Year 5 Maths Objectives

Place Value

COUNTING	interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000
COMPARING NUMBERS	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
READING & WRITING NUMBERS	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit read Roman numerals to 1 000 (M) and recognise years written in Roman numerals.
UNDERSTANDING PLACE VALUE	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit
ROUNDING	round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000
PROBLEM SOLVING	solve number problems and practical problems that involve all of the above

Addition & Subtraction

MENTAL CALCULATION	add and subtract numbers mentally with increasingly large numbers
WRITTEN METHODS	add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)
ESTIMATING / CHECKING	use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy
PROBLEM / SOLVING	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why

Multiplication & Division

MULTIPLICATION & DIVISION FACTS	*count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000*
MENTAL CALCULATION	multiply and divide numbers mentally drawing upon known facts multiply and divide whole numbers and those involving decimals by 10, 100 and 1000
WRITTEN CALCULATION	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 extend written methods to HTU x U or U.t x U.

Algebra

FORMULAE	*Perimeter can be expressed algebraically as 2(a + b) where a and b are the dimensions in the same unit.*

Fractions (including decimals & percentages)

COUNTING IN FRACTIONAL STEPS	count up and down in hundredths
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 recognise and write decimal equivalents of any number of tenths or hundredths recognise and write decimal equivalents to $^{1}/_{4}$; $^{1}/_{2}$; $^{3}/_{4}$
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 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 describe movements between positions as translations of a given unit to the left/right and up/down plot specified points and draw sides to complete a given polygon

Geometry: Properties of shape

IDENTIFYING SHAPES & THEIR PROPERTIES	identify lines of symmetry in 2-D shapes presented in different orientations
DRAWING & CONSTRUCTING	complete a simple symmetric figure with respect to a specific line of symmetry

COMPARING & CLASSIFYING	compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes
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
MEASURING & CALCULATING	estimate, compare and calculate **different measures,** including **money in pounds and pence** measure and calculate the **perimeter** of a rectilinear figure (including squares) in centimetres and metres 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 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) read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting) solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days

Statistics

INTERPRETING DATA	interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs
SOLVING PROBLEMS	solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. Present and interpret data on a bar chart and bar line graph: axis in 2s, 5s, 10s, 20s, 100s. make a simple database on paper.