|  |  |  |
| --- | --- | --- |
| There and Back AgainWW2 | **STEM Unit Overview**Reversible and Irreversible Changes - Changes to materials can be reversible or irreversibleWhat are reversible and irreversible changes?What methods are used to change the state of water? Are these changes reversible or irreversible?What changes occur when a substance is dissolved to form a solution? Is this change reversible or irreversible?What changes occur when you bake biscuits? Are these changes reversible or irreversible?What is burning? Is it a reversible or irreversible change?What is rusting? Is it a reversible or irreversible change?**STEM Group Project**A Crystal Castle - Pupils design and create a miniature model of a crystal castle (air raid shelter) for a film set, that can withstand warm, dry environments without melting, while the film is being made.  |  |
| Spring – Cycle AYear 5/6 |

|  |  |
| --- | --- |
| Maths | English |
| White Rose Scheme**Measurement**Year 5* *Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).*
* *Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.*
* *Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.*
* *Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2 ) and square metres (m2 ) and estimate the area of irregular shapes.*
* *Estimate volume and capacity.*
* *Solve problems involving converting between units of time.*
* *Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.*

Year 6 * *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.*

**Ratio and proportion** Year 6* *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 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.*

**Algebra** Year 6* *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.*
 | **Reading - Word Reading*** *Apply their growing knowledge of root words, prefixes and suffixes both to read aloud and to understand the meaning of new words that they meet.*

**Reading - Comprehension*** *Maintain positive attitudes to reading and understanding of what they read by: continuing to read and discuss an increasingly wide range of fiction, poetry, plays, non-fiction and reference books or textbooks, reading books that are structured in different ways and reading for a range of purposes, increasing their familiarity with a wide range of books, including myths, legends and traditional stories, modern fiction, fiction from our literary heritage, and books from other cultures and traditions, recommending books that they have read to their peers, giving reasons for their choices, identifying and discussing themes and conventions in and across a wide range of writing, making comparisons within and across books, learning a wider range of poetry by heart and preparing poems and plays to read aloud and to perform, showing understanding through intonation, tone and volume so that the meaning is clear to an audience.*
* *Understand what they read by: checking that the book makes sense to them, discussing their understanding and exploring the meaning of words in context, asking questions to improve their understanding, drawing inferences such as inferring characters’ feelings, thoughts and motives from their actions, and justifying inferences with evidence, predicting what might happen from details stated and implied, summarising the main ideas drawn from more than one paragraph, identifying key details that support the main ideas and identifying how language, structure and presentation contribute to meaning.*
* *Discuss and evaluate how authors use language, including figurative language, considering the impact on the reader.*
* *Distinguish between statements of fact and opinion.*
* *Retrieve, record and present information from non-fiction.*
* *Participate in discussions about books that are read to them and those they can read for themselves, building on their own and others’ ideas and challenging views courteously.*
* *Explain and discuss their understanding of what they have read, including through formal presentations and debates, maintaining a focus on the topic and using notes where necessary.*
* *Provide reasoned justifications for their views.*

**Writing - Transcription*** *Use further prefixes and suffixes and understand the guidance for adding them.*
* *Spell some words with ‘silent’ letters.*
* *Continue to distinguish between homophones and other words which are often confused.*
* *Use knowledge of morphology and etymology in spelling and understand that the spelling of some words needs to be learnt specifically.*
* *Use dictionaries to check the spelling and meaning of words.*
* *Use the first three or four letters of a word to check spelling, meaning or both of these in a dictionary.*
* *Use a thesaurus.*

**Writing - Composition*** *Plan their writing.*
* *Draft and write.*
* *Evaluate and edit.*
* *Proof-read for spelling and punctuation errors.*
* *Perform their own compositions, using appropriate intonation, volume, and movement so that meaning is clear.*

**Writing - Vocabulary, Grammar & Punctuation*** *Develop their understanding of the concepts set out in English Appendix 2 by: recognising vocabulary and structures that are appropriate for formal speech and writing, including subjunctive forms, using passive verbs to affect the presentation of information in a sentence, using the perfect form of verbs to mark relationships of time and cause, using expanded noun phrases to convey complicated information concisely, using modal verbs or adverbs to indicate degrees of possibility, using relative clauses beginning with who, which, where, when, whose, that or with an implied (i.e. omitted) relative pronoun*
* *Indicate grammatical and other features by: using commas to clarify meaning or avoid ambiguity in writing, using hyphens to avoid ambiguity, using brackets, dashes or commas to indicate parenthesis, using semi-colons, colons or dashes to mark boundaries between independent clauses, using a colon to introduce a list, punctuating bullet points consistently*
* *Use and understand the grammatical terminology in English Appendix 2 accurately and appropriately in discussing their writing and reading.*
 |

|  |  |  |
| --- | --- | --- |
| Science | Geography | History |
| **Properties and Changes of Materials**Year 5* *Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.*
* *Demonstrate that dissolving, mixing and changes of state are reversible changes.*
* *Explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.*

Vocabulary* Thermal / electrical insulator / conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible, irreversible change, burning, rusting, new material.

Working scientifically* 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, classification keys, tables, scatter graphs, bar and 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 a degree of trust in results, in oral and written forms such as displays and other presentations.
* Identifying scientific evidence that has been used to support or refute ideas or arguments.
 | KS2Locational knowledge * *Locate the world’s countries, using maps to focus on Europe (including the location of Russia) and North and South America, concentrating on their environmental regions, key physical and human characteristics, countries, and major cities.*
* *Name and locate counties and cities of the United Kingdom, geographical regions and their identifying human and physical characteristics, key topographical features (including hills, mountains, coasts and rivers), and land-use patterns; and understand how some of these aspects have changed over time.*
* *Identify the position and significance of latitude, longitude, Equator, Northern Hemisphere, Southern Hemisphere, the Tropics of Cancer and Capricorn, Arctic and Antarctic Circle, the Prime/Greenwich Meridian and time zones (including day and night).*

Human and physical geography * *Describe and understand key aspects of human geography, including: types of settlement and land use, economic activity including trade links, and the distribution of natural resources including energy, food, minerals and water.*

Geographical skills and fieldwork * *Use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied.*
* *Use the eight points of a compass, four and six-figure grid references, symbols and key (including the use of Ordnance Survey maps) to build their knowledge of the United Kingdom and the wider world.*

Areas of the world involved in WW2.Locating different countries involved on the map. | KS2* *A study of an aspect or theme in British history that extends pupils’ chronological knowledge beyond 1066*

The impact World War Two has had on the UK and the world. |

|  |  |  |
| --- | --- | --- |
| Art and Design | Design and Technology | Music |
| World War Two - Propaganda PostersKS2* *Create sketch books to record their observations and use them to review and revisit ideas*
* *Improve mastery of art and design techniques, including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay]*
* *Learn about great artists, architects and designers in history.*
 | Design and make a air raid shelter.KS2Design* *Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.*
* *Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.*

Make* *Select from and use a wider range of tools and equipment to perform practical tasks accurately.*
* *Select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.*

Evaluate * *Investigate and analyse a range of existing products.*
* *Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work.*
* *Understand how key events and individuals in design and technology have helped shape the world.*

Technical knowledge * *Apply their understanding of how to strengthen, stiffen and reinforce more complex structure.*
* *Understand and use mechanical systems in their products.*
* *Understand and use electrical systems in their products.*
* *Apply their understanding of computing to program, monitor and control their products.*
 | Charanga Music Scheme**A New Year Carol - Year 6 Unit**The historical context of Gospel music and Bhangra.**The Fresh Prince of Bel Air - Year 5 Unit**Option to make up (compose) own rap or words to the existing rap, that could link to any topic in school, graffiti art, literacy, breakdancing and 80s Hip Hop culture in general. Historical context of musical styles.KS2* *Play and perform in solo and ensemble contexts, using their voices and playing musical instruments with increasing accuracy, fluency, control and expression.*
* *Improvise and compose music for a range of purposes using the inter-related dimensions of music.*
* *Listen with attention to detail and recall sounds with increasing aural memory.*
* *Use and understand staff and other musical notations.*
* *Appreciate and understand a wide range of high-quality live and recorded music drawn from different traditions and from great composers and musicians.*
* *Develop an understanding of the history of music.*
 |

|  |  |  |
| --- | --- | --- |
| Languages | Physical Education | Outdoor Learning |
| French**School Life - Year 5 Unit** • Name some parts of the body.• Respond appropriately when asked a simplequestion.• Give a simple description of their eyes and hair.• Place the adjective correctly in a simplesentence.• Use a small number of everyday verbs in simpledialogues.• Make simple statements in the third person.• Match emotion/health words with their pictures. | **Monday:**Sportshall Athletics* *Develop flexibility, strength, technique, control and balance.*
* *Use running, jumping, throwing and catching in isolation and in combination.*

Orienteering* *Take part in outdoor and adventurous activity challenges both individually and within a team.*
* *Compare their performances with previous ones and demonstrate improvement to achieve their personal best.*

**Friday:**Swimming* *Swim competently, confidently and proficiently over a distance of at least 25 metres.*
* *Use a range of strokes effectively.*
* *Perform safe self-rescue in different water-based situations.*

Dance* *Perform dances using a range of movement patterns.*
* *Compare their performances with previous ones and demonstrate improvement to achieve their personal best.*

Gymnastics* *Develop flexibility, strength, technique, control and balance.*
* *Compare their performances with previous ones and demonstrate improvement to achieve their personal best.*
* *Use running, jumping, throwing and catching in isolation and in combination.*
 | Outdoor learning as and when throughout the topic.Creating own shelters outside using natural and manmade materials.Forest School sessions when timetabled. |

|  |  |  |
| --- | --- | --- |
| PSHE/RSE | Religious Education | Computing/E-Safety |
| Derbyshire Scheme of Work: PSHE Matters**Being Safe**Core themes: Health and Wellbeing/ Living in the Wider World/Relationships* H38 - Identifying how to predict, assess and manage risk in different situations.
* H39 - Understanding what hazards may cause harm, injury or risk in the home and what they can do reduce risks and keep safe.
* H41 - Identifying strategies for keeping safe in the local environment or unfamiliar places.
* H42/R29 - Identifying strategies for keeping safe online.
* H43 - Demonstrating basic techniques for dealing with common injuries.
* H44 - Demonstrating how to respond/react in an emergency situation.
* R23 - Recognising on-line risks, harmful content/ behaviours and how to report concerns.
* R28 - Can recognise pressure from others.
* L11-L16 - Recognising ways in which technology can be used positively and negativity and identifying ways to stay safe.

Safer Internet Day | Derbyshire Agreed Syllabus 2020 onwards**Unit U2.8: Living (Practices and ways of living; questions of values and commitments) - Christians, Hindus & Muslims**What difference does it make to believe in Ahimsa (Hinduism), Grace (Christianity) and/or Ummah (Islam)?* Make connections between beliefs and behaviour in different religions. (A1)
* Make connections between belief in ahimsa, grace and Ummah, teachings and sources of wisdom in the three religions. (A1)
* Outline the challenges of being a Hindu, Christian or Muslim in Britain today. (B2)
* Consider similarities and differences between beliefs and behaviour in different faiths. (B3)
 | Teach Computing**Programming A: Variables in games**Computer Science* *Design, write and debug programs that accomplish specific goals, including controlling or stimulating physical systems. (A)*
* *Solve problems by decomposing them into smaller parts. (A)*
* *Use sequence, selection and repetition in programs. (B)*
* *Work with variables and various forms of input and output. (B)*
* *Understand computer networks (including the internet, World Wide Web), how they can provide multiple services and the opportunities they offer for communication and collaboration. (D)*

Information Technology* *Select, use and combine a variety of software on a range of digital devices to design and create a range of programs, system and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information. (F)*

Digital Literacy* *Use technology safely, respectfully and responsibly, recognise acceptable/unacceptable behaviour and identify a range of ways to report concerns about content and contact. (G)*

Safer Internet Day |