



Laceyfield Mastery Maths Medium Term Plan - Year 5



'Effective mastery curricula in mathematics are designed in relatively small carefully sequenced steps, which must each be mastered before pupils move to the next stage. Fundamental skills and knowledge are secured first. This often entails focusing on curriculum content in considerable depth at early stages.' (NCETM, 2014)

| | <u>Week 1</u> | <u>Week 2</u> | <u>Week 3</u> | <u>Week 4</u> | <u>Week 5</u> | <u>Week 6</u> | <u>Week 7</u> | <u>Week 8</u> | <u>Week 9</u> | <u>Week 10</u> | <u>Week 11</u> | <u>Week 12</u> |
|---------------|-------------------------------------|-------------------------------------|-------------------------------|----------------------------------|----------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------------|-------------------------------------|-------------------------------------|------------------------|
| <u>Autumn</u> | Number: place value | Number: place value | Number: place value | Number: Addition and subtraction | Number: Addition and subtraction | Number: Multiplication and division | Number: Multiplication and division | Number: Multiplication and division | Measure: Perimeter and area | Measure: Perimeter and area | Number: Multiplication and division | Cyclical Consolidation |
| <u>Spring</u> | Number: Multiplication and division | Number: Multiplication and division | Number: Fractions | Number: Fractions | Number: Fractions | Number: Fractions | Number: Fractions | Number: Fractions | Number: Decimals | Number: Decimals | Number: Decimals | Cyclical Consolidation |
| <u>Summer</u> | Number: Decimals | Number: Decimals | Geometry: Properties of shape | Geometry: Properties of shape | Geometry: Properties of shape | Geometry: Position and Direction | Geometry: Position and Direction | Measurements: Converting units | Measurements: Volume | Number: Multiplication and division | Number: Addition and subtraction | Cyclical Consolidation |

- All statistics objectives are taught in an afternoon as part of the project.
- Each unit has longer in order to go into greater depth. However, there is still enough time to revisit addition, subtraction, multiplication, division and fractions in summer term. Therefore, children are still receiving the cyclical approach.
- Follow whiterose small steps for each unit.
- In the summer term when you revisit, recap as necessary, build on previous skills, deepen knowledge
- Use NCETM spines, whiterose, I see reasoning, Classroom Secrets for resources/powerpoints
- Time is drip fed throughout the year, as well as teaching the unit block
- Quick maths is constantly used to revisit areas
- Ready to progress document is used to inform planning

- Bespoke plans have been adapted to support *COVID* recovery

| Strand one - Number | | | | Strand 2 - Measure | Strand 3 - Geometry | | Strand 4 - Statistics |
|---|---|--|--|--|---|---|---|
| Number and place value objectives | Addition/ subtraction objectives | Multiplication / division objectives | Fractions (including decimals and percentages) | Measurement objectives | Properties of shapes objectives | Position and direction objectives | Statistics objectives |
| <p>read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit</p> <p>count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</p> <p>interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero</p> <p>round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000</p> <p>solve number problems and practical problems that involve all of the above</p> <p>read Roman numerals to 1000 (M) and recognise years written in Roman numerals.</p> | <p>add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</p> <p>add and subtract numbers mentally with increasingly large numbers</p> <p>use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</p> <p>solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.</p> | <p>identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers</p> <p>know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers</p> <p>establish whether a number up to 100 is prime and recall prime numbers up to 19</p> <p>multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers</p> <p>multiply and divide numbers mentally drawing upon known facts</p> <p>divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context</p> <p>multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</p> <p>recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)</p> <p>solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</p> <p>solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</p> <p>solve problems involving multiplication and division</p> | <p>compare and order fractions whose denominators are all multiples of the same number</p> <p>identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</p> <p>recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $2/5 + 4/5 = 6/5 = 1 \frac{1}{5}$]</p> <p>add and subtract fractions with the same denominator and denominators that are multiples of the same number</p> <p>multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</p> <p>read and write decimal numbers as fractions [for example, $0.71 = 71/100$]</p> <p>recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</p> <p>round decimals with two decimal places to the nearest whole number and to one decimal place</p> <p>read, write, order and compare numbers with up to three decimal places</p> <p>solve problems involving number up to three decimal places</p> <p>recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal</p> <p>solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.</p> | <p>convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)</p> <p>understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints</p> <p>measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</p> <p>calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes</p> <p>estimate volume (for example, using 1 cm^3 blocks to build cuboids (including cubes)) and capacity (for example, using water)</p> <p>solve problems involving converting between units of time</p> <p>use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling.</p> | <p>identify 3-D shapes, including cubes and other cuboids, from 2-D representations</p> <p>know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles</p> <p>draw given angles, and measure them in degrees ($^\circ$)</p> <p>identify:</p> <ul style="list-style-type: none"> angles at a point and one whole turn (total 360°) angles at a point on a straight line and $1/2$ a turn (total 180°) other multiples of 90° <p>use the properties of rectangles to deduce related facts and find missing lengths and angles</p> <p>distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</p> | <p>identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.</p> | <p>solve comparison, sum and difference problems using information presented in a line graph</p> <p>complete, read and interpret information in tables, including timetables.</p> |