# Topic Overview - Year 5

| Topic/Theme | Magic in the Making | | Our Universe | | Roman Britain | |
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| **Term** | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Hook** | Trip to Homerton College for Hogwarts Experience Day | | Class Trip to the Institute of Astronomy for a presentation and to look through the telescope/Visiting Astronomer | | What impact did the Roman Empire have on Britain? | |
| **Key Literature** | Harry Potter and the Philosopher's Stone by J K Rowling | | Cosmic by Frank Cottrell-Boyce<br><br>The Jamie Drake Equation by Christopher Edge. | | Revolt of the Romans by Tony Bradford<br><br>The Lion, The Witch and The Wardrobe by C.S. Lewis (link to portal stories)<br><br>Empire's End - A Roman Story by Leila Rasheed | |
| **Possible First-hand experiences** | 'Potion making' in Science<br><br>Creating a 'Marauder's Map' and taking a walk around Trumpington<br><br>Harry Potter trip – Warner Bros. | | Looking through the telescope at the Institute of Astronomy<br><br>Meeting and talking with an astronomer<br><br>Science Week | | Museum of Classical Archaeology in Cambridge<br><br>Creation of shields/tortoise formation. | |
| **English Reading** | - Identify and discuss themes and conventions in writing<br><br>- Fact retrieval<br><br>- Draw inferences, such as characters' feelings, thoughts and motives from their actions and justifying their inferences with evidence. | | -Ask questions to improve understanding<br><br>-Predict what might happen from details stated and implied (in increasingly complex texts)<br><br>-Distinguish between fact and opinion<br><br>-Explain and discuss understanding of texts<br><br>-Provide reasons and justification for views | | - Summarise the main ideas drawn from more than one paragraph<br>- Explore the meaning of words in context<br>- Recommend books they have read to their peers<br>- Discuss a wide range of fiction and non-fiction | |

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| | - Discuss and evaluate how authors use language, including figurative language, considering the impact on the reader. | | |
| **English Writing** | Suspense Writing: based on the 'Clockwork' story.<br><br>Persuasive Writing<br><br>Descriptive Letter writing - home from Hogwarts<br><br>Diary Entries | Non-chronological reports (Science Week)<br><br>Adventure Stories (Alien Landing)<br><br>- Persuasive news editorial<br><br>Explanation Texts (on Space) | -Historical fiction<br><br>-Newspaper reports<br><br>Balanced Arguments<br><br>-Poetry |
| **English speaking and listening** | -Listen and respond appropriately in groups and classroom sets.<br><br>-Participate in discussions, presentations, performances, role play/improvisations and debates. | -Practise listening skills by working in a group.<br><br>-Prepare a presentation on a poster about a different country.<br><br>-Maintain attention and participate actively in collaborative conversations, staying on topic and initiating and responding to comments. | - Show an awareness of audience and perform in the Year 5 and 6 Production<br>-<br>- Participate actively in collaborative conversations, staying on topic and initiating and responding to comments |
| **Maths** | - **Place Value and Number**<br><br>Read, write, order and compare numbers up to at least 1,000,000 (one million) and say the value of each digit.<br><br>Use negative numbers in context when looking at temperature or money, counting forwards and backwards through 0.<br><br>Keep multiplying a number by 10 or 100 up to 1,000,000 and count back. | **Measure: Area and perimeter**<br><br>Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.<br><br>Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²), square metres (m²), and estimate the area of irregular shapes.<br><br>**Fractions**<br><br>Compare and order fractions whose denominators are all multiples of the same number. | - **Geometry: Properties of shapes**<br><br>Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.<br><br>Draw shapes using given dimensions and angles.<br><br>State and use properties of a rectangle (including squares) to deduce related facts.<br><br>Distinguish between regular and irregular polygons, based on using reasoning about equal sides and angles. |

Round numbers up to 1,000,000 to the nearest 10, 100, 1000, 10,000 or 100,000.

Solve number and practical problems that involve ordering and comparing numbers up to 1,000,000, counting forwards or backwards in steps, negative numbers, and rounding.

Read Roman numerals up to 1000 and recognise years written in them.

- **Addition and Subtraction**

Add and subtract numbers with more than 4 digits using written methods.

Use rounding to check answers to calculations and determine levels of accuracy.

Solve addition and subtraction problems needing more than one step and can work out which operation and method is the most suitable.

Add and subtract numbers mentally with increasingly large numbers.

- **Multiplication and division**

Find multiples and factors of a number and can identify factors common to 2 different numbers.

Use vocabulary relating to prime numbers, prime factors and composite numbers.

Find and name equivalent fractions of a given fraction.

Identify mixed numbers and improper fractions and convert from one to another such as 2/5 + 4/5 = 6/5 = 1 and 1/5.

Add and subtract fractions whose denominators are all multiples of the same number.

Multiply proper fractions by whole numbers using objects and pictures.

- **Decimals**

Read and write decimal numbers as fractions such as 0.71 = 71/100.

Identify and use thousandths and can explain how they relate to tenths and hundredths and their decimal equivalents.

Write equivalent fractions of a given fraction including tenths and hundredths.

Round numbers with two decimal places to the nearest whole number and to 1 decimal place.
Read, write, order and compare numbers with up to three decimal places.

Solve problems involving numbers with up to three decimal places.

Use the properties of rectangles to find related facts, missing lengths and missing angles.

Estimate and compare acute, obtuse and reflex angles, understanding that angles are measured in degrees.

Draw given angles and measure them in degrees.

Identify angles at a point on a straight line and ½ a turn (total 180°).

Identify angles at a point, a whole turn (total 360°) and other multiples of 90.

- **Geometry: Position and direction**

Identify, describe and represent the position of a shape following a reflection, using mathematical vocabulary to explain this.

Identify, describe and represent the position of a shape following a translation using mathematical vocabulary to explain this.

- **Measure**

Convert between different forms of metric measurement e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre.

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| Work out if any given number up to 100 is a prime number and can recall prime numbers up to 19.<br><br>Multiply numbers with up to 4 digits by a 1 or 2 digit number using formal written methods.<br><br>Divide numbers with up to 4 digits by a 1 digit number, using formal written methods, and can show remainders.<br>Multiply and divide whole and decimal numbers by 10,100 and 1000.<br><br>Identify and use square numbers and their notation.<br><br>Identify and use cube numbers and their notation.<br><br>Solve problems involving multiplication and division, including using factors and multiples, squares and cubes.<br><br>Solve problems involving addition, subtraction, multiplication and division, and a combination of these, including understanding the meaning of the equals sign.<br><br>Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.<br><br>**Statistics**<br><br>Solve comparison, sum and difference problems using information presented in a line graph. | - **Percentages**<br><br><br>Identify the percent symbol (%) and how it relates to parts per hundred, hundredths and decimals.<br><br>Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25. | Understand and compare equivalences between metric units and common imperial units. These might include: inches, pounds or pints.<br><br>Estimate volume by using 1cm³ blocks to build cuboids (including cubes) and capacity by using water and different containers.<br><br>Solve problems by converting between units of time.<br><br>Use addition and subtraction to solve problems involving measure (such as length, mass, volume, money, using decimal notation.<br><br>**Determining what each class needs to revisit and focus on consolidating/challenging so pupils are ready for Year 6** |

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|  | Complete, read and interpret information in tables, including timetables. |  |  |  |  |  |
| **Science** | - Compare and group together everyday materials on the basis of their properties.<br><br>- Know that some materials will dissolve in liquid to form a solution and describe how to recover a substance from a solution.<br><br>- Use knowledge of solids, liquids and gasses to decide how mixtures might be separated, including filtering, sieving and evaporating.<br><br>- Reversible and irreversible reactions. |  | - Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.<br>- <br>- Describe the movement of the Moon relative to the Earth.<br><br>- Describe the Sun, Earth and Moon<br>- Use the idea of the Earth's rotation to explain day and night.<br><br>- Explain that unsupported objects fall towards the Earth because of the force of gravity.<br><br>- Identify the effects of air resistance, water resistance and friction. |  | -Describe the changes as humans develop to old age<br><br>-Animals and their habitats<br><br>- Describe the differences in life cycles of mammals/amphibians/insects/birds<br><br>-Describe the life process of reproduction in some plants and animals reproduction in some plants/animals |  |
| **Computing** | **Computer Systems and Networks:** Sharing Information<br><br>**Digital Literacy:** Strong Passwords | **Vector Drawing**<br><br>**Digital Literacy:** Digital Citizenship | **Presenting Information: Presentations**<br><br>**Digital Literacy:** Spam | **Programming: Simulation**<br><br>**Digital Literacy:** How to Cite a Site | **Creating Media: Video Editing**<br><br>**Digital Literacy:** Edited photos | **Programming: Selection** |
| **Art and Design** | Learn about Van Gogh and recreate 'Starry Night'<br>        - apply skills to create their own night scene. |  | Space art - improve control using a range of materials.  Use oil pastels to create a space theme, experimenting with colour, texture and shape.<br><br>Paper mache planets |  | Making props for end of year performance.<br><br>Create class mosaic - each child taking their own independent part of a bigger artwork. |  |

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| | Explore the history of art - learn about different periods in art history, mapping these onto a timeline and identifying how they influence each other. | Chalk/pastel recreations of space (rocketship windows)<br><br>Name aliens | Roman sculpture using clay. |
| **Design technology** | Constructing bridges: investigate and explore different structures and mechanisms; plan and test different designs and materials using annotated diagrams; construct and make bridges using different materials, strengthening, reinforcing and evaluating them. | Space Rovers: plan materials required and consider how to construct elements; select appropriate materials and tools; finishing with final details.<br><br>Space vehicles - linked to computing (simulation unit). Design a vehicle that can be controlled using Lego WeDo. | Roman aqueducts: explore and analyse examples of aqueducts, considering their purpose and how they functioned and were constructed. Plan own aqueducts, constructing and making these and considering how to strengthen and reinforce them. Evaluate finished aqueducts.<br><br>Roman drawstring purses: explore and analyse examples of Roman clothing.; plan and design own purse, making these using sewing techniques and chosen materials. |
| **History** | **Local History Study** (The Victorians and Cambridge/Trumpington) | The Space Race! | **Roman Britain: the Roman Empire and its impact on Britain** |
| **Geography** | Use maps, atlases, globes and digital/computer mapping to locate countries and describe features (local geography study, using different maps to identify and explore our locality).<br><br>Use the eight points of a compass, 4 and 6 figure grid references, symbols and keys (including the use of Ordnance Survey maps). Use OS map to recognise that contours show height.<br><br>Use fieldwork to observe, measure, record and present the human and physical features in the | Identify the position of the Prime/Greenwich Meridian and how this relates to time zones.<br><br>Describe and understand climate zones, biomes and vegetation belts.<br><br>Locate the countries of North America on a map,, concentrating on their environmental regions, key physical and human characteristics, countries and major cities.<br><br>Understand geographical similarities and differences through the study of human and physical geography of a region in North America. | Describe and understand economic activity in countries, including trade links.<br><br>Explore how settlements were established and consider the difference between historic and modern trade and communication links.<br><br>Look at maps, and consolidate use of compass points and locational knowledge, to explore the spread of the Roman Empire and different Roman settlements. |

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| | local area using a range of methods, including sketch maps, plans and graphs, and digital technologies.<br><br>Create a sketch map with symbols and a suitable key.<br><br>Consider land use in local areas and economic activity (eg trade) | | Explore different physical and political maps. | | | |
| **Music** | **Listening**.<br><br>Understand and appraise music using the inter related dimensions of music.<br><br>Learning to take apart a piece of music while explaining (and composing) the texture's, individually with expression.<br><br>Using sampling technology to | **Singing** as a choir.<br><br>Learning melody and harmony in both solo and ensemble scenarios.<br><br>Perform Carols and Winter songs to an audience. | **Performing**.<br><br>Learning to perform as an ensemble while exploring timbre and texture of everyday sound.<br><br>Enjoy making, playing, changing and combining sounds; experiment with different ways of producing sounds with voice, musical instruments, simple every day sounds. | **Listening**<br><br>Reading score and playing on a piano.<br><br>Learning to read and play notes with expression.<br><br>Developing the use of arpeggios on a piano. | **Improvise**<br><br>Use scales and modes relevant to a variety of genres.<br><br>Choose and focus on particular pieces for live and recorded performance.<br><br>Learn and demonstrate the ability to discuss music with knowledge. | **Composing** and songwriting.<br><br>Creating original pieces while learning to write the music for reference.<br><br>Study songwriting structure and the relationship between chord and melody. |

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| | experiment with texture. | | | | | |
| **Religious Education** | - Jesus: Who do people say I am? | Are the Ten Commandments still relevant today? | What is it like to be a Christian? - in the UK and other parts of the world. | | **Hinduism**<br><br>What can stories and images of Hindu deities tell us about Hindu beliefs? | |
| **PSHE** | Beginning and belonging (Myself and My Relationships 14)<br><br>Family and friends (Myself and My Relationships 16)<br><br>Anti-bullying (Myself and My Relationships 17) | | Diversity and communities (Citizenship 10)<br><br>Drug Education (Healthy and Safer Lifestyles 22)<br><br>Sex and relationships education (healthy and safer lifestyles 20 and 24) | | Personal Safety<br><br>Managing Risks | |
| **Physical Education** | Swimming<br><br>Football | Swimming<br><br>OAA | Tag Rugby<br><br>Dance | Gymnastics (Flight)<br><br>Handball | Athletics<br><br>Kwik Cricket | Athletics<br><br>Rounders |
| **Spanish** | Revise/recall/renew confidence - selection of previous vocab.<br><br>What time is it?<br><br>Dates<br><br>Christmas. | | Weather<br><br>Clothing<br><br>Easter | | Sports<br><br>Likes and Dislikes.<br><br>Subordinating Conjunctions.<br><br>Sport clothing/Sports posters | |