

# AUTUMN TERM MATHEMATICS OVERVIEW – YEAR 5

Daily Mathematics Lesson – 1 hour (one/two lessons each week to be a discrete arithmetic lesson)

1 x 30 minute discrete times tables lesson – Y5 target - 99 challenge/Platinum (TTRS/use of tackling times table cards for early morning work)

| BLOCKS                 | NATIONAL CURRICULUM OBJECTIVES<br>KEY OBJECTIVES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | SMALL STEPS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | READY TO PROGRESS CRITERIA | Linked Step |                         |
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| Place Value<br>3 weeks | <ul style="list-style-type: none"> <li>❖ count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000</li> <li>❖ count forwards and backwards with positive and negative whole numbers, including through zero</li> <li>❖ read, write, (order and compare) numbers to at least 1 000 000 and determine the value of each digit</li> <li>❖ <b>read Roman numerals to 1000 (M) and recognise years written in Roman numerals</b></li> <li>❖ (read, write) order and compare numbers to at least 1 000 000 and determine the value of each digit</li> <li>❖ <b>interpret negative numbers in context</b></li> <li>❖ round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000</li> <li>❖ solve number problems and practical problems that involve all of the above</li> </ul> | <ul style="list-style-type: none"> <li>• Roman numerals to 1,000</li> <li>• Numbers to 10,000</li> <li>• Numbers to 100,000</li> <li>• Numbers to 1,000,000</li> <li>• Read and write numbers to 1,000,000</li> <li>• Powers of 10</li> <li>• 10/100/1,000/10,000/100,000 more or less</li> <li>• Partition numbers to 1,000,000</li> <li>• Number line to 1,000,000</li> <li>• Compare and order numbers to 100,000</li> <li>• Compare and order numbers to 1,000,000</li> <li>• Round to the nearest 10, 100 or 1,000</li> <li>• Round within 100,000</li> <li>• Round within 1,000,000</li> </ul> |                            |             | End of block assessment |

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| Addition and Subtraction<br>2 weeks | <ul style="list-style-type: none"><li>❖ add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</li><li>❖ add and subtract numbers mentally with increasingly large numbers</li><li>❖ solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why • solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</li></ul> | <ul style="list-style-type: none"><li>• Mental strategies</li><li>• Add whole numbers with more than four digits</li><li>• Subtract whole numbers with more than four digits</li><li>• Round to check answers</li><li>• Inverse operations (addition and subtraction)</li><li>• Multi-step addition and subtraction problems</li><li>• Compare calculations</li><li>• Find missing numbers</li></ul> |  |  | End of block assessment |
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| <p>Multiplication and Division A</p> <p>3 weeks</p> | <ul style="list-style-type: none"> <li>❖ identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers</li> <li>❖ know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers</li> <li>❖ establish whether a number up to 100 is prime and recall prime numbers up to 19</li> <li>❖ recognise and use square numbers and cube numbers, and the notation for squared (<sup>2</sup>) and cubed (<sup>3</sup>)</li> <li>❖ 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</li> <li>❖ multiply and divide numbers mentally drawing upon known facts</li> <li>❖ 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</li> <li>❖ multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</li> <li>❖ solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</li> <li>❖ solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates</li> </ul> | <ul style="list-style-type: none"> <li>• Multiples</li> <li>• Common multiples</li> <li>• Factors</li> <li>• Common factors</li> <li>• Prime numbers</li> <li>• Square numbers</li> <li>• Cube numbers</li> <li>• Multiply by 10, 100 and 1,000</li> <li>• Divide by 10, 100 and 1,000</li> <li>• Multiples of 10, 100 and 1,000</li> </ul> | <p><b>5NF-1</b> Secure fluency in multiplication table facts, and corresponding division facts, through continued practice.</p> <p><b>5NF-2</b> Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth).</p> | <ul style="list-style-type: none"> <li>• Multiples</li> <li>• Common multiples</li> <li>• Factors</li> <li>• Common factors</li> <li>• Square numbers</li> <li>• Divide by 10, 100 and 1,000</li> </ul> | <p>End of block assessment</p> |
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| <p>Fractions A<br/>4 weeks</p> | <ul style="list-style-type: none"> <li>❖ identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths</li> <li>❖ recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements <math>&gt; 1</math> as a mixed number</li> <li>❖ compare and order fractions whose denominators are all multiples of the same number</li> <li>❖ add and subtract fractions with the same denominator and denominators that are multiples of the same number</li> <li>❖ multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</li> </ul> | <ul style="list-style-type: none"> <li>• Find fractions equivalent to a unit fraction</li> <li>• Find fractions equivalent to a non-unit fraction</li> <li>• Recognise equivalent fractions</li> <li>• Convert improper fractions to mixed numbers</li> <li>• Convert mixed numbers to improper fractions</li> <li>• Compare fractions less than 1</li> <li>• Order fractions less than 1</li> <li>• Compare and order fractions greater than 1</li> <li>• Add and subtract fractions with the same denominator</li> <li>• Add fractions within 1</li> <li>• Add fractions with total greater than 1</li> <li>• Add to a mixed number</li> <li>• Add two mixed numbers</li> <li>• Subtract fractions</li> <li>• Subtract from a mixed number</li> <li>• Subtract from a mixed number – breaking the whole</li> <li>• Subtract two mixed numbers</li> </ul> | <p><b>5F-2</b> Find equivalent fractions and understand that they have the same value and the same position in the linear number system.</p> | <ul style="list-style-type: none"> <li>• Find fractions equivalent to a unit fraction</li> <li>• Find fractions equivalent to a non-unit fraction</li> <li>• Recognise equivalent fractions</li> </ul> | <p>End of block assessment</p> |
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