with uncompromising imperatives e.g. Leave the building quietly, Do not leave the area until…, – or more friendly and reasonable by using modal verbs may, might, should, could, would etc. and phrases like provided that…, so long as… etc. – speak to a general audience e.g. These regulations are intended for the use of…, – or to an individual e.g. To get the best results, take a few minutes to … When you have finished, check carefully to ensure your instructions are: – make sense and are free of ambiguity and contradiction, – effectively sequenced to achieve their objective, – can be understood by others.	
RE	PSHE
What can be done to reduce Racism? Can religion help? Describe how sacred texts carry messages about racial justice • Consider questions about why racism happens and how it can be reduced, giving reasons for their ideas • Explain links between different cases of racism using key words including 'stereotype' and 'prejudice.' • Express thoughtful views about how racism can be reduced, including within religions. •Describe the stories of the two statues in Bristol • Consider texts and ideas about racism, equality and memorialisation, thinking about what justice requires. • Explain links and contrasts between the two stories and the contributions they made to the history of Bristol, of slavery and of Christianity. • Express thoughtful views about key questions in thinking about how to reduce racism. • Describe the meaning and importance of Acts 10 for Christians today	**Fake Is A Mistake!** • **Honesty**: Telling the truth about me, I am unique and amazing • This is Me! Being proud of who we are • HeartSmart Self-Talk: Catching negative self-talk and replacing it with positive self-talk • Boundaries for Respect: Learning how to use boundaries to establish respectful friendships • Vaccines - Facts vs Fake News! Finding out facts about vaccinations • Fix it, Find out, Fit in! Find out facts about legal and illegal substances and their risks (Reflection and self-evaluation)

Courage **Resilience** **Honesty** **Kindness**

Matthew 7:24 - "Therefore everyone who hears these words of mine and puts them into practice is like a wise man who built his house on the rock"

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• Consider different possible meanings for Acts 10 and rank them, giving reasons • Explain links between the Biblical story and the Christian community today • Express thoughtful views about ways in which a community such as a church can be a place of welcome for everyone, including people from minority ethnic communities. • Describe three or more variations of the Golden Rule • Consider texts and ideas about treating others as you want to be treated, applying the teaching to varied ethical dilemmas • Explain links between following the Golden Rule and being antiracist • Express thoughtful views about how the Golden Rule could change their community and our whole society for the better. • Describe how 3 or more religious stories share some messages about fairness or about racism • Consider texts and ideas about how people can change their minds in the direction of justice • Explain links between religions in what they teach about why racism is wrong • Express thoughtful views about how the religious stories they have studied could make a difference to problems caused by racism. • Describe visions of harmony in society in depth • Consider different ways of understanding what makes society more respectful • Express thoughtful views about what unites and what divides humanity. **Knowledge building blocks:** **Pupils will know:** •Introduce in simple terms the key words 'stereotyping' (looking at everyone in a large group and saying 'they are all the same') and prejudice (judging people without knowing them individually, in a bad way). •The story of slave trader Edward Colston, whose statue was dumped in Bristol docks by 'Black Lives Matter' protestors in spring 2020. •The story of John Wesley, whose statue still stands in Bristol, honouring (among other things) his anti-slavery Christian convictions and his influence as an Abolitionist. •The first Christians were middle-Eastern Jewish people-not white. •The Golden Rule in different versions from many religions. •The negative form ('Don't do to others what you don't want done to you') - 'The Silver Rule.	
Music	PE
Main Songs: Wake Up! Down By The Riverside	**Teacher Led- Tennis** - Develop hand and shoe movements in combination - Developing forehand and backhand rallies

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Dance The Night Away **Musicianship:** -Tempo: 76 bpm (Adagio, a slow pace) -Time Signature: 6/8 (6 quavers in every bar) -Rhythmic patterns using dotted crotchets, triplet quavers, quavers and their rests -Key Signature: D minor (1 flat) -Melodic patterns using the notes D E F G A -Improvising – G A B C D E F# **Playing:** Glockenspiel/Recorder – Eb F Ab / – D E F# G A B / C Eb F G Ab Bb C – (4 parts) **Improvising and Composing:** -Compose with the Song – 3 notes -F G Ab Improvise Together – 1,2,3 or 5 notes – G A B C D	- Serve and receive rally games - Improving shoe and body movement for selected shots - Forehand and backhand throw and hit challenges - Introduce playing into a space - Develop an overarm serving action - Develop sending and receiving actions - Develop volley action and apply it to a competitive game - Mini court games with tap serve, rallies with scoring **TSC – Net Games for Points** Pupils will be given the opportunity to explore & perfect a variety of different strokes and techniques within badminton, tennis & volleyball- building up to putting consolidated skills into practice in competitive scenarios and game play **Fundamental Movement Skills addressed** Locomotor- Running, Walking, Hopping, Jumping (height & distance) Body Control- Landing, Stretching, Balancing, Turning, Stopping, Bending, Twisting, Swinging Object Control- Control, Catching, Bouncing, Hitting
French	**Computing**
Unit 13 – J'adore le football ! sports and other leisure time activities **Unit 14 – Il est grand et gros** 3rd person descriptions	**Creating Media – 3D Modelling** **Summer Term 1** ▪ To recognise that you can work in 3D on a computer ▪ To identify that digital 3d objects can be modified ▪ To recognise that objects can be combined in a 3d model ▪ To create a 3d model for a given purpose ▪ To plan my own 3d model
Connected Curriculum	
Science	
Substantive Knowledge	Disciplinary Knowledge
Composting What is Compost? Definition: Compost is decomposed organic matter, used as a fertiliser in gardening and agriculture.	Scientific Inquiry Observation: Encourage detailed observation of textures, smells, and changes in buried items over time. Hypothesis: Formulate sensible predictions about biodegradation based on prior knowledge.

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Types of Compost and Their Components

Traditional Compost:

Ingredients: Grass clippings, leaves, fruit and vegetable scraps, eggshells, and coffee grounds.

Texture: Dark, crumbly, and earthy.

Smell: Pleasant, earthy aroma when well-maintained.

Commercial Compost:

Ingredients: May include peat, composted green waste, and additives like nutrients or biochar.

Texture: Fine and even, may contain small chunks.

Smell: Usually a neutral smell, sometimes with a hint of organic odour.

Worm Compost (Vermicompost):

Ingredients: Produced by worms from kitchen scraps and organic materials.

Texture: Rich, dark, and moist.

Smell: Earthy and sweet, indicating healthy decomposition.

Biodegradable Materials

Definition: Biodegradable materials can break down naturally through the action of living organisms such as bacteria and fungi.

Common Biodegradable Items:

Biodegradable:

Apple cores

Banana skins

Newspaper

Bread

Non-Biodegradable:

Crisp packets

Socks (depending on material)

Toy car (plastic)

Endpoints

Data Collection: Record changes in materials weekly, noting decomposition signs (e.g., size reduction, texture change, smell).

Working Scientifically Skills

Comparative Analysis: Compare the textures and smells of different compost types.

Investigative Skills: Conduct a fair test when burying items to ensure consistent conditions (same depth, location, moisture).

Variables in the Experiment

Independent Variable: The condition in which the seeds are kept (temperature and light).

Dependent Variable: The number of seeds that successfully germinate within a set timeframe.

Control Variables: Type of seed, soil type, amount of water, and container size.

Making Predictions

Encourage students to think critically:

Predict which condition will yield the highest germination rate and why.

Consider factors such as temperature impacts on metabolic rates and the role of light in photosynthesis.

Observations and Record Keeping

Use of Tables: Create a table to record daily observations of how many seeds germinate in each condition.

Date and Time Stamps: Keep a log for clarity on the timeline of germination.

Descriptive Language: Describe any changes noticed in seed appearance, growth, and behaviour in each condition.

Explaining Results

Students will be encouraged to:

Discuss how the conditions affected germination.

Reflect on whether their predictions were correct and what might account for any differences.

Consider real-world applications, such as how farmers choose when to plant crops based on temperature and light.

Scientific Inquiry

Observation Skills: Focus on carefully watching changes in plant growth over time.

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1. Identify and describe different types of compost and their components.
2. Recognise which materials are biodegradable and explain the processes involved.
3. Record and analyse information from experimental investigations.
4. Discuss the importance of composting in reducing waste and promoting sustainability.

What affects germination?

What is Germination?

Definition: Germination is the process by which a seed develops into a new plant, beginning with the seed absorbing water and ending with the seedling breaking through the soil.

Key Factors: Germination requires water, oxygen, warmth, and sometimes light.

Conditions for the Experiment

Low Temperature (4°C): Simulating winter conditions; may slow down metabolic processes.

Room Temperature (21°C): Ideal temperature for most seeds; mimics spring conditions.

In the Light: Light can enhance germination for some seeds that require light but may inhibit others.

In the Dark: Darkness is necessary for seeds that do not require light to germinate.

Scientific Method Steps

Ask a Question: How does temperature and light affect the rate of seed germination?

Make Predictions: Formulate hypotheses about which conditions will lead to the quickest and slowest germination.

Plan the Experiment: Identify variables (independent, dependent, and control variables).

Conduct the Experiment: Place seeds in each condition and monitor growth.

Record Observations: Take notes on germination rates over a specified period.

Analyse Results: Compare outcomes to predictions and discuss why they occurred.

Endpoints

1. Clearly explain the germination process and its requirements.
2. Understand the significance of different environmental factors on seed germination.
3. Conduct a simple experiment following the scientific method.
4. Record and interpret data effectively.
5. Articulate their findings and conclusions through discussion and written reflection.

Experimentation: Comparing the growth of plants under different conditions (e.g., water, light, soil type).

Data Collection: Use measurements to track growth, document findings, and make predictions.

Practical Skills

Plant Care: Understanding watering, weeding, and providing nutrients to promote healthy growth.

Recordkeeping: Keeping a plant diary to regularly note observations and changes.

Scientific Inquiry

Asking Questions: What are the functions of different flower parts? How do flowering plants reproduce?

Conducting Investigations: Dissect a flowering plant to observe and identify the structures involved in reproduction.

Data Collection and Analysis

Collect data on the stages of a flower's life cycle and document observations during dissection.

Compare and contrast the features of different flowering plants.

Communication of Findings

Create diagrams to illustrate findings.

Present conclusions about the role of each part in reproduction.

Skills Development

Observation: Examine various seeds and their dispersal structures.

Data Collection: Record findings on the effectiveness of different dispersal methods.

Analysis: Compare results and discuss which methods might work best in certain environments.

Inquiry and Research Skills

Observation: Visiting farms or local ecosystems to observe farming practices and their effects.

Data Collection: Gathering information through surveys or interviews with local farmers.

Analysis: Comparing different farming practices and their ecological impacts.

Critical Thinking

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Caring for our Plants

Plant Growth: The process by which seeds germinate and develop into mature plants.

Photosynthesis: The method by which plants convert sunlight into energy, helping them to grow and thrive.

Seeds, Bulbs, and Saplings: Different stages of plant development; seeds germinate, bulbs sprout, and saplings are young trees.

Key Vocabulary

Germination: The process of seeds sprouting and beginning to grow.

Photosynthesis: The process by which plants use sunlight to make food from carbon dioxide and water.

Weeding: The act of removing unwanted plants that compete for resources.

Fertiliser: A substance added to soil to improve plant growth.

Pests: Organisms that can harm plants, such as aphids or slugs.

Disease: Illness in plants caused by pathogens like bacteria, fungi, or viruses.

Plant Growth Stages

Seed Stage: The dormant period, where the seed contains all it needs to begin growth.

Germination: The seed absorbs water and swells, the radicle (root) emerges first.

Seedling Stage: The young plant develops leaves and grows stem.

Sapling Stage: A young tree that has developed from a seed or bulb and continues to grow into maturity.

Endpoints

1. Identify and describe the life cycle stages of a plant.
2. Demonstrate proper techniques for watering, weeding, and feeding plants.
3. Maintain a comprehensive class plant diary documenting growth and care practices.
4. Develop and present a scientific report based on their observations and analyses of the plants.

Dissecting Flowers

Assessing the balance between agricultural productivity and environmental sustainability.
Evaluating the effectiveness of various farming methods based on ecological outcomes.

Communication

Presenting findings through reports, presentations, or posters to share with classmates.
Engaging in discussions about sustainable practices and their importance for the future.

- Royal Horticultural Society (RHS) - Composting
- The Composting Association
- National Geographic - Biodegradable vs Non-biodegradable
- BBC Bitesize - Decomposition
- Royal Horticultural Society
- Science Buddies - Seed Germination
- Royal Horticultural Society (RHS)
- BBC Bitesize: Plant Growth
- National Geographic for Kids: Plants
- Gardening with Kids
- BBC Bitesize - Plant Reproduction
- National Geographic - Flowering Plants
- Science Learning Hub - Plant Reproduction
- BBC Bitesize - Seed Dispersal
- Royal Horticultural Society - Plants and Seed Dispersal
- Science Kids - Transport of Seeds
- National Geographic - Seed Dispersal
- Royal Society for the Protection of Birds (RSPB)
- The Bumblebee Conservation Trust
- Wildlife Trusts
- UK Pollinator Monitoring Scheme
- NHS Live Well - Personal Hygiene
- UK Government - Young People and Your Body
- KidsHealth - Hygiene
- Department for Environment, Food & Rural Affairs (DEFRA)
- The Farming Community Network
- RSPB (Royal Society for the Protection of Birds)
- Soil Association (Organic Farming)
- Natural England

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Key Parts of a Flowering Plant

Carpel: The female reproductive part, consisting of the stigma, style, and ovary.

Stigma: The sticky top part that receives pollen.

Style: The tube that connects the stigma to the ovary.

Ovary: Contains the ovules, which develop into seeds after fertilisation.

Stamen: The male reproductive part, consisting of the anther and filament.

Anther: Produces pollen grains containing male gametes (sperm cells).

Filament: A slender stalk that supports the anther.

Types of Pollination

Self-pollination: Pollen from the same flower fertilises the ovules.

Cross-pollination: Pollen from one flower fertilises the ovules of another, promoting genetic diversity.

Fertilisation Process

Pollination occurs when pollen lands on the stigma.

Pollen tube grows down the style to reach the ovary.

Sperm cells travel down the pollen tube to fertilise an ovule.

Fertilised ovule develops into a seed, and the surrounding ovary develops into fruit.

Endpoint Expectations

1. Accurately identify and label the key parts of a flowering plant.
2. Explain the function of each part involved in sexual reproduction.
3. Demonstrate understanding of how fertilisation occurs in plants.

Sequencing Stages

What is Seed Dispersal?

Seed dispersal is the process by which seeds are spread away from the parent plant to reduce competition for resources and to increase the chances of survival. Different plants have developed various methods for dispersing their seeds.

Why is Seed Dispersal Important?

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Reduces Competition: By spreading their seeds, plants minimise competition for light, space, and nutrients. Colonisation of New Areas: Dispersal allows plants to colonise new habitats, which can be crucial for their survival. Genetic Diversity: It promotes genetic mixing, enabling populations to adapt to changing environments and resist diseases. **Methods of Seed Dispersal** Wind Dispersal Seeds are lightweight and may have wings or parachutes (e.g., dandelion seeds). Examples: Sycamore, Milkweed. Water Dispersal Seeds float on water and are carried away to new locations. Examples: Coconut, Water lily. Animal Dispersal Seeds can cling to animal fur or be eaten and later excreted. Examples: Burdock (clinging seeds), berries (eaten and scattered). Mechanical Dispersal Seeds can be forcibly expelled from the parent plant, often through a pod that bursts open. Examples: Peas, Touch-me-not (Impatiens). Gravity Dispersal Seeds fall directly from the parent plant to the ground. Examples: Acorns from oak trees. **Endpoints** 1. Explain what seed dispersal is and why it is essential for plant populations. 2. Identify various seed dispersal methods and give examples. Pollinator Life Cycles **Overview of the Bee**	

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Bees are vital pollinators known for their role in pollinating crops and wild plants.

Scientific Terminology

Pollination: The transfer of pollen grains from the male anther of a flower to the female stigma.

Metamorphosis: A process of transformation that some insects undergo from larva to adult.

Life Cycle Stages

Egg: The adult female bee lays eggs in a hexagonal cell. An egg can be fertilised (becomes a worker bee or queen) or unfertilised (becomes a drone).

Larva: After about three days, the egg hatches into a larva. The larva is fed by worker bees with pollen and nectar.

Pupa: The larva eventually forms a cocoon and enters the pupal stage, where it transforms into an adult bee.

Adult Bee: After about 10-14 days, the adult bee emerges from the cocoon ready to start its new life.

Endpoints:

1. Identify the stages of the life cycle of their chosen pollinator.
2. Use scientific terminology to describe the life cycle.
3. Compare and contrast the life cycles of at least two pollinators.
4. Appreciate the importance of pollinators in the ecosystem.

Human Body

Key Terms

Fertilisation: The process where a sperm cell from the male merges with an egg cell from the female.

Sperm: Male reproductive cell produced in the testes.

Egg (Ovum): Female reproductive cell produced in the ovaries.

Zygote: The fertilised egg that develops into an embryo.

Embryo: An early stage of development post-fertilisation.

Gestation: The period during which the embryo/fetus develops in the uterus.

Uterus: The organ where the embryo develops in a female.

3. The Human Reproductive System

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Male Reproductive System:

Testes: Produce sperm and testosterone.

Penis: Organ that delivers sperm to the female reproductive system.

Seminal Vesicles and Prostate Gland: Produce fluids that nourish and transport sperm.

Female Reproductive System:

Ovaries: Produce eggs and hormones (oestrogen and progesterone).

Fallopian Tubes: Transport eggs from the ovaries to the uterus and the site of fertilisation.

Uterus: The site where a fertilised egg implants and develops.

Vagina: The passage leading from the external genitals to the uterus.

Endpoints

1. Describe the male and female reproductive systems and their functions.
2. Explain the process of fertilisation and the stages of human development from zygote to embryo.
3. Identify and describe key terms related to human reproduction.
4. Demonstrate an understanding of the importance of health education in relation to reproduction.

Healthy Lifestyle

What is Puberty?

Definition: Puberty is the stage of life when your body changes from a child into an adult.

Age Range: Generally occurs between ages 9-14 for girls and 10-15 for boys.

Changes During Puberty

Physical Changes:

Growth spurts

Development of secondary sexual characteristics (e.g., breasts for girls, facial hair for boys)

Increased oil and sweat production

Emotional Changes:

Mood swings

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Increased self-consciousness

Desire for independence

Importance of Personal Hygiene

Health Reasons:

Reduces the risk of skin infections (e.g., acne, fungal infections) caused by sweat and bacteria.

Prevents the spread of germs and illnesses (e.g., colds, flu).

Social Reasons:

Affects relationships with peers and friends.

Builds self-esteem and confidence.

Hygiene Practices:

Daily Bathing/Showering: Keeps skin clean and removes sweat.

Use of Deodorants: Helps manage body odour.

Dental Hygiene: Brushing and flossing teeth to prevent bad breath and cavities.

Menstrual Hygiene: For girls, using pads or tampons and understanding the menstrual cycle.

Endpoints

1. Explain the physical changes that occur during puberty.
2. Identify key personal hygiene practices that can help manage these changes.
3. Discuss the positive effects of good hygiene on self-esteem and confidence.
4. Understand the relationship between personal hygiene and health.

Habitats

Types of Farming Practices

Arable Farming

Focuses on growing crops such as wheat, barley, and vegetables.

Seasonal planting and harvesting are crucial.

Livestock Farming

Involves raising animals like cows, sheep, pigs, and poultry.

Can be extensive (animals roam freely) or intensive (animals are kept in close confinement).

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Mixed Farming

Combines arable and livestock farming on the same farm.

Diversifies income sources and can enhance soil fertility through crop rotation.

Organic Farming

Avoids synthetic fertilisers and pesticides, focusing on natural methods.

Promotes biodiversity and soil health.

Sustainable Farming

Aims to balance the needs of food production with environmental impact.

Uses techniques like crop rotation, cover cropping, and reduced reliance on chemicals.

Positive Effects of Farming on Natural Habitats

Biodiversity Enhancement: Organic and sustainable farming can support a diverse range of species.

Soil Health Improvement: Techniques like crop rotation enhance soil fertility and structure.

Habitat Creation: Certain farming practices, like creating hedgerows or maintaining ponds, provide habitats for wildlife.

Pollinator Support: Flowering crops and field margins can support pollinator populations, essential for food production.

Negative Effects of Farming on Natural Habitats

Habitat Destruction: Land clearing for agriculture can lead to loss of forests and meadows.

Pesticide Use: Chemicals can harm non-target species, including beneficial insects and water quality.

Soil Erosion: Over-grazing and intensive ploughing can strip away vital topsoil.

Water Pollution: Runoff from chemicals and fertilizers can contaminate water bodies, affecting aquatic wildlife.

Endpoints

1. Identify and describe different farming practices used in the UK.
2. Discuss the positive and negative effects of these practices on natural habitats.
3. Suggest improvements or alternative practices that could enhance sustainability in farming.

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Geography

Substantive Knowledge

Farming in the UK

Arable Farming
Involves the cultivation of crops such as wheat, barley, oats, and potatoes.
Found in areas with fertile soils and suitable climate conditions.
Mainly located in eastern parts of England, including East Anglia.
Dairy Farming
Focuses on the production of milk and dairy products.
Requires pastures for grazing and well-managed livestock.
Concentrated in regions such as South West England and parts of Wales.
Livestock Farming
Involves raising animals for meat, wool, or other livestock products.
Varieties include beef farming, sheep farming, and pig farming.
Commonly found in regions like the Scottish Highlands, Yorkshire, and Devon.
Poultry Farming
Focuses on the rearing of poultry, primarily chickens and turkeys.
Requires suitable housing and access to feed and water.
Found throughout the UK, often in areas near processing facilities.
Fish Farming (Aquaculture)
Involves the cultivation of fish and shellfish in controlled environments.
Requires water bodies or specialized facilities for fish rearing.
Coastal regions, such as Scotland and parts of Wales, are suitable for this type of farming.

Endpoints

1. Identify and describe the main types of farming in the UK.
2. Use web-based maps to identify regions that support different farming practices.
3. Locate St Nicholas at Wade on a map of the UK and determine the region it is nearest to.

Food Origins
Hemispheres and Conditions for Growth

Disciplinary Knowledge

Geography: Understanding the geographical features, climate, and soil types that influence farming practices in the UK.
Map Skills: Using web-based maps to identify regions that support different types of farming and locating specific places on a map.
Research Skills: Conducting online research to gather information about different farming practices and regions in the UK.
Written Communication: Presenting information clearly and concisely through written descriptions, diagrams, and maps.

Geography Skills
Research and Locate: Use geographical resources to locate and annotate the points of origin of various fruits and vegetables.
Map Annotation: Annotate world maps with symbols or labels to show the origins of selected fruits and vegetables.
Understanding Hemispheres: Understand the concept of hemispheres and how they affect the growth conditions for different crops.
Critical Thinking
Analysing Climatic Factors: Recognize the relationship between climate and the types of fruits and vegetables that can be grown.
Making Connections: Make connections between the origins of different fruits and vegetables and the climatic conditions required for their successful growth.

Geographical Skills
Reading and interpreting maps to locate specific features or places.
Using a local council website to gather information about allotments in the area.
Using an Ordnance Survey or online map to locate and measure allotment plots.
Analysing geographical data to identify key geographical and human features near the allotments.

- UK Agriculture and Horticulture
- National Farmers' Union
- The Department for Environment, Food and Rural Affairs
- World Crops Database
- Food Atlas

Courage **Resilience** **Honesty** **Kindness**

Matthew 7:24 - "Therefore everyone who hears these words of mine and puts them into practice is like a wise man who built his house on the rock"

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Northern Hemisphere: This hemisphere experiences four distinct seasons - spring, summer, autumn, and winter. Fruits and vegetables that require a cooler climate and a dormant period during winter are generally grown in this hemisphere. For example, apples require a cold period to establish fruit-bearing trees. Southern Hemisphere: This hemisphere experiences opposite seasons when compared to the Northern Hemisphere. It has warm summers and mild winters. Fruits and vegetables that thrive in warm and tropical conditions are typically grown in this hemisphere. For example, bananas and pineapples prefer warm climates. Climatic Conditions and Crop Growth Tropical fruits (e.g., banana, mango) thrive in warm climates with abundant rainfall. Citrus fruits (e.g., oranges, lemons) prefer temperate regions with mild winters. Mediterranean climates (e.g., grapes, olives) have hot, dry summers and mild winters. Certain crops, like coffee, require specific altitudes and humidity levels for optimal growth. Foods Unsuitable for UK Climate The UK has a temperate maritime climate with cool summers and mild winters. Some foods cannot grow or struggle to grow in the UK due to these conditions. Examples of foods unsuitable for the UK climate: Tropical fruits (e.g., pineapple, coconut) Citrus fruits (e.g., oranges, grapefruits) Subtropical fruits (e.g., avocado, papaya) Warm climate crops (e.g., coffee, cocoa) Endpoints **1.** Students will be able to locate and annotate the origins of fruits and vegetables on world maps. **2.** Students will understand the influence of hemispheres on the climate and growing conditions of crops. **3.** Students will identify and explain why certain fruits and vegetables cannot be grown in the UK due to its climate. Local Allotments Allotments are plots of land that individuals can rent from the local council or private landowners to grow their own food.	• BBC Bitesize - KS2 Geography • National Geographic Kids

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Allotments can vary in size, and the overall layout of an allotment site can be different in different locations. Allotments are often found in urban areas as a way for people without gardens to grow their own produce. Allotments can provide numerous benefits, such as promoting healthy eating, encouraging physical activity, fostering community spirit, and supporting biodiversity by creating green spaces in urban areas. Many allotment sites are managed by local councils, who provide information about them on their websites. Ordnance Survey maps show detailed and accurate geographical information about various locations in the United Kingdom. Endpoints 1. Use a local council website to identify the locations of other allotments in the area. 2. Search for these allotments on an Ordnance Survey or online map. 3. Use the map and data provided to find out the size of each allotment plot. 4. Identify key geographical or human features nearby each allotment plot	

Art

Substantive Knowledge	Disciplinary Knowledge
Observational Drawing Observational Skills: Develop observational skills to accurately depict botanical subjects. Drawing Techniques: Learn techniques to create realistic representations of plants, such as shading, blending, and line work. Colour Theory: Understand how to use colours effectively to represent the natural hues of plants. Texture: Experiment with creating different textures found in plants through pencil strokes and shading. Artistic Inspiration: Analyse botanical drawings by artists to learn how to represent plant forms effectively. Endpoints	Observational Drawing Techniques Using different shading techniques to create depth and form. Practising cross-hatching and stippling for texture. Understanding proportion and scale when drawing plants. Exploring Botanical Drawings Analysing how artists capture plant forms. Recognising the importance of detail in botanical illustrations. Applying techniques such as contour drawing and negative space. Developing Ideas Over Time Revisiting sketches to refine and expand upon initial observations. Experimenting with composition and layout in sketchbooks. Incorporating feedback to improve observational drawing skills.

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1. Produce detailed observational drawings of various plants, fruits, vegetables, leaves, flowers, seeds, and bulbs. 2. Demonstrate the use of coloured and soft writing pencils effectively in their sketches. 3. Analyse botanical drawings for techniques on capturing plant forms. Show growth in their observational drawing skills by revisiting and developing their initial sketches.	• Royal Botanic Gardens, Kew • Victoria and Albert Museum - Botanical Illustrations • The Eden Project • The National Gallery - A Closer Look at Flowers in Art

Design and Technology

Substantive Knowledge	Disciplinary Knowledge
Seasonal Planting What Can Be Planted in the Current Season: Fruits: Strawberries, Apples, Pears, Raspberries Vegetables: Carrots, Lettuce, Radishes, Peas Benefits of Companion Planting: Pest Control: Certain plants can repel pests and insects that may harm other plants. Nutrient Enhancement: Some plants can help improve soil nutrients for neighbouring plants. Pollination: Companion planting can attract pollinators, improving fruit and vegetable yields. Homemade Planters and Raised Beds: Materials Needed: Wooden planks, nails, hammer, soil, compost Steps: Measure and cut planks, assemble to create planters, fill with soil and compost Benefits: Provides better drainage, control over soil quality, and easier maintenance Endpoints 1. Being able to identify appropriate plants to grow in the current season 2. Following instructions accurately for planting and caring for plants 3. Demonstrating proficiency in using homemade planters and raised beds Understanding the benefits of companion planting for plant health and growth	Planting Fruits and Vegetables in the Current Season Research suitable fruits and vegetables to plant in the current season using reliable sources like RHS and BBC Gardening Guides. Identify the plants that are suitable for planting in homemade planters and raised beds. Learn about the optimal conditions required for each plant to thrive in the current season. Read and understand the planting instructions provided for each fruit and vegetable chosen. Care Instructions Follow the care instructions diligently for watering, feeding, and protecting plants from pests and diseases. Monitor the growth of plants regularly and make necessary adjustments to ensure they are healthy and thriving. Seek guidance from gardening experts or online resources if facing any challenges in plant care. Homemade Planters and Raised Beds Design and create homemade planters and raised beds using materials like wood, plastic containers, or recycled items. Consider the size and depth requirements of plants when constructing the planters and raised beds. Ensure proper drainage and aeration in the homemade planters to prevent waterlogging and promote healthy plant growth. Companion Planting Explore the concept of companion planting and its benefits for plant health and growth. Understand which plants complement each other when planted together to enhance growth and deter pests. Implement companion planting strategies in the garden to create a harmonious and thriving ecosystem

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	• Royal Horticultural Society - Grow Your Own • BBC Gardening Guides • Garden Organic - Advice and Resources