Year 6 Maths Medium Term Plan 2021-2022

Term 1	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
	Number and place value -to understand the place value of digits. -partitioning -read, write and say numbers up to 10,000,000 -reading numbers on a number line.	**Number and Place value** **(KENT TEST)** - ordering and comparing -rounding -using positive and negative numbers in real life contexts -adding and subtracting -problem solving with negative numbers	**Addition** -To solve any subtractions calculations with numbers to 2 decimal places. -To work systematically to solve a problem -To solve multi step word problems. -To use estimation to check answers to calculations.	**Subtraction** To solve subtraction calculations with numbers to 2 decimal places. -To work systematically to solve a problem -To solve multi step word problems. -To use estimation to check answers to calculations	**Multiplication & division** -x & divide by 10, 100, 1000 -Multiples and factors -doubling and halving (including decimals)	**Multiplication** -prime, square and cube numbers -Prime factors -To multiply multi digit numbers up to 4 digits by a two digit whole number -To carry out operations involving the four operations -To multiply decimals	**Division** -Divide numbers up to 4 digits by 1 digit then 2 digit whole number using short division. - Interpret remainders as whole number remainders, fractions or rounding. - To use the distributive property strategy to divide 'friendly' numbers. -Long Division **Four Operations** -To solve word problems
Mental Maths Skills	**>To count in multiples of any number up to x12 forwards and backwards from any given number.**	**>To count in steps of powers of 10 up to 1 000 000** **>To count in 11s, 15s, 19s, 21s, 25s then back. Can you go past zero?**	**>Find the difference by counting up through the next multiple of 10, 100 or 1000: 7000-3675 is +5 + 20 + 300 + 3000= 3325**	**>To find the difference by counting up through the next multiple. (count up from the smaller to larger number**	**>To multiply and divide whole numbers by 10, 100, 1000** **>To multiply and divide decimal**	**>Use factors for finding products mentally (32x24 = 32 x 3 x 8 = 96 x 8 = 800 – (4 x 8) = 768**	**>Identify prime numbers.** **>Identify common factors.** **>Dividing by 10,100,1000** **>Halving numbers.** **Prove:**

Term 2	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
		>To count in steps of 0.1, 0.5, 0.25 to 10 then back. >Count forwards and backwards with positive and negative whole numbers including through zero. >To compare two numbers (which is less 4 thousands or 41 hundreds?). >To know 1000, 10,000, 100,000 more/less than any six digit number. To round any whole number to the nearest multiple of 10, 100 or 1000 >To put integers in order from smallest to largest crossing zero. (-37, 4, 29, -4, -28) >To make statements about identification of odd and even numbers.	>Identify near doubles: 421 + 387 = 808 (double 400 plus 21 minus 13) >Add or subtract the nearest multiple of 10, 100 or 1000 adjust: add 0.9, 1.9, 2.9 or 1.1, 2.1, 3.1 etc by adding 1,2,3 and adjusting by 0.1. >Add or subtract four digit multiples of 100 >Find what to add to a decimal with units, 10th and 100ths to make the next higher whole number or 10th. >What must be added to 7.78 to make 8? >Add or subtract a pair of decimal fractions each less than 1 and with up to 2 decimal places.	>Subtract 0.9, 1.9, 2.9 or 1.1, 2.1, 3.1 by subtracting 1,2,3 then adjusting by 0.1 >Work out mentally one fact 4.97-1.58 and then state three other related facts >Subtract four digit+ multiples of 100 (570,000 + 250,000= □) >Find the missing number in □-2485=4128 >Find what to add to a decimal with units, 10ths and 100ths to make the next higher whole number or 10th. >Subtract a pair of decimal fractions each less than 1 and with up to two decimal places. >Subtract numbers with different numbers of digits.	numbers by 10, 100 and 1000 >Know the square numbers and those up to 100. >Double decimal numbers. >Double multiples up to 10,000 >Use related facts to double numbers like 277. >Double numbers ending in 5. > Halve/double one number in the calculation, find the product then double/halve it.	>Identify numbers with an odd number of factors (squares) Identify two digit numbers with only two factors (primes) Recognise prime numbers. >To multiply by 15 (multiply by 10, halve the result then add the two parts together: 22x15 = 22x10=220+110=330) >To multiply by 25 (multiply by 100 and then divide by 4.) > To know the 24 times table (six times table, double and double again – or double 12x) > To calculate 17 times table (add seven times table and ten times table) > To multiply a number by 49 or 51 (multiply it by 50 and add or subtract the number) > To multiply a number by 99 or 101 (multiply by 100 and add or subtract the number)	> 100 the last two digits are 00 and 10 the last digit is zero and 5 The last digit is 0 or 5 25 The last two digits are 00, 25, 50 or 75 2 The last digit is 0,2,4,5,8, 3 The sum of the digits is divisible by 3 4 The last two digits are divisible by 4 6 The number is even and divisible by 3. 8 The last 3 digits are divisible by 8 9 The sum of the digits is divisible by 9.

	Measurement (Time) and scales	Fractions Decimals and Percentages	Fractions Decimals and Percentages	Geometry (Properties of Shape)	Measure –volume, capacity and mass	Measure –length and money	Statistics
	-To tell the time. -To solve time duration problems using the four operations. -To read scales.	-finding fractions of shapes and numbers -converting between proper, improper and mixed numbers -equivalent fractions	-To simplify fractions -ordering and comparing -To add and subtract fractions with denominators that are multiples of the same number -To add and subtract fractions with different denominators and mixed numbers	-To know the properties of 2D shapes. Draw 2-D shapes given dimensions and angles. -Types of lines -To recognise, describe and build simple 3D shapes. -To make nets. To visualise a 3-D shape from it's net. -To visualise where patterns drawn on a 3-D shape will occur on its net. -To compare and classify geometric shapes. -circles	-To prove that shapes with the same area can have different perimeters. - To understand when to use a formula to calculate area/volume. -To calculate the area of parallelograms -To calculate the area of triangles. -To calculate, estimate and compare the volume of cubes and cuboids	- converting between units of measure -solving problems with measure. -To convert measures using decimal notation (to three decimal places). -To convert between miles and kilometres. -To connect conversion to a graphical representation.	To interpret line and bar graphs. -To construct line graphs -To solve problems using line graphs. -Mean, mode and range. -To draw graphs relating to two variables.
Mental Maths	>To understand: Greenwich meantime, British Summertime, and international date line. >To know that: 1 millennium = 1000 years, 1 century = 100 years and 1 decade = 10 years.	>Identify the value of each digit in numbers given to three decimal places. >Suggest a fraction that is greater than one quarter and less than one third. >Identify a number that is halfway	>To know how many halves in 1 ½, 3 ½, 9 ½, quarters in 1 ¼ , 2 ¾ , 5 ½ , etc >Multiples >Factors	>Picturing shapes, moving, reflecting, rotating and growing. >Imagine a square: place an equilateral triangle on each side.	>Times tables. >Division facts. >X and dividing by 10, 100 and 1,000 >Mental addition facts.	>To solve problems involving measures: I cut 65m of a 3.5m rope. How much is left? >To know the relationships fluently: 1 kilometre= 1000 metres, 1 metre=	>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 recite the rhyme 30 days hath September.	between for example: 5 ¼ and 5 ½ >To understand that finding one tenth is equivalent to dividing by 10. >Multiples >Factors		>How many sides does the new shape have? >Imagine a triangle place a square on each side. >Imagine a line of length 3m on the floor. I wish to walk around so I am always 1m away - describe the path. >Imagine a cube. Place a blob of paint on each corner. How many edges have one blob? >Put two blobs on the cube, on adjacent vertices. How many edges have one blob? How many have two? Put a blob on opposite corners Etc. >Imagine a tetrahedron. Put a blob on one vertex. How many edges have two blobs?		100cm or 1000millimetres, 1 centimetre= 10 Millimetres, 1 kilogram= 1000 grams, 1 litre = 1000 millimetres. >For conversion make us of rhymes: A metre is just 3 foot three. It's longer than a yard, you see. >Two and a quarter pounds of jam. It's round about one kilogram. >A litre of water's a pint and three quarters. >To know the equivalent of one thousandth of 1km, 1kg, 1 litre in m, g and ml respectively. >To convert a larger metric unit to a smaller. 3.125km is 3125 metres >To suggest items that could be measured using: kilometres, metres, centimetres, kilograms, grams, litres, millilitres.	>To use mental addition and division skills to find the mean. >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)
Term 3	Week 1 (3 days)	Week 2	Week 3	Week 4	Week 5	Week 6	
	Statistics -To interpret pie charts To construct pie charts	**Fractions Decimals and Percentages**	**Fractions Decimals and Percentages** -converting between fractions and decimals.	**Fractions Decimals and Percentages** Finding percentages of amounts	**Four Operations**	**Algebra & BIDMAS** -To understand the order of operations using brackets.	

(using a computer programme). -To solve problems using pie charts -To connect angles and pie charts -To connect fractions and percentages with pie charts -mean -To choose the appropriate representations of data.	-To multiply simple pairs of proper fractions (writing the answer in its simplest form) -To divide proper fractions by whole numbers. -To calculate decimal fraction equivalents (by dividing using a simple fraction) -To multiply one digit numbers with up to two decimal places by whole numbers.	-converting between fractions, decimals and percentages.	**Four Operations** Take opportunity to revise any of the four operations.	Multi-step, mixed operation word problems.	-To use simple formula to generate, express and describe: -Linear number sequences -Mathematical formula -Missing number, lengths, coordinates and angles problems -equivalent expressions (a+b = b + a) To find pairs of numbers that satisfy and equation with two unknowns To find all possibilities of combinations of two variables.	
	>To know the percentage equivalent to common fractions and vice versa (1/4, 1/2, 1/5, 3/4 etc) **>To look at a pie chart and answer questions such as:** **(in the context of ages of the population of an area)** **-What fraction (percentage) of the population is 16 or under? 60 or over?** **-Why do you think there are more people**	**>Identify the value of each digit in numbers given to three decimal places.** **>Recall and use equivalences between simple fractions, decimals and percentages, with obvious connections e.g. 0.4= ☐** **☐☐ =** **40%** **>Multiply and divide numbers by 10, 100 and 1000 (giving**	**>To know that 33% and 67 % are roughly one third and two thirds.** **> To match decimals, fractions and percentages.** **>Recall and use equivalences between simple fractions, decimals and percentages, with obvious connections e.g. 0.4= ☐** **☐☐ =** **40%**	**>Go back to Term 1 addition, subtraction, multiplication and division mental maths skills. Revisit those children need to work on.**	**>Go back to Term 1 addition, subtraction, multiplication and division mental maths skills. Revisit those children need to work on.**	**>To express a relationship in symbols to start to use simple formula:** **> Use symbols to write a formula for the number of months m in years y.** **- Write a formula for the cost of c chews at 4p each.** **- write a formula for the nth term of this sequence: 3, 6, 9, 12, 15** **>The perimeter of a rectangle is 2 x (l+w)**	

	aged 16 or under living here than aged 60 or over?	**answers to three decimal places)**	**>Multiply and divide numbers by 10, 100 and 1000 (giving answers to three decimal places)**			**Where l is the length and w is the width. What is the perimeter if l=8cm and b=5cm** **>- The number of bean sticks needed for a row which is m meters long is 2m + 1. How many bean sticks do you need for a row which is 60 meters long?**	
Term 4	Week 1	Week	Week 3	Week 4	Week 5	Week 6	
	Fractions, Decimals an Percentages Review Fractions, Decimals and Percentages work.	**Measurement Money** -Solving money problems. **Measurement-Time** -To solve time duration problems using the four operations.	**Geometry** -measure and draw accurately -types of angles -find missing angles (including within shapes) To identify angles and find missing angles. To express relationships algebraically	**Geometry –position and direction** -To describe positions on all four quadrants -To draw and translate simple shapes on the coordinate plane -To reflect simple shapes in the axes. -To draw and label all four quadrants with equal scaling. -To use the properties of shapes to predict missing coordinates -To express translations algebraically.	**Geometry** - Review circles -Review area and perimeter.	**Ratio and Proportion** -To use ratio to compare two things -To find equivalent ratios To compare three quantities using ratios - To follow simple recipes involving basic proportions -To read a simple scale on a map e.g. 1cm = 100cm , 250:1 means 1cm = 2.5m. -To solve problems involving missing values. (using integer multiplication and division facts).	

					-To solve problems involving percentages -To use percentages for comparison -To use the scale factor to solve problems involving shapes -To use knowledge of fractions and multiples to solve problems involving unequal sharing	
	Review Mental Maths Skills based on fraction, decimals and percentages from Term 2 and 3.	**>To solve problems involving money: What is the total of £110, £3.43 and £11.07?** **-Three people won £363 630 on the lottery. If this is shared equally how much would each get?** **>To convert to a currency. There are $1.5 for every £1. How many dollars would I get for £10, £20, £60?** **>To calculate fractions and percentages: There is a 15% discount in a sale (divide by ten, halve and add to result)…**	**>Relate degrees to angles** **>Relate angles to time.** **> Estimation of angles.** **> Mental addition and subtraction facts. See Term 1.**	**>Refer to the 'symmetrical' quality of the numbers with 0 as the middle value.** **>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:**	**>To have rapid recall of positions of the compass– north, south, east, west** **>To have rapid recall of positions of the compass, N, NE, E, SE, S, SW, W, NW**	**>In every week I spend 5 days at school. In every 2 weeks I spend X days at school and in every 3 weeks I spend Y days at school.** **> For every 2 bags of crisps you buy you get one sticker. How many stickers do you get for 6 bags?** **> John has 1 stamp for every 2 that Mark has. What other statements can you make?** **Solve simple problems involving 'in every' or 'for every':** **>Chicken must be cooked for 50 mins**	

					-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.		for every kg. How long does it take to cook a 3kg chicken? > At the gym there are 2 boys for every 3 girls. There are 15 girls at the club. How many boys are there? If there are Twelve boys at the club how many girls are there now? >Zara uses 3 tomatoes for every 1/2 litre of sauce. How much sauce does she make from 15 tomatoes? How many tomatoes does she need for 1 litre of sauce? >A mother seal is fed 5 fish for every 2 fish given to her baby. Alice fed the seal 15 fish. How many fish did her baby get? Alice fed the baby seal 8 fish. How many fish did its mother get? > For every 50p coin Mum gives to Dad, he gives her five 10p coins. Dad gave mum twenty-five 10p coins. How many 50p coins did mum give him? >Use multiplicative reasoning to solve simple ratio and	

					proportion questions: **- Kate shares out 12 sweets. She gives Jim 1 sweet for every 3 sweets she takes. How many sweets does Jim get?** **-Dee mixes 1 tin of red paint with 2 tins of white. She needs 9 tins altogether. How many tins of red paint does she need?**	
Term 5	Week 1	Week	Week 3	Week 4	Week 5	Week 6	
	Number and place value -Sequences, finding the term-to-term rule -Roman Numerals	**REVISION**	**REVISION**	**KS2 SATs week**	**Geometry** Properties of shapes.	**Statistics** To interpret line and bar graphs. -To construct line graphs -To solve problems using line graphs. -Mean, mode and range.	
Term 6	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
	Algebra -To understand the order of operations using brackets. -To use simple formula to generate, express and describe:	**Four Operations** -Addition -Subtraction -Multiplication -Division -Multi-Step word problems	**Geometry-position and direction** -Reflection -Translation -Coordinates	**Geometry-properties of shape** -2D shapes -3D shapes -Nets of 3D shapes	**Measurement- volume, capacity and mass** -Capacity -volume	**Measurement-length and money** -Problems based on money. -converting units of money.	**Four Operations** -Review four operations. -Apply four operations to a range of contexts.

	-Linear number sequences -Mathematical formula -Missing number, lengths, coordinates and angles problems - equivalent expressions (a+b = b + a) To find pairs of numbers that satisfy and equation with two unknowns To find all possibilities of combinations of two variables.				-converting units of length.	