Y6 long term overview

	Autumn	Spring	Summer
Title	**A Power Within**	**Life and Death**	**The Heavens Above**
Visits & Trips	Hinkley Point Remembrance Week	Bristol Museum Space Dome	Residential Richard Huish College Day Production
Maths	**Place Value** (link to history timelines) • read, write, order and compare numbers up to 10 000 000 and determine the value of each digit • round any whole number to a required degree of accuracy • use negative numbers in context, and calculate intervals across zero • solve number and practical problems that involve all of the above. **Calculation** (link to computing) • multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication • divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context • divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context • perform mental calculations, including with mixed operations and large numbers • identify common factors, common multiples and prime numbers • use their knowledge of the order of operations to carry out calculations involving the four operations • solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why • solve problems involving addition, subtraction, multiplication and division • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy. **Fractions, Decimals and Percentages** • use common factors to simplify fractions; use common multiples to express fractions in the same denomination • compare and order fractions, including fractions > 1 • add and subtract fractions with different denominators and mixed numbers, using the • concept of equivalent fractions • multiply simple pairs of proper fractions, writing the answer in its simplest form • divide proper fractions by whole numbers • associate a fraction with division and calculate decimal fraction equivalents • identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places • multiply one-digit numbers with up to two decimal places by whole numbers • use written division methods in cases where the answer has up to two decimal places • solve problems which require answers to be rounded to specified degrees of accuracy • recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	**Algebra** • use simple formulae • generate and describe linear number sequences • express missing number problems algebraically • find pairs of numbers that satisfy an equation with two unknowns • enumerate possibilities of combinations of two variables. **Measure** (link to D&T) • solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate • use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places • convert between miles and kilometres • recognise that shapes with the same areas can have different perimeters and vice versa • recognise when it is possible to use formulae for area and volume of shapes • calculate the area of parallelograms and triangles • calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres and cubic metres, and extending to other units. **Geometry** • draw 2-D shapes using given dimensions and angles • recognise, describe and build simple 3-D shapes, including making nets • compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons • illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius • recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. **Geometry – Position and Direction** • describe positions on the full coordinate grid (all four quadrants) • draw and translate simple shapes on the coordinate plane, and reflect them in the axes. **Ratio** (link to art, science) • solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts • solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison • solve problems involving similar shapes where the scale factor is known or can be found • solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.	**Statistics** (link to science) • interpret and construct pie charts and line graphs and use these to solve problems • calculate and interpret the mean as an average. **Revision** Children revise all areas of the Key Stage 2 curriculum. **Contextual maths** • Use of maths for science, history and economics • Analysing scientific data using tables, flow charts, line graphs and scatter graphs • Predicting, calculating and seeking to maximise profit, exploring supply and demand as part of the enterprise project. • Applying knowledge of place value and scaling to timelines in history. **Secondary transition project** TBC
English	**Report writing:** (link to history, geography and RE)	**Atmospheric Narrative:** (link to geography)	**Poetry**

	Vocabulary, grammar and punctuation: Passive forms (subject/object); using relative clauses including with an omitted relative pronoun; punctuating bullet points concisely. Text features: formal and informal structures, cohesion across paragraphs, thematic/chronological structures. Reading: William Kamkwamba and Bryan Mealer, *The Boy Who Harnessed the Wind* **Discussion writing:** (link to RE, geography and history) Balanced arguments; bias, ethics and contentious issues. Vocabulary, grammar and punctuation: Using modal verbs and adverbs to indicate degrees of possibility; use semi-colons and colons to mark the boundaries between clauses; use brackets, dashes or commas to indicate parenthesis Reading: Malorie Blackman, *Pig Heart Boy* **Informal recount letters:** (link to PSHE, RE and history) Writing in role from different eras; epistolary storytelling; use of period slang; changes in register; inference and implication Vocabulary, grammar and punctuation: Using a colon to introduce a list, ellipsis Reading: Sarah Ridley, *Dear Jelly*; Malorie Blackman, *Cloud Busting* **Formal persuasive letters**: (link to history) Levels of formality; use of rhetorical devices Vocabulary, grammar and punctuation: Subjunctive forms, synonyms/antonyms, hyphens to avoid ambiguity, cohesive devices Reading: Michelle Magorian, *Goodnight Mr Tom* **INVENTS:** Report: (Science link) Report on the experiences of children during the world wars. Discussion**:** (RE link) Are animals' lives worth less than humans?.	Use of first and third person, building suspense, implying emotion, characterisation. Vocabulary, grammar and punctuation: Expanded noun phrases to convey complicated information concisely; perfect forms to express relationships of time and causality; use the range of Y6 punctuation for effect Reading: H.G. Wells, *War of the Worlds*, Charles Dickens, *The* Signalman; Arthur Conan Doyle, *The Adventure of the Speckled Band;* Oscar Wilde, *The Canterville Ghost* **Clickbait (Online Persuasion):** (link to computing and science) Writing for online audiences using attention-grabbing techniques and search-engine optimised language. Reading: Online articles; Grolleau & Royer, *Darwin: An Exceptional Voyage*; Radeva, *Charles Darwin's On the Origin of the Species* **INVENTS:** Informal recount letter**:** Events of the beginning of *War of the Worlds*. Atmospheric Narrative: Stimulus: Shaun Tan's *The Arrival*. Formal persuasive: Business proposal for the enterprise project	Text features: Personification, imagery, assonance, consonance, sibilance, iambic pentameter, anaphora, rhyme, pathetic fallacy, syllable choices, metaphor, simile, personification, haikus, sonnets, blank verse. Reading: Christina Rossetti, *Goblin Market;* Robert Browning, *The Pied Piper of Hamelin*; Robert Frost, *The Road Not Taken*; Ted Hughes, *There Came A Day;* Walt Whitman, *When I Heard the Learn'd Astronomer* **Revision** Children revise and practise all areas of the Key Stage 2 grammar, punctuation and spelling curriculum. **Literary Criticism:** (link to history) The children build to writing a character study based on the play we are studying, *A Midsummer Night's Dream*. Reading: William Shakespeare, *A Midsummer Night's Dream* Vocabulary, grammar and punctuation: All Y6 objectives. **Drama:** The children perform to the school and parent/carers in a musical theatre production (performance text TBC). **Secondary transition project** TBC **INVENTS**: Clickbait: Shocking Facts About Space Report: Historical study on changing views of space.
History	**Children in the Wars: Depth Study** • **Chronology:** Sequencing and ordering the progression of conflict in the 20th century. • **Sources:** Compare primary/secondary sources in text and images (link to *Dear Jelly*), compare for validity and suggest omissions. **Research:** Draw on a range of research sources to inform a comprehensive study of this historical theme.		**The Heavens Above: Overview Study** Linked to RE and science, the children ask and answer historical questions about change, cause, similarity, difference and significance relating to beliefs about the stars over the span of human history. **The ancient world:** We observe and interpret the importance of astronomy across cultures and time – the 91-step structure of Mayan pyramids, the work of Alhazen, the significance of Stonehenge, Haley's Comet's perceived significance in 1066 and Greco—Roman-Saxon beliefs that influenced the naming of days and months by gods linked to the planets. **Turning Points: The Renaissance** - Through case studies of Elizabethan-era beliefs (linked to our study of Shakespeare), Copernicus and Galileo (linked to science), explore how views on the stars changed **The modern era:** The Apollo Missions, the Space Race and developments in the information age such as the GPS (linked to geography), Mike Brown's work on dwarf planets, the Mars rover and the Cassini-Huygens mission.
Geography	**Resource distribution:**	**Climate and Biomes:**	**Digital mapping**

	• **Energy** sources including studies of nuclear and wind energy. • **Food, water and minerals** distribution, through our study of *The Boy Who Harnessed the Wind* and the 2001 Malawian famine	• Exploring different climate zones and, vegetation belts and biomes, linked to our studies on evolution by natural selection **<u>South America case study: Galapagos</u>** • Human geography including ecotourism, conservation efforts, the significance of the islands to evolutionary research; and physical geographical features such as the Humboldt current, the archipelago's formation.	• Linked to residential trip, children study the use of digital maps.
Music	12 Bar Blues and Carol Service	12 Bar Blues and Music Tech	Musical Theatre, Concert and Production
PE	Agility, balance and co-ordination	Improve Hand / Eye Coordination & Review Techniques "Catchball", Football and Hockey	Explore Teamwork as well improving Track and Field Sports Seated Volleyball and Rounders Track and Field events such as Relay Races, Long Jump and Foam Javelin throwing.
Science	**<u>Electricity</u>** (links to our book, *The Boy Who Harnessed the Wind*, and to geography and D&T) • associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit • compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches • use recognised symbols when representing a simple circuit in a diagram. <u>Working scientifically:</u> • planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • using test results to make predictions to set up further comparative and fair tests **<u>Animals, including humans</u>** (links to our book, *Pig Heart Boy*, and PE, French, D&T, PSHE, computing): • identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood • recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function • describe the ways in which nutrients and water are transported within animals, including humans. <u>Working scientifically:</u> • planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • taking measurements, using a range of scientific equipment, with increasing accuracy and precision; taking repeat readings when appropriate • recording data and results of increasing complexity using tables • using test results to make predictions to set up further comparative and fair tests • reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results	**<u>Evolution and Inheritance</u>** (linked to geography and art) • recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago • recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents • identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution. <u>Working scientifically:</u> • identifying scientific evidence that has been used to support or refute ideas or arguments. **<u>Light</u>** (linked to computing, geography and art) • recognise that light appears to travel in straight lines • use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye • explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes • use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them. <u>Working scientifically</u> • planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary • taking measurements, using a range of scientific equipment, with increasing accuracy and precision; taking repeat readings when appropriate • recording data and results of increasing complexity using scientific diagrams and labels, line graphs • using test results to make predictions to set up further comparative and fair tests • reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results	**<u>Earth and Space</u>** • 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. <u>Working scientifically:</u> • identifying scientific evidence that has been used to support or refute ideas or arguments. • recording data and results of increasing complexity using scatter graphs and line graphs
Computing	**<u>Information Technology: Word Processing and Spreadsheets</u>**	**<u>Computer Science: HTML programming</u>**	**<u>Computer Science: Python programming</u>**

	Children use Word and Excel to write reports, create tables and use formulae to analyse scientific data. **<u>Computer Science: Computational Thinking</u>** (linked to maths) <u>Algorithmic thinking:</u> Analysing the validity of calculation algorithms. <u>Decomposition:</u> Using Scratch to create a machine that will predict a prime number, using flow charts and data tables. <u>Recognising patterns:</u> Using tables and systematic/computational approaches to maths and computing problems. <u>Evaluation:</u> Analysing how a Scratch arithmetic question generator works, tinkering for improvements and using notes in codes. **<u>Digital Literacy: Search Engine Technology</u>** Online safety curriculum. Children understand how search engines function, use Boolean search terms to make their searches effective, employ a variety of search filters on Google and identify copyrighted materials online.	Children use HTML to create interlinked webpages including using hexadecimal colour and understanding the purposes of metadata through the META tag. **<u>Information Technology for Creativity: Photo Editing</u>** Children use Pixlr to learn image editing tools and also to explore both the positive and negative aspects of these tools. **<u>Digital Literacy</u>** Online safety curriculum.	Children output information and create a rock/paper/scissors game using Python. **<u>Digital Literacy</u>** Online safety curriculum. Children use lights and sound controls for their year 6 production. Children study the use of digital maps in the context of the residential trip. **<u>Information Technology for Creativity: Computer-Aided Design</u>** Children use TinkerCAD to create a model 3D animal.
Online Safety	**Online Relationships** (linked to Anti-Bullying Week and our study of *Cloud-Busting*) • I can show I understand my responsibilities for the well-being of others in my online social group. • I can explain how impulsive and rash communications online may cause problems (e.g. flaming, content produced in live streaming). • I can demonstrate how I would support others (including those who are having difficulties) online. • I can demonstrate ways of reporting problems online for both myself and my friends. **Online Bullying** (linked to Anti-Bullying Week and our study of *Cloud-Busting*) • I can describe how to capture bullying content as evidence (e.g screen-grab, URL, profile) to share with others who can help me. • I can identify a range of ways to report concerns both in school and at home about online bullying. **Health, Wellbeing and Lifestyle** (linked scientific reports on exercise and circulation): • I can describe common systems that regulate age-related content (e.g. PEGI, BBFC, parental warnings) and describe their purpose • I can assess and action different strategies to limit the impact of technology on my health (e.g. nightshift mode, regular breaks, correct posture, sleep, diet and exercise). • I can explain the importance of self-regulating my use of technology; I can demonstrate the strategies I use to do this (e.g. monitoring my time online, avoiding accidents). Termly assembly (I Am Kind and Responsible) and eLim update lessons.	**Self-image and identity** (linked to our studies of clickbait and image editing) • I can describe ways in which media can shape ideas about gender. • I can identify messages about gender roles and make judgements based on them. • I can challenge and explain why it is important to reject inappropriate messages about gender online. • I can describe issues online that might make me or others feel sad, worried, uncomfortable or frightened. I know and can give examples of how I might get help, both on and offline. • I can explain why I should keep asking until I get the help I need. **Managing Information Online** (linked to our studies of clickbait, image editing and our use of resources) • I can use search technologies effectively. • I can explain how search engines work and how results are selected and ranked. • I can demonstrate the strategies I would apply to be discerning in evaluating digital content. • I can describe how some online information can be opinion and can offer examples. • I can explain how and why some people may present 'opinions' as 'facts'. • I can define the terms 'influence', 'manipulation' and 'persuasion' and explain how I might encounter these online (e.g. advertising and 'ad targeting'). • I can demonstrate strategies to enable me to analyse and evaluate the validity of 'facts' and I can explain why using these strategies are important. • I can identify, flag and report inappropriate content. **Copyright and Ownership** • I can demonstrate the use of search tools to find and access online content which can be reused by others. • I can demonstrate how to make references to and acknowledge sources I have used from the internet. Termly assembly (I am Safe and Secure), eLim update lessons and Safer Internet Week.	**Privacy and security** • I use different passwords for a range of online services. • I can describe effective strategies for managing those passwords (e.g. password managers, acronyms, stories). • I know what to do if my password is lost or stolen. • I can explain what app permissions are and can give some examples from the technology or services I use. • I can describe simple ways to increase privacy on apps and services that provide privacy settings. • I can describe ways in which some online content targets people to gain money or information illegally; I can describe strategies to help me identify such content (e.g. scams, phishing). **Online Reputation** (linked to our studies of clickbait and image editing) • I can explain how I am developing an online reputation which will allow other people to form an opinion of me. • I can describe some simple ways that • help build a positive online reputation. Termly assembly (I am Healthy), eLim update lessons.
PREVENT	'I am kind and responsible' Evaluating content - Prevent	'I am safe and secure' (Privacy) 'I am safe and secure' (Relationships)	'I am healthy' (Relationships) 'I am healthy' (Lifestyle Choice)

PSHE	**Say No!** 1. Drugs Ed: risk taking and dealing with pressure 2. Drugs Ed: legal and illegal drugs 3. Drugs Ed: say no to smoking 4. Drugs Ed: attitudes to alcohol 5. Keeping safe in my local area: say no to knives 6. Anti-bullying **Topic 5: Drugs, alcohol and tobacco** • the facts about legal and illegal harmful substances and associated risks, including smoking, alcohol use and drug-taking **Topic 2: Caring friendships** •how important friendships are in making us feel happy and secure, andhow people choose and make friends •the characteristics of friendships, including mutual respect, truthfulness,trustworthiness, loyalty, trust, sharing interests and experiences andsupport with problems and difficulties •that healthy friendships are positive and welcoming towards others, anddo not make others feel lonely or excluded. •that most friendships have ups and downs, and that these can often beworked through so that the friendship is repaired or even strengthened,and that resorting to violence is never right •how to recognise who to trust and who not to trust, how to judge when afriendship is making them feel unhappy or uncomfortable, how to managethese situations and how to seek help or advice from others, if needed **People Around Us** 1. National, religious and ethnic identities in the UK 2. Different types of relationships 3. Stereotyping and judgement 4. Put-downs and conflict 5. Ending friendships 6. Forgiveness **Living in the wider world** L8. to resolve differences by looking at alternatives, seeing and respecting others' points of view, making decisions and explaining choices L9. what being part of a community means, and about the varied institutions that support communities locally and nationally L11. to appreciate the range of national, regional, religious and ethnic identities in the United Kingdom	**Dear Diary** 1. Knowing where to go for help 2. **Managing uncomfortable feelings - embarrassment** 3. Put-downs and boost ups 4. Breaking friends 5. Forgiveness 6. **Supporting each other** **Responding to Media** 1. Differences of opinion 2. Bias in reporting 3. Risky choices – social media 4. Body image 5. Anti-bullying –appearance, body etc **Living in the wider world** L17. to explore and critique how the media present information **Topic 2: Internet Safety and Harms** • that for most people the internet is an integral part of life and has many benefits* • about the benefits of balancing time spent on and offline and the impact of positive and negative content online on their own and others' mental wellbeing • how to consider the effect of their online actions on others and know how to recognise and display respectful behaviour online • why social media, some computer games and online gaming, for example, are age restricted • that the internet can also be a negative place where online abuse, trolling, bullying and harassment can take place, which can have a negative impact on mental health	**What money can do** 1. Earning money 2. Value for money 3. Lending and borrowing money – dangers of debt 4. Achieving goals 5. Deductions and expenses 6. Poverty **Living in the wider world** L13. about the role money plays in their own and others' lives, including how to manage their money and about being a critical consumer **Life Cycles** SRE: Year 6 – 'Puberty and Reproduction', 'Understanding Relationships' , 'Conception and Pregnancy' and 'Communicating in Relationships'. **KS2: Health and Wellbeing** Topic 8: Changing adolescent body UPKS2 how their body will, and their emotions may, change as they approach and move through puberty
Art & Design	**<u>Sculpture:</u>** Investigate artists Paul Cummins and Tom Piper and create clay poppies for display in the Secret Garden as part of a war memorial. **<u>Silhouette:</u>** Use of silhouette and wash to create war memorial art.	**<u>Life Drawing:</u>** A focus on the Galapagos finches and drawing fine differences. Use of different media to draw from life. **<u>Image Editing:</u>** Using Pixlr to manipulate images. Understanding the difference between the primary colours of light and hue.	**<u>Extended Piece: Painting</u>** Studying Wassily Kandinsky and exploring contrasting hot and cold colours, children to complete and extended piece of work.
Design & Technology	**<u>Electrical Systems: Model Wind Turbine</u>** Children study renewable energy linked to their science and geography topics and read William Kamkwambe's autobiography about how in the wake of the Malawian famine, while unable to afford to return to school, he built a wind turbine. They then will investigate building a wind turbine and create a simple mechanism linked to a hobby motor and an LED light. **Make:** • use a range of materials and components: materials, textiles and ingredients according to functionality and aesthetic qualities **Technical Knowledge:** • explore and use mechanisms, such as gears, pulleys, cams, levers, linkages, in their products. • understand how electrical systems can be incorporated to enhance product (series circuits with buzzers, switches, bulbs or motors) **Evaluate**	•	**<u>Computer Aided Design: Production Souvenirs</u>** Children use TinkerCAD to design a souvenir for the Y6 production. **Technical Knowledge** • use computing to program, monitor and control their products

	• Understand how key events and individuals have shaped the world. **<u>Food Technology: 1940s recipes</u>** Children study the impact of WW2 on food production (including rationing) and investigate the impact this has on recipe availability. Using limited resources but a range of actual recipes, children will make their own pastries, soups etc. These are then evaluated and compared with food of today. **Make:** • use tools and equipment accurately: cutting, shaping, joining and finishing **Evaluate:** • investigate and analyse existing products • evaluate ideas and products against design criteria and views of others. • Understand how key events and individuals have shaped the world. **Technical Knowledge:** • understand where food comes from and food hygiene and safety. **<u>Woodwork:</u>** Children design and build a model eco-home, constructing a cuboid frame from dowel using saws and customising it to consider energy efficiency through considering shape and dimensions, surface area and decorations. **Design:** • Research to develop design criteria to design innovative, functional, appealing products for themselves and other users. • Generate, develop, model and communicate design ideas through annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer aided design **Make:** • use tools and equipment accurately: cutting and finishing • use a range of materials and components: materials, textiles and ingredients according to functionality and aesthetic qualities **Technical Knowledge** • build structures, exploring how they can strengthen, stiffen and reinforce more complex structures.		
RE	What do Christians believe about Agape?	What do Christians believe about Salvation? (links with Easter)	What do Hindu people believe about Dharma, Deity and Atman?
Enrichment weeks	**Interfaith Week – Nov?** **Anti-bullying week**	**Science Week – STEM?** **Safety Week**	**English & the Arts Week** **Health Week**