

# Mathematics – Progression of Knowledge



|                     | EYFS  | YEAR 1   | YEAR 2   | YEAR 3   | YEAR 4  | YEAR 5   | YEAR 6  |
|---------------------|---|--|--|--|---|--|---|
| Counting & ordering | Count reliably to 20<br><br>Recognise & Order numbers 1-20<br><br>Count with 1:1 correspondence | Count to and across 100, forwards & backwards from any number.   | Compare & order numbers up to 100 & use $<$ $>$ $=$  | Compare & order numbers up to 1,000.   | Count backwards through zero to include negative numbers.<br><br>Compare & order numbers beyond 1 000.<br><br>Compare & order numbers with up to 2 decimal places<br><br>Read Roman numerals up to 100. | Count forward & backward with positive 7 negative numbers through zero.<br><br>Count forwards/backwards in steps of powers of 10 for any given number up to 1 000 000.<br>Compare & order numbers with 3 decimal places<br><br>Read Roman numerals to 1 000. | Use negative numbers in context & calculate intervals across zero<br><br>Compare & order numbers up to 10 000 000 |
| Numbers & More/Less | Say 1 more/ 1 less to 20  | Read & write numbers to 20 in numerals & words.<br><br>Read & write numbers to 100 in numerals.<br><br>Say 1 more /1 less to 100 | Read & write all numbers to 100 in digits & words.<br><br>Say 10 more/less than any number to 100.   | Read & write all numbers to 1 000 in digits & words.<br><br>Find 10 or 100 more/less than a given number               | Find 1 000 more/less than a given number  |  |   |
| Tables & Multiples  | Count orally in 2's & 10's<br><br>Solve problems, including doubling & sharing.                 | Count in multiples of 1,2,5 & 10   | Count in steps of 2, 3 & 5 from any number up to 100 & in 10s from any number<br>Forward/backward)<br>Recall & use multiplication & division facts for 2 5 & 10 tables | Count from 0 in multiples of 4 ,8, 50 & 100.<br><br>Recall & use multiplication & division facts all tables to 12x 12. | Count in multiples of 6,7,9,25 & 1000.<br><br>Recall & use multiplication & division facts all tables to 12x12  | Identify all multiples & factors including finding all factor pairs.   | Identify common factors common multiples & prime numbers  |
| Bonds & Facts       |   | Use bonds & subtraction facts to 20.   | Recall & use $=$ / $-$ facts to 20.<br>Derive & use related facts to 100.  |  |   | Recall prime numbers up to 19.<br><br>Recognise & use square numbers & cube numbers.   |   |

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|----------------------------|--|--|---|---|--|--|--|
| Place value & rounding     |  |  | Recognise PV of any 2 –digit number.  | Recognise PV of any 3 digit number.   | Recognise PV of any 4-digit number.<br>Round any number to the nearest 10, 100 or 1000.<br><br>Round decimals with 1 dp to nearest whole number. | Recognise PV of any number up to 1 000 000.<br>Round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000, 1000000.<br>Round decimals with 2dp to nearest whole number & 1dp.                            | Round any whole number to a required degree of accuracy.<br><br>Identify value of each digit to 3dp.   |
| Calculations +/-           | Add & subtract two single digit numbers.<br><br>Count on/back to find the answer   | Add & subtract: 1 & 2 digit numbers to 20, including zero.   | Add & subtract: 2 digit nos & ones<br>2 digit nos & tens<br>Two 2 digit nos<br>Three 1 digit nos  | Add & Subtract: 3 digit nos & ones<br>3 digit nos & tens<br>3 digit nos & hundreds<br>Add & Subtract: Numbers with up to 3 digits using written columnar method<br>Estimate & use inverse to check. | Add & Subtract: Numbers with up to 4 digits using written columnar method.<br>Numbers up to 1dp.<br><br>Estimate and use inverse to check.       | Add & subtract: Numbers with more than 4 digits using formal written method.<br>Numbers with up to 2dp.<br><br>Use rounding to check answers.  | Use knowledge of order of operations to carry out calculations involving 4 operations<br><br>Use estimation to check answers.  |
| Calculations $\times/\div$ |  | Solve one-step multiplication & division using objects, pictorial representations & arrays.                          | Calculate & write multiplication & division calculations using multiplication tables.<br>Write & recognise & use inverse                    | Multiply: 2 digit by 1 digit  | Multiply: 2 digits by 1 digit<br>3 digits by 1 digit   | Multiply: 4 digits by 1 digit/ 2 digits<br>Divide: Up to 4 digits by 1 digit<br>Multiply & Divide: Whole numbers & decimals by 10, 100 & 1000.   | Multiply: 4 digit by 2 digit<br><br>Divide: 4 digit by 2 digit   |
| Fractions & percentages    | Solve problems involving sharing   | Recognise half and quarter of object, shape or quantity.   | Recognise, find name & write $\frac{1}{3}$ , $\frac{1}{4}$ , $\frac{2}{4}$ , $\frac{3}{4}$<br><br>Recognise equivalence of simple fractions | Count up/down in tenths.<br><br>Compare & order fractions with same denominator.<br><br>+/- Fractions with same denominator within one whole.   | Count up/down in hundredths.<br><br>Recognise & write equivalent fractions.<br><br>+/- fractions with same denominator                           | Recognise & use thousandths.<br>Recognise mixed numbers & improper fractions & convert from one to another.<br>Multiply proper fractions & mixed numbers by whole numbers<br>Identify and write equivalent fractions | Add & subtract fractions with different denominations& mixed numbers<br><br>Multiply simple pairs of proper fractions writing the answer in the simplest form.<br>Divide proper fractions by whole numbers.<br>Calculate % of whole number |
| Time                       | Understand time words: today, tomorrow, yesterday.<br>Use everyday language to talk about time to compare and solve problems | Sequence events in chronological order.<br>Use language of day, week, month & year.<br>Tell time to hour & half past | Tell time to five minutes, including quarter past/to  | Tell time using 12 and 24 hour clocks and using Roman numerals.<br>Tell time to nearest minute<br>Know number of days in each month & number of seconds in a minute                                 | Read, write & convert time between analogue & digital 12 7 24 hour clocks  | Solve time problems using timetables & converting between different units of time.   |  |