

## Objectives:

### Maths:

### Autumn 1

#### Place value

- read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
- count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
- round any number up to 1 000 000 to the nearest 10, 100 and 1000

#### Addition/Subtraction

- add and subtract numbers mentally with increasingly large numbers
- solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

#### Shape

- identify 3-D shapes, including cubes and other cuboids, from 2-D representations

#### Multiplication and Division

- multiply and divide numbers mentally drawing upon known facts
- multiply and divide whole numbers by 10, 100 and 1000
- identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers
- multiply numbers up to four digits by a one-digit number using a formal written method

#### Fractions

- compare and order fractions whose denominators are all multiples of the same number
- identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths
- develop their understanding of fractions as numbers, measures and operators by finding fractions of numbers and quantities \*

### Autumn 2

#### Position and direction

- identify, describe and represent the position of a shape following a translation, using the appropriate language, and know that the shape has not changed

#### (Number) Decimals

- To read and write decimal numbers as fraction
- Round decimals with 2 decimal places to the nearest whole number/1 decimal place
- Recognise and describe sequences involving decimals, and find the rule

#### Measurement

- convert between different units of metric measure (for example, gram and kilogram)
- understand and use approximate equivalences between metric units and common imperial units such as pounds
- use all four operations to solve problems involving measure [for example, mass] using decimal notation, including scaling

#### Multiplication/Division

- solve problems involving multiplication and division including using their knowledge of squares and cubes
- solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign
- recognise and use square numbers and cube numbers, and the notation for squared ( $^2$ ) and cubed ( $^3$ )

#### Time

- solve problems involving converting between units of time
- use all four operations to solve problems involving measure, including scaling

#### Word problems

	<ul style="list-style-type: none"> <li>• solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</li> </ul>
<b>English:</b>	<p><b><u>Autumn 1</u></b>  Model text: Alien Abduction Adventure story  A talk for writing unit.  <b>Focus: Description (People, Place and Setting)</b></p> <p>Model text Non-Fiction: The Green Van  Recount writing  <b>Focus: Using a range of verb forms with consistent tense.</b></p> <p><b>Class book to be shared: Cosmic by Frank Cottrell Boyce.</b></p> <p><b><u>Autumn 2</u></b>  Model text: The King of the Fishes (Wishing tale)  <b>Focus: Dialogue</b></p> <p>Model text Non-fiction : A Simple Card Trick Instructional writing  <b>Focus: Adverbials related to time.</b></p> <p><b>Class book to be shared: The Magic Faraway tree by Enid Blyton.</b></p> <p style="text-align: center;"><b>Spelling:</b></p> <p>Use further prefixes and suffixes and understand the guidance for adding them  continue to distinguish between homophones and other words which are often confused</p> <p style="text-align: center;"><b>Composition:</b></p> <p>Noting and developing initial ideas, drawing on reading and research where necessary  in writing narratives, considering how authors have developed characters and settings in  what pupils have read, listened to or seen performed  in narratives, describing settings, characters and atmosphere and integrating dialogue to  convey character and advance the action  using a wide range of devices to build cohesion within and across paragraphs  using further organisational and presentational devices to structure text and to guide  the reader  proposing changes to vocabulary, grammar and punctuation to enhance effects and  clarify meaning  ensuring the consistent and correct use of tense throughout a piece of writing  ensuring correct subject and verb agreement when using singular and plural,  distinguishing between the language of speech and writing and choosing the  appropriate register</p> <p style="text-align: center;"><b>Vocabulary/grammar/punctuation:</b></p> <p>A child should be able to:</p> <ul style="list-style-type: none"> <li>• Convert <b>nouns</b> or <b>adjectives</b> into <b>verbs</b> using <b>suffixes</b> [for example, <i>-ate</i>; <i>-ise</i>; <i>-ify</i>]</li> <li>• <b>To use verb prefixes</b> [for example, <i>dis-</i>, <i>de-</i>, <i>mis-</i>, <i>over-</i> and <i>re-</i>]</li> <li>• <b>To use sentence relative clauses</b> beginning with <i>who</i>, <i>which</i>, <i>where</i>, <i>when</i>, <i>whose</i>,</li> </ul>

	<p><i>that</i>, or an omitted relative pronoun</p> <ul style="list-style-type: none"> <li>• To indicate degrees of possibility using <b>adverbs</b> [for example, <i>perhaps, surely</i>] or <b>modal verbs</b> [for example, <i>might, should, will, must</i>]</li> <li>• To link ideas across paragraphs using <b>adverbials</b> of time [for example, <i>later</i>], place [for example, <i>nearby</i>] and number [for example, <i>secondly</i>] or tense choices [for example, he <i>had</i> seen her before]</li> <li>• To use brackets, dashes or commas to indicate parenthesis</li> <li>• To use commas to clarify meaning or avoid ambiguity</li> <li>• Pupils need to begin to understand the below terminology <ul style="list-style-type: none"> <li>- modal verb</li> <li>- relative pronoun</li> <li>- relative clause</li> <li>- parenthesis,</li> <li>- bracket,</li> <li>- dash</li> </ul> </li> </ul>
<b>Science:</b>	<p><b>Working scientifically throughout using the below key skills:</b></p> <ul style="list-style-type: none"> <li>• planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary</li> <li>• taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate</li> <li>• recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs</li> <li>• using test results to make predictions to set up further comparative and fair tests</li> <li>• 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 presentation</li> <li>• identifying scientific evidence that has been used to support or refute ideas or arguments</li> </ul> <p><b>Autumn 1: Earth and Beyond</b> Pupils should be taught to:</p> <ul style="list-style-type: none"> <li>• explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</li> <li>• describe the movement of the Earth, and other planets, relative to the Sun in the solar system</li> <li>• describe the movement of the Moon relative to the Earth</li> <li>• describe the Sun, Earth and Moon as approximately spherical bodies</li> <li>• use the idea of the Earth’s rotation to explain day and night and the apparent movement of the sun across the sky.</li> </ul> <p><b>Autumn 2: Properties and changes of materials – Reversible change</b> Pupils should be able to:</p> <ul style="list-style-type: none"> <li>• compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets</li> <li>• know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</li> </ul>

	<ul style="list-style-type: none"> <li>• use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</li> <li>• give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</li> <li>• demonstrate that dissolving, mixing and changes of state are reversible changes</li> </ul>
<b>IPC:</b>	<p><b>History:</b></p> <ul style="list-style-type: none"> <li>• About what people in the past used to think about Mars</li> <li>• About the evidence to prove and disprove intelligent life on Mars</li> </ul> <p><b>Geography:</b></p> <ul style="list-style-type: none"> <li>• About the geographical features of Mars</li> <li>• How we can prove that there was once water on Mars</li> </ul> <p><b>Citizenship:</b></p> <ul style="list-style-type: none"> <li>• How to work as a team</li> <li>• How to assemble a successful team for our mission to Mars</li> <li>• How to write our own international rules and regulations for Mars</li> <li>• About the reasons why we might one day need to live on another planet</li> </ul> <p>D&amp;T</p> <ul style="list-style-type: none"> <li>• About the technology that has been used to explore Mars</li> <li>• How to design and make a robot to explore Mars</li> <li>• How to design and make a suitable shelter for living on Mars</li> </ul>
<b>ICT:</b>	<p><b>Blogging and e-safety:</b></p> <ul style="list-style-type: none"> <li>• use search technologies effectively, appreciate how results are selected and ranked, and be discerning in evaluating digital content</li> <li>• select, use and combine a variety of software (including internet services) on a range of digital devices to design and create a range of programs, systems and content that accomplish given goals, including collecting, analysing, evaluating and presenting data and information</li> <li>• use technology safely, respectfully and responsibly; recognise acceptable/unacceptable behaviour; identify a range of ways to report concerns about content and contact.</li> </ul>