Year 2 Maths Objectives

Place Value

COUNTING	count in steps of 1, 2, 3, and 5 from 0, and in tens from any two-digit number, forward or backward Say the number names to at least 100, from and back to zero. Count reliably up to 100 objects by grouping them in 10s. Count up to 100 objects by grouping in tens, then fives or twos. Count in 100s from/back to 0. Count on in steps of 5 to at least 30, from 0 or a small number. Count on in steps of 3 or 4 to at least 30, from and back to zero.
COMPARING NUMBERS	compare and order numbers from 0 up to 100; use <, > and = signs Order whole numbers and place them on a number line or 100-square. Recognise two-digit multiples of 10. Recognise two-digit multiples of 5. Compare two two-digit numbers, say which is more or less and give a number that lies between them.
IDENTIFYING, REPRESENTING & ESTIMATING NUMBERS	identify, represent and estimate numbers using different representations, including the number line Place numbers on number line or 100 square Recognise odd, even numbers, and two-digit multiples of 2, to 30. Use and read vocabulary of estimation and approximation. Give a sensible estimate of up to 50 objects.
READING & WRITING NUMBERS	Read and write numbers in figures and words to at least 50. read and write numbers to at least 100 in numerals and in words
UNDERSTANDING PLACE VALUE	recognise the place value of each digit in a two-digit number (tens, ones) Know what each digit in a two-digit number represents including 0 as place holder. Say the number that is one or ten more/less than a given two-digit number. Partition two-digit numbers into a multiple of 10 and ones.
ROUNDING	Round any number to the nearest 10 Round numbers less than 100 to the nearest 10.
PROBLEM SOLVING	use place value and number facts to solve problems Solve mathematical problems/puzzles, recognise simple patterns and relationships and make predictions. Suggest extensions. REASONING: Give examples to match general statement about numbers.

Addition & Subtraction

NUMBER BONDS	recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 Recall addition and subtraction facts for each number up to 10. State subtraction fact corresponding to addition fact and vice versa. Recall doubles to 10 + 10 and corresponding halves. Derive doubles to 15 + 15 and corresponding halves. Derive doubles of multiples of 5, halves of multiples of 10. Recall addition and subtraction facts for each number up to 10. Recall all pairs that make 20 (e.g. 13 + 7, 20 - 12). Recall pairs of multiples of 10 that make 100.
MENTAL CALCULATION	add and subtract numbers using concrete objects, pictorial representations, and mentally, including: * a two-digit number and ones * a two-digit number and tens Say the number that is one or ten more/less than a 2-digit number * two two-digit numbers adding three one-digit numbers Use number facts and place value to add/subtract mentally. Understand the operations of addition and subtraction and use and begin to read the related vocabulary. Use patterns of similar calculations. Find small difference, counting up. show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot Add more than two numbers, e.g. add three small numbers by putting the largest first and /or finding a pair that make 10. Put the larger number first. Add/subtract 9 or 11 by adding/subtracting 10 and adjusting by 1. Add /subtract 9, 19, 11, 21. Identify near doubles, using doubles already known. Partition into 5 and a bit when adding 6, 7, 8, or 9. Bridge through 10, then 20, and adjust. Add two then three two-digit numbers with apparatus. State subtraction fact corresponding to addition fact and vice versa.
WRITTEN METHODS	Inverse operations for checking Use + - = signs to record mental calculations in a number sentence Add and subtract numbers with up to two digits, using a numberline
INVERSE OPERATIONS, ESTIMATING &	recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. Check sums by adding in a different order.

CHECKING ANSWERS	
PROBLEM SOLVING	solve problems with addition and subtraction: * using concrete objects and pictorial representations, including those involving numbers, quantities and measures * applying their increasing knowledge of mental and written methods *solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change* (copied from Measurement) Explain how problem was solved, orally and in writing.

Multiplication & Division

MULTIPLICATION & DIVISION FACTS	*count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward* (copied from Number and Place Value) recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers Understand the term 'multiple' Understand multiplication as repeated addition. Use the related vocabulary. Use known facts to carry out simple multiplication. Add and multiply mentally to solve simple word problems. Know and use halving as the inverse of doubling. Understand division as grouping or sharing. Read the related vocabulary.
MENTAL CALCULATION	show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot Use known number facts and place value to divide mentally.
WRITTEN CALCULATION	calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs
PROBLEM SOLVING	solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts Choose and use appropriate operations and calculation strategies to solve one and two step word problems (incl. money) using + and –, and one step problems using x and ÷.

Algebra

EQUATIONS	*recognise and use the inverse relationship between addition and subtraction and use this to check calculations and* ***missing number*** *problems.* (copied from Addition and Subtraction) *recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100* (copied from Addition and Subtraction) Use x and = signs, and □ to stand for unknown number. Use * or * to stand for an unknown number.
SEQUENCES	*compare and sequence intervals of time* (copied from Measurement) Describe and extend number sequences. *order and arrange combinations of mathematical objects in patterns* (copied from Geometry: position and direction)

Fractions (including decimals & percentages)

COUNTING IN FRACTIONAL STEPS	*Pupils should count in fractions up to 10, starting from any number and using the1/2 and 2/4 equivalence on the number line (Non Statutory Guidance)*
RECOGNISING FRACTIONS	recognise, find, name and write fractions $^{1}/_{3}$, $^{1}/_{4}$, $^{2}/_{4}$ and $^{3}/_{4}$ of a length, shape, set of objects or quantity MUST: Begin to recognise and find one half of shapes and small numbers of objects. SHOULD: Begin to recognise and find one quarter of shapes and small numbers of objects.
EQUIVALENCE	write simple fractions e.g. $^{1}/_{2}$ of 6 = 3 and recognise the equivalence of $^{2}/_{4}$ and $^{1}/_{2}$. MUST: Recognise that two halves make one whole. SHOULD: Recognise that four quarters make one whole. COULD: Begin to recognise that two quarters and one half are equivalent

Geometry: Position & Direction

POSITION, DIRECTION & MOVEMENT	use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise) Give instructions to move along a route. Visualise objects in given positions. Use N, S, E, W to track a pathway or route (mapwork)
PATTERN	order and arrange combinations of mathematical objects in patterns and sequences

Geometry: Properties of shape

IDENTIFYING SHAPES & THEIR PROPERTIES	Use mathematical names for common 3-D and 2-D shapes. Sort shapes and describe some of their features, e.g. number of sides, corners, edges, faces. identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]
DRAWING & CONSTRUCTING	draw 2-D shapes and begin to make 3-D shapes using modelling materials; Make and describe shapes, patterns or pictures using solid shapes and templates. Make and describe shapes using pin-boards, elastic boards, squared paper, and programmable toy. Begin to recognise line symmetry.
COMPARING & CLASSIFYING	compare and sort common 2-D and 3-D shapes and everyday objects Investigate general statements about shapes. Solve shape puzzles, explaining reasoning orally.
ANGLES	describe position, direction and movement, including whole, half, quarter and three-quarter turns clockwise and anti-clockwise Recognise right angles.

Measurement

COMPARING & ESTIMATING	compare and order lengths, mass, volume/capacity and record the results using >, < and = compare and sequence intervals of time
MEASURING & CALCULATING	Use and begin to read the vocabulary related to length, mass, capacity and time. choose and use appropriate standard units to estimate and measure **length/height** in any direction (m/cm); Estimate, measure then compare lengths using metres, recording as '3 and a bit metres'. Suggest suitable units and equipment. Use a ruler to measure and draw lines to the nearest cm. **mass** (kg/g); Estimate, measure then compare masses using kilograms; suggest suitable units and equipment for such measurements. Read a simple scale. Record measurements as 'nearly 3 kilograms heavy'. **temperature** (°C); **capacity** (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels Estimate, measure then compare capacities using litres. Suggest suitable units and equipment for such measurements. Read a scale to the nearest division. Solve problems involving length, mass, capacity or time. recognise and use symbols for pounds **(£) and pence (p)**; combine amounts to make a particular value find different combinations of coins that equal the same amounts of money Recognise all coins. Find totals. Give change. Work out how to pay. Use £p notation. Choose and use appropriate number operation and calculation strategy to solve simple word problems. Must: one step. Should: two step. Explain method. Check results. **solve simple problems** in a practical context involving addition and subtraction of money of the same unit, including giving change
TELLING THE TIME	Use units of time: second, minute, hour, day, week. Know relationships between second, minute, hour, day, week. Order months of the year. Suggest suitable units to estimate or measure time.

	tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. Tell the time to half past, 15 minutes past, 45 minutes past and begin to count in minutes of intervals of 5 Start to look at digital time and link to analogue time MUST: Read time to hour on analogue or 12-hour digital clock. SHOULD: Read time to half hour on analogue / 12 hour digital clocks. COULD: Read time to half and quarter hour on analogue and 12-hour digital clocks. Solve time problems know the number of minutes in an hour and the number of hours in a day. (appears also in Converting)
CONVERTING	know the number of minutes in an hour and the number of hours in a day. (appears also in Telling the Time)

Statistics

INTERPRETING, CONSTRUCTING & PRESENTING DATA	interpret and construct simple pictograms, tally charts, block diagrams and simple tables ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity ask and answer questions about totalling and comparing categorical data
SOLVING PROBLEMS	Solve one-step problems using information presented in bar charts, pictograms and tables eg. 'How many more children liked chocolate than vanilla?' Solve a problem by sorting, classifying and organising information in a list or simple table, pictogram or block graph. Discuss and explain results.