Year 3 Mathematics Medium Term Planning Autumn

Mental Maths objectives to be covered:

Number - Number and place value:
Read and write numbers up to 1000 in numerals and in words.
Compare and order numbers up to 1000.
Count on from and back to 0 in multiples of 1, **4, 8,** 10, **50 and 100; find 10 or 100 more or less than a given number.**
Recognise the place value of each digit in a three-digit number and partition into hundreds, tens, ones.

Number – Addition and Subtraction:
Derive and recall all addition and subtraction facts for each number to 20, sums and differences of multiples of 10 and number pairs that total 100.
Add and subtract numbers mentally, including:
-a three-digit number and ones;
-a three-digit number and tens;
-a three-digit number and hundreds.

Number – Multiplication and division:
Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.
Recognise multiples of 2, 5 or 10 up to 1000 and recall odd and even numbers.
Derive doubles of whole numbers to 20 and their corresponding halves.

Number – Fractions:
Count up and down in tenths.

Measurement:
Tell and write the time from an analogue clock, and 12-hour and 24-hour clocks. - Needs to be practised daily to be secure for the Spring term (see note in strand)
Review chn's understanding early on so that individuals gaps can be addressed. Can also be addressed in PE.
Know the number of seconds in a minute and the number of days in each month, year and leap year;
Compare durations of events [for example to calculate the time taken by particular events or tasks].

Geometry – Properties of shape
Identify whether angles are greater than or less than a right angle. - Can be addressed in PE.
Identify right angles. - Can be addressed in PE.

Things to remember:
It is important to consistently use the appropriate vocabulary and insist that the children do the same (see 'Talk and Tasks' document).
Learning of times tables should be prioritised and reflected in the children's 'Maths Mountains' results.
The plans should be adjusted at least half-termly based on teacher assessments and analyses. The plans may also need adjusting due to changes in the number of weeks in a term or half term.
Cross-curricular links between mathematics and other subjects should be explored wherever relevant.

Objectives in **bold** are KPIs. Highlighted objectives will be assessed during the term (may be part). Objectives in *italics* are taken from the previous or next year.

Problem-solving and reasoning should be integrated into all activities.
Opportunities to explain and justify opinions and make explanations should be incorporated into planning.
Children should be challenged and extended through the problems they are given to solve.
Use a range of models and images to support conceptual understanding.

Week	Date	Strand	Curriculum objectives derived from the 2014 Curriculum	Resources
		Numbers to 1000 (1 ½ weeks)	• Count from 0 in multiples of 100; find 10 or 100 more or less than a given number. • Read and write numbers up to 1000 in numerals and in words. • Recognise the place value of each digit in a 3-digit number (hundreds, tens, ones). • Identify, represent and estimate numbers using different representations. • Compare and order numbers up to 1000. • Count from 0 in multiples of 4, 8 and 50. • Solve number problems and practical problems involving number and place value.	Base 10 materials to 1000 Blank number tracks Laminated part–whole diagrams Nine-sided dice Number lines (in fifties) Number tracks (in fifties) Objects for counting (100) Part–whole model (three ways) Place-value cards Place-value charts Straws bundled into fifties (to 500) Two jars: A and B Whiteboards and pens £1 coins/counters
		Addition and Subtraction (5 weeks)	• Add and subtract numbers mentally, including: a three-digit number and ones; a three-digit number and tens; a three-digit number and hundreds. • Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction. • Estimate the answer to a calculation and use inverse operations to check answers. • Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction.	0; 2 and 4–9 digit cards 0–9 digit cards 2–4 and 7–9 digit cards Base 10 materials Blank number tracks Linking cubes Number line to 100 Number lines (increments marked) Place-value charts Whiteboards and pens
		Multiplication and Division (3 weeks)	• Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. • Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental methods. • Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which *n* objects are connected to *m* objects.	2; 5 and 10 times tables cards (shuffled) 3 times table cards Coins/counters Counters Cups Dot cards (fours) Linking cubes Number lines (in threes) Objects for counting Trays/sorting circles Whiteboards and pens
		Further Multiplication and Division (2 weeks)	• Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. • Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal methods. • Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which *n* objects are connected to *m* objects.	Base 10 materials Laminated part–whole diagrams Objects for counting Place-value cards Place-value charts

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Year 3 Mathematics Medium Term Planning Spring

Mental Maths objectives to be covered:

Number - Number and place value:
Count on from and back to 0 in multiples of 1, **4, 8,** 10, **50 and 100; find 10 or 100 more or less than a given number.**
Recognise the place value of each digit in a three-digit number and partition into hundreds, tens, ones.
Compare and order numbers up to 1000
Round 2 or 3 digit numbers to the nearest 10.

Number – Addition and Subtraction:
Find pairs of numbers that total 100.
Add and subtract numbers mentally, including:

- **a three-digit number and ones**
- **a three-digit number and tens**
- **a three-digit number and hundreds**

Number – Multiplication and division:
Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.
Recognise multiples of 2, 5 or 10 up to 1000 and recognise odd and even numbers (Venn and Carroll).
Derive doubles of whole numbers to 20 and corresponding halves.
Derive doubles of multiples of 5 to 100.

Number - fractions:
Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.
Recognise and use fractions as numbers on a number line: unit fractions and non-unit fractions with small denominators. (adapted)

Measurement:
Know the relationships between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres. (link to 'Using 10s, 100s…' unit)
Tell and write the time from an analogue clock, and 12-hour and 24-hour clocks. Needs to be practised daily to be secure for the strand on time (see note in strand). Can also be addressed in PE.
Use Roman numerals from I to XII.

Geometery – Properties of shape
Identify whether angles are greater than or less than a right angle. - Can be addressed in PE.
Classify 2D and 3D shapes according to their properties (Venn and Carroll) - Can also be addressed in other strands.

Things to remember:
It is important to consistently use the appropriate vocabulary and insist that the children do the same (see 'Talk and Tasks' document).
Learning of times tables should be prioritised and reflected in the children's 'Maths Mountains' results.
The plans should be adjusted at least half-termly based on teacher assessments and analyses. The plans may also need adjusting due to changes in the number of weeks in a term or half term.
Cross-curricular links between mathematics and other subjects should be explored wherever relevant.

Objectives in **bold** are KPIs. Highlighted objectives will be assessed during the term (may be part). Objectives in *italics* are taken from the previous or next year.

Problem-solving and reasoning should be integrated into all activities.
Opportunities to explain and justify opinions and make explanations should be incorporated into planning.
Children should be challenged and extended through the problems they are given to solve.
Use a range of models and images to support conceptual understanding.

Week	Date	Strand	Curriculum objectives derived from the 2014 Curriculum	Resources
		Length (2 weeks)	• Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm/km) to the nearest appropriate unit. • Compare and order lengths.	Hole punch Measuring tapes Metre ruler Paper Paper fasteners Scissors
		Mass (1 ½ weeks)	• Measure, compare, add and subtract mass (kg/g). • Solve problems involving multiplication and division.	Everyday objects to weigh Everyday objects to weigh over 1 kg Objects to weigh over 2 kg Weighing scales
		Volume (2 weeks)	• Measure, compare, add and subtract volume/capacity (l/ml). • Solve problems involving multiplication and division.	1 l measuring jug 100 ml measuring beakers (10) Containers with 1 l capacity Different everyday containers Different small containers Empty plastic bottles Jugs for pouring Measuring beakers (large and small) Measuring beakers (ml) Measuring beakers up to 1 l Measuring jugs/cylinders Objects with different capacities/shapes
		Money (3 weeks)	• Add and subtract amounts of money to give change, using both pounds and pence in practical contexts.	Coins and notes (full set) Leaflet displaying shop prices Price list/shopping list Priced items 'for sale' Whiteboards and pens
		Time (4 weeks)	Pupils need to be well-prepared through ongoing practise throughout the year. Only by revisiting the skills of telling the time daily will these skills be fully acquired by every pupil. As a consequence, this time is not about 'learning to tell the time', but rather about using and applying their knowledge of time. • Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks. • Estimate and read time with increasing accuracy to the nearest minute. • Record and compare time in terms of seconds, minutes and hours. • Use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight. • Know the number of seconds in a minute and the number of days in each month, year and leap year. • Compare durations of events [for example to calculate the time taken by particular events or tasks].	Analogue clocks with a second hand Analogue clocks with roman numerals Blank number lines Digital clocks Digital stopwatches Individual analogue clocks Pendulums Teaching clock Time cards Watches showing different times

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Year 3 Mathematics Medium Term Planning Summer

Mental Maths objectives to be covered:

Number - Number and place value:
Count on from and back to 0 in multiples of 1, **4, 8,** 10, **50 and 100.**
Recognise the place value of each digit in a three-digit number and partition into hundreds, tens, ones.
Compare and order numbers up to 1000 and position them on a number line.
Round 2 or 3 digit numbers to the nearest 10 or 100.

Number – Addition and Subtraction:
State subtraction fact corresponding to addition fact and vice versa.
Add and subtract numbers mentally, including:

- **a three-digit number and ones**
- **a three-digit number and tens**
- **a three-digit number and hundreds**
- near multiples of 10 e.g. 9, 19, 21

Number – Multiplication and division:
Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables.
Recognise multiples of 2, 5 or 10 up to 1000.

Number - fractions:
Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10.
Recognise and use fractions as numbers on a number line: unit fractions and non-unit fractions with small denominators. (adapted)

Measurement:
Know the relationships between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres.
Tell and write the time from an analogue clock, and 12-hour and 24-hour clocks.
Use Roman numerals from I to XII.
Know the number of seconds in a minute and the number of days in each month, year and leap year.

Geometry – Properties of shape
Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.

Things to remember:
It is important to consistently use the appropriate vocabulary and insist that the children do the same (see 'Talk and Tasks' document).
Learning of times tables should be prioritised and reflected in the children's 'Maths Mountains' results.
The plans should be adjusted at least half-termly based on teacher assessments and analyses. The plans may also need adjusting due to changes in the number of weeks in a term or half term.
Cross-curricular links between mathematics and other subjects should be explored wherever relevant.

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Problem-solving and reasoning should be integrated into all activities.
Opportunities to explain and justify opinions and make explanations should be incorporated into planning.
Children should be challenged and extended through the problems they are given to solve.
Use a range of models and images to support conceptual understanding.

Week	Date	Strand	Curriculum objectives derived from the 2014 Curriculum	Resources
		Picture Graphs and Bar Graphs (1 week)	• Interpret and present data using bar charts, pictograms and tables. • Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.	Laptop/tablet with spreadsheet software Linking cubes Objects for counting
		Fractions (6 weeks)	• Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. • Count up and down in tenths, recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10. • Recognise and show, using diagrams, equivalent fractions with small denominators. • Add and subtract fractions with the same denominator within 1 whole (for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$). • Compare and order unit fractions, and fractions with the same denominators. • Solve problems that involve all of the above.	0–1 number lines Circular representations of fractions: quarters; halves; sixths and thirds Counters Fraction cards: fraction of a whole number Fraction cards: halves; quarters; sixths; twelfths Fraction strips (card/paper) Linking cubes Squared paper Strips of paper for folding fractions
		Angles (1 ½ weeks)	• Recognise angles as a property of shape or a description of a turn. • Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle.	Cardboard strips Counters Elastic bands Geoboards Grid Individual clocks Linking cubes Lolly sticks Paper fasteners Six-sided dice
		Lines and Shapes (1 ½ weeks)	• Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. • Draw 2-D shapes and make 3-D shapes using modelling materials. • Recognise 3-D shapes in different orientations and describe them.	3-D shapes Clay/plasticine/playdough Cuboid box Paper nets of 3-D shapes Plastic knifes Right-angle tester Squared paper String Weights
		Perimeter of Figures (2 weeks)	• Measure the perimeter of simple regular or irregular 2-D shapes.	1 cm^2 paper squares 1 m × 1 m tile Colouring pencils Square grids

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