Oral mental starters (ongoing, throughout the term):

- Count from (and back to) 0 in multiples of 3, 6, 4, 8, 7, 9**, 11, 12,** 25, 50,100, **1,000**
- Recall and use multiplication and division facts for the 2, 3, 4, 5, 6,7,8, 9, 10, **11, 12** times tables including multiplying by 0 and 1; dividing by 1
- Find all factor pairs of a given number
- Use known multiplication and division facts to derive other related facts e.g. 4 x 12 = 48 to calculate 4 x 120 = 480; 40 x 12 = 480
- Multiply numbers with up to two decimal places by 10 and 100 and divide corresponding numbers by 10 and 100
- Compare and order numbers with up to two decimal places (including in the context of money and measures)
- Find pairs of decimal numbers that total one
- Recall and use addition and subtraction facts for multiples of 10 to 1,000 (e.g. 490 + 510 = 1000, 1000 - 750 = 250)
- Given a number, say/identify the number that is 100/1,000 more or less within 10,000
- Add and subtract three- digit and four-digit numbers mentally, including the use of jottings such as an empty number line
- Add three (or more) small numbers together mentally e.g. 18 + 9 + 12 = 30 + 9 = 39; 25 + 14 + 5 = 30 + 14 = 44
- Find doubles of three-digit numbers (using knowledge of partitioning and place value) and find corresponding halves
- Count backwards through zero (including in steps other than one) to include negative numbers -refer to number line
- Convert between different units of metric measurement e.g. km to m, cm to mm, ml to l, kg to g
- Tell the time to the nearest minute on an analogue clock (including using Roman numerals I-XII) and relate to 12/24 hour digital clocks

Areas of Study	No of days	Statutory requirements and non-statutory guidance	Suggested Key Vocabulary
Number Number and place value **Week 1**	3 - 5	Read and write numbers to at least 10,000 Given a number, say/identify the number that is ten, one hundred or one thousand more or less within 10,000 Order and compare numbers within 10,000 Round three and four-digit numbers to the nearest 10, 100 or 1,000 Recognise the place value of each digit in a four-digit number, including zero as a place holder Partition four-digit numbers into thousands, hundreds, tens and ones/units; continue to use place value cards and Diennes apparatus to support Partition four-digit numbers **in different ways** e.g. 2383 = 2000 + 300 + 80 + 3 = 2000 + 300 + 70 + 13 = 2000 + 200 + 180 + 3 Solve problems, including empty box problems, using knowledge of place value **Reason** about numbers and place value e.g. a number rounded to the nearest hundred is 1,400. What is the smallest/largest number it could be?	Partition, Place Value Digit, number Units/ones, Tens, Hundreds, Thousands Ten thousand Place holder Order Compare More than, Less than, <, > Round

Number Decimals (and place value) **Week 2**	5	Consolidate the connection between **tenths** and **hundredths**; recognise that hundredths arise when dividing an object by 100 and when dividing tenths by ten (consider using a blank hundred square, Dienes and/or a place value chart to support) Recognise and write decimal equivalents of any number of tenths or hundredths e.g. 4/10 = 0·4 and 35/100 = 0·35 Use **decimal notation** (to two decimal places); link decimal notation to money and length Recognise that 1/4 = 0·25, 1/2 = 0·5 and 3/4 = 0·75 (consider using a blank 100 square to support) Recognise the place value of each digit in a decimal number with up to two decimal places (tenths, hundredths) Partition decimal numbers; use place value cards and/or place value charts to support e.g. 85.75 = 80 + 5 + 0.7 + 0.05 Understand the effect of dividing 2-digit whole numbers by 10 and by 100 e.g. 45 ÷ 10 = 4.5; 24 ÷ 100 = 0.24 Round decimal numbers with one decimal place to the nearest whole number Begin to round decimal numbers with two decimal places to the nearest whole number (initially in the context of money or measures) e.g. round £46.25 to the nearest whole pound **Reason** about decimal numbers e.g. a decimal number with one decimal place rounded to the nearest whole number is 145. What is the largest/smallest number it could be? Compare and order decimal numbers with up to two decimal places; relate to money and measures e.g. put these lengths in order from longest to shortest: 12.25m, 10.57m, 12.52m, 12.05m, 10.75m	Partition, Place value Digit, number, decimal tenth, hundredth Decimal notation, decimal place Round Order Compare More than, greater than, less than, <, >
Number Addition and Subtraction **Week 3**	5	Consolidate using the formal written method of addition to add two three-digit numbers; a three- digit number and a four-digit number; two four-digit numbers Use the formal written method to add decimal numbers, in the context of money or length **(See Written Calculation Policy, 2017)** Consolidate using formal written method of subtraction to subtract a two-digit number from a three-digit number; a three- digit number from a three- digit number; a three digit number from a four-digit number; a four-digit number from a four-digit number Use the formal written method to subtract decimal numbers, in the context of money or length **(See Written Calculation Policy, 2017)** Solve addition and subtraction one-step and two-step word problems (including money and measures problems), deciding which operations to use e.g. There are 1,245 girls and 1,326 boys at the safari park. How many children are at the safari park altogether? If 545 children leave at lunch time, how many children will still be in the safari park? I have £14.75 but my brother has £2.80 more than me. How much money does he have? If he spends £2.25 how much money will he have left?	Digit Hundreds, tens, ones/units Formal written method Calculate, calculation Problem, solution

Number Multiplication and division (Mental Methods) **Week 4**	5	Multiply and divide numbers by ten and one hundred (including numbers/answers with one decimal place) e.g. 9 x 100 = 900; 42 x 10 = 420; 3.5 x 100 = 350; 520 ÷10 = 52; 45 ÷ 10 = 4.5; 460 ÷ 100 = 4.6; describe the effect using the language of place value and the movement of the digits Use known multiplication and division facts to derive other facts e.g. 7 x 4 = 28 so 70 x 4 = 280; how would 6 x 7 = 42 help you to calculate 6 x 14? Find a factor pair of a given number e.g. 6 and 9 are a factor pair of 54; 5 and 8 are a factor pair of 40 Begin to find **all** factor pairs of a given number Recognise and use factor pairs in mental calculations to multiply three numbers together e.g. 2 x 6 x 5 = 10 x 6 = 60 ; 3 x 4 x 7 = 12 x 7 = 84 Use the distributive law/partitioning method to calculate mentally (with jottings), e.g. 34 x 7 = (30 x 7) + (4 x 7) = 210 + 28 = 238; 78 ÷ 6 = (60 ÷ 6) + (18 ÷ 6) = 10 + 3 = 13 **(See Mental Calculation Strategies, 2017)** Solve integer scaling problems, e.g. When I was born I was 48cm long. Now I am three times as tall. How tall am I? Solve correspondence problems, encouraging children to work systematically, to record results in a clear and organised way, to identify patterns/rules, to make predictions. Consider using the problem 'Cobi's Cones' **(See Mathematical challenges for all pupils, 2016**)	Place value, digit, decimal place Mental methods Factor pairs Partition Integer scaling Problem, solution, table, patterns, rules
Number Multiplication **Week 5**	5	Count in multiples of 11 and multiples of 12, forwards and backwards -consider as mental/oral starters Recall and use multiplication facts for the 11 times table; look at patterns in the 11 times table Recall and use multiplication facts for the 12 times table; look at patterns in the 12 times table (Consider the use of a multiplication grid to look for patterns in all multiplication tables) Write and calculate mathematical statements for multiplication using 11 and 12 times tables (and other known tables); include multiplying by 0; solve missing number problems Use the **formal written method of short multiplication** to multiply a 2 -digit number by any single digit number e.g. 37 x 8 = 296; extend by multiplying a 3-digit number by any single-digit number e.g. 245 x 6 = 1,470 **(See Written Calculation Policy, 2017)** Solve word problems, which involve multiplication e.g. How many hours are there in a week? How many days are there in three years (not leap years)? There are 32 cherries in a punnet. I have 8 punnets of cherries. How many cherries do I have altogether? There are 125 paper clips in a box. I have 6 boxes. How many paper clips do I have altogether?	Multiply, multiplication, times, product Partition, value, tens, ones/units Multiplication grid Formal method of short multiplication Calculation Problem, solution

Number Division **Week 6**	5	Count in multiples of 11 and multiples of 12, forwards and backwards; recall and use division facts for the 11 times table; recall and use multiplication and division facts for the 12 times table (consider as mental/oral starters) Write and calculate mathematical statements for division using 11 and 12 times tables (and other known tables); solve missing number problems (empty boxes); use the inverse operation to check answers Consolidate using the **formal method of short division** to divide a two-digit number by any single-digit number, including examples with remainders Divide a three-digit number by any one-digit number using the **formal method of short division** e.g. 132 ÷ 6 = 22 **(See Written Calculation Policy, 2017)** Solve word problems, which involve division, including examples with remainders, using the formal method e.g. I have 96 marbles and I share them equally between six friends. How many marbles do they each have? I have 66 satsumas and I put them into bags of four. How many full bags do I have and how many satsumas are left over? A farmer collects 168 apples from her orchard and puts apples into bags of eight. How many full bags does she have?	Divide, division Short division Formal layout) Inverse Remainder Calculation Problem, solution
Number Fractions **Week 7**	5	Find unit and non-unit fractions of numbers and quantities relating it to multiplication and division e.g. 1/3 of 36 = 12 therefore 2/3 of 36 = 2 x 12 = 24 Solve word problems involving finding unit and non-unit fractions of numbers and quantities e.g. What is 1/8 of 56cm? What is 3/8 of £56 cm? I have £45. I give 2/5 of my money to my sister. How much do I give her? How much have I got left? **Reason** about fractions e.g. Would you rather have 3/5 of £55 or 3/4 of £48? Why? Recognise and show common equivalent fractions, using diagrams and fraction walls to support understanding; extend to using factors and multiples to recognise equivalent fractions and to simplify where appropriate e.g. 6/9 = 2/3 Begin to recognise **mixed numbers** and **improper fractions** in context and using diagrams to support understanding e.g. 3/2 = 1 ½ ; 5/4 = 1¼ **(taken from Y5 programmes of study**) Place fractions on a number line e.g. 0 - 1 or 0 - 2 (include improper fractions and mixed numbers) Add **and** subtract fractions with the same denominator within one whole e.g. 5/7 + 1/7 = 6/7; 7/8 – 3/8 = 4/8 (simplify to 1/2); and beyond one e.g. 5/7 + 3/7 = 8/7 = $1\frac{1}{7}$ (using diagrams to support understanding)	Whole Unit fraction, non-unit fraction Numerator, denominator Equivalent fractions Mixed number, improper fraction

Measurement Time **&** Money **Week 8**	3 2	**Consolidate** writing and telling the time to the nearest 1 minute using an analogue clock and digital clock (12 hour); continue to use noon/midday, midnight, a.m. /p.m. Convert between 12 hour digital clocks and 24 hour digital clocks e.g. What time on the 12 hour clock is 17:45? What time on the 24 hour clock is 11:15 pm? Use simple charts to solve time problems e.g. Use a newspaper TV guide to calculate how long each programme lasts Solve problems involving converting from hours to minutes, minutes to seconds, years to months, weeks to days e.g. How many days are there in 6 weeks? It takes me ten minutes to walk to school- how many seconds is this? I sleep for eight hours. How many minutes is this? How many months have you been alive? Use decimal notation to record money and convert between pounds and pence e.g. 545p = £5.45; £8.04 = 804p; £12.50 =1250p Order amounts of money, using knowledge of decimal place value to support e.g. put these amounts of money in order from smallest to largest- £185.50, £158.45, £185.05, £158.50, £180.50 Solve problems/investigations involving money e.g. In my purse I have some 50p coins, some £1 coins and some 5p coins. Altogether I have ten coins. How much money have I got? How many different solutions can you find? Solve one-step and two- step word problems in the context of money	All relevant vocabulary from previous years relating to time including: 24 hour digital clock Problem, solution Pound (£), pence (p) Solutions
Measurement Perimeter and Area **Week 9**	5	Measure the **perimeter** of rectilinear shapes using cm and m Calculate the perimeter of rectilinear shapes (where the length of the sides is given) Express the formula for finding the perimeter of a rectangle in words e.g. Tom found the perimeter of a rectangle by measuring the length and the width, adding these two measurements together and doubling his answer. Was he right? Solve problems relating to perimeter e.g. the perimeter of a square is 28cm. What is the length of one side? Draw two rectangles with the same perimeter as this square. Find the **area** of rectangles by counting squares; use the notation for square centimetres (cm^2); find area of rectangles by relating to arrays and multiplication Solve problems involving area and perimeter e.g. Draw a rectangle with an area of 24 cm^2 and a perimeter of 28 cm. Can you find any other rectangles with the same area?	Perimeter, cm, m Area Square centimetres, cm^2

Geometry Properties of shapes **Week 10**	5	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/180° by size) Name, compare and classify polygons, including special triangles and special quadrilaterals Distinguish between regular and irregular polygons based on equal angles and equal sides Identify all lines of symmetry in polygons and in other images, for example capital letters, flags Complete a symmetrical drawing or figure, including where the line of symmetry doesn't dissect the original shape/figure Describe polygons using accurate mathematical language, including regular/irregular, symmetrical, number and types of angles Reason about shapes e.g. What is the same about these quadrilaterals? What is different? All quadrilaterals have at least one line of symmetry. True or false? Convince me!	Angle, right-angle, acute, obtuse Polygon Regular, irregular All special triangles and quadrilaterals from previous terms Lines of symmetry, symmetrical, non-symmetrical
Geometry Position and Direction **&** **Statistics** Data Handling **Week 11**	2 3	Describe positions on a 2-D grid as co-ordinates in the **first quadrant** e.g. (1,4); plot specified points using co-ordinates in the first quadrant; draw sides to complete a given polygon using co-ordinates in the first quadrant Describe movements of shapes between positions as **translations** of a given unit to the left/right and up/down; describe the new position using co-ordinates Interpret and present **discrete** data using appropriate graphical methods including bar charts, using a greater range of scales e.g. 2, 5 ,10, 20, 25 Solve comparison, sum and difference problems using information presented in bar charts, tables and tally charts Interpret and present **continuous** data using time graphs, with a range of scales, and relate to recording change over time Follow a line of enquiry e.g. **linked to the science curriculum**; collect data from their own observations and measurements, make decisions about how to record, present and analyse the data	Co-ordinates, first quadrant Translation, translate, left, right, up, down Discrete, continuous, data, scale Bar charts, tables, tally charts, time graphs

Measurement Length, Mass and Capacity **Week 12**	5	Consolidate understanding of measures and know the relationship between units of metric measurement including **kilometres** to metres; convert between metric units of measurement **Solve problems** involving length, mass, capacity, e.g. A full jug holds 2 litres of orange juice. A full glass holds 1/4 litre. How many glasses will the jug fill? On Monday I cycled 13.5km. On Tuesday I cycled 25km. How far did I travel altogether? A potato weighs approximately 250g. How much do 10 potatoes weigh, approximately? Here is a recipe for 6 people. Change the ingredients to make enough for 12 people. **Reason** about measurement e.g. 2500g, 1.75kg, 1kg 500g, ½ a kg, 600g, if you put these in order which one will be third. How did you work it out? **Investigate** statements relating to measurement, e.g. People with longer arms can throw a ball further. True or false? How will you find out?	Weight, mass, measure Kilograms, kg, grams, g Capacity, measure Litre, l, millilitre, ml Length, height, distance, km, kilometres, cm, centimetre, m, metre, mm, millimetre

Additional weeks

To be used for:

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