

CALCULATION POLICY

2021-23

Potter Street Academy Part of the Passmores Co-operative Learning Community



Potter Street Academy

Calculation Policy 2021

This calculation policy is intended to bring consistency, continuity and progression as methods build upon each other from the early years foundation stage (YR), to year 6.

It is essential that rapid recall of key number facts is embedded prior to written calculations being taught. This is necessary as the written calculations outlined in this policy rely on mental strategies to process numbers efficiently and with confidence. Therefore, mental strategies are included within this policy. This is particularly relevant now that in Year 4 the children will take the National Multiplication Tables check, which will be introduced from June 2020.

The links between subtraction, addition, division and multiplication are constantly reinforced throughout all year groups. These are particularly relevant when looking at the number facts. The concept of the inverse operation will really help the children develop the ability to complete mental calculations and the term will be introduced to Year 2. Children will also be encouraged to use this to check their workings out.

Children's understanding of place value is central to all of these calculation processes. Developing an understanding of numeracy, quantity and the number system is of intrinsic importance to the ability to be successful in calculation. Therefore, structured place value apparatus (e.g. base 10) are on the tables when children are working through a new calculation method to help them see this relationship and to develop their understanding of the processes they are working through. This will provide visual images and models of the numbers and allow children to develop a strong sense of numeracy.

As part of every lesson, emphasis will be made on mathematical vocabulary and children should have access to written vocabulary at all times to ensure they can recognise and spell them as well as use it in their explanations. There will also be a particular focus on children explaining their methods, including written explanations and evidence of reasoning.

If you are unsure of any terminology or processes in this document, then do not hesitate to contact the Maths Lead or your child's class teacher.















Year	Multiplication		Division	
Year Y3	MultiplicationMultiplicationMental MethodsRecall and use multiplication facts for the 2, 3, 4, 5, 8 and 10 times tables, and multiplication10. e.g. 4 × 8 =• Either start with 4 \rightarrow double it (8), double it(16), double it(32)• Or start with 8 \rightarrow double it(16), double it(32)Develop fluency in mental strategies using the commutative lawe.g. 3 × 11 × 5 = 5 × 11 × 3 = 55 × 3and the distributive lawe.g. 15 × 2 = 10 × 2 + 5 × 2Develop fluent mental methods to solve a range of problemsWritten Methodsi. Multiply 2-digits by a single digit number develop understanding of useand the distributive lawand the distributive lawe.g. 15 × 2 = 10 × 2 + 5 × 2Develop fluent mental methods to solve a range of problemsWritten Methodsi. Multiply 2-digits by a single digit number develop understanding of useand the distributive lawand the grid method for multiplying 2-digit by single – digitsChildren should be confident in partitioning as well as multiplication knowledge.Note: They may make errors with the multiplying aspect, although be fine adding the amounts together, which is easily shown using this method.20 + 238	y multiples of	DivisionMental MethodsRecall and use multiplication and division facts for the 2, halving connect the 2, 4 and 8 tables) e.g. $32\div4 = $ Star Develop efficient mental methods e.g. using multiplicationWritten MethodsDivide 2-digit numbers by a single digit – where there is remainders.Model grouping on a number line: i. As repeated addition [counting on] $10+3$ 43 $0 = 1 = 2$ ii. As repeated subtraction [counting back] $10+3$ $4 = 7$ Model grouping on a number line: i. As repeated subtraction [counting back]Model grouping on a number line: i. As repeated subtraction [counting back]Model grouping on a number line: i. As repeated subtraction [counting back]Model grouping on a number line: i. As repeated subtraction [counting back]Model grouping on a number line: i. As repeated subtraction [counting back]Model grouping on a number line: i. As repeated subtraction [counting back]Model grouping on a number line: ii. As repeated subtraction [counting back]Model grouping on a number line: ii. As repeated subtraction [counting back]Model grouping on a number line: ii. As repeated subtraction [counting back]Model grouping on a number line: ii. As repeated subtraction [counting back]Model grouping on a number line: ii. As repeated subtraction [counting back]Model grouping on a number line: ii. As repeated subtraction [counting back]Model grouping on a number line: i	3, 4, 5, 8 and 10 times tables, (through t with 32 \rightarrow halve it(16), halve it(8) in and division facts to derive related facts no remainder in the final answer, then with 3 = 3r1 3 = 3r1 3 = 3r1 $10 \div 3 =$ This can also be done vertically 10 $-$ beginning 'chunking' $-\frac{3}{7}$ 7 $-\frac{3}{7}$ $-\frac{3}{1}$ $10 = \frac{19}{4}$ $-\frac{3}{7}$
	(Children to use an appropriate method for the addition)MASTERY - The Big Ideas (NCETM)It is important for children not just to be able to chant their multiplication tables but al facts to figure out others and to use in problems. It is also important for children to be They understand what multiplication means, see division as both grouping and sharing What do you notice about the following calculations?What do you notice about the following calculations?What is 3×4 ? 3×4 3×4 3×5 3×10	so to understan able to link fac , and see divisi et that?' can help ons like 13 × 4 by obtained by cou	Ind what the facts in them mean, to be able to use these cts within the tables (e.g. $5 \times$ is half of $10 \times$). ion as the inverse of multiplication. In pyou decide whether children are working to reason the inverse of 10×4 and adding $3 \times 10 \times 10 \times 10^{-1}$ and adding $3 \times 10 \times 10^{-1}$ and adding 3×10^{-1} and $3 \times 10^{-$	Vocabulary exchange, decrease, hundreds, value, digits partition, grid method, multiple, product, tens, units, value inverse, short division, 'carry', remainder, multiples Multiplication table, Times table Multiply, Multiplication, Times, Product Divide, Division Inverse Operation, Estimate

Year	Addition	Subtraction	
Y4	Mental Methods Continue to practise a wide range of mental addition strategies e.g. number bonds, adding to the nearest multiple of 10, 100, 1000 using near doubles, adjusting and partitioning and recombining. Estimate and check solutions using mental strategies. e.g. u + g 2 6 + 5 + 3 = Calculations should be presented as horizontal number sentences (to promote mental strategies). Written Methods Add numbers with up to 4 digits	Mental Methods Find a 1000 less than a given number. Count backwards through 0, including negative numbers Estimate and check solutions using mental strategies. Written Methods Subtract with up to 4-digit numbers	
	Add numbers with up to 4 digits. When setting out in the vertical format, digits/ columns should be correctly aligned. Children should move from the expanded addition method to the compact column method, adding units first and 'carrying' [exchanging] numbers underneath the calculation. $ \frac{1}{1} + \frac{1}{2} + \frac{1}{6} + \frac{1}{5} + \frac{1}{3} = \frac{5}{4} + \frac{6}{9} + \frac{1}{6} + \frac{1}{9} + \frac{1}{2} + \frac{1}{6} + \frac{1}{9} + \frac{1}{2} + \frac{1}{6} + \frac{1}{9} + \frac{1}{9} + \frac{1}{2} + \frac{1}{6} + \frac{1}{9} + \frac$	Begin with the partitioned method with decomposition. Knowledge of place value is very important. Children should understand decomposition before moving to the compact method. $3 6 9 4 - 1 7 6 5 4 0 - 1 7 6 5 - 1 0 - 0 - 7 0 - 0 - 6 0 - 5 4 - 0 - 1 7 6 5 - 1 0 - 0 - 7 0 - 0 - 6 0 - 5 - 1 0 - 0 - 7 0 - 0 - 6 0 - 5 - 1 0 - 0 - 7 0 - 0 - 6 0 - 5 - 1 0 - 0 - 7 0 - 0 - 6 0 - 5 - 1 0 - 0 - 7 0 - 0 - 6 0 - 5 - 1 0 - 0 - 7 0 - 0 - 6 0 - 5 - 1 0 - 0 - 7 0 - 0 - 6 0 - 5 - 1 0 - 0 - 7 0 - 0 - 6 0 - 5 - 1 0 - 0 - 7 0 - 0 - 6 0 - 5 - 1 0 - 0 - 7 0 - 0 - 6 0 - 5 - 1 0 - 0 - 7 0 - 0 - 6 0 - 5 - 1 0 - 0 - 7 0 - 0 - 6 0 - 5 - 1 0 - 0 - 7 0 - 0 - 6 0 - 5 - 1 0 - 0 - 7 0 - 0 - 6 0 - 5 - 1 0 - 0 - 7 0 - 0 - 6 0 - 5 - 1 0 - 0 - 7 0 - 0 - 6 0 - 5 - 1 0 - 0 - 7 0 - 0 - 6 0 - 5 - 1 0 - 0 - 7 0 - 0 - 0 - 7 0 - 0 - 6 0 - 5 - 1 0 - 0 - 7 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0$	
	MASTERY - The Big Ideas (NCETM) It helps to round numbers before carrying out a calculation to get a sense of the size of the answer be around 3000. Looking at the numbers in a calculation and their relationship to each other can numbers are close to each other might mean this is more easily calculated by thinking about sub- Write down the four relationships you can see in the bar model. Fill in the missing numbers. 2300 1240 3540 -55	ver. For example, $4786 - 2135$ is close to $5000 - 2000$, so the answer will help make calculating easier. For example, $3012 - 2996$. Noticing that the traction as difference.Vocabulary thousands, hundreds, digits, inverse Addition, Subtraction Sum, Total Difference, Minus, Less Column addition, Column subtraction Exchange Operation $= 480$ Fill in the empty boxes to make the equations correct.Difference, Minus, Less Column addition, Column subtraction Exchange Operation	

/ear	Multiplication	Division
4	InterpretationMental MethodsCount on in multiples of 6,7,9, 25 and 1000Recall multiplication facts for all multiplication tables up to 12 x 12Use place value, known facts and derived facts to multiply mentally fluentlyApproximate before they calculate and make this a regular part of their calculating.Written MethodsMultiply 2 and 3-digits by a single digit, using all multiplication tables up to 12x12Developing the grid methodi.TU x U = x 100 40 7 210 28 4 210 4 210 4 210 4 210 4 210 4 210 4 210 4 210 4 210 4 210 4 210 4 210 4 210 4 210 4 210 4 210 4 210 4 210 4 220 4 200 420 1220 [Note: This method shows clearly where errors may occur. The procedure may be correct, but their multiplication or addition skills may be a problem, if the answer is incorrect.]Pupils could be asked to work out a given calculation using the grid, and then comp to the teacher's column method. Discuss the similarities and differences are. Go through the steps and use as success criterion through the steps and use as success criterion through the steps and use as	Mental MethodsCount back in multiples of 6, 7, 9, 25 and 1000 [from any given number].Recall multiplication and division facts for all multiplication tables up to 12 x 12Use known facts to support new facts e.g. 7 x can be calculated by adding 5 x and 2 x $7 \times 8 = 5 \times 8 + 2 \times 8$ Written MethodsDivide up to 3-digit numbers by a single digit (without exchanges to begin with)94 + 4 =(10x) $\frac{-40}{2}$ 2 14 54 94(10x) $\frac{-40}{2}$ 2 14 54 94(10x) $\frac{-40}{2}$ Continue to develop short division(3x) $\frac{-12}{2}$ Make sure children are confident with this method before moving on to larger numbers.Answer 23 r 2Children should be taught that a 0 is used to keep place value, if the number is not divisible.Children to be encouraged to fluently use repeated addition to create a list of solutions for 1 x \Rightarrow 10x of the divisor [to be used as a 'ready reckorer' of x facts].e.g. 744 \div 8 =writing '8, 16, 24, 32, 40, 48, 56, 64, 72, 80'
	MASTERY - The Big Ideas (NCETM) It is important for children not just to be able to chant their multiplication tables but to understand what the facts in them mean, to be able to use these facts to figure out others and to use them in problems. It is also important for children to be able to link facts within the tables (e.g. $5 \times$ is half of $10 \times$ They understand what multiplication means and see division as both grouping and sharing, and to see division as the inverse of multiplication. The distributive law can be used to partition numbers in different ways to create equivalent calculations. For example, $4 \times 27 = 4 \times (25 + 2) = (4 \times 25) + (4 \times 2) = 108$. Looking for equivalent calculations can make calculating easier. For example, 98×5 is equivalent to $98 \times 10 \div 2$ or to $(100 \times 5) - (2 \times 5)$. The array model can help show equivalences.	Use your knowledge of multiplication tables to complete these calculations. $ \begin{array}{c} Use your knowledge of multiplication tables to complete these calculations. Vocabulary digits, inverse exchange inverse, divisible by, factor Place value Multiply, Multiplication, Times, Product Divide, Division Tenth, hundredth, Factor pairs Short multiplication Short multiplication $

Operation Estimate

Year	Addition	Subtraction
Y5	Mental Methods Add numbers mentally with increasingly larger numbers, using and practising a range of mental strategies i.e. add the nearest multiple of 10, 100, 100 and adjust; use near doubles, inverse, partitioning and re-combining; using number bonds [practise for increased fluency]. Estimate and check solutions using mental strategies. All strategies lead to increased fluency.	Mental Methods Subtract numbers mentally with increasingly larger numbers Written Methods Subtract with at least 4–digit numbers - 3 4 6 9 + 2 + 5 2
	Written MethodsAdd numbers with more than 4 digits (including money, measures and decimals with different numbers of decimal places) $\underbrace{\underbrace{\underbrace{\underbrace{\underbrace{\underbrace{\underbrace{\underbrace{\underbrace{\underbrace{\underbrace{\underbrace{\underbrace{\underbrace{\underbrace{\underbrace{\underbrace{\underbrace{$	Children to use compact column subtraction once confident with the partitioned column method. Children to begin subtracting with larger integers before moving on to decimals. Zero can be added to empty decimal places (up to 2 dp) to aid understanding of what to subtract in that column. Pupils should: Be confident in solving subtraction calculations in a range of contexts, including money and measures.
	Image: Adding of as a place holder Image: Adding of a place holder Image	rou can do it mentally. For example, 3689 + 4998 may be done Vocabulary might be easier than carrying out the given calculation. For example 3682 - Addition, Subtraction Captain Conjecture says, 'When working with whole Difference, Minus, Less Column addition, Column Subtraction subtraction Sum, Total Difference, Minus, Less Column addition, Column subtraction Exchange Operation Explain your reasoning.



Addition		Subtraction		
Mental Methods		Mental Methods		
Perform mental calculations, including mixed operations and large nun practising a range of mental strategies.	nbers, using and	Perform mental calculations, including mixed operations and large number range of mental strategies.	's, using and practising a	
Estimate and check solutions using mental strategies.		Estimate and check solutions using mental strategies.		
All strategies leading to increased fluency.		Written Methods Subtracting with increasingly larger and more complex numbers including	decimal values up to 3dp.	
Written MethodsAdd several numbers of increasing complexity $1 + 7 + 2 + 1 + 6 + 1 + 1 + 2 + 2 + 2 + 1 + 2 + 2 + 1 + 2 + 2$		Pupils should:Use the compact column method to subtract more complex integers. Using this method to subtract money and measures as well, including decimals with different numbers of decimal places. Empty decimal places can be filled with zero to show the place value in each column. Pupils should be able to apply their knowledge to select the most appropriate method to work out subtraction problems.Choose digits to go in the empty boxes to make these number sentences true.14 781 - 653 = 852823 12 + 22 == 45 - 23		
 MASTERY - The Big Ideas (NCETM) Deciding which calculation method to use is supported by being able to 5:25 and then adjusting the answer. The associative rule helps when adding three or more numbers: 367 + Calculate 36:2 + 19:8 with a formal written column method with a mental method, explaining your reasoning. 	o take apart and combine n • 275 + 525 is probably bes Two numb What is the Two numb What could	numbers in many ways. E.g. 8·78 + 5·26 might involve calculating 8·75 + st thought of as 367 + (275 + 525) rather than (367 + 275) + 525. ers have a difference of 2·38. The smaller number is 3·12. ers have a difference of 2·3. They are both less than 10. d the numbers be?	Vocabulary Addition, Subtraction Sum, Total Difference, Minus, Less Column addition Column subtraction Operation Approximate (noun and verb) Estimate (noun and verb) Estimate (noun and verb) Round Decimal place Check Solution, Answer Order of magnitude Accurate Accuracy	

Year	Multiplication	Division	
Y6	Mental Methods Recall multiplication facts for all times tables up to 12 x 12. Derive new facts appropriate to for the given calculation.E.g. Exam $0.02 \times 3 = 0.06$ using $0.9 \times 3 = 2.7$ using 9Written Methods Short and long multiplication as in Y5, and multiply decimals with up to 2 decimal places by digit. When recording, decimal points should be aligned.Estimate first 5 x 3 = 15Like $1 + 9 + 2$ $\times 3$ $1 + 7 + 6$ Alternately:X 3 $\times 3$ $1 + 7 + 6$ Begin to extend to multiply two- digit numbers e.g. 4.92×73 $1 + 4 + 9 + 7 + 6$ Begin to extend to multiply two- digit numbers e.g. 4.92×73 $1 + 4 + 9 + 7 + 6$ Children should be able to: Use rounding and place value to estimate answers before calculating and use to check their answers.	Mental Methods Recall division facts for all times tables up to 12×12 .ample below $12 \times 3 = 6$ $3 9 \times 3 = 27$ Written Methodsby a singleDivide at least 4 digits by both single-digit and two-digit numbers (including decim quantities)Short division, for dividing by a single digit: 'Ready Reckoner': 8, 16, 24, 32, 40, 48, 56, 64, 72, 80 Short division, for dividing by a 2-digit number:3 6 5 ÷ 1 7 = 0 2 1 . 4 7 6 17) 3 '6 '5 '.0 ''0 0Refine accuracy of solutions: Any 'remainders' should be shown as fractions, and extended to decimals	nals up to 2dps and
	MASTERY - The Big Ideas (NCETM)Standard written algorithms use the conceptual structures of the mathematics to produce e Standard written multiplication method involves a number of partial products. For example, There are connections between factors, multiples and prime numbers and between fractionIt is correct that $273 \times 32 = 8736$. Use this fact to work out:All the pupils in the seaside for They voted, and $2.73 \times 32 000$ $873.6 \div 0.32$ $873.6 \div 1.6$ They voted, and 125 children votedHow many childHow many child	e efficient methods of calculation. le, 36 × 24 is made up of four partial products 30 × 20, 30 × 4, 6 × 20, 6 × 4. ions, division and ratios. s in a school were asked to choose between an adventure park and for a school trip. and the result was a ratio of 5:3 in favour of the adventure park. voted in favour of going to the adventure park. hildren voted in favour of going to the seaside?	ocabulary multiplication with ndredths and actor <i>i</i> sion, Divisible vidend, Quotient,

Appendix C

Pace Planners

Year 1 Autumn Term (not including problem solving day) - Use NCETM and White rose for examples of outcomes.

		Oral / Mental Objectives		
	Revisit	New	Time / Shape	Main Teaching
				(remember to include reasoning and empty boxes)
Week	EYFS - Given a number	Count to 100 forwards and	Days of the week	Count, read and write numbers from $1 - 10/20$ in numerals and words
1	identify 1 more or 1	backwards from any given	Months of year	Order objects and numbers
	less. Given a number	number including 0	(Reciting & written)	Identify and represent numbers using objects and pictorial representations
	double it/halve it. (1 –			including the number line, and use the language of: equal to, more than, less than
	10)			(fewer), most, least
Week	Count to 20 forwards	Ordinal numbers to 20 &	Days of the week	Count, read and write numbers from $1 - 10/20$ in numerals and words
2	and backwards from	then ongoing (lining up)	Months of year	Order objects and numbers
	any given number	Pairs to 5	(Reciting & written)	Identify and represent numbers using objects and pictorial representations using
	including 0	Pairs to 6		the number line
Week	Pairs to 5	Count in 10s and 5s	Revisit: Name &	Compare objects/numbers/pictorial representations and use < > = (although this
3	Pairs to 6	Pairs to 7	recognise 2d and	is a Year 2 objective can be done modelled by teacher and in practical situations)
	Given a number	Pairs to 8	3 d shapes	from 1 – 10/20
	identify 1 more or 1			
	less (1 – 10)			
Week	Pairs to 5, 6, 7, 8	Count to 100 forwards and	O' clock	Addition symbol. Find Number families (emphasising that addition is
4	Count in 10s and 5s	backwards from any given	Half past	commutative) for all pairs completed
		number including 0	(Practically, prior to	
		Pairs to 9 & 10	recorded work)	
Week	Count, read and write	Systematic number bonds to	Revisit: Name &	Addition symbol. Find Number families (emphasising that addition is
5	numbers from 1 – 20 in	10/20	recognise 2d and	commutative) for all pairs completed and number bonds to 10 (Do they recognise
	numerals and words	(Kings & Queens) IWB games	3 d shapes	number bonds when given in a calculation and realise they do not need to work it
				out?)
Week	Number bonds	Count in 2s, 5s, 10s	O' clock	How many left? Introduce subtraction as the inverse of addition. Practically done
6	Given a number double	(Patterns on 100 square)	Half past	in Kings/Queens
	it/halve it.			Introducing the subtraction symbol: Introduce related vocab
	(1 – 10)			

Week	Number bonds	Add and subtract one digit	Days of the week	Solve one step problems that involve addition and subtraction, using concrete		
7		numbers to 10, including	Months of year –	objects and pictorial representations and missing number problems. $7 = ? - 9$		
		zero	simple word	Add and subtract one digit and two digit numbers to 10/20, including 0		
Week	Number bonds	Count to and across 100,	problems: I go on	Represent and use number bonds and related subtraction facts within 10/20		
8		forwards and backwards	holiday in the 6 th	Find fact families with all numbers to 10 (addition and subtraction)		
		from any given number	month of the year-	Find related facts (7+3 so 17+3)		
			which month do I	Read, write and interpret mathematical statements involving		
			go? I go on holiday	addition (+), subtraction (-) and equals (=) signs.		
			on Monday. I am			
			away for 4 days.			
			When do I return?			
Week	Count, read and write	Count to and across 100,	O' clock	Numbers from 11 to 20 Tens and ones		
9	numbers to 20 in	forwards and backwards	Half past – simple	Count one more and one less Compare groups of objects Compare numbers		
	numerals and words.	from any given number	word problems	Order groups of objects Order numbers		
				Given a number, identify one more or one less. Identify and represent numbers		
				using objects and pictorial representations including the number line, and use the		
				language of: equal to, more than, less than (fewer), most, least.		
				ļ,		
Week	Count, read and write	Count to and across 100,	Revisit: Name &	2d/3d shapes and properties		
10	numbers to 20 in	forwards and backwards	recognise 2d and			
	numerals and words.	from any given number	3 d shapes			
WEEK :	WEEK 11: CONSOLIDATION: REVISIT ANY AREAS OF CONCERN. ENSURE THEY ENTER SPRING TERM WITH MAJORITY OF CHILDREN FLUENTLY USING NUMBER BONDS TO 10					
(SOME	(SOME 20), WITH EFFECTIVE STRATEGIES FOR ADDING AND SUBTRACTING, BEING ABLE TO SAY WHICH NUMBER IS ONE MORE/LESS, PRONOUNCING TEEN NUMBER					
CORRE	CORRECTLY WHEN COUNTING, TELLING O'CLOCK TIME.					

Once introduced ordinal numbers to be taught daily (lining up/normal classroom routines)

O'clock and Half past to be taught daily/'real life' after initial Oral & Mental starters

Autumn Oral and Mental – Once introduced the following will be included in daily revisit: Count to 20 forwards and backwards from any

Given number including 0 or 1, Count, read and write numbers to 20 in numerals and words Given a number identify 1 more or 1 less (1 – 10)/

20, Count in 2s and 5s, Number bonds

Year 1 Spring Term (not including problem solving day)

	Oral / Mental Objectives			Main Teaching
	Revisit	New	Time / Shape	(remember to include reasoning and empty boxes)
Week	Pairs to 5, 6, 7, 8	Count in 10s and 5s	Days of the week	Addition -Add by counting on - adding to what they already have.
1	Number bonds	Count in 2s to 20	Months of year	Find and make number bonds -using their knowledge of number bonds to 10 to
	Count to and across	Look at number grid to	(Reciting & written)	find number bonds to 20, understanding that the ones will stay the same but one
	100, forwards and	reinforce patterns	2d/3d shapes and	number will also have one ten.
	backwards from any		properties	Addition problem solving within 20
	given number			
Week	Number bonds to 10/20	Count in 10s and 5s	Days of the week	Subtraction- Children build on the language of subtraction, recognising and using
2	Add by counting on	Count in 2s to 20	Months of year	the subtraction symbol within 20
		Look at number grid to	(Reciting & written)	The use of zero is important so children know that when nothing is taken away the
		reinforce patterns	O' clock	start number remains the same.
			Half past	Use the part whole model counting back and 'crossing out' methods of
				subtraction.
Week	Add and subtract one-	Count in 10s and 5s	Days of the week	Compare number sentences/Addition and subtraction problem solving -Compare
3&4	digit and two-digit	Pairs to 7	Months of year	number sentences within 20 using inequality symbols.
	numbers to 20,	Pairs to 8	(Reciting & written)	Read, write and interpret mathematical statements involving addition (+),
	including zero		O' clock	subtraction (-) and equals (=) signs.
			Half past	Solve one step problems that involve addition and subtraction, using concrete
				objects, pictorial representations, and missing number
Week	Count in 10s 2s 5s	Children build on previous	Days of the week	Numbers to 50 - Count forwards and backwards within 50 using a number track to
5	Number bonds to 10/20	learning of counting in	Months of year	support understanding of this.
		twos/fives and go beyond 20	(Reciting & written)	Tens and ones
		up to 50	O' clock	Look at how many groups of tens and ones there are in a number. They will use a
			Half past	range of concrete materials to do this.
Week	Number bonds to 10/20	Children build on previous	Simple word	Represent numbers to 50 - Using a variety of concrete materials.
6	Add by counting on	learning of counting in	problems involving	Children should be able to state how a number is made up.
	Count in 10s 2s 5s	twos/fives and go beyond 20	time	One more, one less
		up to 50		Compare numbers finding one more and one less than given numbers up to 50,
				building numbers concretely before using number tracks and 1–50 grids.
Week	Add and subtract one-	Children build on previous	Games (true/false)	Compare numbers within 50
7	digit and two-digit	learning of counting in	involving time, shape	Compare two numbers using the inequality symbols.
	numbers to 20,	twos/fives and go beyond 20	and multiples of 10s	Use the language 'more than', 'less than' and 'equal to' alongside the correct
	including zero	up to 50	2s 5s	symbols to compare numbers.
	Count in 10s 2s 5s			Order numbers within 50 - Order numbers using the language, 'largest', 'smallest',
	Number bonds to 10/20			'biggest', 'greatest', 'least', 'most' and 'equal to'.

		Simple word problems		Order numbers in ascending and descending order.
		involving counting in 2s, 5s		
		and 10s		
Week	Count to and across	Describe position, direction ar	nd movement,	Compare lengths and heights - Use and understand the language of length such as
8	100, forwards and	including whole, half, quarter	and three quarter	long, short, longer, shorter, tall, small, taller, smaller, equal to understanding that
	backwards from any	turns – do practically linked to	clock and prior to	height is a type of length.
	given number	fraction work		Measure length - Use non-standard units to measure length and height,
	lens and ones			understanding that non-standard units should be exactly in line with the object to
		Simple word problems involvin	ng time	get an accurate measurement.
		Games (true/false)		Build on prior knowledge to understand that objects can vary in length and size, so
		Involving time, shape and mul	tiples of 10s 2s 5s	a standard unit of measurement is required. Introduce a ruler
				Know to measure from 0 cm.
Week	Count to and across	Practical problem solving	Simple word	Weight and mass- Use of balance scales is to form an understanding of comparing
9	100, forwards and	involving counting in 2s, 5s	problems involving	mass, picking up and feeling the mass of objects before putting them on the scales
	backwards from any	and 10s	time	and seeing what happens.
	given number			Neasure mass - Use non-standard units to weigh and compare the mass of an
	Number bonds to 10/20			object and recognise this stays the same to weigh the mass of an object and make
				the scales balance
				Compare mass - Comparing the mass of two objects. Use balance scales to
				Lise c and t to compare mass
Week	Count to and across	Simple word problems	O' clock	Use < diu > to compare mass.
10	100 forwards and	simple word problems	U Clock	Capacity - Explore the concept in a practical way, using a vallety of containers.
10	backwards from any	10/20 counting to and	Hall past – simple	compare the volume in a container by describing whether it is full of empty and
	given number	20,20, counting to and	word problems	Children understand that when a container is full, the canacity is equal to the
	Number bonds to 10/20	weight capacity		volume but when the container is empty the canacity is the same but the volume is
		weight capacity		zero
				Measure capacity - Capacity of different containers using non-standard units of
				measure understanding to measure the canacity of a container the unit of
				measure must stay the same for example the same cup
				Compare capacity- Children use 'more' 'less' and 'equal' to compare volume and
				can use the symbols $< >$ and $=$
Week	Add and subtract one-	Recognising coins	2d/3d shapes	Counting in coins – consolidating all addition subtraction counting in 2s. 5s and
11	digit and two-digit			10s
	numbers to 20.			Comparing amounts of money – addressing misconception more coins equals
	including zero			greater value.
	Count in 10s 2s 5s			

Week 12

Agreements: Ordinal numbers to be taught daily (lining up/normal classroom routines) O'clock and Half past to be taught daily/'real life'

Year 1 Summer Term (not including problem solving day)

	Oral / Mental Objectives			Main Teaching		
	Revisit	New	Time / Shape	(remember to include reasoning and empty boxes)		
Week 1	Describe position, direction	Children to use vocab	O' clock	Geometry – Position and direction (PE LESSON LINK) OR		
	and movement, including	- left, right, up,	Half past	ICT link – use bot to plan a route reinforcing language		
(3 days)	whole, half, quarter and three	down, top, below,	GD – quarter to	Reinforce prior learning: Place the circle on top of the cube etc		
	quarter turns – do practically	middle, above. Play	and past	Train them in stem sentences: The pyramid is the triangle		
	moving clockwise, linked to	games using objects		Make a pattern with counters/cubes: Place a yellow counter on top of the table,		
	clock and prior to fraction			place a green one behind it, a blue one to the right of the green etc. Could be		
	work			directed by teacher or for GD they can explain. Does your pattern match mine?		
				Why/why not?		
Please no	Please note: The majority of children may have this language (EYFS and normal classroom routine work). If so consolidate some addition and subtraction.					
When do	ing turns, I get children to put arm	ns out in front, hands tog	gether (they're the mi	nute hand). As they're moving I draw on whiteboard so they link to shape and time.		
Helps late	er when link to angles.	1				
Week 2	Count in 10s and 5s	Give children an A4 pie	ece of paper and ask	Fractions – Children understand ½ means one of 2 equal parts		
	Count in 2s	to fold in half: What do	you notice? Focus	Divide objects using sorting hoops. Children find ½ of an object or shape and then ½		
	Look at number grid to	on how many equal parts. Most children		of a quantity. Concentrate on children seeing difference between equal and non		
	reinforce patterns: If I count in	will fold it like a card. Fold yours		equal – Is this ½ of this shape? Convince me. Give stem sentences. I know that 5 is		
	10s the last digit will??? Will I	differently to address misconceptions they		half of 10 because (there are 2 equal groups of 5). I cannot halve 13 objects		
	say 22 when I count in 5s?	may have, concerning what it should look		because I cannot share them into 2 equal groups. I know that is not ½ a circle		
	Convince me	like		because (one side is bigger than the other/ they are not equal)		
		Revisit names of 2D & 3	3d shapes: Shirley			
		sharp eyes				
Week 3	Half of numbers. Introduce/	Give children an A4 pie	ece of paper and ask	Fractions - Children understand ¼ means one of 4 equal parts		
	Reinforce doubling /halving	to fold in half: What do	you know?	Divide objects using sorting hoops. Children find ¹ / ₄ of an object or shape and		
(4 days)	inverse operations. Show on	Hopefully they can arti	culate learning	then1/4 quantity. Concentrate on children seeing difference between equal and		
	fingers	from last week		non equal – Is this s ¼ of this shape? Convince me. Give stem sentences.		
		Now fold again. What o	do you notice?	I know that 1 is a quarter of 4 because (there are 4 equal groups of 1)		
		Focus on how many eq	ual parts now			
Children	should now be confident in count	ing in 2s, 5s and 10s and	understand the conc	ept of equal groups which will make multiplication and division easier		

Week 4	Play number bonds Kings & Que	ens	Simple word	Multiplication and Division
	Play doubling/halving Kings & Qu	ueens	problems	Children concentrate on counting equal groups of 2s, 5s and 10s. They do this
			involving time. I	pictorially and write number sentences
			go away for all of	Children begin making arrays building equal groups into columns and rows and
			Summer. Which	explore arrays built incorrectly
			months am I	Thy record using stem sentences (refer to powerpoint)
			away? etc	
Week 5	Play number bonds Kings & Que	ens	O' clock	Multiplication and Division
	Play doubling/halving Kings & Q	leens	Half past	Children start with a given amount and share equally. They do practically and then
			GD – quarter to	record pictorially and in number sentences
			and past	Give examples of numbers that do not share equally
		Γ		
Week	Add and subtract one-digit and	Introduce coins prior	Revisit names of	Represent/ compare and order numbers to 100 - Children should be able to state
6	two-digit numbers to 20,	to money work:	2D & 3d shapes:	how a number is made up. Compare numbers using the inequality symbols. Use the
	including zero	Reinforce coins. Link	Shirly sharp eyes	language 'more than', 'less than' and 'equal to' alongside the correct symbols to
	Count in 10s 2s 5s	to counting in 2s/5s		compare numbers. Put in ascending/descending order. Look at how many groups of
	Number bonds to 10/20	& 10s. I have 3 10ps.		tens and ones there are in a number.
		How many do I have		Revisit addition /subtraction using diennes/pictorial representations
		altogether?		
Week	Number bonds to 10/20	REFER TO ORAL & MEN	NTAL STARTER	Children to recognise and know value of different denominations of coins
7	Place value: Clap stamp game:	SHEET		Work with equivalents 10p is the same as 5 lots of 2p etc
	What number?			
Children s	hould now be confident in counti	ng in 2s, 5s and 10s plus	s doubling and halving	g which should make money easier.
Week 8	Number bonds to 10/20	REFER TO ORAL & MEN	NTAL STARTER	Money problems/reasoning – use this to reinforce 4 operations and doubling,
	Place value: Clap stamp game:	SHEET		halving plus missing boxes (boxes in different positions)
	What number?			
Week 9	Count to and across 100,	REFER TO ORAL & MEN	NTAL STARTER	Time - Majority of children should now be able to tell the o'clock and half past time.
(Assess)	forwards and backwards from	SHEET		GD should to quarter to and past. They should also know days of week/months of
	any given number			year
	Number bonds to 10/20			As well as assessment information use this week to evidence recording clock
				times/word problems and reasoning
Week	REFER TO ORAL & MENTAL STAR	TER SHEET		Use this week to do a revision of bold KPIs & extended Oral & mentals.
10				
Week	I ransition into new class			
11				

Year 2 Autumn Term (not including problem solving day)

Use NCETM and White rose for examples of outcomes.

	Oral / Mental Objectives			
	Revisit	New	Time / Shape	Main Teaching
				(remember to include reasoning and empty boxes)
Week	Recognise numbers to	Count in 2's and 5's	O' clock	Count objects to 100, read and write numbers in numeral and words
1	100	Count in 10's from	Half past	Recognise numbers to 100
	Count objects to 100,	any number		Order objects and numbers
	read and write	Count in 3's from		Estimate a quantity (10, 20, 50, 100)
	numbers in numeral	any number		
	and words			
Week	Pairs to 6	Find 1 more / 1less,	O' clock	Compare objects and use < > =
2	Pairs to 7	find 10 more / 10	Half past	Compare numbers and use < > =
	Pairs to 8	less		Recognise place value for each digit in a two digit number (37 = 30 + 7)
	Pairs to 10			
Week	Count in 2's 5's10's	Pairs to 20	2 d shapes and	Find fact families with all numbers to 20 (addition and subtraction)
3	Add / Subtract 10 to		properties	Find related facts (7+3 so 70 +30, 17 + 4 = 21 so 170+ 40 = 210)
	any number			
Maak			2d shanes and	Find 10 more find 10 loss from any siven number
vveek	< > Or = Count in 2's and E's	Doubles / balves	zo snapes and	Find 10 more, find 10 less from any given number
4	Count in 10's from any	Doubles / liaives	properties	Find number bonds to 100 dsing related facts / multiples of 10
	number			
	Count in 3's from any			
	number			
Week	Odd / even numbers	Add 11	Name 2d and 3 d	Add two 2 digit numbers not crossing tens boundary (add ones. add tens)
5	Doubles / halves	Add 12	shapes	Add a 2 digit and 1 digit number crossing ten
	Pairs to 20	Add 21	•	Add two 2 digit numbers crossing tens (add ones, add tens)
Week	Related facts and fact	Recognise coins	3d shapes and	Subtract 1 digit from a 2 digit number crossing tens (counting up)
6	families	Add single digit coin	properties	Subtract 2 digit from a 2 digit number not crossing ten
	Add 11	values		Subtract two 2 digit number from 2 digit number crossing ten (counting up)
	Add 12			Check with the inverse
	Add 21			(do not use tens and ones for subtraction)

Week	Add 11 (+ 10, +1)	Add / take away 9	Quarter to	Add / subtract two 2 digit numbers involving money, choosing which operation is needed
7	Add 12 (+10, +2)	from any given	Half past	(23 + 7 = 30)
	Add 21 (+10, +10, +2)	number		(56? 23 = 33),
				Recognise calculations can be done in any order and use the inverse to check
				Solve one and two step problems using addition or subtraction
Week	Related facts and fact	Multiples of 10, 2	3d shapes and	Recognise the value of coins and notes
8	families	and 5	properties	Add the value to 2 coins
	Sub 11 (- 10, -1)	Timetables		Add the value of notes and coins not crossing boundary or using decimal (£5 + 40p)
	Sub 12 (-10, -2)			
	Sub 21 (-10, -10, -2)			
Week	Multiples of 10, 2 and 5	Add / subtract 10,	Quarter to	Use pairs to find next 10 (23 + ? = 30)
9	Timetables	11, 20 with money	Half past	Find change from 20p, 30p, 50p
				Investigate amounts of money that can be made
Week	Odd / even numbers	Related	Quarter to	Recognise multiples of 2/5/10 and name divisibility rules
10	Doubles / halves	multiplication facts	Half past	Record multiplication facts in different ways (arrays, groups, sets, repeated addition)
				Recognise multiplication can be done in any order
Week	Odd / even numbers	Related	2d shapes and	Use equal groups to find division facts
11	Doubles / halves	multiplication facts	properties	Use arrays to find related multiplication and division facts

Year 2 Spring Term (not including problem solving day)

TT Rockstars should be started this term

	Oral /	Mental Objectives		
	Revisit	New	Time / Shape	Main Teaching
				(remember to include reasoning and empty boxes)
Week	Partition 2 digit numbers	Vertices / side of	Read clock – ¼ to	Round 2 digit numbers to nearest 10
1	Round numbers to nearest 10	shape	and ¼ past	Compare numbers using < = >
				Mark 2 digit numbers on a number line (10's, 2's, 5's, 1's)
Week	Add 3 coins	Half and double	Read clock – ¼ to	Recognise and name 2d shapes – regular and irregular
2		numbers	and ¼ past	Recognise the properties of 2d shapes – vertices, sides
				Identify lines of symmetry
				Compare and sort 2d shapes (using venn diagrams)
Week			Read clock to 5 mins	Recognise / name properties of 3d shapes – vertices, face
3	Count 2/5/10/3/4	Find missing number	or ¼ to and ¼ past	Recognise / name and sort 3d shapes
		with number line		Create repeating and equivalent patterns with 2d shapes

Week	Double multiples of 5	Find missing number	Order different	Recognise ½, 1/3, ¼, 2/4, ¾ of shapes
4	Double multiples of 10	with number line	amounts of time	Recognise ½ = 2/4
				Recognise that all parts of fractions are equal
Week	Multiplication and division	Find missing number	How many second in	Recognise ½, 1/3, ¼, 2/4, ¾ of set of objects
5	facts 2/5/10/3/4	with number line	1 min, 2 minutes	Find ½, ¼, 2/4 of amounts
			How many mins in 1	Tell time ¼ to and ¼ past
			hour?	
Week	Fact families (2 digit and 1	Mark 2 digit number	Order different	Find ½, ¼, 2/4 of amounts of money and length
6	digit)	on number line	amounts of time	Find / Recognise odd and even numbers, describing patterns
	(addition and subtraction)			
Week	Add 11	Use known facts	Recognise how	Recognise multiples of 2/5/10
7	Add 12	(2x5 = 10 so 20 x 5	many secs in min,	Describe patterns and investigate statements
	Add 13	=100)	days in week etc	Show repeated addition and multiplication (2+2+ 2 = 3x2) in arrays and number
				sentences
Week	Use known facts	Find given amounts	Positional vocab	Multiply and divide using arrays
8	(2x5 = 10 so 20 x 5 =100)	of money using	Clockwise / anti	Understand that multiplication and division are the inverse
		correct coins	clockwise	Create and solve words problems involving multiplication and
				division
Week	Find fractions of amounts	Find given amounts	Positional Vocab	Measure to the nearest CM
9		of money using	¼ turn	Measure to the nearest M
		correct coins	½ turn	Order and compare lengths and weights
			¾ turn	Solve work problems involving length and weight
Week	Pairs that make 10	Read scales –	Revise positional	Add 3/4/5 numbers using known facts
10	Pairs that make 100	thermometer,	vocab	Add / subtract two 2 digit numbers
		scales, ruler, jugs		Recognise and reason with number bonds to 20 (if 14 + 3 = 17, then 3 +14 = 17
				and 10 + 3 = 4 = 17)
				Add pairs of numbers
Week	Count forward and back in	Read scales –	Read clock to 5 mins	Decide if problems require addition or subtraction
11	2/5/10	thermometer,	or ¼ to and ¼ past	Add two 2 digit numbers (crossing tens and including coins, length, height)
		scales, ruler, jugs		Subtract two 2 digit numbers (crossing tens and including coins, length, height)
Week	Recognise multiples of 2/5/10	Read scales –	2d / 3d properties of	Find change from 50p
12		thermometer,	shape	Find the difference by counting up
		scales, ruler, jugs		Compare different lengths / heights using <,>,= (6cm +7cm> 4cm +3cm)

Year 2 Summer Term (not including problem solving day)

TT Rockstars should be started this term

With two step problems – At first write them out so they see each step of the problem and calculate as they go (I spend 55p and 25p, how much do I spend? How much change do I have from £1? Once they can do this move to all in one go (I spend 55p and 25p, how much change will I get from £1?

	Oral /	Mental Objectives		The focus each lesson must be on reasoning – reasoning will need to be modelled each day to all groups
	Revisit	New	Time / Shape	Main Teaching (remember to include reasoning and empty boxes)
Week 1	Find number patterns 2, 4, 6 _, _, 12 _, 15, 10, _ Predict - What will be the 6 th Number?	Reading different scales	Symmetry Where is the line of symmetry? How many lines of symmetry does a rectangle have?	Add / subtract 2 two digit numbers Recognise associated number facts (2 +7= 9 so 12 + 7= 19 because and 12+17=29 because) Reason about number bonds – I know that 17+13 = 30 because in know that 7 and 3 make 10, 10 and 10 make 20 then I recombine. For GD – explain how 29+17 = 15 +4 + ??
Week 2	Multiplication and division facts with arrays From arrays know that 3x5 5x3, 15/3, 15/5 GD how many ways can you make use 15, 3, 5 to make sentence?	Reading different scales Include predicting number where you have only give first and last numbers on the scale	Tell the time to 5mins Also ask what will be the time in 5mins, 10mins, 15 mins?	 Read variety scales with divisions of 1, 2, 5, 10 (thermometer, ruler, scales) GD – make predictions to 6th number etc, estimate on blank scale and reason why Read scales and estimate missing numbers Problems – Tom has the amount of water shown of the scales, Jane has ??? more, how much does jane have? GD - How much do they have altogether?
Week 3	Count 2/5/10/3/4 – forward and backwards (miss some number out – they can only say the even numbers when counting in 5's etc)	Find missing number with number line (link to scales work)	Order different amounts of time Include mixing hours and minutes, days and weeks etc	Tell the time to the nearest ½ past, ¼ past, ¼ to GD – Tell the time to the nearest 5 minutes Problems with time – Its 1pm, how long to I get home at 3.00pm / 3.30pm/3.45pm? If my program starts at 5.45pm and lasts 1hr/30 minutes when does it finish? Its 4.45, if my swimming lesson lasts 2hrs/1hr and half when will it finish? If I go to bed in one hour what time will it be? What if I'm 15 minutes late?
Week 4	Find fractions of amounts GD – ½ 6 = 1/3 of ? because??	Read graphs and charts (show examples from SATs paper)	Verbally reason about shape	Solve one and two step problems with money and different measures (length, weight) – include some reading of data

		I know this is a cube	
		because	
Week	Multiplication and division	How many second in	Recognise ½, 1/3, ¼, 2/4, ¾ of set of objects
5	facts 2/5/10/3/4	1 min, 2 minutes	Find ½, ¼, 2/4 of amounts, money and length
SATs		How many mins in 1	Tell time ¼ to and ¼ past
week		hour?	

Year 3 Autumn Term

	0	ral / Mental Objectives		
	Revisit	New	Time / Shape	Main Teaching
				(remember to include reasoning and empty boxes)
Week 1	 Counting in 2, 5, 10, 3 Identify 1 or 10 more or less than a number to 100 Counting in steps of 50 and 100 	 Read and write numbers to 1000 in numerals and words Recognise the value of each digit in a 3 digit number 	•Half past •Name 2D shapes: circle/square/ rectangle/triangle/ rhombus/ trapezoid/ heptagon/pentagon/ hexagon/ octagon/ parallelogram	 Count in steps of 100/50 Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) Compare numbers to 1000
Week 2	 Count in steps of 100/50 Read and write numbers to 1000. Recall 3x table facts Identify 1 or 10 more or less than a number to 1000 	 Estimate place on a number line Identify 10/100 more and less than a given number 	 Half past/ o'clock Recognise the value of each digit in a 3 digit number 	 Recognise numbers to 1000 on a number line Compare objects to 1000 using <> = Compare numbers to 1000 Order numbers to 1000 Problem solving
Week 3	 Compare numbers to 1000 using <> = Odd / even numbers Doubles / halves Use number facts to solve problems e.g. I know that 40 + 50 is 90 because 4 + 5 =9 Recall 3x table facts 	 Counting in 50s and 100s. Counting in 4s. 	•O'clock/ half past/ quarter to and past •Name 3D shapes Cone/ sphere/ tetrahedron/ cuboid/ cylinder/ cube/ triangular prism/ square-based pyramid	 Solve missing number problems with 1 and 2 digits Solve one-step addition and subtraction problems with: a two digit number and ones a two digit number and tens two two-digit numbers Solve addition and subtraction adding three one-digit numbers
Week 4	Addition and subtraction facts to 20 and 100.	•Add and subtract multiples of 10/100 •Counting in 4s	•O'clock/ half past/ quarter to and past	 Use expanded formal method to: Add a 2-digit and 3-digit number – not crossing 10 or 100 Add a 2-digit and 3-digit number – crossing 10 or 100

	 Add and subtract 2-digit numbers and 1s, 2-digit numbers and 10s. Add three 2-digit numbers Odd/even numbers Number bonds to 20/100 		•Identify 3D shapes from properties	 Add two 3-digit numbers – not crossing 10 or 100 Add two 3-digit numbers – crossing 10 or 100 Problem solve with addition
Week 5	 Add 3-digit and 1- digit numbers – crossing 10 Subtract a 1-digit number from a 3-digit number – crossing 10 Number bonds to 20/100 	 Estimate answers to a calculation. Use the inverse. Recall 4x table facts Missing number problems. 	 Tell the time to the nearest 5mins Recognise 2D shapes from different orientations 	 Use expanded formal method to: Subtract a 2-digit and 3-digit number – not crossing 10 or 100 Subtract a 2digit and 3-digit number – crossing 10 or 100 Subtract two 3-digit numbers – not crossing 10 or 100 Subtract two 3-digit numbers – crossing 10 or 100 Problem solve with subtraction
Week 6	 Related facts and fact families Add 11 Add 12 Add 21 Add 9 	 Add and subtract 100s Add and subtract crossing 100 Recall 4x table facts 	 Tell the time to the nearest 5mins Recognise 3D shapes from different orientations 	 Missing number problems with addition and subtraction using part-whole model Missing number problems with addition and subtraction e.g. 340 - ?? = 300, 535 = 235 + ???, ??? + 140 = 540 Use the inverse to solve problems Estimate answers to addition questions- check with the inverse Estimate answers to subtraction questions- check with the inverse
Week 7	 Add 11 (+ 10, +1) Add 12 (+10, +2) Add 21 (+10, +10, +2) Add / take away 9 from any given number 	•Estimate answers to addition calculations •Add two 3 digit numbers crossing and not crossing 10/100 •Counting in 8s	•Tell the time to the nearest 5mins •Recognise 2D shapes from different orientations	 Representing 3 times tables Multiplying by 3 Dividing by 3 The 3 times-table Problem solving
Week 8	 Add two 3 digit numbers crossing and not crossing 10/100 Number bonds to 20/100/1000 	•Subtract two 3 digit numbers crossing and not crossing 10/100 •Counting in 8s	•Tell time to the nearest minute •Properties of 2D shapes	 Representing 4 times tables Multiplying by 4 Dividing by 4 The 4 times-table Problem solving

Week 9	 Missing numbers addition and subtraction Number bonds to 20/100/1000 	•Addition and subtraction crossing 10/100 •Counting in 8s •Recall 8 times tables facts	•Tell time to the nearest minute •Properties of 3D shapes	 Representing 8 times tables Multiplying by 8 Dividing by 8 The 8 times-table Problem solving
Week 10	•Recognise the value of different coins and notes	•Recall 8 times table facts	 Tell time to the nearest minute Use language relating to dates- days, weeks, months, year 	 Recognise, find and name ½, ¼, 1/3 of a shape or length Recognise, find and name 2/4, 3/4 of a shape or length Recognise, find and name ½, ¼, 1/3 of a set of objects or quantity Recognise, find and name 2/4, 3/4 of a set of objects or quantity Problem solve with fractions
Week 11	 recognise the value of different coins and notes Use language relating to dates- days, weeks, months, year 	Recall 3, 4, 8 times table factsUse the inverse.	 Tell time to the nearest minute Use language relating to dates- days, weeks, months, year 	 Vocab lesson: compare, describe and solve practical problems for: lengths and heights: long/short, longer/shorter, tall/short, double/half mass and weight: heavy/light, heavier than/lighter than capacity and volume: full/empty, more than/less than, half, half full, quarter full time: quicker, slower, earlier, later Problem solve with units of measure
Week 12	 Add coins to find total Use language relating to dates- days, weeks, months, year 	 Recall 3, 4, 8 times table facts Use the inverse. 	•Tell time to the nearest minute •Use language relating to dates- days, weeks, months, year	 Choose the correct unit of measure and problem solve lengths and heights- m/cm/mm mass- kg/g temperature (⁰C) capacity- L/ml Problem solve with a variety of different units
Week 13	 Add coins and notes to find total Use language relating to dates- days, weeks, months, year 	•Recall 3,4,8 times table facts	 Tell time to the nearest minute Use language relating to dates- days, weeks, months, year 	 Tell and write the time to o'clock, half-past, quarter to and past Tell and write time to nearest minute Order and arrange combinations of mathematical objects in patterns Order and arrange combinations of mathematical objects in sequences Problem solve with time
Week 14	Consolidation	Consolidation	Consolidation	 Consolidation or data work: Interpret and construct simple pictograms, tally charts, block diagrams and simple tables Ask and answer questions about totalling and comparing categorical data Address gaps that were identified through assessments

Year 3 Spring Term

	Oral /	' Mental Objectives		
	Revisit	New	Time / Shape	Main Teaching
Week 1	 Identify 1 more or less than a given number Read and write 1-100 in numerals and words Count in steps of 2, 3, 5 and 10 forwards and backwards from any given number Compare and order numbers to 100 using <, >, = 	• Find 10 or 100 more or less than a given number	 Tell time to the nearest minute True and False statements-properties of 2D shapes 	 Vocab lesson: Use objects, pictorial representations and number lines to use language of – equal to, more than, less than, fewer, most and least. Solve one-step addition and subtraction problems including missing number problems <i>including finding the difference</i>. Add and subtract numbers using objects and representations- A two digit number and ones A two digit number and tens Adding three one digit numbers
Week 2	 Count in steps of 50, 100 forwards and backwards from any given number +/- numbers to 20 Find 10 or 100 more or less than a given number 3 x tables x and ÷ 	 Missing number problems to 20 	 Tell time to the nearest minute True and False statements- properties of 2D shapes 	 Add three digit numbers using formal methods not exchanging Add three digit numbers using formal methods exchanging Subtract three digit numbers using formal methods not exchanging Subtract three digit numbers using formal methods exchanging Problem solve with addition and subtraction using a variety of contexts
Week 3	 Count in steps of 50, 100 forwards and backwards from any given number +/- numbers to 100 Find 10 or 100 more or less than a given number 3, 4 x tables x and ÷ Missing number problems using hundreds 		 Tell time to the nearest minute True and False statements-properties of 2D shapes 	 Solve multiplication problems with calculations within the multiplication tables Solve multiplication problems using Materials Arrays Repeated addition Problems in a variety of contexts
Week 4	 Count in steps of 50, 100 forwards and backwards from any given number +/- numbers to 100 		 Tell time to the nearest minute True and False statements- 	 Comparing multiplication statements using <> = and correct vocabulary: less than, greater than, equal to Related multiplication calculations Intro to formal layout- multiply 2 digits by 1 digit Multiply 2 digits by 1 digit- correspondence problems

	 Find 10 or 100 more or less than a given number 3, 4 x tables x and ÷ missing number problems Missing number problems using hundreds 		properties of 2D shapes	Multiply 2 digits by 1 digit- integer scaling
Week 5	 Count in steps of 50, 100 forwards and backwards from any given number +/- numbers to 100 Find 10 or 100 more or less than a given number 3, 4, 8 x tables x and ÷ missing number recall Missing number problems using hundreds 		 Tell time to the nearest minute Identify ¹/₂, ¹/₄, ³/₄ of a shape 	 Comparing division statements using < > = and correct vocabulary: <i>less than, greater than, equal to</i> Related multiplication calculations Intro to formal layout- Divide 2 digits by 1 digit Divide 2 digits by 1 digit – with exchanging Divide 2 digits by 1 digit - problem solving
Week 6	 Count in steps of 2, 3, 5 and 10 forwards and backwards from any given number 3, 4, 8 x tables x and ÷ 		 Tell time to the nearest minute Identify ¹/₂, ¹/₄, ³/₄ of a shape 	 Find ½, 1/3, ¼, 2/4 and ¾ of a length, shape, object or quantity Recognise the equivalence of 2/4 and 1/2 Recognise unit fractions and non-unit fractions Count up and down in tenths, recognise that tenths arise when objects/amounts are divided by 10 Problem solve using tenths
Week 7	 Identify value of groups of coins 3, 4, 8 x tables x and ÷ 	 Compare unit fractions Count up and down in tenths 	 Tell time to the nearest minute Identify tenths 	 Compare and order unit fractions and fractions with the same denominators Recognise, find and write fractions of a discrete set of objects- fractions with small denominators- practical Recognise, find and write fractions of a discrete set of objects- fractions with small denominators- pictorial Problem solve with fractions with small denominators Recognise and show equivalent fractions with the small denominators
Week 8	 Identify value of groups of coins 3, 4, 8 x tables x and ÷ 	 Compare unit fractions Count up and down in tenths 	 Tell time to the nearest minute Identify tenths of a shape 	 Add fractions with the same denominator within one whole Subtract fractions with the same denominator within one whole Problem solve with adding and subtracting fractions with small denominators Practical: combine amounts to make a particular value Add coins using £ and p in practical settings
Week 9	• Count in steps of 2, 3, 5 and 10 forwards and	• Count up and down in tenths	• Tell time to the nearest minute	 Subtract coins using £ and p in practical settings Add and subtract in a practical setting giving change

	 backwards from any given number Identify value of groups of coins Describe positions and movement incl. turns 3, 4, 8 x tables x and ÷ 	• Compare values e.g. 127 <u> </u> £1.16	 Describe position, directions and movement e.g. half, quarter and three-quarter turns 	 Compare and order length using < > = (incl. problem solving) Compare and order mass using < > = (incl. problem solving) Compare and order capacity using < > = (incl. problem solving)
Week 10	 Count in steps of 2, 3, 5 and 10 forwards and backwards from any given number Identify value of groups of coins 3, 4, 8 x tables x and ÷ Compare lengths 	 Compare values e.g. 127 £1.16 Compare lengths, mass, capacity Identify correct tool to measure e.g what should I use to measure a door? A pencil? The playing field? 	 Tell time to the nearest minute Describe position, directions and movement e.g. half, quarter and three-quarter turns 	 Measure lengths accurately in m Measure lengths accurately in cm Measure lengths accurately in mm Problem solving with measure Problem solve with the properties of 2D and 3D shapes
Week 11	 Identify value of groups of coins 3, 4, 8 x tables x and ÷ 	 Compare values e.g. 127£1.16 Compare lengths, mass, capacity Identify correct tool to measure e.g what should I use to measure a door? A pencil? The playing field? 	Tell time to the nearest minute	 Introduce perimeter using 2D shapes Calculate perimeter Calculate perimeter Problem solve with perimeter
Week 12				 Consolidation, addressing gaps from assessments, statistics Interpret and present data using bar charts, pictograms and tables (if not covered in science, geography, history or other topic work)

Year 3 Summer Term

	Oral / Mental Objectives		
	Number Time / Shape		Main Teaching
			(remember to include reasoning and empty boxes)
Week	• Identify 1 more or less than a given number	• Tell time to the	• Identify, represent and estimate numbers using different representations.
1	• Read and write 1-100 in numerals and words	nearest minute	Estimate numbers on a number line.
	• Count in steps of 2, 3, 5 and 10 forwards and	 True and False 	 Use place value and number facts to solve problems
	backwards from any given number	statements-	Compare and order numbers to 1000
	• Compare and order numbers to 100 using <, >, =	properties of 2D	Read and write numbers to 1000 in numerals and words
	• Find 10 or 100 more or less than a given number	shapes	
Week	• Count in steps of 50, 100 forwards and backwards	• Tell time to the	Add three digit numbers using formal methods not exchanging
2	from any given number	nearest minute	Add three digit numbers using formal methods exchanging
	 +/- numbers to 20 	True and False	Subtract three digit numbers using formal methods not exchanging
	• Find 10 or 100 more or less than a given number	statements-	Subtract three digit numbers using formal methods exchanging
	• 2, 5, 10x tables x and ÷	properties of 3D	• Problem solve with addition and subtraction using a variety of contexts
	 Missing number problems to 20 	shapes	including missing number problems
XA7 1			
Week	• Count in steps of 50, 100 forwards and backwards	• Tell time to the	 Comparing multiplication statements using <> = and correct vocabulary:
3	from any given number	nearest minute	less than, greater than, equal to
	• +/- numbers to 100	Irue and Faise	• Multiplication with formal method (three lessons) with reasoning
	 Find 10 or 100 more or less than a given number 2.4 w tables word : 	properties of 2D	Problem solving with multiplication- 2 step problems in a variety of contexts
	 5, 4 x tables x and ÷ Missing number problems using hundreds 	and 3D shapes	
	Missing number problems using numbereds	and 5D shapes	
Week	• Count in steps of 3, 4 and 8 forwards and	• Tell time to the	 Comparing division statements using < > = and correct vocabulary: less
4	backwards from any given number	nearest minute	than, areater than, equal to
	• +/- numbers to 100	• Identify ¹ / ₂ , ¹ / ₄ , ³ / ₄	• Division with formal methods (three lessons) with reasoning
	• Find 10 or 100 more or less than a given number	of a shape	Problem solving with division- 2 step problems in a variety of contexts
	• 3, 4, 8 x tables x and ÷ missing number problems	-	
	• Missing number problems using hundreds		
Week	• Count in steps of 3, 4 and 8 forwards and	• Tell time to the	Recognise equivalent fractions
5	backwards from any given number	nearest minute	Problem solve using fractions
	 +/- numbers to 100 	• Identify ¹ / ₂ , ¹ / ₄ , ³ / ₄	Compare and order unit fractions and fractions with the same
	• Find 10 or 100 more or less than a given number	of an amount	denominators
	• 3, 4, 8 x tables x and ÷ missing number recall		• Recognise, find and write fractions of a discrete set of objects- fractions
	Missing number problems using hundreds		with small denominators- pictorial
			Problem solve with fractions with small denominators

Week 6	 2, 5, 10 times tables 3, 4, 8 x tables x and ÷ Add and subtract numbers to 100 	 Tell time to the nearest minute Add fractions with the same denominator 	 Add fractions with the same denominator within one whole Subtract fractions with the same denominator within one whole Problem solve with adding and subtracting fractions with small denominators Practical: combine amounts to make a particular value Add coins using £ and p in practical settings
7	 Identify value of groups of coins 3, 4, 8 x tables x and ÷ Compare unit fractions Count up and down in tenths 	 Tell time to the nearest minute Subtract fractions with the same denominator Identify tenths 	 To estimate, compare and order length using <> = (incl. problem solving, addition and subtraction) To estimate, compare and order mass using <> = (incl. problem solving, addition and subtraction) To estimate, compare and order capacity using <> = (incl. problem solving, addition and subtraction) Problem solving using different units of measure Problem solve with the properties of 2D and 3D shapes
Week 8	 Identify value of groups of coins 3, 4, 8 x tables x and ÷ Compare unit fractions Count up and down in tenths 	 Convert analogue and digital time- 12hr Add and subtract fractions with the same denominator Identify tenths of a shape 	 Know the number of seconds in a minute, days in a month, year and leap year Tell and write the time from an analogue clock- 12hr Tell and write the time from an analogue clock 24hr Compare durations of events e.g. calculate the time taken to complete a particular event or task. Problem solve with time
Week 9	 Count in steps of 2, 3, 5 and 10 forwards and backwards from any given number Identify value of groups of coins Describe positions and movement incl. turns 3, 4, 8 x tables x and ÷ Count up and down in tenths Compare values e.g. 127£1.16 	 Convert analogue and digital time- 24hr Describe position, directions and movement e.g. half, quarter and three-quarter turns 	 Identify angles, recognize that two right angles make a half turn, three make three quarters of a turn and four complete a turn Identify if an angle is greater than or less than a right angle Reasoning with angles Use mathematical vocab to describe position, direction and movement, incl movement in a straight line and distinguishing between rotation as a turn in terms of right angles for quarter, half and three quarter turns- clockwise and anti-clockwise Map work using directions
Week 10	 Count in steps of 2, 3, 5 and 10 forwards and backwards from any given number Identify value of groups of coins 3, 4, 8 x tables x and ÷ Compare lengths 	 Convert analogue and digital time- 24hr Describe position, directions and movement e.g. half, quarter and three- quarter turns 	 Consolidation, addressing gaps from assessments, statistics Interpret and present data using bar charts, pictograms and tables Solve one-step and two-step questions (e.g. 'How many more?' and 'How many fewer?' using information presented in scaled bar charts, pictograms and tables (if not covered in science, geography, history or other topic work)

Year 4 Aut Term (not including problem solving day, TT Rock stars and fortnightly timed Arithmetic test)

	Oral / Mental Objectives		s	
	Revisit	New	Time / Shape	Main Teaching
				(remember to include reasoning and empty boxes)
Week	Read write	Counting back to	2d names — square,	Use <,>, = to compare number to 1000
1	numbers 0 -1000	include negative	rectangle, triangle, circle,	Compare numbers beyond 1000
		numbers	trapezium, parallelogram,	Represent each digit – start 2 digit, move to 3 digit
			kite, octagon, hexagon	Find 1000 more or less than a given number
Week	2,5,10, 3	Rounding numbers	2d properties — sides,	Count backwards through zero to include negative numbers
2	timetables		vertices, lines of symmetry, parallel sides, right angles	
Week	2,5,10, 3	Rapid recall of number	Tell time revisit ¼ to	Round numbers to nearest 10, 100 or 1000 – include money e.g round £46 or £654
3	timetables	facts	and 1/4past	Read roman numerals (1 day)
Week	Place number on	Rapid recall of facts	Clock in roman	I can add two 2-digit numbers using informal /formal method
4	blank number line	linked to known facts	numerals	I can add two 3-digit numbers using informal / formal method
		(7 +3 = 10 so 27+3=30)		I can add 4-digit numbers using a formal method
				I can estimate before adding (using rounding from previous wk)
				(see calculation policy for informal and formal methods for Yr 4)
Week	Count in 4s	Recognise coins and	Clock in roman	I can subtract two 2-digit numbers using informal /formal method
5		notes	numerals	I can subtract two 3-digit numbers using informal / formal method
				I can subtract 4-digit numbers using a formal method
				I can estimate before I subtract (using rounding from previous wk)
				(see calculation policy for informal and formal methods for Yr 4)
Week	Count in 50s	Multiply 2- and 3-digit	Names of 3d shapes –	I can add / subtract 4-digit numbers using money including giving change (not decimals)
6	Count in 100s	numbers by 10	triangular based pyramid,	I can choose the appropriate operation when calculating
			square based pyramid,	
			cylinder	
Week	Count in 4s link to	Find factor families	Properties of 3d	I can multiply and divide by 10 and 100, explaining the effect on each digit
7	8s		shapes — vertices, face,	I can divide amounts of money by 10 and 100
			edge, cross section, prism	
Week	Multiply by 10,	Find ½, ¼, 2/4, 3/4 of a	Tell time to nearest 5	I can find fractions of amounts /quantities – $\frac{1}{2}$, $\frac{1}{4}$, 2/4, $\frac{3}{4}$,1/3, 1/5, 2/5 etc
8	100, 1000	shape	mins	I can solve problems involving fractions, using the bar model to help
Week	Divide by 10, 100,	Add / subtract 3	Tell time to nearest 5	l can convert between km to m
9	1000	numbers	mins	I can convert between £ and pence
				I can add and subtract with length and money (m, cm, mm),

Week 10	Times tables 3s	Negative numbers forward and backwards	2d names — square, rectangle, triangle, circle, polygon, quadrilateral, trapezium, parallelogram, kite, octagon, hexagon	I can calculate the perimeter of squares and rectangles by counting squares I can calculate the area of squares and rectangles by counting squares
Week	Times tables 3s	Rapid recall of number	Names of 3d shapes –	I can identify 2d shapes and their properties including number of sides, number of
11	and 6s	facts to 100	cube, cuboid, sphere, triangular based pyramid, square based pyramid, triangular prism, prism, cone, cylinder	vertices, number of right angles, pairs of parallel sides, I can compare 2d shapes explaining similarities and differences
Week	Fractions of	Number patterns	Tell time to nearest 5	I can identify 3 d shapes and their properties including shape of and number of faces,
12	amounts		mins	vertices, cross section,
				I can compare 3d shapes explaining similarities and differences
Week	Conversions km to	Find difference	Conversion of days to	I can tell the time to the nearest 5 minutes
13	m and m to km	between two different	weeks, months to	I can convert between minutes and hours.
		times	years	
Week	Rapid recall of	Add to a time	Conversion of weeks	I can interrupt data and answer 1 or 2 step questions from bar charts, pictograms and
14	number facts to	(what is 90 mins later	per year, days per	tables
	100	than?)	week etc	I can present data in bar charts, pictograms and tables

Year 4 Spring Term (not including problem solving day, TT Rock stars and fortnightly timed Arithmetic test)

	Oral / Mental Objectives			
	Revisit	New	Time / Shape	Main Teaching (remember to include reasoning and empty boxes)
Week 1	Find ½, ¼, 1/3, 2/4 of shape and amount	Counting forward and back in decimals (hundredths and tenths)	Names of 2d and 3d shapes	Multiply by 10 & 100 (including decimals) Divide by 10 & 100 (including decimals)
Week 2	Multiples of 25/100	Compare and order decimals using < = >	Properties of 2D shapes	Convert CM to M and M to CM Convert Gr to Kg and Kg to Gr
Week 3	Times tables and division facts	Round decimals to nearest whole Find fraction families	Properties of 3D shapes	Find equivalent Fractions and compare fractions – using diagrams and then calculations (1/4, ½, ¾, 2/4, 1/3) Find equivalent fractions to decimals
Week	Times tables and	Compare numbers to same	Tell time to 5 mins	Simplify fractions
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4	division facts	decimal place	analogue and digital	Find equivalent fractions to decimals
		Convert fractions to		
		decimals		
24/2 - 1	** **********************************	De se inde se	T . U. C F	
Week	limes tables and	Remainders	Tell time to 5 mins	Find fractions of amounts,
5	division facts	Multiply 3 numbers	analogue and digital	including length, weight and money to 2 decimal places
Week	Round to nearest	Recognise coins and notes	Read 24-hour clock	Multiply 2- and 3-digit numbers by 1 digit using the grid and column methods of
6	10/100/1000	_		multiplication
				Understand and use distributive law to multiply 2 digits by 1 digit
Week	Order and compare	Add / subtract 2 or 3 coins	Read 24-hour clock	Find division with remainders by counting up
/	fractions and decimals			Find division with remainders by using the short method
Week	Times tables and	Find factor families	Identify different	Add 3 or 4 different amounts of money, including pounds and pence
8	division facts		triangles and	Solve 1 and 2 step addition problems involving money
			quadrilaterals	
Week	Multiply by 10/100	Multiply and divide by 0 and	Identify acute /	Solve 3 digit subtract 2-digit calculations (incl crossing the boundary)
9		1	obtuse angles	Find change up to £10
				Solve 1 and 2 step subtraction problems involving money
Week	Divide by 10/100	Use inverse to calculate	Read 24-hour clock	Read 24-hour clock, read analogue clock
10		multiplication and division		Solve problems converting nours in day, mins in nour, seconds in mins, months
				in years, days in week
Week	Times tables and	Rapid recall addition and	Position and	Identify lines of symmetry of 2d shapes in different orientations
11	division facts	subtraction	direction -	
			up/down/left/right	
			¼, ½ turns	
Week	Revisit Roman	Equivalent fractions and		Plot coordinates of given polygon, describe position of polygon in first quadrant
12	numerals	decimals	Read coordinates	Find missing coordinates of given polygon
				Translate shapes and describe new position using up/down/left/right

Year 4 Summer Term (not including problem solving day, TT Rock stars and fortnightly timed Arithmetic test)

	Oral / Mental Objectives			Main Teaching			
		-		(remember to include reasoning and empty boxes)			
	Revisit	New	Time / Shape				
W e k 1	Times tables	Counting in negative numbers	Read analogue clock	Count backwards through zero to include negative numbers (e.g find difference between two numbers on a number line) Solve comparison, sum and difference problems using information presented in bar charts / pictograms/ tables and other graphs (complete on Thurs / Fri using negative numbers as well)			
W e k 2	Times tables	Count in multiples of 25	Revisit names of 2d shapes and properties	Add / subtract 2 4- digit numbers (for GD miss digits in calculations, for Exp present calculations in different ways, as seen in Arithmetic paper) Solve addition and subtraction two step problems. Decide which operation and methods to use			
W e k 3	Rounding to 1 decimal place and whole number	Count in multiples of 1000	Revisit quadrilateral, polygons etc	Identify acute and obtuse angles Compare and order angles up to two right angles by size Complete a simple symmetric figure with respect to a specific line of symmetry			
W e k 4	Timetables	Count in multiples of 9 – can they see a pattern in the digits to help to help?	Revisit triangles and angles from previous week	Compare and classify geometric shapes, including triangles and quadrilaterals based on properties and size. (Use a Venn diagram and Carol Diagrams for this. For GD make criteria more complex or children choose own criteria, for Exp give criteria) Plot specified points and draw sides to complete given polygon (E.g see Yr 6 SATs questions)			
W e k 5	Factor pairs	Count in multiples of 3 – can they see how to identify a multiple of 3 (e.g 114 is a multiple of 3 because)	Read analogue clock	Find common equivalent fractions Find fractions of quantities (e.g ¾ of 120m or ¼ of £80) (Have the need to convert first e.g ½ of 0.8m or ¾ of 1.2kg – this will need modelling) Find decimal equivalence – ½, ¼, ¾ (link this with finding fractions of quantities e.g what is 0.25 of £32?) Solve simple measures and money problems involving and decimals to 2 decimal places.			
	Half Term						

W		Count in multiples	Convert	Recognise and use factor pairs and commutativity (e.g 4 +2 x 3)				
е		of 6 – can they see	analogue to	Multiply 2 digit and 3-digit numbers by 1 digit				
е	Fractions –	how to identify	12hr clock	(For GD remove digits from a completed calculation and reason why)				
k	equivalence	linked to multiple of		Divide 4 digit by 1-digit number using formal written method				
6		3?		(For GD remove digits from a completed calculation and reason why)				
				Solve 2 step problems involving multiplication or division				
				(include reasoning with multiplication and division in questions modelled and given)				
w				Convert time from analogue clock to 12- and 24-hour clock				
е	Fractions –	Round decimals	Convert	Convert hours to minutes				
е	find fractions		analogue clock	Convert minutes to seconds				
k	of amounts		to 24hr	Convert years to months etc				
7				(Complete these in problem solving context, not just as standalone conversions)				
w	Timetables		Convert	Solve simple measure and money problems – revisit all four operations, fractions and decimals within this.				
е		Round decimals	analogue clock	Interpret and present discrete and continuous data using appropriate methods charts / graphs				
е			to 24hr					
k								
8								
w	Timetables	Complete online Year 4 Multiplication Test						
е								
е			R	Revision misconceptions from previous two terms prior to assessment				
k				Revisit anything from Autumn Term not visited in Spring or Summer				
9			1					
w				Interpret and present discrete and continuous data using appropriate methods charts / graphs				
е	Multiply and	Conversions	Days, weeks,	Solve comparison, sum and difference problems using information presented in bar charts / pictograms/				
е	divide by 10,		years, months,	tables and other graphs				
k	100 and 1000		hour, second					
1			conversions					
0								
W				Transition to new classes				
е								
e								
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Year 5 Aut Term (not including problem solving day, TT Rock stars and fortnightly timed Arithmetic test)

		Oral / Mental Objective	s	
	Revisit	New	Time / Shape	Main Teaching (remember to include reasoning and empty boxes)
Week 1	Read write numbers 0 -1000	Counting forward and back in steps of power of 10	2d names — square, rectangle, different triangles, circle, polygon, quadrilateral, trapezium, parallelogram, kite, octagon, hexagon	Using =, <, > Read, write and compare numbers to 1,000,000 in numerals and words Read roman numerals to 1,000 (M) and Recognise years written in Roman Numerals Recognise the value of each digit up to 1,000,000
Week 2	Fond 10 / 100 / 1000 more or less than given number	Rounding numbers to 100, 1000, 10,000	2d properties — sides, vertices, lines of symmetry, parallel sides, right angles	
Week 3	Timetables rapid recall to 12 x 12	Count forward and back with positive and negative number	Revisit telling time to nearest minute on analogue clock	Round numbers up to 1,000,000 to nearest 10, 100 or 1000, 10,000 and 100,00 – include money e.g. round £46, 544 or £654, 232
Week 4	Place number incl negative numbers on blank number line	Add and subtract 3 digit and ones and 10's	Revisit telling time to nearest minute on analogue clock	I can add whole numbers with more than 4 digits using a formal method I can estimate before adding (using rounding from previous wk) (see calculation policy for informal and formal methods for Yr 5) I can solve problems including missing numbers
Week 5	Counting forward and back in steps of power of 10	Add and subtract 3 digit and 10's and 100s	Convert times to digital, 24hr and analogue	I can subtract whole numbers with more than 4 digits using a formal method I can estimate before I subtract (using rounding from previous wk) (see calculation policy for informal and formal methods for Yr 4) I can solve problems including missing numbers
Week 6	Timetables rapid recall to 12 x 12	l can Recognise square numbers	Names of 3d shapes – cube, cuboid, sphere, triangular based pyramid, square based pyramid, triangular prism, prism, cone, cylinder	I can add / subtract 4-digit numbers using money including giving change (not decimals) I can choose the appropriate operation when calculating I can solve problems including missing numbers
Week 7	I can Recognise square numbers	Multiply by 10, 100, 1000	Properties of 3d shapes – vertices, face, edge, cross section, prism	I can multiply and divide by 10, 100 and 1000 explaining the effect on each digit I can multiply and divide amounts of money by 10, 100 and 1000
Week 8	Timetables rapid recall to 12 x 12	Add and subtract fractions with the same denominator	Convert times to digital, 24hr and analogue	I can find fractions of amounts /quantities I can solve problems involving fractions
Week 9	Count forward and back with positive and negative number	Add / subtract numbers mentally	Conversion between days / hours / mins	I can add and subtract with length and weight I can add and subtract with money (m, cm, mm), giving change where appropriate

Week	Fractions of	I can Recognise cubed	2d names – square,	I can calculate the perimeter of shapes in CM and M
10	amounts	numbers	rectangle, triangle, circle,	I can calculate the area of shapes in CM and M
			trapezium, parallelogram, kite, octagon, hexagon	I can estimate the area of irregular shapes
Week	Timetables rapid	Making turns	Names of 3d shapes –	I can compare and classify geometric shapes based on their properties including different
11	recall to 12 x 12	1/2, 1/4, 3/4	cube, cuboid, sphere,	quadrilaterals and triangles
			square based pyramid,	
			triangular prism, prism, cone,	
			cylinder	
Week	I can Recognise	Number patterns	Conversion between	I can identify right angles, recognise right angles make a ½ turn, three make ¾ turn and 4
12	cubed numbers		days / weeks/months	make complete turn
			/years	I can say if an angle is greater or less than a right angle
Week	Calculate area of	Find difference	Revisit telling time to	Plot specific points and draw sides to complete a given polygon using coordinates
13	squares and	between two different	nearest minute on	Predict missing coordinates using known facts
	rectangles	times	analogue clock	
Week	Rapid recall of	Add / subtract	Conversion between	I can interpret and present discrete and continuous data including time graphs
14	number facts	numbers mentally	days / weeks/months	I can solve comparison, sum and difference problems using information in bar charts,
			/years	tables and other graphs

Year 5 Spring Term (not including problem solving day, TT Rock stars and fortnightly timed Arithmetic test)

		Oral / Mental Objective	S	
	Revisit	New	Time / Shape	Main Teaching
				(remember to include reasoning and empty boxes)
Week	Multiply whole	Find all factor pairs of a	Read analogue clocks	Place value – rounding to the nearest 10, 100, 1000, 10,000 and 100,000
1	numbers by 10,	number	to the nearest	Read negative numbers, count forward and back between negative and positive numbers
	100, 1000		minute.	including through 0
Week	Divide numbers by	Identify multiples of a	Read analogue clocks	Multiplying 4-digit numbers by a 1- or 2-digit number using a formal method including
2	10, 100, 1000	given number	to the nearest	money.
			minute.	
Week	Counting forward	Convert between cm /	Read analogue clocks	Divide 4-digit number by 1 digit number suing a formal method of short division
3	and back in	m, ml / l	to the nearest	calculating the remainder (remainders as decimal/ fraction)
	negative numbers		minute.	
Week	Revisit up to 12 x	Identify prime	Convert 24 hour to	Convert between different units of metric measure
4	12	numbers to 100	analogue clock times.	

Week	Add and subtract	Add numbers mentally	Convert 24 hour to	Solve problems involving converting between units of time.
5	fractions with the	e.g. 12,462 + 2,300	analogue clock times.	
	same denominator	=14,762		
Week	Revisit up to 12 x	Subtract numbers	Revisit properties of	Data – read and interpret information in tables and line graphs to solve comparison, sum
6	12	mentally	2D shapes	and difference
		12,462 – 2,300		
Week	Find all factor pairs	Read and order		Compare and order fractions whose denominators are all multiples of the same number
7	of a number	numbers to 3 decimal	Revisit	Recognize mixed numbers and improper fractions and convert from one to another e.g.
	Identify multiples	places.	properties of 3D	2/5 + 4/5 = 6/5 =1 1/5
	of a given number		shapes	
Week	Identify prime	Know decimal, fraction	Recognize acute,	Read and write decimal numbers as a fraction e.g. 0.71 = 71/100
8	numbers to 100	& percentage	obtuse and reflex	
		equivalence	angles	
Week	Counting forward		Recognize acute,	Solve problems that require knowing decimals and percentage equivalence
9	and back in		obtuse and reflex	
	negative numbers		angles	
Week	Add numbers	Recognize years	Convert between	Draw angles and measure them in degrees to the nearest degree.
10	mentally e.g.	written in Roman	days, months & years	Compare acute, obtuse and reflex angles
	12,462 + 2,300	numerals		
	=14,762			
Week	Subtract numbers		Convert between	Use the properties of rectangles to deduce elated facts and missing lengths and angles.
11	mentally		days, months & years	
	12,462 – 2,300			
Week		Revisit fractions		Calculate the area of regular shapes, estimate the areas of irregular shapes
12				

Year 5 Summer Term (not including problem solving day, TT Rock stars, Mathletics and fortnightly timed Arithmetic test)

		Oral / Mental Objective	S	
	Revisit	New	Time / Shape	Main Teaching
				(remember to include reasoning and empty boxes)
Week	Multiply & Divide	Find all factor pairs of a	Read analogue clocks	Solve number problems & practical problems involving place value, negative numbers,
1	numbers by 10,	number	to the nearest	rounding and estimating.
	100, 1000		minute.	
Week	Squared and	Identify prime &	Read analogue clocks	Estimate before adding and subtracting whole numbers.
2	cubed numbers	composite numbers to	to the nearest	Add and subtract whole numbers with more than 4 digits – including use of formal
		100	minute.	written methods and missing numbers.
Week	Counting forward	Adding fractions with	Read analogue clocks	Solve problems involving addition and subtraction, multiplication and division, and a
3	and back in	the same denominator.	to the nearest	combination of these.
	negative numbers		minute.	Solve problems involving multiplication and division using knowledge of factors and
				multiples, squares and cubes.
Week	Revisit up to 12 x	Converting improper to	Convert 24 hour to	Add and subtract fractions with the same denominator and denominators that are
4	12	mixed fractions	analogue clock times.	multiples of the same number.
Week	Add and subtract	Know decimal, fraction	Convert 24 hour to	Multiply proper fractions and mixed numbers by whole numbers supports by materials
5	fractions with the	& percentage	analogue clock times.	and diagrams.
	same denominator	equivalence		
Week	Revisit up to 12 x	Subtract numbers	Convert between	Read, write, order and compare numbers with up to three decimal places.
6	12	mentally	days, months & years	Round decimals with two decimal places to the nearest whole number and to one
		12,462 – 2,300		decimal place.
				Solve problems involving number up to three decimal places
Week		Add numbers mentally	Convert	Recognise the per cent % symbol and understand that per cent relates to 'number of
7	Identify multiples	e.g. 12,462 + 2,300	between days,	parts per hundred'
	of a given number	=14,762	months & years	Write percentages as a fraction with denominator 100 and as a decimal.
Week	Identify prime	Convert between cm /	Names of 2D and 3D	Understand and use appropriate equivalences between metric units and common
8	numbers to 100	m. ml / l	shanes	imperial units such as inches nounds and nints.
,		, , .	5114465	
Week	Counting forward	Areas to be revisited.	Symmetry of 2D	Estimate volume (for example, using 1 cm3 blocks to build cuboids (including cubes)) and
9	and back in		shapes	capacity (for example using water)
	negative numbers			

Week	Add numbers	Recognize years	Recognize acute,	Review and recap the properties of 2D and 3D shapes
10	mentally e.g.	written in Roman	obtuse and reflex	
	12,462 + 2,300	numerals	angles	
	=14,762			
Week	Subtract numbers	Areas to be revisited.	Recognize acute,	Identify, describe and represent the position of a shape following a reflection or
11	mentally		obtuse and reflex	translation, using the appropriate language, and know that the shape has not changed.
	12,462 – 2,300		angles	
Week	Revisit fractions			Review angles – recognizing, naming and drawing using a protractor.
12				

Year 6 Aut Term (not including problem solving day, TT Rock stars and fortnightly timed Arithmetic test)

	Ora	I / Mental Objective	s	
	Revisit / New		Time / Shape	Main Teaching (remember to include reasoning and empty boxes)
Week 1	Multiply and divide numbers mentally drawing upon known facts.	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	Read, write and convert time between analogue and digital 12- and 24-hour clocks.	Round any whole number to a required degree of accuracy. Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. Identify the value of each digit in numbers given to three decimal places. Identify common factors, common multiples and prime numbers.
Week 2	Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero.	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	Read, write and convert time between analogue and digital 12- and 24-hour clocks.	
Week 3	multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places	Use negative numbers in context and calculate intervals across zero.	Read, write and convert time between analogue and digital 12- and 24-hour clocks.	Use negative numbers in context and calculate intervals across zero. Convert between different units of metric measure (for example, km/ m; cm/m; cm/ mm; g/kg; l/ml). Solve number and practical problems that involve negative numbers and conversions of measure

Week	Use negative numbers in	Round any whole	Read, write and	Add whole numbers with more than 4 digits.
4	context and calculate	number to a	convert time	
	intervals across zero.	required degree	between analogue	Use estimation to check answers to calculations and determine, in the context of a
		of accuracy.	and digital 12- and	problem, an appropriate degree of accuracy
			24-hour clocks.	
Week	Multiply and divide	Recognise	Know and describe	Subtract whole numbers with more than 4 digits.
5	numbers mentally	equivalent	properties 2D shape	
	drawing upon known	fractions		Use estimation to check answers to calculations and determine, in the context of a
	facts.			problem, an appropriate degree of accuracy
Week	Multiply and divide	Recognise	Know and describe	Solve addition and subtraction multi-step problems in contexts, deciding which
6	numbers mentally	equivalent	properties 2D shape	operations and methods to use and why.
	drawing upon known	fractions		
	facts			Solve problems involving converting between units of time.
				Interpret pie charts and line graphs and use these to solve problems.
				Use estimation to check answers to calculations and determine, in the context of a
				problem, an appropriate degree of accuracy
Week	Multiply and divide	Generate and	Know and describe	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal
7	numbers mentally	describe linear	and compare	written method of long multiplication.
	drawing upon known	number	properties of a circle	
	facts.	sequences.	and know the	Multiply one-digit numbers with up to two decimal places by whole numbers.
			diameter is doubles	
			the radius	Use estimation to check answers to calculations and determine, in the context of a
				problem, an appropriate degree of accuracy
Week	Multiply and divide	Generate and	Know, describe and	Divide numbers up to 4 digits by a two-digit number and interpret remainders as whole
8	numbers mentally	describe linear	compare properties	number remainders, fractions, or by rounding, as appropriate for the context.
	drawing upon known	number	of triangles	Use written division methods up to 2 decimals places
	facts.	sequences.		Use estimation to check answers to calculations and determine, in the context of a
				problem, an appropriate degree of accuracy
Week	Compare and order	Generate and	Calculate missing	Solve problems involving multiplication and division
9	fractions whose	describe linear	angles of triangle	Solve problems which require answers to be rounded to specified degrees of accuracy.
	denominators are all	number		Use all four operations to solve problems involving measure [for example, length, mass,
	multiples of the same	sequences.		volume, money] using decimal notation, including scaling.
	number	-		
				Calculate and interpret the mean as an average.

Week	Add and subtract	Generate and	Calculate missing	Compare and order fractions, including fractions > 1.
10	fractions with the same	describe linear	angles of triangle	Use common factors to simplify fractions; use common multiples to express fractions in
	denominator.	number		the same denomination
		sequences.		
Week	Add and subtract	Identify common	Know, describe and	Add and subtract fractions with different denominators and mixed numbers, using the
11	fractions with the same	factors, common	compare properties	concept of equivalent fractions.
	denominator.	multiples and	3D shape and their	
		prime numbers.	nets	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
Week	Identify common factors	Recall and use	Know, describe and	Multiply simple pairs of proper fractions, writing the answer in its simplest form [for
12	and multiples	equivalences	compare properties	example, $1/4 \tilde{N} 1/2 = 1/8$
	-	between simple	3D shape and their	Divide proper fractions by whole numbers [for example, $1/3 \div 2 = 1/6$].
		fractions,	nets	
		decimals and		
		percentages,		
Week	Identify common factors	Multiply one-	Know, describe, and	Solve problems involving unequal sharing and grouping using knowledge of fractions and
13	and multiples	digit numbers	compare properties	multiples.
		with up to two	3D shape and their	Solve problems which require answers to be rounded to specified degrees of accuracy.
		decimal places by	nets	
		whole numbers.		
Week	Identify common factors	Use written	Calculate area of	Associate a fraction with division and calculate decimal fraction equivalents [for example,
14	and multiples	division methods	compound shapes	0.375] for a simple fraction [for example, 3/8].
		up to 2 decimals		
		places		

Year 6 Spring Term (not including problem solving day, TT Rock stars and fortnightly timed Arithmetic test)

	Oral / Mental Objectives				
	Revisit	New	Time / Shape	Main Teaching	
				(remember to include reasoning and empty boxes)	
Week	Read, write, order	Multiply and divide	Know angles are		
1	and compare	numbers by 10, 100	measured in degrees:	Use negative numbers in context, and calculate intervals across zero	
	numbers up to 10	and 1000 giving	estimate and		
	000 000 and	answers up to three	compare acute,	Describe positions on the full coordinate grid (all four quadrants).	
	determine the	decimal places.	obtuse and reflex		
	value of each digit		angles		

Week 2	Read, write, order and compare numbers up to 10	Multiply and divide numbers by 10, 100	Use the properties of rectangles to deduce related facts and find	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	
	000 000 and determine the value of each digit	and 1000 giving answers up to three decimal places.	missing lengths and angles.	Solve problems involving the calculation of percentages [for example, of measures, an such as 15% of 360] and the use of percentages for comparison.	
				Use of percentages for comparison. Interpret pie charts and line graphs and use these to solve problems. Construct pie charts and line graphs	
Week 3	Describe positions on the full	Write percentages as a fraction with	Use the properties of rectangles to deduce	Enumerate possibilities of combinations of two variables	
	coordinate grid (all four quadrants).	denominator 100, and as a decimal	related facts and find missing lengths and	Solve problems involving similar shapes where the scale factor is known or can be found.	
			angles.	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.	
Week	Add and Subtract	Recognise equivalent	Distinguish between	Compare and classify geometric shapes based on their properties and sizes and find	
4	fractions with	fractions	regular and irregular	unknown angles in any triangles, quadrilaterals, and regular polygons	
	different		polygons based on		
	denominators		reasoning about	bout Draw nets of 3D shapes	
			equal sides and	ind	
			angles		
Week	Multiply pairs of	Recognise equivalent	Distinguish between	Recognise angles where they meet at a point, are on a straight line, or are vertically	
5	fractions	fractions	regular and irregular	opposite, and find missing angles.	
			polygons based on		
			reasoning about	Draw 2D shapes using given dimensions and angles	
			equal sides and		
			angles	Draw given angles and measure them in degrees (0).	
Week	Divide fractions	Calculate perimeters of	Know and describe	Describe positions on the full coordinate grid (all four quadrants).	
6	with whole	shapes	and compare		
	numbers		properties of a circle		
			and know the	Draw and translate simple shapes on the coordinate plane and reflect them in the axes.	
			diameter is doubles		
			the radius		
Week	Calculate and	Calculate Area of	Recognise Nets of 3d	Solve addition and subtraction multi-step problems in contexts, deciding which	
7	interpret the mean	shapes	shapes	operations and methods to use and why	
	as an average.			Solve problems which require answers to be rounded to specified degrees of accuracy.	
				Use simple formulae.	
				Express missing number problems algebraically.	

Week	Calculate and	Calculate Area of	Recognise	Solve problems involving multiplication and division, including scaling by simple fractions	
8	interpret the mean	shapes	Nets of 3d shapes	and problems involving simple rates	
	as an average.			Solve problems which require answers to be rounded to specified degrees of accuracy.	
				Use simple formulae.	
				Express missing number problems algebraically.	
Week	Multiply and	Convert between miles	Convert units of time	. Interpret pie charts and line graphs and use these to solve problems.	
9	divide numbers	and kilometres		Solve comparison, sum and difference problems using information in a line graph.	
	mentally drawing			Calculate and interpret the mean as an average	
	upon known facts				
Week	Multiply and	Convert between miles	Convert units of time	Solve problems involving the calculation and conversion of units of measure, using	
10	divide numbers	and kilometres		decimal notation up to three decimal places where appropriate.	
	mentally drawing			Use, read, write and convert between standard units, converting measurements of	
	upon known facts			length, mass, volume and time from a smaller unit of measure to a larger unit, and vice	
				versa, using decimal notation to up to three decimal places.	
				Solve problems involving converting between units of time.	
				Convert between miles and kilometres	
Week	Use negative	Recall and use	Solve problems but	Recognise that shapes with the same areas can have different perimeters and vice versa.	
11	numbers in	equivalences between	converting units of		
	context, and	simple fractions,	time – e.g. timetables	Recognise when it is possible to use formulae for area and volume of shapes.	
	calculate intervals	decimals and		Calculate the area of parallelograms and triangles	
	across zero	percentages, including			
		in different contexts			
Week	Use negative	Recall and use	Solve problems but	Calculate, estimate and compare volume of cubes and cuboids using standard units,	
12	numbers in	equivalences between	converting units of	including cubic centimetres (cm3) and cubic metres (m3), and extending to other units	
	context, and	simple fractions,	time – e.g. timetables	[for example, mm3 and km3].	
	calculate intervals	decimals and			
	across zero	percentages, including			
		in different contexts			

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	Oral / Mental Objectives		ctives	
	Rev	isit/	Time / Shape	Main Teaching
	Ne	ew		(remember to include reasoning and empty boxes)
Week	Interpret pie charts	and line graphs and		Solve problems involving addition, subtraction, multiplication and division with written
1	use these to so	olve problems.	Compare and classify geometric shapes based	reasoning about answers
	Use simple	e formulae.	on their properties and sizes and find unknown	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts.
	Use negative numb	bers in context and	angles in any triangles,	
	calculate interv	als across zero.	quadrilaterals, and regular polygons	Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.
Week	Convert between	different units of	Calculate area /	Solve problems involving the calculation and conversion of units of measure, using
2	2 metric measure (for example, km/ m;		perimeter/ volume	decimal notation up to three decimal places where appropriate.
			Translato / roflast shapos	Lice all four operations to solve problems involving measure [for example, length, mass
	Calculate and interpret the mean as an		in the axis	volume money] using desimal notation including scaling
	average.		in the axis	volume, money] using decimal notation, including scaling
Week	Veek Identify common factors, common		Convert units of time.	Compare and order fractions, including fractions > 1.
•				Add and subtract fractions with different denominators and mixed numbers, using the
	Identify the valu	e of each digit in		concept of equivalent fractions.
	numbers given to th	hree decimal places		
	and multiply and div	vide numbers by 10,		Multiply simple pairs of proper fractions
	100 and 1000 giving	answers up to three		
	decimal places			Divide proper fractions by whole numbers
Week	k Read, write, order Identify common		Find missing angles.	Draw 2-D shapes using given dimensions and angles.
4	and compare numbers up to 10	factors, common multiples and		Recognise, describe and build simple 3-D shapes, including making nets.
	000 000 and	prime numbers		
	determine the			Illustrate and name parts of circles, including radius, diameter and circumference and
	value of each digit.			know that the diameter is twice the radius.

Year 6 Summer Term (not including problem solving day, TT Rock stars and fortnightly timed Arithmetic test)

Week	Read, write, order	Identify common	Find missing angles.	Recognise when it is possible to use formulae for area and volume of shapes.	
5	and compare	factors, common			
	numbers up to 10	multiples and		Recognise that shapes with the same areas can have different perimeters and vice versa.	
	000 000 and	prime numbers.			
	determine the			Calculate the area of parallelograms and triangles.	
	value of each digit.				
Week	Round any whole	Convert between	Describe positions on the	Calculate, estimate and compare volume of cubes and cuboids using standard units,	
6	number to a	different units of	full coordinate grid (all	including cubic centimetres (cm3) and cubic metres (m3), and extending to other units	
	required degree of	measure	four quadrants	[for example, mm3 and km3].	
	accuracy				
Week	Perform mental	Use simple	Describe positions on the	Use, read, write and convert between standard units, converting measurements of	
7	calculations,	formulae.	full coordinate grid (all	length, mass, volume and time from a smaller unit of measure to a larger unit, and vice	
	including with		four quadrants	versa, using decimal notation to up to three decimal places	
	mixed operations				
	and large numbers				
Week	Perform mental	Use simple	Convert units of	Express missing number problems algebraically.	
8	calculations,	formulae.	time		
	including with			Find pairs of numbers that satisfy an equation with two unknowns.	
	mixed operations				
	and large numbers				
Week	Compare and	Multiply one-digit	Convert units of time	Solve problems involving the calculation of percentages [for example, of measures, and	
9	order fractions,	numbers with up		such as 15% of 360] and the use of percentages for comparison.	
	including fractions	to two decimal			
	>1	places by whole			
		numbers.			
Week	Calculate and	Convert between	Translate simple shapes	Interpret pie charts and line graphs and use these to solve problems.	
10	interpret the mean	different units of	on the coordinate plane	Use simple formulae.	
	as an average.	measure	and reflect them in the		
			axes.	Use negative numbers in context and calculate intervals across zero.	
Week		Convert between	Translate simple shapes	Solve number and practical problems involving decimals, fractions, numbers to 10,000,	
11		different units of	on the coordinate plane	000 and negative numbers	
		measure	and reflect them in the		
			axes.		
Week			Transi	tion Units with Passmores	
12/					
13					

	Year 1 Number and Place Value				
	Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions	
	Sufficient evidence shows the ability	Sufficient evidence shows the ability	Sufficient evidence shows the ability	Sufficient evidence shows the ability	
Working Towards	 to: Count to and across 20, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 10 in numerals. Given a number, identify 1 more and 1 less. Identify and represent numbers using objects and pictorial representations. Use the language of: more than, less than (fewer), most, least Read and write numbers from 1 to 10 in numerals and words. 	 Find the total of two groups by combining. Calculate subtractions through taking away. Represent addition and subtraction calculations using objects and pictorial representations. Know and use addition and subtraction number facts to 5 and some facts to 10. Add and subtract one-digit numbers. Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations. 	 begin to recall doubles and halves of numbers to 5. Count in multiples of 2 and 10. Solve simple problems involving grouping and sharing with pictorial representations and arrays with the support of the teacher. 	 Recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity. 	

	Year 1 Number and Place Value				
	Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions	
	Sufficient evidence shows the ability	Sufficient evidence shows the ability	Sufficient evidence shows the ability	Sufficient evidence shows the ability	
Expected	 Number and Place Value Sufficient evidence shows the ability to: Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 100 in numerals; count in multiples of 2s, 5s and 10s. Given a number, identify 1 more and 1 less. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. Read and write numbers from 1 to 20 in numerals and words. 	 Addition and Subtraction Sufficient evidence shows the ability to: Read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs. Represent and use number bonds and related subtraction facts within 20. Add and subtract one-digit and two-digit numbers to 20, including 0. Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = ? - 9. 	Multiplication and Division Sufficient evidence shows the ability to: Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	 Fractions Sufficient evidence shows the ability to: Recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity. Recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity. 	

	Year 1 Number and Place Value				
	Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions	
	All aspects of number and place value at the national standard are embedded.	All aspects of addition and subtraction at the national standard are embedded.	All aspects of multiplication and subtraction at the national standard are embedded.	All aspects of fractions at the national standard are embedded.	
	Sufficient evidence shows the ability	Sufficient evidence shows the ability	Sufficient evidence shows the ability	Sufficient evidence shows the ability	
	to:	to:	to:	to:	
Greater Depth	 Demonstrate fluency when counting to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number and when counting in multiples of 2s, 5s and 10s. Consistently identify 1 more and 1 less from a given number and use in solving problems. Identify and represent numbers using increasingly complex representations including the number line. Consistently use the language of: equal to, more than, less than (fewer), most, least accurately when comparing numbers and expressions. 	 Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Recall and use number facts to 20 fluently and use these to derive new unknown facts. Add and subtract one-digit and two-digit numbers to 20 mentally. Solve two-step problems that involve addition and subtraction, using concrete objects and pictorial representations. Solve missing number problems using a wider range of numbers. 	 Count in 2s, 5s, and 10 from 0 to answer questions involving x facts. Begin to understand division as the inverse of multiplication and use facts in problem solving. Recall doubles and halves of numbers to 20. Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays. 	Recognise, find and name a half and quarter of a length, shape, set of objects or quantity.	

	Year 1 Geometry and Measures	
Measures	Geometry – Properties of Shapes	Geometry – Position and Movement
fficient evidence shows the ability to:	Sufficient evidence shows the ability to:	Sufficient evidence shows the ability to:
Use the language of measures to make direct comparisons between 2/3 objects. Solve simple measure problems (length, mass/weight, capacity and volume and time) in a practical context using direct comparison and non- standard units. Recognise and sort coins to £1. Use language related to time e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. Tell the time to the nearest hour.	 Recognise and name some common 2-D and 3-D shapes, including: 2-D shapes [for example, rectangles (including squares), circles and triangles] 3-D shapes [for example, cuboids (including cubes), pyramids and spheres] Sort shapes based on simple properties. 	Describe position, direction and movement, including whole, half -turns.
f	Measures ficient evidence shows the ability to: Use the language of measures to make direct comparisons between 2/3 objects. Solve simple measure problems (length, mass/weight, capacity and volume and time) in a practical context using direct comparison and nonstandard units. Recognise and sort coins to £1. Use language related to time e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. Tell the time to the nearest hour.	Year 1 Geometry and Measures Measures Geometry – Properties of Shapes ficient evidence shows the ability to: Sufficient evidence shows the ability to: Use the language of measures to make direct comparisons between 2/3 objects. Sufficient evidence shows the ability to: Solve simple measure problems (length, mass/weight, capacity and volume and time) in a practical context using direct comparison and non- standard units. Papes, including: Recognise and sort coins to £1. 3-D shapes [for example, cuboids (including cubes), pyramids and spheres] Use language related to time e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. Sort shapes based on simple properties. Tell the time to the nearest hour. It the time to the nearest hour. Sort shapes based on simple properties.

	Year 1 Geometry and Measures					
	Measures	Geometry – Properties of Shapes	Geometry – Position and Movement			
Expected	 Sufficient evidence shows the ability to: Compare, describe and solve practical problems for: lengths and heights [for example, long/short, longer/shorter, tall/short, double/half] mass/weight [for example, heavy/light, heavier than, lighter than] capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] time [for example, quicker, slower, earlier, later] Measure and begin to record the following: lengths and heights mass/weight capacity and volume time (hours, minutes, seconds) recognise and know the value of different denominations of coins and notes sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]. Recognise and use language relating to dates, including days of the week, weeks, months and years. Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. 	 Sufficient evidence shows the ability to: Recognise and name common 2-D and 3-D shapes, including: 2-D shapes [for example, rectangles (including squares), circles and triangles] 3-D shapes [for example, cuboids (including cubes), pyramids and spheres]. 	 Sufficient evidence shows the ability to: Describe position, direction and movement, including whole, half, quarter and three-quarter turns. 			

Year 1 Geometry and Measures				
Measures	Geometry – Properties of Shapes	Geometry – Position and Movement		
All aspects of measurement at the national standard are embedded.	All aspects of shape at the national standard are embedded.	All aspects of position and movement at the national standard are embedded.		
Sufficient evidence shows the ability to:	Sufficient evidence shows the ability to:	Sufficient evidence shows the ability to:		
 Use knowledge of measures in solving problems of increasingly complexity. Solve more complex problems involving money and other measures including time. Be able to apply knowledge of measures to other curriculum areas in practical activities. 	 Compare and sort shapes using 1 criterion. Recognise and name common 2-D and 3-D shapes, describing their properties using increasingly sophisticated mathematical vocabulary. Reason about and solve more complex problems relating to shapes and their properties. 	 Apply knowledge of position to problem solving across the curriculum. Solve more complex problems involving position and movement. 		

	Year 2 Number and Place Value					
	Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions		
Working Towards	 Sufficient evidence shows the ability to: Count to and across 100, forwards or backwards, beginning with 0 or 1, or from any given number. Count in multiples of 2s, 5s and 10s. Count in steps of 10 within 100, starting from any number. Read and write numbers from 1 to 100 in numerals, and up to 20 in words (not necessarily spelled correctly). Use the place value of each digit to order numbers to 100. Know the number that is 1 more and 1 less than any number up to 100. Use the language of least. Identify and represent numbers using objects, structured apparatus and number lines. Use place value and number facts to solve simple problems. 	 Sufficient evidence shows the ability to: Recall and use addition and subtraction facts for all numbers up to 10. Add and subtract numbers mentally, including: 2 single-digit numbers, a number up to 20 and 1s. Add and subtract numbers using concrete objects, pictorial representations and the written columnar method including: a two-digit number and 1, adding 3 single-digit numbers with a total up to 20. Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=). Solve missing number addition problems involving single-digit numbers. Solve simple 1 or 2 step problems with addition and subtraction. Show that addition can be done in any order (commutative). 	 Sufficient evidence shows the ability to: Recall multiplication facts for the 10 multiplication table and use them to derive division facts, and count in steps of 10 to answer questions. Recall and use doubling and halving facts for numbers up to double 10 and other significant doubles. Recognise odd and even numbers to 20. Solve simple problems involving grouping and sharing, using objects, pictorial representations and arrays. 	 Sufficient evidence shows the ability to: Recognise, find and name a quarter as 1 of 4 equal parts of an object, shape or quantity. Begin to solve simple problems involving fractions. 		

	Year 2 Number and Place Value			
	Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions
	Sufficient evidence shows the ability	Sufficient evidence shows the ability	Sufficient evidence shows the ability	Sufficient evidence shows the ability
Expected	 Sufficient evidence shows the ability to: Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward. Recognise the place value of each digit in a two-digit number (tens, ones). Identify, represent and estimate numbers using different representations, including the number line. Compare and order numbers from 0 up to 100; use <, > and = signs. Read and write numbers to at least 100 in numerals and in words. Use place value and number facts to solve problems. 	 Addition and Subtraction Sufficient evidence shows the ability to: Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods. Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ones, a two-digit number and tens, two two-digit numbers. Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. 	 Wultiplication and Division Sufficient evidence shows the ability to: Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. 	 Sufficient evidence shows the ability to: Recognise, find, name and write fractions 1/2, 1/3, 1/4, 2/4, 3/4 of a length, shape, set of objects or quantity. Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and ½.

	Year 2 Number and Place Value				
	Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions	
סובמובו הבאווו	Number and Place ValueAll aspects of number and place valueat the national standard areembedded.Sufficient evidence shows the abilityto:Demonstrate fluency and reasoning in counting forwards and backwards in steps of 2, 5 and 10 including from different starting points and using numbers beyond 100.Consistently use less than (<), equals (=) and greater than (>) signs correctly when comparing numbers and expressions.Identify and represent numbers using different representations including more complex number lines.Demonstrate reasoning about place value and number facts to solve more complex problems.	 Addition and Subtraction All aspects of addition and subtraction at the national standard are embedded. Sufficient evidence shows the ability to: Recall and use addition and subtraction facts to 20 fluently; derive and use related facts to 100 and beyond. Add and subtract numbers mentally using appropriate strategies, including: 2 2-digit numbers, adding /subtracting several single-digit numbers. Add and subtract numbers using objects, pictorial representations and the written columnar method including adding several 2-digit numbers, subtracting 2-digit numbers. Solve missing number problems involving a wider range of numbers. Use addition and subtraction facts to solve more complex problems, such as 3 step problems. 	 Multiplication and Division All aspects of multiplication and subtraction at the national standard are embedded. Sufficient evidence shows the ability to: Rapidly recall and use multiplication and division facts for the 2, 5 and 10multiplication tables and write mathematical statements using the multiplication (×), division (÷) and equals (=) signs. Count in 3s to solve multiplication and division problems for the 3- multiplication table. Solve more complex problems involving multiplication and division in a range of contexts including measures. Make connections between place value and multiplication/division by 10 and use known multiplication and division facts to derive others. 	Fractions All aspects of fractions at the national standard are embedded. Sufficient evidence shows the ability to: Image: Complex problems are problems and solve them.	

	Year 2 Geometry and Measures			
	Maagurag	Comparing Droportion of Chappen	Coometry Desition and Mayoment	Statistics
	Iviedsures	Geometry – Properties of Shapes	Geometry – Position and Wovement	
	Sufficient evidence shows the ability	Sufficient evidence shows the ability	Sufficient evidence shows the ability	Sufficient evidence shows the ability
	Measure and begin to record the	Recognise, name and describe	Describe position, directions and	Interpret and construct simple
	following:	the properties of common 2-D	movement, including whole, half,	pictograms where the picture is
	In the second	shapes including pentagons	quarter and three-quarter turns.	worth 1 unit.
	mass/weight	and hexagons.		
	volume/capacity		Solve simple problems involving	Interpret simple tally charts and
	time.	Recognise, name and describe	position and direction.	block diagrams.
	Recognise and know the value of	the properties of common 3-D		
	different denominations of coins	shapes including cones and		Ask and answer questions that
	and notes.	spheres.		require counting the number of
	Begin to recognise and use the			objects in each category.
S	symbols for pounds (£) and pence	Solve simple problems		
rd	(p).	involving shapes.		
va	Combine amounts to make small			
õ	values.			
Б	Sequence the events of several			
in	days in chronological order using			
rk	appropriate language.			
No	I ell the time to half past the hour;			
-	turn the hands of a geared clock to			
	show these times; draw hands on a			
	clock face to show o clock times.			
	Recognise and use language			
	relating to dates, including days of			
	the week, weeks, months and			
	years.			
	Know there are / days in a week.			
	Know the name of the day before			
	or after a given day.			
	Solve simple measure problems in a numerical context using			
	a practical context using			
	stanuaruiseu units.			

	Year 2 Geometry and Measures			
	Measures	Geometry – Properties of Shapes	Geometry – Position and Movement	Statistics
	 Sufficient evidence shows the ability to: Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest 	 Sufficient evidence shows the ability to: Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line. 	 Sufficient evidence shows the ability to: Order and arrange combinations of mathematical objects in patterns and sequences. Use mathematical vocabulary to describe position, direction and 	 Sufficient evidence shows the ability to: Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. Ask and answer simple questions by counting the number of
	 appropriate unit, using rulers, scales, thermometers and measuring vessels. Compare and order lengths, mass, volume (sapacity and record the 	Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.	movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-	objects in each category and sorting the categories by quantity.
ed	 Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value Find different combinations of 	Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid].	quarter turns (clockwise and anticlockwise).	totalling and comparing categorical data.
Expecte	 coins that equal the same amounts of money. Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. Compare and sequence intervals of time. Tell and write the time to five minutes, including guarter past/to 	Compare and sort common 2- D and 3-D shapes and everyday objects.		
	 the hour and draw the hands on a clock face to show these times. Know the number of minutes in an hour and the number of hours in a day. 			

	Year 2 Geometry and Measures				
	Measures	Geometry – Properties of Shapes	Geometry – Position and Movement	Statistics	
	All aspects of measurement at the national standard are embedded.	All aspects of shape at the national standard are embedded.	All aspects of position and movement at the national standard are embedded.	All aspects of statistics at the national standard are embedded.	
	Sufficient evidence shows the ability to:	Sufficient evidence shows the ability to:	Sufficient evidence shows the ability to:	Sufficient evidence shows the ability to:	
Greater Depth	 Find all possible combinations of coins to equal a given amount or how to pay a given amount using the fewest possible number of coins. Know that there are 60 minutes in an hour and 24 hours in a day and use these facts to solve problems. Tell and write the time to 5 minutes and draw hands on a clock face to show these times. Solve more complex problems involving, money and other measures, including time. Reason about multiplicative relationships between specific measured quantities, drawing on knowledge of 2, 5 and 10 tables and knowledge of fractions. 	 Compare and sort common 2-D and 3-D shapes and common objects, using more than 1 criterion, identifying and describing their properties. Reason about and solve more complex problems involving shapes and their properties. 	 Order and arrange combinations of mathematical objects in more complex patterns and sequences. Solve more complex problems involving position and direction. 	 Interpret and construct pictograms (where the symbols show many to one correspondence), block diagrams (where the scale is divided into 2s or 5s) and more complex tables Use more complex charts to ask and answer questions by reading from the chart the number of objects in each category, sorting the categories by quantity, totalling and comparing categorical data. 	

	Year 3 Number and Place value				
	Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions	
Working Towards	 Sufficient evidence shows the ability to: Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward. Recognise the place value of each digit in a two-digit number (tens, ones). Identify, represent and estimate numbers using different representations, including the number line. Compare and order numbers from 0 up to 100; use and = signs. Read and write numbers to at least 100 in numerals and in words. Use place value and number facts to solve problems. 	 Sufficient evidence shows the ability to: Solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods. Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: a two-digit number and ten, two two-digit numbers, adding three one-digit numbers can be done in any order (commutative) and subtraction of one number from another cannot. Recognise and use the inverse relationship between addition and subtraction and subtraction and subtraction and use this to check calculations and solve missing number problems. 	 Sufficient evidence shows the ability to: Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers. Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. 	 Sufficient evidence shows the ability to: Recognise, find, name and write fractions 1/2, 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity. Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2. 	

Veen 2 Number and Diese Value

	rear 5 Number and Place Value				
	Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions	
Expected	 Sufficient evidence shows the ability to: Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number. Recognise the place value of each digit in a three-digit number (hundreds, tens, ones). Compare and order numbers up to 1000. Identify, represent and estimate numbers using different representations. Read and write numbers up to 1000 in numerals and in words. Solve number problems and practical problems involving these ideas. 	 Sufficient evidence shows the ability to: Add and subtract numbers mentally, including: a three-digit number and ones, a three-digit number and tens, a three-digit number and hundreds. Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction. Estimate the answer to a calculation and use inverse operations to check answers. Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. 	 Sufficient evidence shows the ability to: Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects. 	 Sufficient evidence shows the ability to: Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10. Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. Recognise and use fractions as numbers: unit fractions and non-unit fractions and non-unit fractions as numbers: unit fractions and non-unit fractions with small denominators. Recognise and show, using diagrams, equivalent fractions with the same denominator. Add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7]. Compare and order unit fractions, and fractions with the same denominators. Solve problems that involve all of the above. 	

Year 3 Number and Place Value

	Year 3 Number and Place Value					
	Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions		
	All aspects of number and place value at the national standard are embedded.	All aspects of addition and subtraction at the national standard are embedded.	All aspects of multiplication and subtraction at the national standard are embedded.	All aspects of fractions at the national standard are embedded.		
Greater Depth	 Sufficient evidence shows the ability to: Show fluency in the use of number facts and are able to make generalisations based on these to find unknown facts. Demonstrate a secure understanding of place value and have fluency when working with numbers up to and above 1000. Apply place value and number facts knowledge to solving problems involving number and place value in a range of familiar and unfamiliar contexts. 	 Sufficient evidence shows the ability to: Demonstrate rapid recall of number facts which they can use to generate new unknown facts. Use rapid recall of number facts to support their repertoire of calculation strategies, both mental and written. Use a range of efficient written and mental calculation strategies to use in calculation. Draw on their repertoire of calculation strategies in problem solving, explaining their choices and communicating their reasoning. Communicate their ideas as well as following a reasoned argument. 	 Sufficient evidence shows the ability to: Demonstrate rapid recall of multiplication and division facts and the ability to use these to derive related facts to solve problems. Show a repertoire of written and mental calculation methods to solve problems that involve multiplication and division. They are able to communicate their reasoning and explain their thinking. Apply their understanding of multiplication and division to a wider range of problem solving contexts such as shape and measures. 	 Sufficient evidence shows the ability to: Apply knowledge of fractions to solving problems of increasingly complexity. Show understanding of the connections between areas of learning in fractions such as the ability to recognise equivalency and links to decimal place value. Use fractions in problem solving, explaining reasoning in problems involving measures shape and statistics. 		

Measures Geometry – Properties of Shapes Geometry – Position and Movement Sta	tistics
 Sufficient evidence shows the ability to: Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (C); capacity (litres/mi) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. Compare and order lengths, mass, volume/capacity and record the results using >< cand = Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. Find different combinations of coins that equal the same amounts of money. Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. Compare and ord with the time to five minutes, including quarter past/to the hour and thraw the hands on a dox. 	ihows the ability to: isonstruct simple ly charts, block simple tables. r simple questions e number of objects ry and sorting the quantity. r questions about omparing categorical

Year 3 Geometry and Measures

	Year 3 Geometry and Measures			
	Measures	Geometry – Properties of Shapes	Geometry – Position and Movement	Statistics
Expected	 Aufficient evidence shows the ability Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). Measure the perimeter of simple 2-D shapes. Add and subtract amounts of money to give change, using both £ and p in practical contexts. Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks. Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight. Know the number of seconds in a minute and the number of days in each month, year and leap year. Compare durations of events [for example to calculate the time taken by particular events or tasks]. 	 Sufficient evidence shows the ability to: Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them. Recognise angles as a property of shape or a description of a turn. Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle. Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. 	 Sufficient evidence shows the ability to: Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise). 	 Sufficient evidence shows the ability to: Interpret and present data using bar charts, pictograms and tables solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?']. Use information presented in scaled bar charts and pictograms and tables.

Year 3 Geometry and Measures				
Measures	Geometry – Properties of Shapes	Geometry – Position and Movement	Statistics	
All aspects of measurement at the	All aspects of shape at the national	All aspects of position and movement	All aspects of statistics at the national	
national standard are embedded.	standard are embedded.	at the national standard are embedded.	standard are embedded.	
Sufficient evidence shows the ability	Sufficient evidence shows the ability	Sufficient evidence shows the ability	Sufficient evidence shows the ability	
to:	to:	to:	to:	
 Use a wide range of tools when working with measures and can move more fluently between different units. Use understanding of other areas of the curriculum to solve problems and calculations 	 Apply knowledge and understanding of the properties of shapes to a wider range of regular and irregular 2D and 3D shapes. Work with an increasing level of accuracy describing the properties of shapes. 	 Apply knowledge of position and movement to solving problems. Be able to use mathematical vocabulary to describe the position and movement of a given unit. 	 Interpret data to answer questions related to problems across the curriculum. Interpret data and read scales with increased accuracy with different divisions using knowledge of number. 	
 involving measures e.g. multiplication. Apply their understanding to solve problems of increasing complexity and can reason about their choices. 	Apply their knowledge and understanding to solving problems of increasingly complexity as well as communicating their reasoning.		 Pose their own questions and formulate hypothesis and make decisions about how to collect data to solve problems. Reason and explain their decisions. 	

Year 4 Number and Place Value				
Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions	
 Sufficient evidence shows the ability to: Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number. Recognise the place value of each digit in a three-digit number (hundreds, tens, ones). Compare and order numbers up to 1000. Identify, represent and estimate numbers using different representations. Read and write numbers up to 1000 in numerals and in words. Solve number problems and practical problems involving these ideas. 	 Sufficient evidence shows the ability to: Add and subtract numbers mentally, including: a three-digit number and ones, a three-digit number and tens, a three-digit number and hundreds. Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction. Estimate the answer to a calculation and use inverse operations to check answers. Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction. 	 Sufficient evidence shows the ability to: Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables. Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods. Solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects. 	 Sufficient evidence shows the ability to: Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10. Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. Recognise and use fractions as numbers: unit fractions with small denominators. Recognise and show, using diagrams, equivalent fractions with small denominator. Add and subtract fractions with the same denominator within one whole [for example, 5/7 + 1/7 = 6/7]. Compare and order unit fractions with the same denominators. Solve problems that involve all of the above. 	

Year 4 Number and Place Value							
	Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions			
Expected	 Sufficient evidence shows the ability to: Count in multiples of 6, 7, 9, 25 and 1000 find 1000 more or less than a given number. Count backwards through zero to include negative numbers. Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones). Order and compare numbers beyond 1000. Identify, represent and estimate numbers using different representations. Round any number to the nearest 10, 100 or 1000. Solve number and practical problems that involve all of the above and with increasingly large positive numbers. Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value. 	 Sufficient evidence shows the ability to: Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Estimate and use inverse operations to check answers to a calculation. Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. 	 Sufficient evidence shows the ability to: Recall multiplication and division facts for multiplication tables up to 12 × 12. Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers. Recognise and use factor pairs and commutativity in mental calculations. Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects. 	 Sufficient evidence shows the ability to: Recognise and show, using diagrams, families of common equivalent fractions count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number. Add and subtract fractions with the same denominator. Recognise and write decimal equivalents of any number of tenths or hundredths. Recognise and write decimal equivalents to 1/4, 1/2, ¾. Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths. Round decimals with one decimal place to the nearest whole number. Compare numbers with the same number of decimal places. Solve simple measure and money problems involving fractions and decimals to two decimal places. 			

Year 4 Number and Place Value							
	Number and Place Value All aspects of number and place value at the national standard are embedded.	Addition and Subtraction All aspects of addition and subtraction at the national standard are embedded.	Multiplication and Division All aspects of multiplication and subtraction at the national standard are embedded.	Fractions All aspects of fractions at the national standard are embedded.			
Greater Depth	 Sufficient evidence shows the ability to: Demonstrate very good understanding of place value and is able to apply this to working with larger numbers/decimals. Demonstrate confidence to use knowledge of place value in solving problems. Apply their understanding to solving increasingly complex problems, is able to reason and explain their thinking. 	 Sufficient evidence shows the ability to: Demonstrate rapid recall of number facts and is able to use these fluently to generalise to obtain new facts. Show a wide repertoire of reliable and efficient of calculation strategies, both written and mental, that they are able to apply when solving problems. Make choices regarding choice of strategies and explain reasoning. Solve problems of increasingly complexity using a range of strategies and is able to communicate their reasoning. 	 Sufficient evidence shows the ability to: Demonstrate rapid and fluent recall of all x facts to 12 x 12 and is able to use their knowledge to generate new facts. Show a clear understanding of the different structures of multiplication and division and the related vocabulary. Demonstrate a wide repertoire of reliable and efficient of calculation strategies, both written and mental, that they are able to apply when solving problems. Solve problems of increasingly complexity using a range of strategies and is able to communicate their reasoning. 	 Sufficient evidence shows the ability to: Apply knowledge of fractions to problems involving measures and shapes. Apply links with division to solving increasingly complex problems. Show a good understanding of the connections between fractions and decimals and is able to use their knowledge to translate between the two. Apply their knowledge of fractions to problems of increasing complexity and to explain their reasoning and thinking. 			

Year 4 Geometry and Measures								
	Measures	Geometry – Properties of Shapes	Geometry – Position and Movement	Statistics				
Working Towards	 Sufficient evidence shows the ability to: Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml). Measure the perimeter of simple 2-D shapes. Add and subtract amounts of money to give change, using both £ and p in practical contexts. Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks. Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight. Know the number of seconds in a minute and the number of days in each month, year and leap year. Compare durations of events [for example to calculate the time taken by particular events or tasks]. 	 Sufficient evidence shows the ability to: Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them. Recognise angles as a property of shape or a description of a turn. Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle. Identify horizontal and vertical lines and pairs of perpendicular and parallel lines. 	Sufficient evidence shows the ability to: Use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).	Sufficient evidence shows the ability to: Interpret and present data using bar charts, pictograms and tables solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.				
	Year 4 Geometry and Measures							
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	Measures	Geometry – Properties of Shapes	Geometry – Position and Movement	Statistics				
	Sufficient evidence shows the ability	Sufficient evidence shows the	Sufficient evidence shows the ability	Sufficient evidence shows the ability				
Expected	 to: Convert between different units of measure [for example, kilometre to metre; hour to minute]. Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. Find the area of rectilinear shapes by counting squares. Estimate, compare and calculate different measures, including money in pounds and pence. Read, write and convert time between analogue and digital 12-and 24-hour clocks. Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. 	 ability to: Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Identify acute and obtuse angles and compare and order angles up to two right angles by size. Identify lines of symmetry in 2-D shapes presented in different orientations. Complete a simple symmetric figure with respect to a specific line of symmetry. 	 to: Describe positions on a 2-D grid as coordinates in the first quadrant. Describe movements between positions as translations of a given unit to the left/right and up/down. Plot specified points and draw sides to complete a given polygon. 	 Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. 				

Year 4 Geometry and Measures								
Measures	Geometry – Properties of Shapes	Geometry – Position and Movement	Statistics					
All aspects of measurement at the national standard are embedded.	All aspects of shape at the national standard are embedded.	All aspects of position and movement at the national standard are embedded.	All aspects of statistics at the national standard are embedded.					
 Sufficient evidence shows the ability to: Convert fluently and efficiently between different units of measures and be able to reason about the multiplicative relationship between related measures. Use their understanding of the concepts related to measures to solve increasingly complex problems. Make connections to other areas of mathematics such as fractions, decimals and use this to solve problems. Communicate reasoning and talk about mathematics using appropriate language. Apply knowledge of measures to other areas of the curriculum such as science. 	 Sufficient evidence shows the ability to: Sort and classify shapes using a range of criterion using mathematically appropriate vocabulary. Apply knowledge of shapes to solving problems with increasing complexity explaining reasoning. Make links and connections with other areas of the curriculum. 	 Sufficient evidence shows the ability to: Solve increasingly complex problems involving position and movement. Apply knowledge and understanding of position and movement to other curriculum areas such as geography and science. 	 Sufficient evidence shows the ability to: Use knowledge of data handling to pose hypothesis and answer questions through the analysis and interpretation of data. Draw conclusions based on data and be able to justify reasoning. 					

Number and Place Value Addition	and Subtraction dence shows the ability	Multiplication and Division	Fractions
	dence shows the ability Su	-	
 Sufficient evidence shows the ability to: Count in multiples of 6, 7, 9, 25 and 1000. Find 1000 more or less than a given number. Count backwards through zero to include negative numbers. Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones). Order and compare numbers beyond 1000. Identify, represent and estimate numbers using different representations. Round any number to the nearest 10, 100 or 1000. Solve number and practical problems that involve all of the above and with increasingly large positive numbers. Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value. 	I subtract numbers with digits using the formal methods of columnar and subtraction where iate. e and use inverse ons to check answers to ation. dition and subtraction p problems in contexts, g which operations and s to use and why.	 ufficient evidence shows the ability to: Recall multiplication and division facts for multiplication tables up to 12 × 12. Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers. Recognise and use factor pairs and commutativity in mental calculations. Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects. 	 Sufficient evidence shows the ability to: Recognise and show, using diagrams, families of common equivalent fractions. Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number. Add and subtract fractions with the same denominator. Recognise and write decimal equivalents of any number of tenths or hundredths. Recognise and write decimal equivalents to 1/4, 1/2, 3/4. Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths. Round decimals with one decimal place to the nearest whole number. Compare numbers with the same number of decimal places up to two decimal places. Solve simple measure and money problems involving fractions and decimals to two decimal places.

		Year 5 Num	ber and Place Value			
	Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions		
Expected	 Sufficient evidence shows the ability to: Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero. Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000. Solve number problems and practical problems that involve all of the above. Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. 	 Sufficient evidence shows the ability to: Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). Add and subtract numbers mentally with increasingly large numbers. Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. 	 Sufficient evidence shows the ability to: Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers. Establish whether a number up to 100 is prime & recall prime numbers up to 19. Multiply numbers up to 4 digits by a one-or two-digit number using a formal written method, including long multiplication for two-digit numbers. Multiply and divide numbers mentally drawing upon known facts. Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context Multiply and divide whole numbers and those involving decimals by 10, 100 & 1000. Recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3). Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes. Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. 	 Sufficient evidence shows the ability to: Compare and order fractions whose denominators are all multiples of the same number. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths. Recognise mixed numbers and improper fractions and convert from one form to the other & write mathematical statements > 1 as a mixed number [2/5 + 4/5 = 6/5 = 1 1/5]. Add and subtract fractions with the same denominator and denominators that are multiples of the same number. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. Reead and write decimal numbers as fractions [for example, 0.71 = 71/100]. 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. Read, write, order & compare numbers with up to three decimal places. Solve problems involving number up to three decimal places. Solve problems which require knowing percent & decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25. 		

	Year 5 Number and Place Value						
	Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions			
Greater Depth	 All aspects of number and place value at the national standard are embedded. Sufficient evidence shows the ability to: Demonstrate rapid recall of number facts and is able to use these fluently to generalise to obtain new facts using place value. Show very good understanding of place value and is able to apply this to working with larger numbers/decimals and in solving problems. Apply their understanding to solve increasingly complex problems and is able to reason and explain their thinking. 	 All aspects of addition and subtraction at the national standard are embedded. Sufficient evidence shows the ability to: Demonstrate rapid recall of number facts and is able to use these fluently to generalise to obtain new facts. Show a wide repertoire of reliable and efficient of calculation strategies, both written and mental, that they are able to apply when solving problems. Make choices regarding choice of strategies and explain reasoning. Solve problems of increasingly complexity using a range of strategies and is able to communicate their reasoning. Explain why different methods give the same result. Demonstrate creative thinking when problem solving and is able to justify and prove. 	 All aspects of multiplication and subtraction at the national standard are embedded. Sufficient evidence shows the ability to: Demonstrate rapid and fluent recall of all x facts to 12 x 12 and is able to use their knowledge to generate new facts and when working with larger numbers. Apply knowledge of factors, multiples, prime number, squares and commutativity to solving mental calculations of more complex problems. Show a clear understanding of the different structures of multiplication and division and the related vocabulary and is able to apply this to solving increasingly complex problems. Apply knowledge of the inverse operation and the links between division and multiplication to solving problems. Demonstrate a wide repertoire of reliable and efficient of calculation strategies, both written and mental, that they are able to apply when solving problems. Solve problems of increasingly complexity using a range of strategies and is able to communicate their reasoning. 	 All aspects of fractions at the national standard are embedded. Sufficient evidence shows the ability to: Apply knowledge of fractions to problems involving measures and shapes. Use their knowledge of decimals in problem involving measure to work with increased accuracy. Show a very good understanding of the connections between fractions decimals and percentages and is able to use their knowledge to translate between the three. Apply their knowledge of fractions, decimals and percentages to problems of increasing complexity and to explain their reasoning and thinking. Apply links with division to solving increasingly complex problems. 			

	Year 5 Geometry and Measures							
		Measures		Geometry – Properties of Shapes	G	eometry – Position and Movement		Statistics
	Su	fficient evidence shows the ability	Sul	ficient evidence shows the ability	Su	fficient evidence shows the ability	Su	fficient evidence shows the ability
Working Towards	Sur to:	Measures fficient evidence shows the ability Convert between different units of measure [for example, kilometre to metre; hour to minute]. Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. Find the area of rectilinear shapes by counting square. Estimate, compare and calculate different measures, including money in pounds and pence. Read, write and convert time between analogue and digital 12- and 24-hour clocks. Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	Suf	Geometry – Properties of Shapes ficient evidence shows the ability Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Identify acute and obtuse angles and compare and order angles up to two right angles by size. Identify lines of symmetry in 2- D shapes presented in different orientations. Complete a simple symmetric figure with respect to a specific line of symmetry.	G Sur I I I I I I I I I I I I I I I I I I I	eometry – Position and Movement fficient evidence shows the ability Describe positions on a 2-D grid as coordinates in the first quadrant Describe movements between positions as translations of a given unit to the left/right and up/down. Plot specified points and draw sides to complete a given polygon.	Su to:	fficient evidence shows the ability Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.

	Measures	Geometry – Properties of Shapes	Geometry – Position and Movement	Statistics				
Expected	 Sufficient evidence shows the ability to: Convert between different units of metric measure (for example, kilometre and metre; centimetre and millimetre; gram and kilogram; litre & millilitre). Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes. Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]. Solve problems involving converting between units of time. Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling. 	 Sufficient evidence shows the ability to: Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Draw given angles and measure them in degrees (°). Identify: angles at a point and one whole turn (total 360°) angles at a point on a straight line & 1/2 a turn (total 180°) and other multiples of 90°. Use the properties of rectangles to deduce related facts and find missing lengths and angles distinguish between regular and irregular polygons based on reasoning about equal sides and angles. 	Sufficient evidence shows the ability to: Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.	 Sufficient evidence shows the ability to: Solve comparison, sum and difference problems using information presented in a line graph. Complete, read and interpret information in tables, including timetables. 				

Year 5 Geometry and Measures

Year 5 Geometry and Measures						
Measures	Geometry – Properties of Shapes	Geometry – Position and Movement	Statistics			
All aspects of measurement at the national standard are embedded.	All aspects of shape at the national standard are embedded.	All aspects of position and movement at the national standard are embedded.	All aspects of statistics at the national standard are embedded.			
Sufficient evidence shows the ability	Sufficient evidence shows the ability	Sufficient evidence shows the ability	Sufficient evidence shows the ability			
 to: Apply knowledge of other areas of the curriculum to their understanding of and problem solving with measures. E.g. squares, cubes, fractions, multiplication decimals. Convert fluently and efficiently between different units of measures and be able to reason about the multiplicative relationship between related measures. Use their understanding of the concepts related to measures to solve increasingly complex problems. Communicate reasoning and talk about mathematics using sophisticated mathematical language. Apply knowledge of measures to other areas of the curriculum such as science. 	 to: Sort and classify shapes using a wide range of criterion using increasingly sophisticated mathematically appropriate vocabulary. Creatively apply knowledge of shapes to solving problems with increasing complexity and be able to justify reasoning and communicate their thinking. Make links and connections with other areas of the curriculum and be able to generalise their understanding. 	 to: Solve increasingly complex problems involving position and movement. Apply knowledge and understanding of position and movement to other curriculum areas such as geography and science. 	 to: Use knowledge of data handling to pose hypothesis and answer questions through the analysis and interpretation of data. Draw conclusions based on data and be able to communicate reasoning. Be able to look for alternative explanations and hypothesis. Use understanding of statistics in other curriculum areas. 			

Year 6 Number and Place Value						
	Number and Place Value	Addition, Subtraction, Multiplication	Fractions	Ratio and Proportion	Algebra	
		and Division				
Working Towards	 fficient evidence shows the ability to: Read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit. Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero. Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000. Solve number problems and practical problems that involve all of the above. Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. 	 Sufficient evidence shows the ability to: Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). Add and subtract numbers mentally with increasingly large number. Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. Solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why. Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) numbers. Establish whether a number up to 100 is prime, recall prime numbers up to 19. Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers. Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context. Multiply and divide whole numbers and those involving decimals by 10, 100 & 1000. 	 Sufficient evidence shows the ability to: Compare and order fractions whose denominators are all multiples of the same number. Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [e.g.: 2/5 + 4/5 = 6/5 = 1 1/5]. Add and subtract fractions with the same denominator and denominators that are multiples of the same number. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. Read and write decimal numbers as fractions [for example, 0.71 = 100 71]. 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. Read, write, order and compare numbers with up to three decimal places. Solve problems involving number up to three decimal places. 	 Sufficient evidence shows the ability to: Recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal. Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25. 	 Sufficient evidence shows the ability to: Use simple formula to represent calculations such as perimeter and area of different shapes. Use sequencing when working on shape, measures and pattern activities. Solve problems including missing number problems using addition, subtraction, multiplication and division facts. Demonstrate a secure understanding of the inverse relationship when applied to calculations involving two variables. 	

	Year 6 Number and Place Value						
	Number and Place Value	Addition, Subtraction, Multiplication and Division	Fractions	Ratio and Proportion	Algebra		
Expected	 Sufficient evidence shows the ability to: Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. Round any whole number to a required degree of accuracy. Use negative numbers in context and calculate intervals across zero. Solve number and practical problems that involve all of the above. 	 Sufficient evidence shows the ability to: Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context. Perform mental calculations, including with mixed operations and large numbers. Identify common factors, common multiples and prime numbers. Use their knowledge of the order of operations to carry out calculations involving the four operations. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. 	 Sufficient evidence shows the ability to: Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. Compare and order fractions, including fractions > 1. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. Multiply simple pairs of proper fractions, writing the answer in its simplest form. [For example, 1/2 × 1/2 = 1/8]. Divide proper fractions by whole numbers. 1/3 ÷ 2= 1/6 Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [e.g. 3/8]. Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers. Multiply one-digit numbers with up to two decimal places by whole numbers. Use written division methods in cases where the answer has up to two decimal places. Solve problems which require answers to be rounded to specified degrees of accuracy. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. 	 Sufficient evidence shows the ability to: Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. Solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison. Solve problems involving similar shapes where the scale factor is known or can be found. Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. 	 Sufficient evidence shows the ability to: Use simple formulae. Generate and describe linear number sequences. Express missing number problems algebraically. Find pairs of numbers that satisfy an equation with two unknowns. Enumerate possibilities of combinations of two variables. 		

	Year 6 Number and Place Value						
	Number and Place Value	Addition, Subtraction, Multiplication and Division	Fractions	Ratio and Proportion	Algebra		
Greater Depth	 All aspects of number and place value at the national standard are embedded. Sufficient evidence shows the ability to: Demonstrate rapid recall of number facts and is able to use these fluently to generalise to obtain new facts using place value. Show very good understanding of place value and is able to apply this to working with larger numbers/decimals and in solving problems. Apply their understanding to solving increasingly complex problems, is able to reason and explain their thinking. 	 All aspects of addition, subtraction, multiplication and division at the national standard are embedded. Sufficient evidence shows the ability to: Demonstrate rapid recall of number facts and is able to use these fluently to generalise to obtain new facts. Show a wide repertoire of reliable and efficient of calculation strategies, both written and mental, that they are able to apply when solving problems. Make choices regarding choice of strategies and explain reasoning. Solve problems of increasingly complexity using a range of strategies and is able to communicate their reasoning. Explain why different methods give the same result Think creatively when problem solving and is able to justify & prove. Show rapid and fluent recall of all x facts to 12 x 12 and is able to use their knowledge to generate new facts and when working with larger numbers. Apply knowledge of factors, multiples, prime number, squares and commutativity to solving mental calculations of more complex problems. Show a clear understanding of the different structures of multiplication and division and related vocabulary and is able to apply this to solving increasingly complex problems. 	 All aspects of fractions at the national standard are embedded. Sufficient evidence shows the ability to: Apply knowledge of fractions to problems involving measures and shapes. Use their knowledge of decimals in problem involving measure to work with increased accuracy. Demonstrate a very good understanding of the connections between fractions decimals and percentages and is able to use their knowledge to translate between the three. Apply their knowledge of fractions, decimals and percentages to problems of increasing complexity and to explain their reasoning and thinking. 	 Sufficient evidence shows the ability to: Demonstrate a very good understanding of the connections between fractions, decimals and percentages, ratio and proportion and is able to use their knowledge to translate between the three. Apply their knowledge of ratio and proportion to problems of increasing complexity and to explain their reasoning and thinking. 	 Sufficient evidence shows the ability to: Use algebraic representation to illustrate relationships and patterns. Apply understanding of equivalence in calculation to solve problems with unknowns and more than one possibility. Use algebra to prove relationships and patterns. Explain the meaning of the mathematical notation. 		

Year 6 Geometry and Measures							
N	leasures	(Geometry – Properties of Shapes	Geo	metry – Position and Movement		Statistics
Sufficient evider to: Convert betty metric mease kilometre ar and metre; of litre and millimetre; of litre and millimetre; of litre and mill Understand equivalence and commo inches, pour Measure and perimeter of shapes in ce Calculate an rectangles (if including us square centi square metri the area of i Estimate vol using 1 cm3 (including cu example, us Solve proble converting to Use all four problems in example, lei money] usir including sc	nce shows the ability ween different units of ure (for example, nd metre; centimetre centimetre and gram and kilogram; lilitre). and use approximate s between metric units n imperial units such as nds and pints. d calculate the f composite rectilinear entimetres and metres. d compare the area of including squares), and ing standard units, imetres (cm2) and res (m2) and estimate rregular shapes. lume [for example, blocks to build cuboids ubes)] and capacity [for ing water]. ems involving between units of time. operations to solve volving measure [for ngth, mass, volume, ng decimal notation, aling.	Suf to:	ficient evidence shows the ability Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Draw given angles and measure them in degrees (°). Identify: angles at a point and one whole turn (total 360°) angles at a point on a straight line and 2 1 a turn (total 180°) other multiples of 90°. Use the properties of rectangles to deduce related facts and find missing lengths and angles. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	Suffic to: Id th re ap th	ient evidence shows the ability lentify, describe and represent he position of a shape following a effection or translation, using the opropriate language, and know hat the shape has not changed.	Suf	fficient evidence shows the ability Solve comparison, sum and difference problems using information presented in a line graph. Complete, read and interpret information in tables, including timetables.

Year 6 Geometry and Measures							
	Measures	Geometry – Properties of Shapes	Geometry – Position and Movement	Statistics			
Experied	 Measures Sufficient evidence shows the ability to: Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. Use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places. Convert between miles and kilometres. Recognise that shapes with the same areas can have different perimeters and vice versa. Recognise when it is possible to use formulae for area and volume of shapes. Calculate the area of parallelograms and triangles. Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (m3), and extending to other units [for example, mm3 and km3]. 	 Geometry – Properties of Shapes Sufficient evidence shows the ability to: Draw 2-D shapes using given dimensions and angles. Recognise, describe and build simple 3-D shapes, including making nets. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons. Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. 	 Geometry – Position and Movement Sufficient evidence shows the ability to: Describe positions on the full coordinate grid (all four quadrants). Draw and translate simple shapes on the coordinate plane and reflect them in the axes. 	Statistics Sufficient evidence shows the ability to: Interpret and construct pie charts and line graphs and use these to solve problems. Calculate and interpret the mean as an average.			

Image:	Year 6 Geometry and Measures						
 All aspects of measurement at the national standard are embedded. Sufficient evidence shows the ability to: Apply knowledge of other areas of the curriculum to their understanding of and problem solving with measures. E.g., squares, cubes, fractions, multiplication decimals. Convert fluently and efficiently between eflated to measures. Use their understanding of the concepts related to measures to solve increasingly complex problems. Communicate reasoning and talk about mathematical language. Apply knowledge of measures to other curriculum such as science. 		Measures	Geometry – Properties of Shapes	Geometry – Position and Movement	Statistics		
1000000000000000000000000000000000000		All aspects of measurement at the	All aspects of shape at the national	All aspects of position and movement	All aspects of statistics at the national		
 Sufficient evidence shows the ability to: Apply knowledge of other areas of the curriculum to their understanding of and problem solving with measures. E.g. squares, cubes, fractions, multiplication decimals. Convert fluently and efficiently between different units of measures and be able to reason about the multiplicative related measures. Use their understanding of the concepts related to measures to solve increasingly complex problems. Communicate reasoning and talk about mathematical language. Apply knowledge of measures to other areas of the curriculum such as science. Sufficient evidence shows the ability to: Solve increasingly complex problems with other areas of the curriculum and be able to generalise their understanding. Make links and connections with other areas of the curriculum such as science. Apply knowledge of measures to other areas of the curriculum such as science. Sufficient evidence shows the ability to: Sufficient evidence shows the ability to: Solve increasingly complex problems with other areas of the curriculum and be able to generalise their understanding. Make links and connections with other areas of the curriculum such as science. Use their understanding of the curriculum such as science. Use their understanding of the curriculum such as science. Use their understanding of the curriculum such as science. Use understanding. Use their understanding to the curriculum such as science. Use understanding of statistics in other areas of the curriculum such as science. Use understanding to the curriculum such as science. Use understanding to the curriculum such as science. Use understanding of the curriculum such as science. Us		national standard are embedded.	standard are embedded.	at the national standard are	standard are embedded.		
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to: to: to: to: to: to: Apply knowledge of ther areas of the curriculum to their understanding of and problem solving with measures. E.g. squares, cubes, fractions, multiplication decimals. Sort and classify shapes using a mathematically appropriate vocabulary. Sort and classify shapes using a movement. Solve increasingly complex problems involving position and movement. Draw conclusions based on data and be able to creatively apply knowledge of shapes using a communicate their thinking. Draw conclusions based on data and be able to communicate their thinking. Image: Problems. Communicate reasoning and talk about mathematical language. Apply knowledge of measures to other areas of the curriculum and be able to generalise their understanding. Make links and connections with other areas of the curriculum and be able to generalise their understanding. Use understanding of statistics in other curriculum areas. Communicate reasoning and talk about mathematical language. Apply knowledge of measures to other areas of the curriculum such as science. Apply knowledge of measures to other areas of the curriculum such as science. Use understanding of the curriculum areas. Communicate reasoning and talk about mathematical language. Apply knowledge of measures to other areas of the curriculum such as science. Image: Communicate areas of the curriculum such as science. Image: Communicate areas of the curriculum areas. Apply knowledge of measures to other areas of the curriculum such as science. Image: Communicate areas		Sufficient evidence shows the ability	Sufficient evidence shows the ability	Sufficient evidence shows the ability	Sufficient evidence shows the ability		
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