

#### Suggested oral mental starters (ongoing, throughout the term):

- Count on and back in multiples of 2, 3, 5 and 10 up to the 12<sup>th</sup> multiple; begin to count on and back in multiples of 4 up to the 12<sup>th</sup> multiple
- Recall and use multiplication and division facts for the 2, 3, 5 and 10 times tables up to the 12<sup>th</sup> multiple
- Recall and use addition and subtraction facts to 20 fluently (from Y2 programme of study)
- Derive/recall and use addition and subtraction facts for multiples of 10 to 100 e.g. 40 + 60 = 100, 100 70 = 30
- Count on and back in 10s from any one- digit or two- digit number within 200 (refer to the 200 grid)
- Find ten more or ten less than a given number within 200
- Add/subtract 9 by adding/subtracting 10 and adjusting (within 200)
- Read and write numbers up to 200 in numerals and words
- Recognise odd and even numbers to at least 100
- Compare and order numbers up to 200 (use 200 grid to support); make estimates of quantities within 200
- Mentally add and subtract a 3-digit number and ones or a 3-digit number tens up to and including 200 e.g. 126 + 8; 154 30
- Count in fractions up to 10 e.g. 1/2, 1, 1 1/2, 2 ...
- Tell the time from an analogue clock to the nearest 5 minutes, including quarter past/ quarter to (use daily routines to support this)
- Opportunities for problem solving and reasoning related to all above

Areas of Study	No of days	Statutory requirements and non-statutory guidance	Suggested Key Vocabulary
Number	3 - 5	<ul> <li>Year 2 conceptual prerequisite</li> <li>Know that 10 ones are equivalent to 1 ten, and that 40 (for example) can be composed from 40 ones or 4 tens.</li> <li>Know how many tens there are in multiples of 10 up to 100.</li> <li>Recognise the place value of each digit in two-digit numbers, and compose and decompose two digit numbers using standard and non standard partitioning.</li> </ul>	Order Partition, place value Digit, numerals Hundred, tens, ones/units Between More than, greater than, less
Number and place value		<ul> <li>Reason about the location of any two-digit number in the linear number system, including identifying the previous and next multiple of 10.</li> <li>Count in multiples of 2, 5 and 10.</li> </ul>	than < and > signs
		Read, write, compare (using < and > signs) and order numbers to 200, in numerals <b>and</b> words	
Week 1		Identify the number that comes between two numbers within 200 Given a number, identify the number that is 10 more or less within 200	



		Recognise the place value of each digit in a three-digit number to 200 Partition three-digit numbers to 200 e.g. $138 = 100 + 30 + 8$ ; use place value cards and Dienes to support Solve missing number problems using knowledge of place value e.g. $165 = 100 + + 5$ ; 189 = + 80 + 9 Represent numbers using different representations such as the empty number line or 200 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	
Number		Year 2 conceptual prerequisite Add across 10, for example: 8+ 5 = 13.	Digit Hundred, tens, ones/units
Addition	5	<ul> <li>Automatically recall addition facts within 10, and across 10. Unitise in tens: understand that 10 can be thought of as a single unit of 1 ten.</li> <li>Automatically recall number bonds to 9 and to 10.</li> <li>Know that 10 ones are equivalent to 1 ten, and 10 tens are equivalent to 1 hundred.</li> <li>Recognise the place value of each digit in two- and three-digit numbers.</li> <li>Have experience with the commutative property of addition, for example, have recognised that 3 + 2 and 2 + 3 have the same sum.</li> <li>Be able to write an equation in different ways, for example, 2 + 3 = 5 and 5 = 2 + 3</li> <li>Write equations to represent addition and subtraction contexts.</li> </ul>	Add, sum of, total of, addition, + Plus, altogether Partition Calculate, calculation Estimate
Week 2		<ul> <li>Add a three-digit number and ones (within 200); add a three-digit number and tens (within 200), mentally and with jottings, such as an empty number line</li> <li>Add 9 by adding 10 and adjusting (within 200), mentally and with jottings, such as an empty number line</li> <li>(See Mental Calculation Strategies, 2017)</li> <li>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</li> <li>(See Written Calculation Policy, 2017)</li> <li>Use estimation to check that answers are reasonable</li> <li>Solve one-step addition word problems which involve the above; extend with two-step problems</li> </ul>	Odd/ even numbers

2



		<b>Reason</b> about addition e.g. True or false? The sum of three odd numbers is always an odd number. How do you know?	
		If you add 5 to a number ending in 6 the sum of the two numbers will end in 1 (have 1 in the ones/units place) True or false? How do you know?	
Number		Year 2 conceptual prerequisite	Digit Hundreds, tens, ones/units
Subtraction	5	<ul> <li>8+ 5 = 13. 13 - 5 = 8</li> <li>Automatically recall addition and subtraction facts within 10, and across 10. Unitise in tens: understand that 10 can be thought of as a single unit of 1 ten.</li> <li>Automatically recall number bonds to 9 and to 10.</li> </ul>	Subtract, minus, subtraction, - Difference
		<ul> <li>Know that 10 ones are equivalent to 1 ten, and 10 tens are equivalent to 1 hundred.</li> <li>Recognise the place value of each digit in two- and three-digit numbers.</li> <li>Have experience with the commutative property of addition, for example, have recognised that 3 + 2 and 2 + 3 have the same sum.</li> </ul>	Partition Calculate, calculation Estimate
		<ul> <li>Be able to write an equation in different ways, for example, 2 + 3 = 5 and 5 = 2 + 3</li> <li>Write equations to represent addition and subtraction contexts.</li> </ul>	
Week 3		Subtract a three-digit number and ones (within 200); subtract a three-digit number and tens (within 200), mentally <b>and</b> with the use of jottings, such as an empty number line	Inverse
		Subtract 9 by subtracting 10 and adjusting (within 200) mentally <b>and</b> with the use of jottings, such as an empty number line <b>(See Mental Calculation Strategies, 2017)</b>	
		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 (See Written Calculation Policy, 2017)	
		Use estimation to check that answers are reasonable	
		Solve one-step subtraction word problems which involve the above; extend with two-step problems (which could involve both addition and subtraction)	
		Understand <b>inverse</b> operations; use inverse operations to check answers and to solve empty box/missing number problems e.g. + 40 = 100; 125 + = 134	

3



		Year 2 conceptual prerequisite	All vocabulary from previous
Geometry		Recognise standard and non-standard examples of 2D shapes presented in different	year: including 2-D, square,
		orientations.	rectangle, triangle, circle,
Properties of	5	<ul> <li>Identify similar shapes.</li> </ul>	pentagon, hexagon, right angle,
shape		Compose 2D shapes from smaller shapes to match an exemplar, rotating and	line of symmetry
(2-D shapes)		turning over shapes to place them in specific orientations.	Extend with: guadrilateral.
			polygon, symmetrical and non-
		Consolidate names and properties of common 2-D shapes; introduce the terms quadrilateral	symmetrical
		and <b>polygon</b> Cancelidate the term right angle and relate to common 2D shapes and shapes in the	
		environment	
Week 4		Recognise line symmetry, in a vertical line, in 2-D shapes; use the terms symmetrical and non-symmetrical	Horizontal, vertical (lines)
		Describe 2D shapes including the number of sides, lines of symmetry and number of right	
		angles and <b>reason</b> about shapes e.g. what is the same about these three polygons?	
		Sort 2-D shapes using simple Venn diagrams or Carroll diagrams using known properties e.g.	
		polygons with right angles/ polygons without right angles; symmetrical 2-D shapes/ non-	
		symmetrical 2-D shapes; quadrilaterals/ not quadrilaterals	
		Identify horizontal and vertical lines; link to known 2D shapes	
		Year 2 conceptual prerequisite	Multiply, multiplication, times,
Number		<ul> <li>Calculate products within the 2, 5 and 10 multiplication tables.</li> </ul>	multiples, groups of
	_	Recognise repeated addition contexts and represent them with multiplication	
Multiplication	5	equations.	Array
		Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quatitive division).	Empty number line
			Count forwards
		Recall and use multiplication facts for the 2. 5 and 10 times tables -consider as oral/mental	Dortition
		starters	Fatuuon
		Begin to recall and use multiplication facts for the 3 times table	
		Write and calculate mathematical statements for multiplication using 3 times table and other	
		known tables	
		Develop/consolidate informal methods for multiplication – arrays and empty number lines	
Week 5		Extend by multiplying a teen number by a one- digit number using informal methods such as	
		partitioning	

4



		(See Written Calculation Policy 2017 and Mental calculation Strategies, 2017)	
		Solve word problems using known multiplication tables (including 3x table) e.g. There are 4 bowls and there are 3 apples in each bowl. How many apples are there altogether? Six children sit round each table. There are five tables. How many children are there altogether? There are 15 chairs in each row and there are 5 rows of chairs. How many chairs are there altogether? Solve missing number problems using known times tables e.g. 5 x = 15; x 10 = 80	
Number		<ul> <li>Year 2 conceptual prerequisite</li> <li>Know division facts for 2,5 and 10x tables.</li> <li>Recognise repeated addition/subtraction contexts and represent them with</li> </ul>	Divide, division Groups of Array
Division	5	<ul> <li>multiplication and division equations.</li> <li>Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division).</li> </ul>	Empty number line Count forwards, count
		Recall and use division facts for the 2, 5 and 10 times tables -consider as oral/mental starters Begin to recall and use division facts for the 3 times table Write and calculate mathematical statements for division using the 3 times table and other known times tables	Problem, solution
Week 6		Develop/consolidate informal methods for division – arrays and empty number lines; count forwards to make the link with multiplication; count backwards to make the link with repeated subtraction (See Written Calculation Policy, 2017 and mental calculation Strategies, 2017)	
		Solve word problems involving division using known multiplication tables (including 3x table) Solve missing number problems involving division using known times tables e.g. $30 \div = 3$ Solve a problem using knowledge of multiplication/division facts and known multiples; consider using the problem 'Spaceship' (See Mathematical Challenges for all pupils booklet, 2016)	

5



		Year 2 conceptual prerequisite	Fraction
Number		Reason about the location of whole numbers in the linear number system.	Half, quarter
		Automatically recall addition and subtraction facts within 10.	1/2, 1/4, 2/4, 3/4
		Unitise in tens: understand that 10 can be thought of as a single unit of 1 ten, and that	Third, 1/3
		these units can be added and subtracted.	Tenth, 1/10
Fractions			Whole
	5	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 2/4 is equivalent to 1/2, using diagrams to support	Divide, part, equal parts
		Compare two unit fractions, such as 1/4 and 1/3, using < and >, using diagrams such as a simple fraction wall to support	Compare, <, >
		Connect finding <b>unit fractions</b> to division e.g. connect finding a third of a number with dividing by 3; $1/3$ of $15 = 5$	
		Solve simple problems involving fractions. I have 12 stickers. I give 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 1/3 of £18 or 1/4 of £20? Why?	
Week 7		<b>Introduce</b> the term tenth (and the notation 1/10) and recognise that tenths arise from dividing an object or shape into ten equal parts; count up and back in tenths (consider using a counting stick)	Unit fraction, non-unit fraction
		Find one tenth of a number, quantity or length (multiples of ten) e.g. $1/10$ of $50 = 5$ ; $1/10$ of $80$ cm = 8 cm; $1/10$ of $100$ cherries = 10 cherries	
		Introduce the term <b>non-unit fraction</b> using diagrams to support understanding; find non-unit fractions of shapes e.g. shade 2/3 of the rectangle blue and 1/3 of the rectangle red	
		Find non-unit fractions, with small denominators, of a number and a discrete set of objects	
		using resources/diagrams to support e.g. find 2/3 of 12; find 3/4 of 20	
		Introduce Roman numerals from I to XII	Roman numerals I,V,X
Measurement	1	<b>Consolidate</b> telling the time using an analogue clock: o'clock, half past, guarter past/guarter	
		to using an analogue clock, including clocks with Roman numerals	Analogue, 12 hour digital clock,
Time		Tell the time to the nearest five minutes on an analogue clock	minutes, hour
		Know that there are 60 minutes in an hour and 60 seconds in a minute	O'clock, half past, quarter past,
Week 8	4	Relate analogue time to 12 hour digital clocks and begin to convert between analogue and digital time using <b>simple</b> examples e.g. half past two = 2.30; ten past eight = 8.10	quarter to, five to, five past etc
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<sup>6</sup> 



		Introduce a.m. (morning) and p.m. (afternoon), noon and midnight; use this vocabulary when telling the time Solve problems set in the context of time e.g. I leave the house at ten past eight and arrive at school at half past eight. How long is my journey to school? My favourite TV programme starts at 7.15 p.m. and lasts for one hour and five minutes. What time does the programme finish? (consider using clocks to support)	noon, midday, midnight
Geometry	2	<ul> <li>Year 2 conceptual prerequisite</li> <li>Recognise standard and non-standard examples of 2D shapes presented in different orientations.</li> </ul>	Angle, right angle Less than, greater than
Angles			
		Recognise angles as a property of shapes or description of turns (consider using hands on a clock to illustrate)	
&		Recognise that one right angle is a quarter turn and two right angles make a half turn	
		Identify angles that are right angles, less than a right angle and greater than a right angle	
Maacuramont		(terms acute and obtuse introduced later in the year)	Length, measure, ruler
weasurement	2		Millimetre, centimetre, metre
Length		Consolidate metre (m) and centimetre (cm) as units of measurement of length and height and the relationship between them $(1m = 100cm; 2m = 200cm)$	mm, cm, m
		Estimate and then measure using appropriate equipment and units, progressing to using mixed units e.g. I am 1m 45cm tall. How many cm is this?	Perimeter, sides, total
Week 9	1	Compare two lengths/heights under 100 cm e.g. my beanstalk/ your beanstalk, my foot/your foot (possible link to the science curriculum)	Distance all the way around
		Introduce millimetre (mm) as a unit of measurement for length and relate to tenths of a cm Measure small objects to the nearest mm	
		Introduce the term perimeter and measure the perimeter of simple polygons using cm	

7



Measurement		Consolidate recognition of the value of <b>all</b> coins and notes (from Y2 programmes of study) Consolidate pound and pence and the relationship between them ( $\pounds 1 = 100p$ ; $\pounds 2 = 200p$ ) Begin to use decimal notation related to money e.g. $\pounds 1.45 = 145p$ (from Y4 programme of	Coins Pence (p), penny Pound (£)
Money	2	study)	Change, pay, costs
&		Add and subtract amounts of money within $\pounds 2$ in practical contexts and in word problems, including giving change	How much?
Number		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	Digit, hundreds, tens, ones/units
Addition and	3	related subtraction facts (consider using a 100 grid to support); use knowledge of inverse operations	Estimate
(number facts and mental		Solve missing number problems, using number facts and place value e.g. $\square$ + 65 = 100; 100 - $\square$ = 25	Calculate, calculation Inverse
methods)		Mentally add a three-digit number and ones and a three-digit number and tens within and	
Week 10		check that answers are reasonable	
Statistics	2	Use information presented in scaled bar charts and pictograms to answer one-step questions e.g. How many more? How many fewer? How many altogether?	Bar chart, pictogram Tally chart, table
Data handling	3	Use information presented in tables and tally charts to answer one-step questions e.g. How many more? How many fewer? How many altogether?	Scale, interval
Week 11		Follow a line of enquiry e.g. when planning a party identify which fillings children want to eat in their sandwiches; collect and present data; answer questions about the data <b>(Possible link to science curriculum)</b>	
Number	5	Recall and use multiplication and division facts for the 2, 3, 5 and 10 times tables	Multiply, multiplication, times Divide, division, 'goes into'
Multiplication	•	Begin to recall and use multiplication and division facts for the 4 times table	Groups of
and Division (facts)		Recognise the <b>inverse</b> relationships between multiplication and division and use this to solve missing number problems involving known multiplication and division facts	Inverse
Week 12		e.g. $3 \times $ = 24, 24 $\div $ = 3; x 5 = 35, 35 $\div $ = 5	
HOOR 12		Solve word problems using known multiplication and division facts	

8



## Additional weeks

To be used for:

- Assessment, consolidation and responding to AfL
- additional using and applying activities
- Christmas maths activities