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Waterside Primary School

Maths Scheme of Work

Year Five – Yearly Overview

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|  | **Autumn One** | **Autumn Two** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Week 1** | Baseline | Multiplication and division | Decimals | Place Value | Decimals | Percentages |
| **Week 2** | Place Value | Multiplication | Decimals/Measure | Addition and Subtraction | Decimals | Statistic |
| **Week 3** | Place Value | Division | Geometry | Measure | Decimals/Measure |  |
| **Week 4** | Addition and Subtraction | Fractions | Time | Geometry | Fractions | Transition |
| **Week 5** | Addition and Subtraction | Fractions | Percentages | Multiplication | Fractions | Transition |
| **Week 6** | Measure | Decimals | Problem Solving | Multiplication and division | Decimals/ Fractions | Transition |
| **Week 7** | Geometry | Decimals/ Fractions |  |  |  | Transition |
| **Week 8** | Multiplication |  |  |  |  |  |

**Year Five – Content and Coverage**

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|  | **Autumn One** | **Content and Coverage** |
| **Week 2** | **Place Value** | To read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit – know the value and partition using standard and non-standard decomposition  Reason about whole numbers to 1 millions  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, 1,000, 10,000 and 100,000 |
| **Week 3** | **Place Value** | interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through 0  read Roman numerals to 1,000 (M) and recognise years written in Roman numerals |
| **Week 4** | **Addition and Subtraction** | add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)  add and subtract numbers mentally with increasingly large numbers  use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy |
| **Week 5** | **Addition and Subtraction** | solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why |
| **Week 6** | **Measure** | measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres  calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm²) and square metres (m²), and estimate the area of irregular shapes  estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water]  use the properties of rectangles to deduce related facts and find missing lengths and angles |
| **Week 7** | **Geometry** | know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles  draw given angles, and measure them in degrees (°)  Calculate angles at a point and 1 whole turn (total 360°)  Calculate angles at a point on a straight line and half a turn (total 180°) |
| **Week 8** | **Multiplication** | Secure fluency in multiplication tables facts and corresponding division facts  identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers |

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|  | **Autumn Two** | **Content and Coverage** |
| **Week 1** | **Multiplication and division** | know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers  establish whether a number up to 100 is prime and recall prime numbers up to 19  recognise and use square numbers and cube numbers, and the notation for squared (²) and cubed (³) |
| **Week 2** | **Multiplication** | 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  multiply and divide numbers mentally, drawing upon known facts  solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes  solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign |
| **Week 3** | **Division** | 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  solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes  solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign |
| **Week 4** | **Fractions** | identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths  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,  +  =  = 1  ]  compare and order fractions whose denominators are all multiples of the same number |
| **Week 5** | **Fractions** | add and subtract fractions with the same denominator, and denominators that are multiples of the same number  multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams  Find non unit fractions of quantities |
| **Week 6** | **Decimals** | Know that 10 tenths and 100 hundredths are equivalent to 1 one and that 10 hundredths are equivalent to 1 tenth  Recognise the place value of each digit in numbers with 2 decimals places and partition using standard and non-standard partitioning  read, write, order and compare numbers with up to 3 decimal places |
| **Week 7** | **Decimals and Fractions** | read and write decimal numbers as fractions [for example, 0.71 =  ]  recall decimal fraction equivalents |

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|  | **Spring One** | **Content and Coverage** |
| **Week 1** | **Decimals** | Reason about the location of any number with up to 2 dp including identifying the next multiple of 1 and 0.1 and round to the nearest of each  Divide 1 into 2.4.5.10 equal parts and read scales and number lines marked with units of 1 with 2,4,5,10 equal parts.  Apply place value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or hundredth) |
| **Week 2** | **Decimals/Measure** | solve problems involving number up to 3 decimal places  multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000  convert between different units of metric measure [for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) |
| **Week 3** | **Geometry** | identify 3-D shapes, including cubes and other cuboids, from 2-D representations  distinguish between regular and irregular polygons based on reasoning about equal sides and angles  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 |
| **Week 4** | **Time** | solve problems involving converting between units of time  complete, read and interpret information in tables, including timetables |
| **Week 5** | **Percentages** | recognise the per cent symbol (%) and understand that per cent relates to ‘number of parts per 100’, and write percentages as a fraction with denominator 100, and as a decimal fraction |
| **Week 6** | **Problem Solving** | solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates  understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints  use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling |

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|  | **Spring Two** | **Content and Coverage** |
| **Week 1** | **Place Value** | To 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, 1,000, 10,000 and 100,000 |
| **Week 2** | **Addition and Subtraction** | solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why |
| **Week 3** | **Measure** | measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres  calculate and compare the area of rectangles (including squares), including using standard units, square centimetres (cm²) and square metres (m²), and estimate the area of irregular shapes |
| **Week 4** | **Geometry** | know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles  draw given angles, and measure them in degrees (°) |
| **Week 5** | **Multiplication** | Secure fluency in multiplication tables facts and corresponding division facts  identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers |
| **Week 6** | **Multiplication**  **/Division** | 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  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  solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign |

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|  | **Summer One** | **Content and Coverage** |
| **Week 1** | **Decimals** | Know that 10 tenths and 100 hundredths are equivalent to 1 one and that 10 hundredths are equivalent to 1 tenth  Recognise the place value of each digit in numbers with 2 decimals places and partition using standard and non-standard partitioning  read, write, order and compare numbers with up to 3 decimal places |
| **Week 2** | **Decimals** | Reason about the location of any number with up to 2 dp including identifying the next multiple of 1 and 0.1 and round to the nearest of each  Divide 1 into 2.4.5.10 equal parts and read scales and number lines marked with units of 1 with 2,4,5,10 equal parts.  Apply place value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or hundredth) |
| **Week 3** | **Decimals/Measure** | solve problems involving number up to 3 decimal places  multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000  convert between different units of metric measure [for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) |
| **Week 4** | **Fractions** | identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths  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,  +  =  = 1  ]  compare and order fractions whose denominators are all multiples of the same number |
| **Week 5** | **Fractions** | add and subtract fractions with the same denominator, and denominators that are multiples of the same number  multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams  Find non unit fractions of quantities |
| **Week 6** | **Decimals and Fractions** | read and write decimal numbers as fractions [for example, 0.71 =  ]  recall decimal fraction equivalents |

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|  | **Summer Two** | **Content and Coverage** |
| **Week 1** | **Percentages** | recognise the per cent symbol (%) and understand that per cent relates to ‘number of parts per 100’, and write percentages as a fraction with denominator 100, and as a decimal fraction |
| **Week 2** | **Statistics** | solve comparison, sum and difference problems using information presented in a line graph |
| **Week 3** |  |  |
| **Week 4** | **Transition** | |
| **Week 5** | **Transition** | |
| **Week 6** | **Transition** | |
| **Week 7** | **Transition** | |