

WPS Maths Medium Term Plan: Year 3/4 Autumn Term

Oral/Mental Starters	Non Stat examples/suggestions
Year 3 Year 4 - Count on and back in multiples of 2, 3, 5 and 10 up to the 12th multiple; begin to count on and back in multiples of 4, 8, 50 and 100, find 10 or 100 more/less than a given number up to the 12th multiple Count from (and back to) 0 in multiples of 3, 6, 4, 7, 8, 9 25, 50, 100, 1000 - Recall and use multiplication and division facts for the 2, 3, 4, 5, 8 and 10 times tables up to the 12th multiple 4, 6, 8 - Recognise and use inverse operations and commutatively to derive other related facts for facts they know $3 \times 8 = 24$, $8 \times 3 = 24$, $24 \div 8 = 3$, $24 \div 3 = 8$ - Recall and use addition and subtraction facts to 20 fluently (from Y2 programme of study) for all pair of numbers that total 100 - Derive and use addition and subtraction facts for multiples of 10 to 100 e.g. $40 + 60 = 100$, $100 - 70 = 30$ facts for multiples of 100 to 1000 (e.g. $700 + 300 = 1000$) - Count on and back in 10s from any one- digit or two- digit number - Find 100 more or 100 less than a given number Given a number, identify the number that is 1000 more than a given number - Read and write numbers up to 1000 in numerals and words - Compare and order numbers up to 1000 up to 1000 and beyond; make estimates of quantities Y3&4 - Mentally add and subtract a 3-digit number and ones, tens and 100s - Count in fractions up and down in tenths ... Count forwards and backwards in hundredths - Tell the time from an analogue clock in steps of 5 minutes, including quarter past/ quarter to Tell the time to the nearest minute on an analogue clock and relate to 12 hour and 24 hours digital clocks - Recognise the place value of each digit in a 3-digit number (100s, 10s, 1s) Place Value of 4 digit numbers, 1000, 100, 10, 1 - Identify, name, describe and reason about 2D shapes	Non Statutory – pupils practise solving varied addition/subtraction – mental calculation the number could exceed 100 - Find doubles of all two-digit numbers and corresponding halves (using knowledge of place value and partitioning) - Find doubles of three-digit multiples of ten and corresponding halves e.g. double 240 = 480; half of 480 = 240 - Add/subtract 9 by adding/subtracting 10 and adjusting Multiples, Where's Mully resources Big Maths, page 187 Count Fourways Big Maths page 72/73 Count in multiples Big Maths page 68+

Areas of Study/ suggested order/weeks	Mains - NC Objectives Year 3 Year 4	
Number Number and place value Week 1	- find 10 or 100 more or less than a given number find 1,000 more or less than a given number - recognise the place value of each digit in a 3-digit number (100s, 10s, 1s) recognise the place value of each digit in a four-digit number (1,000s, 100s, 10s, and 1s) - identify, represent and estimate numbers using different representations - read and write numbers up to 1,000 in numerals and in words compare and order numbers up to 1,000 order and compare numbers beyond 1,000	Suggestions/examples of activities/(Non Stat) Variety of representations : Represent numbers using different representations such as the empty number line or grid e.g. position numbers in the correct place on a 0 – 200 number line or a 200 grid Reason about number and place value e.g. If you wrote these numbers in order starting with the smallest, which number would be third? 150, 59, 115, 95, 105. Explain how you ordered these numbers Solve number problems using knowledge of place value e.g. $165 = 100 + \quad + 5$; $189 = \quad + 80 + 9$ $189 = 170 + 19$ $1267 = 1000 + \quad + 60 + 7$
Number Addition Week 2	- add numbers mentally, including: - a three-digit number and 1s - a three-digit number and 10s - a three-digit number and 100s - add numbers with up to 3 digits, using written methods add numbers with up to 4 digits using written methods (numberlines) - solve problems, including missing number problems, using number facts, place value, and more complex addition solve addition problems in contexts SEE CALCULATION PRACTICES	Solve number problems using number facts/place value e.g. Add 9 by adding 10 and adjusting mentally and with jottings, such as an empty number line Consolidate addition of two two-digit numbers, including bridging 100, using informal written methods such as partitioning and empty number lines e.g. $86 + 43$; $97 + 24$ Reason about addition e.g. True or false? The sum of three odd numbers is always an odd number. How do you know?
Number Subtraction	- subtract numbers mentally, including: - a three-digit number and 1s; a three-digit number and 10s; a three-digit number and 100s - subtract numbers with up to 3 digits, using written	Consolidate subtraction of two two-digit numbers and a two-digit numbers from a three-digit number within 200, using informal written methods such as an empty number line e.g. $128 - 35$; use estimation to check that answers are reasonable

Week 3	methods subtract numbers with up to 4 digits using written methods(numberlines) - estimate the answer to a calculation and use inverse operations to check answers estimate and use inverse operations to check answers to a calculation - solve problems, including missing number problems, using number facts, place value, and more complex subtraction solve subtraction problems in contexts SEE CALCULATION PRACTICES	Subtract 9 by subtracting 10 and adjusting mentally and with the use of jottings, such as an empty number line Solve word problems involving addition/subtraction of hundreds to three digit numbers e.g. I have 845 ml of orange juice in a jug. I pour out 300ml of the juice into a beaker. How much juice is left in the jug? 925 people are in the theatre. Another 100 people arrive. How many people are in the theatre now?
Geometry Properties of shape Week 4	- draw 2-D shapes - compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes - identify horizontal and vertical lines and pairs of perpendicular and parallel lines identify lines of symmetry in 2-D shapes presented in different orientations	From Y2 - Consolidate names and properties of common 2-D shapes; introduce the terms quadrilateral and polygon Consolidate the term right angle and relate to common 2D shapes and shapes in the environment Describe 2D shapes including the number of sides, lines of symmetry and number of right angles and reason about shapes e.g. what is the same about these three polygons? From Y3 - Compare and classify 2D shapes (including in different orientations) using the names and properties learned in previous years, including lines of symmetry, right angles, obtuse/acute angles, parallel and perpendicular lines; introduce the terms regular and irregular Sort 2-D shapes using simple Venn diagrams or Carroll diagrams using known properties Identify horizontal and vertical lines; link to known 2D shapes
Number Multiplication Week 5	- recall and use multiplication facts for the 3, 4 and 8 multiplication tables(consider as oral/mental starters) recall multiplication facts for multiplication tables up to 12×12 - recognise and use factor pairs and commutativity in mental calculations - solve problems, including missing number problems, involving multiplication, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects solve problems involving multiplying and adding, including	Develop informal methods for multiplication – arrays (taken from Y2 programme of study) and empty number lines Extend by multiplying a teen number by a one- digit number using informal methods such as partitioning Count in multiples Big Maths page 68+ Solve word problems that involve multiplication e.g. There are 14 cherries in each bowl. I have six bowls of cherries. How many cherries do I have altogether? There are 26 children in each class. How many children in four classes? Solve problems involving positive integer scaling e.g. My sunflower is 26 cm tall. My friend's sunflower is three times as tall. How tall is my

	using the distributive law SEE CALCULATION PRACTICES	friend's sunflower? I have 65 cherries but my brother has twice as many as me. How many does he have?
Number Division Week 6	- recall and use division facts for the 3, 4 and 8 multiplication tables (consider as oral/mental starters) recall division facts for multiplication tables up to 12×12 - write and calculate mathematical statements for division using the multiplication tables that they know, - recognise and use factor pairs and commutativity in mental calculations - solve problems, including missing number problems, involving division SEE CALCULATION PRACTICES	Develop informal methods for division – arrays (taken from Y2 programme of study) and empty number lines; count forwards to make the link with multiplication; count backwards to make the link with repeated subtraction Through doubling, connect the 3 and 6 times tables; count in multiples of 3 and 6, forwards and backwards; recall and use division facts for the 6 times table Write and calculate mathematical statements for division using the 6 times table and other known tables; solve missing number problems (empty boxes); use the inverse operation to check answers
Number Fractions Week 7	- count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 - recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators - recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators 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	Consolidate recognising, finding, naming and writing fractions of shapes (using fraction notation and words) half, third, quarter, two quarters, and three quarters Consolidate recognising that $\frac{2}{4}$ is equivalent to $\frac{1}{2}$, using diagrams to support Compare two unit fractions, such as $\frac{1}{4}$ and $\frac{1}{3}$, using $<$ and $>$, using diagrams such as a simple fraction wall to support Count Fourways Big Maths page 72/73 Connect finding unit fractions to division e.g. connect finding a third of a number with dividing by 3; $\frac{1}{3}$ of 15 = 5 Solve simple problems involving fractions. I have 12 stickers. I give $\frac{1}{3}$ of them to Bob. How many stickers do I give to Bob? How many stickers do I have left? Reason about fractions e.g. would you rather have $\frac{1}{3}$ of £18 or $\frac{1}{4}$ of £20? Why? Find one tenth of a number, quantity or length (multiples of ten) e.g. $\frac{1}{10}$ of 50 = 5; $\frac{1}{10}$ of 80cm = 8 cm Introduce the term non-unit fraction using diagrams to support understanding; find non-unit fractions of shapes e.g. shade $\frac{2}{3}$ of the rectangle blue and $\frac{1}{3}$ of the rectangle red Connect finding a unit fraction of a number with division e.g. one tenth of 80 is 8 because $80 \div 10 = 8$; $\frac{1}{6}$ of 18 is 3 because $18 \div 6 =$

		3; $1/8$ of 32 = 4 because $32 \div 8 = 4$ Solve problems involving unit and non-unit fractions e.g. There are 30 plums in a bowl and I eat $1/5$ of them. How many plums are left in the bowl? I have 12 cherries and I give three quarters of them to my friend. How many do I give him? How many do I have left? There are 20 children at a party. $2/5$ of them are boys. How many boys and how many girls are at the party? Reason about fractions e.g. would you rather have $1/3$ of £21 or $2/5$ of £20? Why?
Measurement Time Week 8	- know the number of seconds in a minute and the number of days in each month, year and leap year - tell and write the time from an analogue clock and 12-hour read, write and convert time between analogue and digital 12- 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, am/pm, morning, afternoon, noon and midnight	Introduce a.m. (morning) and p.m. (afternoon), noon and midnight; use this vocabulary when telling the time
Geometry Properties of shapes Week 9	- draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them - recognise angles as a property of shape or a description of a turn - identify right angles, recognise that 2 right angles make a half-turn, 3 make three-quarters of a turn and 4 a complete turn; identify whether angles are greater than or less than a right angle identify acute and obtuse angles and compare and order angles up to 2 right angles by size - identify horizontal and vertical lines and pairs of perpendicular and parallel lines identify lines of symmetry in 2-D shapes presented in different orientations complete a simple symmetric figure with respect to	Consolidate names and properties of common 3-D shapes and describe them using correct vocabulary, such as number of faces, vertices and edges; introduce tetrahedron and the term polyhedron Identify 2D shapes on the surface of 3D shapes e.g. triangular faces on a tetrahedron Make 3D shapes using modelling materials (such as Polydron) and describe them using correct vocabulary Identify whether angles are greater or less than a right angle using the terms acute and obtuse (angles); identify angles in regular and irregular polygons as acute, obtuse or right angles: compare and order angles (up to two right angles by size)

	a specific line of symmetry compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	
Measurement Money & Number Addition and Subtraction (mental methods focus/ expectation) Week 10	- count up and down in hundredths; recognise that hundredths arise when dividing an object by 100 and dividing tenths by 10 (consider as a starter) - 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 - add and subtract amounts of money to give change, using both £ and p in practical contexts - solve number problems and practical problems involving these ideas - solve simple money problems involving decimals to 2 decimal places - solve addition and subtraction one/two-step problems in contexts, deciding which operations and methods to use and why - compare numbers with the same number of decimal places up to 2 decimal places SEE CALCULATION PRACTICES	Consolidate recognition of the value of all coins and notes (from Y2 programmes of study) Consolidate pairs of multiples of ten that total 100 e.g. $70 + 30 = 100$, and give related subtraction facts; derive pairs of multiples of 5 that total 100 e.g. $85 + 15 = 100$, and give related subtraction facts (consider using a 100 grid to support); use knowledge of inverse operations Derive addition and subtraction facts for all pairs of numbers that total 100 (refer to 100 square) e.g. $48 + 52 = 100$; $100 - 52 = 48$ Derive addition and subtraction facts for multiples of 100 to 1000 e.g. $600 + 400 = 1000$, $1000 - 400 = 600$ Begin to derive addition and subtraction facts for multiples of 50 to 1000 e.g. $450 + 550 = 1000$, $1000 - 750 = 250$ Solve missing number problems using number facts, inverse operations and place value e.g. $+ 67 = 100$; $1000 - \quad = 700$; $850 + \quad = 1000$ Jigsaw numbers Big Maths page 157
Statistics Data handling Week 11	- interpret and present data using bar charts, pictograms and tables interpret and present discrete and continuous data using appropriate graphical methods, including bar charts (discrete) and time graphs (continuous) - solve one-step questions [for example 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	Pupils understand and use simple scales (for example, 2, 5, 10 units per cm) in pictograms and bar charts with increasing accuracy. Use simple scales e.g. 2 units per square in bar charts and where one face represents two children in pictograms They continue to interpret data presented in many contexts. Solve problems using information presented in scaled bar charts, pictograms, tallies and tables including comparison, sum and difference problems e.g. How many more children in Year 4 walked to school than came by bus? How many children were asked altogether? Pupils understand and use a greater range of scales in their representations.

		Pupils begin to relate the graphical representation of data to recording change over time. Use information presented in scaled bar charts, pictograms and tables to answer one-step questions e.g. How many more? How many fewer? How many altogether? Follow a line of enquiry e.g. record the temperature, using a thermometer, at hourly intervals throughout the day. Are the mornings warmer or cooler than the afternoons? Present your findings using a line graph (Possible link to Science Curriculum)
Number Multiplication and Division (facts – focus on quick recall/mental expectation) Week 12	- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables(consider as oral/mental starters) recall multiplication and division facts for multiplication tables up to 12×12 - 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 written methods multiply two-digit and three-digit numbers by a one-digit number using formal written layout - use place value, known and derived facts to multiply mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers - recognise and use factor pairs and commutativity in mental calculations - 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 solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by 1 digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects SEE CALCULATION PRACTICES	Through doubling, connect the 2 and 4 times tables Begin to recall and use multiplication and division facts for the 4 times table Recognise the inverse relationships between multiplication and division and use this to solve missing number problems involving known multiplication and division facts e.g. $3 \times \quad = 24$, $24 \div \quad = 3$; $\quad \times 5 = 35$, $35 \div \quad = 5$ Find factor pairs of numbers using known multiples e.g. A factor pair of 18 is 3 and 6 (because $3 \times 6 = 18$) Multiply numbers by ten (including numbers with one decimal place) e.g. $95 \times 10 = 950$; $4.2 \times 10 = 42$; describe the effect using the language of place value Divide numbers by ten (including answers with one decimal place) e.g. $820 \div 10 = 82$; $46 \div 10 = 4.6$; describe the effect using the language of place value Derive multiplication facts for multiples of ten times a one-digit number using mental methods and known facts e.g. $3 \times 6 = 18$; $30 \times 6 = 180$; $3 \times 60 = 180$ Derive division facts for multiples of ten times a one-digit number using mental methods and known facts e.g. $30 \div 6 = 5$; $300 \div 6 = 50$ Reason about multiplication and division e.g. If you know $4 \times 6 = 24$, what other facts can you give? Solve correspondence problems (n objects are connected to m objects) e.g. I have red wrapping paper and red ribbon, and green wrapping paper and green ribbon. How many different combinations can you find so that I wrap each present differently? What if I also have silver wrapping paper and ribbon? Extend with a

		fourth colour (work systematically and present results in an organised way; record using a table and look for patterns and rules) Count in multiples Big Maths page 68+ Multiples, Where's Mully resources Big Maths, page 187
Additional weeks Assessment – Testing	To be used for: • assessment, consolidation and responding to AfL • additional using and applying activities	