

### Suggested oral mental starters (ongoing, throughout the term): Count forwards and back in multiples of 2, 3, 4, 5, 10 and 50 up to the 12<sup>th</sup> multiple; begin to count in multiples of 8 up to the 12<sup>th</sup> multiple Count in multiples of 100 to 1,000 Recall multiplication and division facts for the 2, 3, 4, 5 and 10 times tables up to the 12<sup>th</sup> multiple (See Multiplication Tables Guidance 2020) Recall and use addition and subtraction facts to 20 and within 20 Recall addition and subtraction facts for multiples of 10 to 100 e.g. 40 + 60 = 100, 100 - 70 = 30Derive/recall addition and subtraction facts for multiples of five to 100 e.g. 45 + 55 = 100; 100 - 75 = 25 (use 100 square to support) Count on and back in 10s from any one- digit or two-digit number (within 500) Add/subtract 19 by adding/subtracting 20 and adjusting (within 500) Find ten or one hundred more/less than a given number (within 500) Count forwards and backwards in tenths (consider using a counting stick); recognise that tenths arise from dividing an object into ten equal parts Mentally add and subtract three-digit numbers and ones, tens or hundreds up to and including 500 e.g. 464 + 7; 348 - 30; 275 + 200 Mentally add and subtract two two-digit numbers, using partitioning or empty number lines to support, including answers over 100 (See Mental calculation Strategies, 2017) Derive doubles of one-digit and two-digit numbers; derive corresponding halves Tell the time from analogue and 12 hour digital clocks to the nearest 5 minutes (use daily routines to support this) No of Suggested Areas of Statutory requirements and non-statutory guidance days Study **Kev Vocabularv**

Number	0 5	Read, write, compare (using < and >) and order numbers to at least 500 Given a number, identify the number that is 10/100 more or less within 500 (and then beyond) Say the number that comes between two numbers within 500 (and then beyond)	Order Partition, place value, digit,
Number and place value	3-5	Read and write numbers <b>in words</b> and match them to corresponding numerals to 500 Recognise the place value of each digit in a three-digit number to at least 500 Partition three- digit numbers into hundreds, tens and ones/units (use Dienes and place value/arrow cards to support) Solve missing number problems using knowledge of place value e.g. $248 = 200 + \square + 8$ ; $485 = \square + 80 + 5$	numeral Place value Hundreds, tens, ones/units More than/ greater than, less than, < ,>
Week 1		Begin to partition three-digit numbers in different ways e.g. 356 = 300 + 40 + 16 <b>Reason</b> about numbers e.g. If you wrote these numbers in order, starting with the largest, which number would be third? 250, 520, 205, 195, 495. Explain how you ordered these numbers; 405 < 450 True or false? How do you know?	



Number	1	Using knowledge of place value, add a three-digit number and tens and a three digit number and hundreds, within 500, mentally and with jottings such as an empty number line	Digit, hundreds, tens, ones/units
Addition		Solve word problems using addition of tens or hundreds to three digit numbers e.g. I had 325 stickers. My friend gave me 40 more. How many stickers do I have now? There were 246 children on the playground and then 200 children more came out to join them. How many children are on the playground now?	Add, sum of, addition, plus, altogether, total, count on
	1	Add 19 by adding 20 and adjusting (within 500) using jottings to support e.g. an empty number line <b>(See Mental calculation Strategies, 2017)</b>	Expanded written method Partition, recombine, column
	3	Introduce the <b>expanded written method</b> of addition of two two-digit numbers within 100, initially without bridging 10, then bridging 10; extend with addition of two two-digit numbers where the answer is greater than 100 e.g. 68 + 43 (see Written Calculation Policy, 2017); estimate answers to calculations	Estimate Calculate, calculation
Week 2		Solve one-step (and extend with two-step) word problems, which involve the addition of two two-digit numbers, using the expanded written method	
Number	1	Using knowledge of place value, subtract a three-digit number and tens and a three digit and hundreds, within 500, mentally and with jottings such as an empty number line	Digit, hundreds, tens, ones/units
Subtraction		Solve word problems using subtraction of tens or hundreds to three-digit numbers e.g. I had 287 marbles but I gave 30 to my brother. How many marbles do I have now? There are 468 children on the playground. If 200 children are called in for lunch how many are left on the playground?	Subtraction, subtract, minus, difference, count back
	1	Subtract 19 by subtracting 20 and adjusting (within 500) using jottings to support e.g. an empty number line (See Mental calculation Strategies, 2017)	Expanded written method Partition. column
	2	Introduce the <b>expanded written method</b> of subtraction of two two-digit numbers within 100, initially where no exchange is required; extend with examples where exchange is required e.g. 92 -37 (See Written Calculation Policy, 2017); estimate answers to calculations and check using the inverse operation of addition	Estimate Inverse
Week 3	1	Solve one-step word problems, which involve subtraction of two two-digit numbers, using the expanded written method; extend with two-step problems involving addition and subtraction	Calculate, calculation



Geometry Properties of 3-D shape & Statistics Data handling Week 4	3 2	Consolidate names and properties of common 3-D shapes (see vocabulary) 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 and describe 3D shapes using modelling materials (such as Polydron) and describe them using correct vocabulary Use simple scales e.g. 2 or 5 units per square, in bar charts with increasing accuracy Interpret information presented in scaled bar charts, in tallies and in tables to solve one and two- step questions e.g. How many more? How many fewer/less?	All vocabulary from previous years (including 3D shape, edges, faces, vertices, circular, rectangular, triangular (faces) cube, cuboid, sphere, cone, prism, pyramid) Extend with: tetrahedron, polyhedron Table, tally chart, bar chart.
		(Possible link to Science curriculum)	data, scale, interval
Number Multiplication	5	Recall and use multiplication facts for the 2, 3, 4, 5 and 10 times tables up to the 12 <sup>th</sup> multiple- consider as mental/oral activities Through doubling, connect the 2, 4 and 8 times tables; begin to recall and use multiplication facts for the 8 times table <b>(See Multiplication Tables Guidance, 2020)</b>	Multiply, multiplication, times
		Solve empty box problems e.g. $\Box x \Box = 24$ . Is there more than one solution to this?	Partition
Week 5		Solve problems involving doubling; consider using the problem 'Jack's Magic Beans', which is linked to measuring height (See Mathematical Challenges for all pupils booklet, 2016) Use partitioning and/ or the grid method to multiply a teen number by a one-digit number (See Written Calculation Policy, 2017 and Mental calculation Strategies, 2017) Solve word problems involving multiplication e.g. There are 14 satsumas in a bag. I buy 3	Grid method Problem, solution
		bags. How many satsumas do I nave altogether?	Divide divident divide divid
Number	5	consider as mental/oral activities Begin to recall and use division facts for the 8 times table (See Multiplication Tables Guidance, 2020)	Value, tens, ones/units Inverse
Division	-	Solve missing number problems using all known division facts and the inverse operation of x Continue to use the empty number line to divide numbers of known tables including the 4 and 8 times tables Begin to determine remainders, using known facts e.g. recognise that $13 \div 4$ will have a	Count forwards/ count backwards Remainder
Week 6		Solve word problems involving division e.g. There are 28 children in my class. I put them into groups of 4. How many groups are there? Introduce the <b>formal layout</b> for division using known multiplication facts e.g. $32 \div 4 = 8$ (See Written Calculation Policy, 2017)	Problem, solution Formal layout )





		Introduce the terms numerator and denominator	Numerator, denominator
Number		Recognise and show simple equivalent fractions of a half, using diagrams and/or fraction walls to support $(1/2 = 2/4; 1/2 = 5/10)$	Fraction
Fractions	5	Introduce fifths (and the notation 1/5) and recognise that fifths arise from dividing an object or shape into five equal parts	Half, third, quarter, fifth and tenth (1/2, 1/3, 1/4, 1/5, 1/10)
		Compare fractions using < and > signs e.g. 4/10 < 1/2 (use diagrams such as a fraction wall to support)	Unit fractions, non-unit fractions
		Connect finding a <b>unit fraction</b> of a number with division e.g. $1/10$ of 40 is 4 because $40 \div 10 = 4$ ; $1/5$ of $30 = 6$ ; $1/3$ of $36 = 12$	Equivalent fractions
		Find simple <b>non-unit</b> fractions of small numbers or quantities using practical resources, pictures and/or diagrams, to support e.g. 2/3 of 18 apples; 3/4 of 16 children	Divide, part, equal parts
		Reason about fractions e.g. would you rather have 1/5 of £30 or 2/3 of £12? Why?	
		Find pairs of fractions with the same denominator that total 1 e.g. $2/5 + 3/5 = 1$ ; $3/4 + \square = 1$	
		Add and subtract fractions with the same denominator within one whole e.g. $3/5 + 1/5 = 4/5$ ; $8/10 - 3/10 = 5/10$	
		Solve problems involving fractions e.g. Anne has an apple. She gives one quarter to Jane.	
Week 7		I have a cake. I give 4/10 of the cake to Joe and I give 1/10 to Lucy. What fraction of my cake have I given away? How much cake do I have left?	
		Consolidate Roman numerals from I-XII (1-12)	Roman numerals I, V, X
Measurement		Tell and write the time to the nearest 5 minutes using an analogue clock (including clocks with	Analogue, 12 hour digital clock.
Time	5	Roman numerals) and 12 nour digital clocks; convert between analogue and 12 nour digital time: continue to use noon/midday, midnight, a m, and p m.	minutes, hour
		NB Continue to use daily routines to support the learning of telling the time	seconds O'clock half past quarter past
		Know the number of seconds in a minute	quarter to, five to, five past
		Know the number of minutes in an hour	ampm
		Know the number of months in a year	noon, midday, midnight
		Begin to know the number of days in each month	Year, leap year, month
		Solve problems connected to time e.g.	Calendar
Week 8		How many minutes in half an hour? How many seconds in two minutes? How many months in 3 years? How many days altogether in March and April? What date is it on the 40 <sup>th</sup> day of the year? How will you find out? (Consider using the book '365 Penguins')	



Number		Derive pairs of multiples of five that total 100 and give related addition and subtraction facts e.g. $75 + 5 = 100$ ; $100 - 25 = 75$ Extend by deriving any pair of numbers that total 100 and give related addition and subtraction facts, using a 100 square to support e.g. $88 + 12 = 100$ ; $100 - 12 = 88$	Partition, recombine Calculate, calculation
Addition (and subtraction)	5	Consolidate addition of two two-digit numbers, using the <b>expanded written method</b> , where it is necessary to bridge across the tens and where the answer bridges 100, e.g. 87 + 45 Introduce the <b>formal written method of addition</b> , initially where it is not necessary to bridge ('carry'), then where it is necessary to 'carry' ten from the units to the tens column; use base ten materials to support understanding <b>(See Written Calculation Policy, 2017)</b>	Expanded written method Formal written method
Week 9		Solve one and two-step word problems, which involve addition e.g. There are 68 girls and 47 boys in the park. How many children are in the park altogether? There are 24 people upstairs on the bus and 29 people downstairs.19 more people get on at the next stop. How many people are on the bus now? Estimate answers to problems	Problem, solution Estimate
Number		<b>Reason</b> about addition and subtraction e.g. Is it always, sometimes or never true that if you subtract a multiple of 10 from any number the unit's digit of that number stays the same. How do you know? Convince me!	Partition, recombine Calculate, calculation
Subtraction	5	Consolidate subtraction of two two-digit numbers, using the <b>expanded written method</b> , where exchange is required e.g.73 – 38 Introduce the <b>formal written method of subtraction</b> , initially where it is not necessary to exchange and then examples where exchange is required; use base ten material to support understanding <b>(See Written Calculation Policy, 2017)</b>	Expanded written method Formal written method Exchange
Week 10		Solve one and two-step word problems, which involve subtraction (and addition with subtraction for two-step problems) e.g. There are 94 children having lunch. 45 of these children are girls. How many boys are having lunch? There are 65 boys and 58 girls in the playground. 36 children are called into school. How many children are left on the playground? Estimate answers to problems	Problem, solution Estimate



Measurement Mass and Capacity	2	Consolidate understanding of kilograms (kg) and grams (g) as units of measure for <b>mass</b> , using practical and real life objects Measure, compare, add and subtract quantities in practical context; read scales in kilograms and/or in grams Introduce mixed units of mass using practical apparatus e.g. How much do you weigh in kilograms and grams? How much do these five books weigh altogether in kilograms and grams?	Weight, mass, measure Kilograms, kg, grams, g Scale Compare Heavier than, lighter than
	2	Consolidate understanding of litres (I) and millilitres (mI) as units of measure for <b>capacity</b> , using practical and real life containers Measure, compare, add and subtract quantities in practical contexts; read scales in litres and/or in millilitres Introduce mixed units of capacity using practical apparatus e.g. How much does this bottle of water hold? 1 litre and 500 ml	Capacity, measure Litre, (I), millilitre, ml
Week 11	1	Introduce simple scaling e.g. my pencil case weighs 120 grams and my friend's pencil case weighs twice as much. How much does her pencil case weigh? I have 100ml of water in my bottle. My brother has three times as much. How much water does my brother have?	Scaling Twice (as much)
Number		Recall and use multiplication facts for the 2, 3, 4, 5, 8 and 10 times tables -consider as mental/oral starters (See Multiplication Tables Guidance, 2020)	Multiply, multiplication, times
Multiplication	5	Multiply a one digit number and two-digit number by 10 e.g. $14 \times 10 = 140$ ; $35 \times 10 = 350$ (by shifting digits one place to the left and placing zero in the units column as a place holder)	Partition, value, hundreds, tens, ones/units
Division		Divide a two-digit or three digit multiple of ten by 10 e.g. 380 ÷ 10 = 38 (by shifting digits one place to the right) (See Mental Calculation Strategies, 2017)	
		Consolidate using partitioning method and/ or the grid method of multiplication to multiply a teen number by a one-digit number); extend by introducing <b>the expanded written method</b> of short multiplication <b>(See Written Calculation Policy, 2017)</b>	Grid method Expanded written method of short multiplication
		Begin to solve <b>correspondence problems</b> in which n objects are connected to m objects e.g. I have 2 t-shirts (one red and one blue) and 2 pairs of shorts (one red pair and one blue pair). How many different outfits can I make? (4 possibilities)	
Week 12		What if I had 2 t-shirts and 3 pairs of shorts? (6 possibilities) What if I had 2 t-shirts and 3 pairs of shorts? (6 possibilities) (Encourage children to record systematically, make predictions and begin to identify relationships)	Problem, solution Systematic recording



### Additional weeks

To be used for:

- assessment, consolidation and responding to AfL
- additional using and applying activities