# Year 4 Maths Objectives

## Place Value

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| COUNTING | count backwards through zero to include negative numbers<br>count in multiples of 6, 7, 9, 25 and 1000<br>find 1000 more or less than a given number |
| COMPARING NUMBERS | order and compare numbers beyond 1000<br>*compare numbers with the same number of decimal places up to two decimal places* |
| ESTIMATING | identify, represent and estimate numbers using different representations |
| READING & WRITING NUMBERS | read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value. |
| UNDERSTANDING PLACE VALUE | recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)<br>*find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as units, tenths and hundredths* |
| ROUNDING | round any number to the nearest 10, 100 or 1 000<br>*round decimals with one decimal place to the nearest whole number* |
| PROBLEM SOLVING | solve number and practical problems that involve all of the above and with increasingly large positive numbers |

## Addition & Subtraction

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| WRITTEN METHODS | add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate |
| CHECKING ANSWERS | estimate and use inverse operations to check answers to a calculation |
| PROBLEM SOLVING | solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why |

## Multiplication & Division

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| MULTIPLICATION & DIVISION FACTS | *count in multiples of 6, 7, 9, 25 and 1 000*<br>recall multiplication and division facts for multiplication tables up to 12 × 12 |
| MENTAL CALCULATION | use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers<br>recognise and use factor pairs and commutativity in mental calculations (appears also in Properties of Numbers) |
| WRITTEN CALCULATION | multiply two-digit and three-digit numbers by a one-digit number using formal written layout |
| PROPERTIES OF NUMBERS | recognise and use factor pairs and commutativity in mental calculations (repeated) |
| PROBLEM SOLVING | solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and |

| | harder correspondence problems such as n objects are connected to m objects |
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| CHECKING ANSWERS | *estimate and use inverse operations to check answers to a calculation* |

## Algebra

| FORMULAE | *Perimeter can be expressed algebraically as 2(a + b) where a and b are the dimensions in the same unit.* |
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## Fractions (including decimals & percentages)

| COUNTING IN FRACTIONAL STEPS | count up and down in hundredths |
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| RECOGNISING FRACTIONS | recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten |
| COMPARING DECIMALS | compare numbers with the same number of decimal places up to two decimal places |
| ROUNDING | round decimals with one decimal place to the nearest whole number |
| EQUIVALENCE | recognise and show, using diagrams, families of common equivalent fractions<br>recognise and write decimal equivalents of any number of tenths or hundredths<br>recognise and write decimal equivalents to $\frac{1}{4}$; $\frac{1}{2}$; $\frac{3}{4}$ |
| ADDITION & SUBTRACTION OF FRACTIONS | add and subtract fractions with the same denominator |
| MULTIPLICATION & DIVISION OF DECIMALS | find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths |
| PROBLEM SOLVING | solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number<br>solve simple measure and money problems involving fractions and decimals to two decimal places. |

## Geometry: Position & Direction

| POSITION, DIRECTION & MOVEMENT | describe positions on a 2-D grid as coordinates in the first quadrant<br>describe movements between positions as translations of a given unit to the left/right and up/down<br>plot specified points and draw sides to complete a given polygon |
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## Geometry: Properties of shape

| IDENTIFYING SHAPES & THEIR PROPERTIES | identify lines of symmetry in 2-D shapes presented in different orientations<br>Recognise clockwise, anti-clockwise. |
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| DRAWING & CONSTRUCTING | complete a simple symmetric figure with respect to a specific line of symmetry |
| COMPARING & | compare and classify geometric shapes, including quadrilaterals and |

| CLASSIFYING | triangles, based on their properties and sizes |
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| ANGLES | identify acute and obtuse angles and compare and order angles up to two right angles by size |

# Measurement

| COMPARING & ESTIMATING | estimate, compare and calculate different measures, including money in pounds and pence |
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| MEASURING & CALCULATING | estimate, compare and calculate **different measures,** including **money in pounds and pence**<br>measure and calculate the **perimeter** of a rectilinear figure (including squares) in centimetres and metres<br>find the area of rectilinear shapes by counting squares |
| TELLING THE TIME | read, write and convert time between analogue and digital 12 and 24-hour clocks<br>solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days |
| CONVERTING | convert between different units of measure (e.g. kilometre to metre; hour to minute)<br>read, write and convert time between analogue and digital 12 and 24-hour clocks<br>solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days |

# Statistics

| INTERPRETING, CONSTRUCTING & PRESENTING DATA | interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs |
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| SOLVING PROBLEMS | solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. |