

Year 5 Maths Medium Term Plan

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Term 1	Number and place value To represent 6 digit numbers (to 1 000 000) (concrete- place value counters). To recognise the place value of each digit in a six digit number. To compare & order numbers to at least 1 000 000 To understand decimals and fractions (Revising in Term 6) Recognise thousandths and relate them to tenths, hundredths and decimal equivalents.	Addition and Subtraction To add four digit numbers (regrouping in the 1000s, 100s, 10s and 1s) To identify common misconceptions in column addition To subtract four digit+ numbers (regrouping in the 1000s, 100s, 10s and 1s) To identify common misconceptions in column subtraction	Multiplication & division Divide whole numbers by 10,100 and 1000 Divide decimals by 10, 100 and 1000 To divide by powers of 10 (in scale drawings). To divide by powers of 1000 (in converting between units such as km and m) To multiply whole numbers& decimals by 10, 100, 1000	Multiplication and division To solve problems involving multiplication. To multiply numbers up to four digits by a one digit number To multiply numbers up to four digits by a two digit number Divide numbers up to 4 digits by a one digit number (with remainders)	4 operations To solve multistep word problems using the bar model. Solve problems involving number up to three decimal places. To find the missing value.	Measure – Time To solve problems involving converting units of time	Measure – Time To solve problems involving converting units of time
	>Count forwards and backwards with positive and negative whole numbers including through zero. >Know the value of every digit in six digit+ numbers. >To compare two numbers (which is less 4 thousands or 41 hundreds). >To make the biggest/ smallest integer possible with a range of digits (i.e. 8 3 0 7 6 0 2). >To know 1000, 10,000, 100,000 more/less than any six digit number.	>Add four digit multiples of 100 e.g. 3700 + 4500 >Add three or more digit multiples of 100 >Add a single-digit multiple of 100 to a three or four-digit number crossing 1000. >Derive quickly related facts such as: 150-80=70, 1500-800=700 and 1.5-0.8=0.7 >Find a difference by counting up through the next multiple of 10,100 or 1000 (8006-2993=□ count up from the smaller to the larger number) >Subtract the nearest multiple of 10, 100 or 1000 and adjust (4005-1997= 2008 because it is 4005-2000+3=2008) >Recognise that knowing a fact such as 136+319=455 makes it possible to find 455-318 and 455-137 >Work out mentally one fact such as 101-25 and be	>Rapid calculation of dividing and multiplying by 10, 100 and 1000. >To double using known facts (double 79 = double 70 + double 9 = 140+18= 158) >Double a number ending in 5 and halve the other number (16x5 is equivalent to 8x10=80)	>To multiply by 50 (multiply by 100, then halve: 26 x 50 = 26 x 100 = 2600 halved = 1300) >Calculate 16 times table by doubling 8 times table facts >Calculate 25 times table by doubling: (1x25=25, 2x25=50, 4x25=100, 8x25=200, 16x25=400 use combinations of these facts to work out e.g. 25x25 = (16x25) + (8x25) + (1x25) = 625 >Work out 12 times table by adding 2 times table and 10 times table >To multiply a number by 19 or 21, multiply it by 20 and add or subtract the number (13x21 = 13x20+13= 273) >To know that dividing by four is the same as finding a quarter etc. (and of 24 is 24÷3 or) >To round up or down according to context (see year 3 exemplification)	>Revise Mental maths statements from addition, subtraction, multiplication and division covered so far.	>Quick conversions between units of time. >To express duration of days as weeks and days. i.e. 2 weeks and 3 days = 17 days. >To express relationship orally: Explain how to find the number of months in any number of years.	> To calculate duration: The sun sets at 19:30 and rises again at 6:30. How many hours of daylight/ darkness? > To recite the rhyme– 30 days has September... To know that a leap year has 366 days.

		able to state the three other facts in the number family >Given the numbers 135, 228 and 363 say or write the four different sentences relating to these numbers >Subtract multiples of 10 and 100 .		>To double all whole numbers and decimals knowing that halving is the inverse. >ind sixths by halving thirds and twentieths by halving tenths.			
Term 2	Fractions, decimals and percentages. To identify equivalent fractions (including tenths and hundredths) To compare and order fractions (whose denominators are multiples of the same number)	Fractions, decimals and percentages. To calculate fractions of numbers and quantities. Read and write decimal numbers as fractions.	Geometry-properties of shape To identify 2D shapes. To identify 3-D shapes from 2-D representations (including cubes and other cuboids). To sort regular and irregular polygons. To estimate and compare angles. (obtuse, acute, reflect, right angle)	Measurement-length and mass To convert between different units of metric measure. To measure and calculate the perimeter of composite rectilinear shapes. To calculate and compare the area of rectangles. (cm ² and m ²) To estimate the area of irregular shape.	Measurement-volume and capacity To estimate and measure capacity. To estimate volume.	4 operations volume, capacity, length and mass. To solve multistep word problems using the bar model. To find the missing value. To use all four operations to solve problems involving measure. To solve missing measure questions when presented algebraically.	Statistics To solve comparison problems using information in a line graph. To solve sum problems using information in a line graph. To solve difference problems using information in a line graph.
	>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. >Round decimals with two decimal places to the nearest whole number and to one decimal place. (metres & £s) >Read, write, order and compare numbers with up to three decimal places. >To know percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$	To mentally add and subtract tenths, and one-digit whole numbers and tenths. To multiply and divide whole numbers by 10 and 100 (and to explain what happens to the place value) To know that one quarter is half of one half. One eighth is half of one quarter. One sixth is half of one third. One tenth is half of one fifth, one twentieth is half of one tenth. To understand that finding one third is equivalent to dividing by three.	>Quickfire the names of 2D and 3D shapes. >Quickfire the properties of 2D and 3D shapes. >To estimate angles.	Tangrams: The pupils can be asked to: >Name the individual tans. >To make all the possible convex polygons (there are 13: 1 triangle, 6 quadrilaterals, 3 pentagons and 3 hexagons) >To make all the possible squares, if not all the tans are used and so on...	>To solve problems involving measures: Greg uses 5 tomatoes to make $\frac{1}{2}$ litre of soup. How much can he make with 15 tomatoes? - change the recipe for four people to a recipe for six (half and add on). 240g flour, 300ml milk, 2 eggs. Conversion facts and calculations: 1000g = 1kg 1000ml = 1 litre	>To know the equivalent of one half, one quarter, three quarters, one tenth and one hundredth of a metre, km, kg, l in m, cm, g and ml respectively. i.e. 10g is one hundredth of 1kg. >To suggest items that could be measured using: kilometres, metres, centimetres, kilograms, grams, litres, millilitres. >To know that 1 square metre = 10 000 cm ² and that 1 square cm = 100mm ²	>To count up and down a scale in intervals of any number. >Test the hypothesis about the frequency of an event by collecting data quickly: Reading paper, voting, internet... >To be able to analyse data from a bar chart and respond rapidly to questions
Term 3	Number and place value	Number and place value	Multiplication and division	Fractions, decimals and percentages.	Fractions, decimals and percentages.	Fractions, decimals and percentages.	

	To recognise and describe linear number sequences. To find the term-to-term rule To interpret negative numbers. Counting forward and backward. To round numbers to the nearest 10, 100, 1000, 10 000 and 100 000 (To round appropriately in context see division strand)	To round off numbers to the nearest 10. To round off numbers to the nearest 100. To round decimals with 2d.p to the nearest whole number. Or to one decimal place. Addition and subtraction To subtract decimals up to 2 decimal places. To subtract money using the column method To add decimals up to 2 decimal places To add money using the column method To use part, part whole to add money (will review in term 4, week 1)	To know prime numbers, prime factors and composite numbers. To recognise and use squared and cubed numbers To identify common factors of two numbers. To use number bonds for factor and products and to identify missing factors (using fractions and decimals)	To add and subtract fractions with the same denominator (see year 4) To add and subtract fractions with denominators that are multiples of the same number.	To convert mixed numbers to improper fractions (and back) Measurement length and mass To use multiplication and division to inter scale and calculate changing rates.	To multiply fraction and mixed numbers by a whole number. (use diagrams to support)	
	>To identify the number that sits halfway between two numbers. (i.e. 27,400 and 28,00) >To place six digit numbers in ascending and descending order. >To look at a quantity (i.e. coins in a jar, grapes in a bowl) and make a reasonable estimate. >To round any two, three, four digit number to the nearest 10, 100, 1000. >To round measures. (i.e. distance between cities to the nearest km) >To identify the best approximation. >To calculate the rise and fall in temperature using both positive and negative integers	>Add a three digit multiple of 10 to a three digit number without crossing the hundreds boundary. e.g. $230+364$ $460+518$ >Find what to add to a three digit number to make the next higher multiple of 100. E.g. $651 + \square = 700$ >Find what to add to a decimal with units and tenths to make the next higher whole number e.g. $8.25 + \square = 9.0$ >Subtract a three digit multiple of 10 from a three digit number without crossing the hundreds boundary ($742-210=\square$, $742-\square=532$, $\square-210=532$) >To find what to add to a three digit number to make the next higher multiple of 100. ($651+\square=700$)	>To find all factor pairs of a number & find common factors of two numbers >To establish whether a number up to 100 is prime >To recall prime numbers up to 19 >Recognise 1,4,9,16,25,36,49,64,81,100 as square numbers (relate to drawings of squares) >Find all the pairs of factors for any number to 100 (pairs of factors to 36 are 1&36, 2&18, 3&12, 4&9, 6&6) >Use factors for finding products mentally ($16 \times 12 = 16 \times 3 \times 2 \times 2 = 48 \times 2 \times 2 = 96 \times 2 = 192$) >To identify all factor pairs of a number. >To identify common factors of two numbers. To recall prime numbers up to 19 >To establish whether a number up to 100 is prime	>To know that when dividing 3 whole cakes by 4 each person gets $\frac{3}{4}$ or $3 \div 4$. >To identify a decimal fraction between 2 numbers (between 4.1 and 4.2) >To know that $10\% = 0.1 = \frac{1}{10}$, $25\% = 0.25 = \frac{1}{4}$ $50\% = 0.5 = \frac{1}{2}$ $75\% = 0.75 = \frac{3}{4}$	Revise fractions, decimal and percentage mental maths statements from previously.	Revise fractions, decimal and percentage mental maths statements from previously.	

		>Find what to add to a decimal with units, tenths and hundredths ($5.71 + \square = 7$) >Find the difference between a pair of numbers lying either side of a multiple of 1000 (8004-$\square=19$) >Subtract a pair of decimal fractions each less than 1 and with up to two decimal places (0.7-0.26)	>Multiply and divide numbers mentally using known facts. (i.e. $240 \div 3 = 80$ because I know $24 \div 3 = 8$) >To use and understand the terms factor, multiple and prime, square and cube numbers				
Term 4	Measure-money To use part, part whole to add money	Four operations To solve multistep word problems using the bar model. To find the missing value.	Measurement time To solve problems involving converting units of time	Geometry –position and direction To reflect the position of a shape To reflect the position of a shape in all four quadrants (extension) To translate the position of a shape To translate the position of a shape in all four quadrants (extension)	Geometry –properties of shape. To draw given angles and measure them in degrees. (using a protractor) To identify angles at a point and one whole turn. To identify angles at a point on a straight line. To identify missing lengths and angles. (using angle sum facts)	Multiplication of division Reviewing skills of: To multiply numbers up to four digits by a one digit number To multiply numbers up to four digits by a two digit number Divide numbers up to 4 digits by a one digit number (with remainders)	
	>Explain how to find the change from 50p for a number of chews at 4p each. >To solve problems involving money: Kobi saved 15p a week for one year. How much did he save? >To calculate fractions and percentages: The deposit on a £230 bed is 50%. How much is the deposit? >There is 25% off in the sale. If an item costs £8. how much is it in the sale? £12, £20	Revise skills from addition, subtraction, multiplication and division mental maths statements.	Revise skills from addition, subtraction, multiplication and division mental maths statements.	>Practise pointing and chanting negative and positive numbers on a scale, using a ‘counting stick’ (forwards and backwards). >Hold stick both horizontally and vertically to link to both the x and the y axes >To count along a counting stick as a scale in intervals of 1. (x-axis) >To count up a counting stick as a scale in intervals of 1 (y axis) >To count around a clock face in quarter turn, half turn, three quarter turn, full turn. >To count around a clock face in 90°, 180°, 270° and 360° >To have rapid recall of positions of the compass– north, south, east, west	>Revise properties of shape mental maths statements	Revises multiplication and division mental maths statements.	

				>To have rapid recall of positions of the compass, N, NE, E, SE, S, SW, W, NW			
Term 5	Number and place value To count in steps of powers of 10 up to 1 000 000 Read Roman numerals (See progression year 4) To solve problem including all of the above.	Addition and subtraction To subtract measures using the column method. To add measures using the column method. To solve multistep word problems using the bar model. To add and subtract decimals	Multiplication and division To understand the law of distributivity To use the distributive property strategy to divide 'friendly' numbers. To interpret remainders appropriately for the context (rounding up or down- see year 6 exemplification) To interpret non-integer answers to division by expressing results in different ways	Fractions, decimals and percentages Recognise thousandths and relate them to tenths, hundredths and decimal equivalents. Read and write decimal numbers as fractions.	Fractions, decimals and percentages To know that a percent means out of 100 & percent symbol. Write percentages as a fraction with denominator 100. Write percentages as a decimal. Solve problems which require knowing percentage and decimal equivalence of $\frac{1}{4}$, $\frac{1}{2}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of 10 or 25. To convert fractions to percentages	Statistics To complete, read and interpret information in tables (including time tables) To make links with coordinates To choose the appropriate representations of data.	
	Revise number and place value statements from prior learning.	Revise addition and subtraction statements from prior learning.	Revise multiplication and division statements from prior learning.	Revise fraction, decimals and percentages from prior learning.	Revise fraction, decimals and percentages from prior learning.	>To develop an understanding of the mode (most common item) >To develop an understanding of the range (difference between greatest and least). >To discuss questions such as: -How can we find out if this is true? - What information shall we collect? - How shall we organise it?	
Term 6	Geometry-position and direction To use a 2-D grid and coordinates in the first quadrant To use a 2-D grid and coordinates in all four quadrants. (extension) Revision of translation.	Geometry properties of shape To draw lines to the nearest mm. To label parallel lines and right angles. To identify and use diagonal and parallel lines. Use the properties of rectangles to deduce related facts and find missing lengths and angles.	Measurement-volume and capacity To measure and calculate the perimeter of composite rectilinear shapes	Measurement length and mass To use approximate equivalences between metric and imperial units. To use multiplication and division to inter scale and calculate changing rates. Review metric measures.	Measurement-money To solve problems involving money using the four operations.	Four operations (measurement) To use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling.	Four operations (measurement) To use all four operations to solve problems involving measure (for example, length, mass, volume, money) using decimal notation, including scaling.

	>Sketch the position of a simple shape after it has been translated, for example 2 units to the left. >To describe to someone else the convention that (3,2) describes a point found by starting at the origin (0,0) and moving three lines across and two lines up. >Respond to questions that involve visualisation: >These points are the coordinates of the vertices of a shape: (1,5), (2,5), (4,3), (2,1), (1,1) What is the name of the shape? >Three of the vertices of a square are (2,1), (2,4) and (5,4). What are the coordinates of the fourth vertex? >know the number of diagonals in a polygon. i.e. Hexagon has 3 diagonal lines	Revise mental maths statements from prior planning.	Revise mental maths statements from prior planning.	Revise mental maths statements from prior planning.	Revise mental maths statements from prior planning.	Revise mental maths statements from prior planning.	Revise mental maths statements from prior planning.
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Throughout (and when children are ready): To use the bar model to represent word problems, Problem solving (4 types)