

### **Purpose of Study**

Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

### Aims

The national curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately
- reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.

The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.



Term		Autumn 1			Autumn 2			Spri	ng 1			Spring 2			Sum	mer 1		Summ er 2
Concept	Place Value	Shape	Add and Subtract	Place Value	Add and Subtract	Shape and Time	Place Value	Add and Subtract	Shape and Time	Fractions	Place Value	Add and Subtract	Shape	Place Value	Multiplica tion and division	Fractions	Shape and Time	
Prior EYFS Learning	Court d. beyond d. Children will link number symbols with its cardinal value up to 10. Children will compare numbers and give reasons. Children mid the 11 morel 1 lass' for consecutive numbers.	Children will explore compositio n of mumbers up to 10. Children will recall number bonds for numbers up to 5, induking subtraction to 5, children will be able to recall number facts for doubling and halving.	Children will be able fo talk labout and explore 20 and 30 shapes using informal and mathematic al language. Children will compose and compose and compose and shapes can hanpas shapes within it.	Children will use language to compare objects e.g. bigger and smaller. Children will compare length weight and capacity. Children weight application compare length weight and capacity. Children weight application compare bigger weight capacity.	Children will explore composition of numbers up to 10. Children numbers up to 5, including subtraction fashiren will be able to recail number fasts for doubling and halving.	Children wil begin to sequence events. Children wil begin to develop a sense of time though experiencin g time specific durations.	Count beyond 20. Children will link number symbols with its cardinal value up to 10. Children will under humers and give reasons. Children will under 1 moref 1 less <sup>1</sup> for consecutive numbers.	Chiden will explore the composition of numbers of numbers of numbers bonds for number bonds for numbers up subtraction facts. In will be distributed subtraction facts. The number sub- recall number facts for doubling	Chidon will be able to recall mumber facts for haiving. ELG: Explore and represent numbers up to len, including within numbers up to len, including double facts and double facts and facts	Chiden will be able to be able to be able to 20 and 50 shapes using informal and mathematics hamps using informal and mathematics Chiden will begin to use time to sequence events. Chiden will begin to use time to sequence events.	Court beyond 0.2. Children will ink number symbols with its cardinal cardinal cardinal compare numbers and one site children will understand the 1 more/1 less for consecutive numbers.	Chiltern will export composition of numbers up to 10. Chiltern will recall number bonds for numbers up to 5, including subtraction subtraction et a deep undestandi no of numbers to 10 and the composition of each number.	Children will be able boult and explore 2D and 3D shapes using informal and ang ang and ang ang ang ang ang ang ang ang ang ang	Court beyrond 20, Childron will link number symbol so with its cardinal its cardina	Chidon will be able to head to for doubling halving. ELG: Explore and represent patterns within n numbers up to iten, including overs, odd	Children will be able to recall number facts for halving. ELG: Explore and represent within numbers up to ten, including facts obtained facts or quantifies and be distributed equally.	Children will be able to be able to be able to 20 and explore 20 and 30 shapes using informal and mathematics I language. Children will be children will be events. Children will be events. Children will be searce of time to use time to use to use	
								National Cur	riculum Subj	ect Content								
Curriculum Objectives	Count to and across 30. Read numbers from 1 to 20 in numeral and spell numbers 1 to 5 in words. Write and spell swords. Virte and represent numbers Lidentify abjects, Count, read and pobjects, Count, read and by size and begin to use the language of equal to, more than, less than, ewer, most, less than a describe and describe describe and describe de	Recognis e 2D shapes in resource s, protures and the environm ent. Describe the propertie s of 2D shapes. Make 2D shapes from resource s such as matchsti cks.	Use part- whole models to show addition. Read, write and interpret mathema statemen ts involving +, - and =, Add and subtract 1-digit numbers. Solve 1 step problem that involve addition and subtract that involve s and pictures.	Count to 50. Revises previous objective s in place value. Represe nt numbers to 20 using 10 frames. Order numbers using vocabula ry such as greatest, compare , describe and solve problem for: Lengths and solve problem for: Lengths and volume Measure lengths with non- standard units.	Revise and consolida te objective s already taught. Represe nt addition problems Represe nt and solve addition word solve subtracti on problems	Identify and describe basic 3D shapes. Recognis e and use relating to dates, including days of the week, months and years.	Count in tens. Revise and consolidate objectives already taught. Write and spell numbers 1 to 20 in words. Represent 2-digit numbers using dienes blocks and other base 10 representati ons. Identify and represent inumbers on numbers in denses blocks and other base 10 representations. Measure and begin to record: lengths and heights mass/weigh t capacity and volume	Revise and consolida te objectives already taught. Add by counting on a populated number- line, putting the largest number first. Subtract by counting back on a populated number first.	Revise identifying 2D and 3D shapes. Tell the time to the hour and clock to clock to clock to show this. Sequenc e events in chronolog ical order using language. Recognis e and use language relating to dates, including days of the week, weeks, months and years	Recognis e, find haif of an object, shape or quantity	Count to 100, Count in tens. Revise and consolida te place value objective s. Use dienes blocks to represent numbers blocks to represent numbers.	Revise and consolida te objective s already taught. Add 1- digit numbers and 2- digit numbers and 2- digit numbers to 20 by counting on. Recognis e and know he value of a selection of coins and value of coins and selection of coins a selection of coins a selection selection	Revise and consolida te objective s already taught. Use positional anguage to describe the moveme nt of an object.	Count across 100. Revise and consolidat e objectives already taught. Use multiple representa tions of explore the place value of 2- digit numbers.	Solve 1- sep problems imotiplicat ion and division by calculatin g the answer using objects, pictures and arrays.	Revise halves, Recognis e, find a quarter of an object, shape or quartity. Describe position, direction and movemen t including whole, half, quarter turns.	Revise telling the time to the hour. Tell the time to the half hour. Measure and begin to record time.	Addition and Subtract ion Solve missing number problem e.g. 7= 7- 9. Use AfL to decide what to decide what needs to be recapped and consolida ted.
Vocabulary	forward backward more less number line equal to more than less than fewer least most numeral words	add subtract vocabulary related to add and subtract word problems equals	rectangle square triangle circle oval pentagon hexagon cube cuboid pyramid sphere cone	long(er) short(er) tall double half heavy(ier) light(er) full empty half full quarter full	add subtract vocabulary related to add and subtract word problems equals	before after next first today tomorrow yesterday quicker slower earlier later hours seconds	forward backward more less number line equal to more than less than fewer least most numeral words	add subtract vocabulary related to add and subtract word problems equals	half equal parts	hour o'clock big hand little hand	forward backward more less number line equal to more than less than fewer least most numeral words	number bonds coin note pound penny pence	rectangle square triangle circle oval pentagon hexagon cube cuboid pyramid sphere cone	forward backward more less number line equal to more than less than fewer least most numeral words	times multiply groups arrays pairs	quarter equal parts turm position direction movement	hour half hour half past big hand little hand	



Term		Autumn 1	in 1 Autumn 2 Spring 1 Spring 2 Summer 1 Summ									Summer 2							
Concept	Place Value	Add and Subtract	Shape	Place Value	Add and Subtract	Shape and Time	Place Value	Add and Subtract	Fractions	Shap and Time	10	Place Value	Add and Subtract	Shape	Place Value	Multiplication and division	Fractions	Shape and Time	
							•	Nationa	al Curricu	lum S	Subje	ct Con	itent				•		
Learn by Heart	1 more 2D sha	e to 30 apes		1 less Count	to 30 in twos		3D sh Count	apes in tens			Cour Pairs	nt in fiv s that n	'es. nake 10.		1 more Recog notes.	e to 100 gnise and nam	e coins ar	nd	Revise pairs to 10. Subtraction facts for pairs to 10. 1 less to 100.
Arithmetic	1 less 1 more Adding	than e than g and subt	racting 1	I-digit nu	mbers		Adding Comp Double	and subt lements to es and hal	racting 1-0 10. ves.	digit n	iumbe	rs.			Addin Comp Doubl	g and subtract lements to 10 es and halves	ing numbe – missing	ers below numbers	20.
Problem Solving										Ac Draw	t it ou a pic	ut ture							
Calculations Policy			Add Sub Mul Arra Finc frac ame halv	lition tractio tractions ding tions ving	Ph Pu Cc Pa ( ) Pa ( ) Pa ( ) Pa ( ) Pa ( ) Pa ( ) Pa	usical r it the bi it the sr punt on irt/Who issical r it the bi it the sr pulated it the sr pulated it the sr pulated it the sr pulated it the sr pulated it the sr it t	resource iggest in nallest from t ole Moo resource iggest in nallest ck from	es/Draw number number he bigg dels es/Draw number number the big erline 9-2 1 1 4 5	in your in your up on est num in your up on gest nu gest nu	hea your ber.	Id. r fing Id. r fing er.	gers.	pulated I i i 0 1 i ultiplyi punt on agers nding actions nounts uarterin	$7 + 1$ Number $\frac{1}{2} - 3$ $7 - 5$ in g of - ig	$5 = 12$ $7$ $4 = 5$ $= 2$ $7$ $3 \times 2$	$= 6$ $\frac{2}{\sqrt{4}}$ $\frac{1}{4} o_{1}$	9 10 11 9 10 11 10 11		





Term		Autumn 1			Aut	umn 2			S	pring 1			SI	oring 2			Sun	nmer 1			Sumr	ner 2	
Concept	Additio Mu n and tio subracti Div on	Itiplica Pla n and ce vision Val ue	Fractio ns	Pla ce Val ue	Addition and Subtract ion	Multiplica tion and Division	Sha pe	Pla ce val ue	Addition and subtract ion	Multiplica tion and division	Fractio ns	Pla ce Val ue	Addition and subtracti ons	Multiplica tion and division	Fractio ns Shape	Pla ce Val ue	Addition and subtracti ons	Multiplica tion and division	Sha pe and time	Pla ce Val ue	Addition and Subtract ion	Multiplica tion and division with fractions	Γ
									Nat	ional Curricu	lum Sub	ject Con	tent					-					
Learn By Heart	Pairs to 10 and 2 x table 5x table	120		10x ta Count	bles ing in 4s.			Counting Doubling multiples	g in 3s g up to s of ten.	o 24, and o	oubling	10 mo Halvin ten.	re and 10 les g up to 24 a	ss. Ind halving m	ultiples of	2x tab 5x tab	ole and divisio ole and divisio	on facts on facts		10x ta Spelli montf Spelli	ible and divis ng names ns. ng numbers	ion facts. of days up to 20.	and
Arithmetic	Head and subtracting. Missing box problems. Multiplication Introduction to by drawing do	fingers add questions in within known tir o the ÷ symbol a ts on bar model	ling and addition nes tables. nd division s.	Addin Quest positio Multip tables Divisio 5s and Using and s jumps	g 3 1-digit n ions with th on e.g. [] = 4 blication w or by drawi on by drawi d 10s. a populate subtract, in s of 10.	umbers. e = sign in a o +9. ithin known ng arrays. ng or countin d number-line cluding mak	different times og in 2s, e to add ing big	Find ¾ ơ Adding number-l	of a numb and sul line.	er. btracting on a	ı blank	Conso and su Find a an am Missir	lidate blank ibtracting. ny number ount. g box quest	number-line of quarters o ions for subtr	for adding r thirds of ractioon.	Menta digit ones. Cons quest	ally adding an numbers by olidate and p ions.	nd subtracting counting in te practise missi	I two 2- ens and ng box	Explo for ad	re a variety o Iding and sul	f mental metł stracting.	iods
Problem Solving	Act it out			Act it	out			Draw a d Make a li	liagram ist or tabl	le (new strategy		Draw ; Make ;	ı diagram a list or table	e (new strateg	у)	Draw Make	a diagram a list or table	(new strateg)	n	Draw Make	a diagram a list or tabl	e (new strates	i)
Calculations	Adding 1 digit numbers mentally Adding TO + TO using a blank number lin Adding TO + TO mentally Missing numbers in addition Adding 3 numbers Subtracting TO + TO using a blank number lin	Put the bil Put the sm Count on Circle the the other Write the number line Draw the Write the jumps. Wr Put the bil Put T and Look at th up that m Count on Then look Count fron Count fron	ggest numb allest num from the bi biggest num number. biggest numb Ten jumps numbers yy iice your an ggest numb O on the c ie tens in the ers. in tens. at the one: ers. in ones. n the small the last num lallest num is from the biggest num r. Ten jumps. numbers your an	er in you ber up or ggest nu nber and and the l u land a t er in you ther num e other num e other num i number i number est numb to add f nber. er in you ber up or biggest r inber and the and the u land a t	Ir head. I put T and the start of One jumps on for the the end. The end. and put u ber to the l irst. I write T a he end of T One jumps on for the T the end.	ers.         23           I O on.         1           the         1           en         56           d put         A           .p that         1           .p that	25 + 5 = 28 $23$ $25 + 7$ $2.5$ To $32 - 5 = 18$ $32 - 5 = 18$ $32 - 15$ $17$ ling tions of unts	B T O T O T O T O T O T O T O T O	25 26 27 3 8 5 8 5 8 5 7 6 96 5 7 7 6 96 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	28 $3^{88}$ $3^{80}$ $3^{80}$ $3^{10}$ $3^{10}$ 18 18 18 18 18 18 18 18 18 18	Sul TO me Mit nu sut ann tab Di 3, 10	how how how how how how how how	g Put th Put T Look Count Then many Count If the two n If the subtro g The fi put up The su If you numbor round The fi J you numbor count The fi d count The fi s to dra The fi out. Share S a f	the biggest n and O on t at the tenss at the tens the tens of	umber in y he other n in the other gers. is. ones numl es. nber is mis the other is mist tells you is ber tells you is table u gers – this ber tells you wher tells you is table u gers – this ser tells you is how mo mber and i	your hee umber. er numb ber and ssing, do sumbers tow mar u what ount in swap t u what your the swap t u what your the swap t u what u how n my you then see	id. er and put put up that id the othe d the othe a uy fingers t to count in the second he numbers i need to to count in. reach the uswer. nany boxes need to giv how many	56 - 32 Subtra 56 Then s: 26 Then s: 26 5 x 7 - 5 x 7 - 5 x 7 - 5 x 7 - 5 x 7 - 14 ÷ 2 : Count i 4 2 4 2 4 4 2 4 4 4 4 4 4 4 4 4 4 4 4	2 2 2 3 15 35 - 35 35 - 35 6 23 35 6 23 35 6 23 35 6 23 35 23 35	ens: 4 4 the on -7: 2 14 do 7 x 14 do 7 x 14 14 10 14 10 14 10	$\int_{1}^{36} \int_{1}^{26} \int_{1}^{26} \int_{1}^{25} \int_{1}^{26} \int_{1}^{25} \int_{1}^{26} \int_{1}^{25} \int_{1}^{26} \int_{1}^{25} \int_{1}^{26} \int_{1}^{25} \int_{1}^{26} \int_{1}^{25} \int_{1}^{26} \int_{1}^{26$	p the	
	The top number of the many boxes you need Count how many you all of the boxes you ho											ogether i	1	<u> </u>	<u> </u>								



	Ter m		Au	tumn 1				Autumn 2					Spring 1			Spr	ing 2		ŝ	Summer 1		Sumr	ner 2
	Concept	Place Value	Addition and Subtraction	Fractions	Shape	Additio subtra	on and action	multiply and divide	Fractions	Shape	Addit Subt	tion and traction	Fractions	Tir	ne A	ddition and Subtraction	Multip and I	vication	Time	Additio Subtra	n and Fra Inction	iction s	Recap and apply.
ľ			1	1				1	Nati	onal Curricu	ulum S	Subject Con	tent				1						1
	Objectives	Read and write sup to 1000. Count in 10s, 100s, 50s starting at 0. Represe enting number s in differen t ways. Recog nise the value of a digit. Partitio ning number s. Estimat e the position and write n and write s on a number s to 1000. 10	Use varied represe ntations to add and subtract. Use a number- line to support mental adding - 3-digit and 1- digit, crossing 10. Subtract a 1- digit number or a multiple s of 10. Subtract a 1- digit number or a multiple of 10 from a 3- digit, crossing 1/100.	Recog nise, find and write fraction s. Recog nise and use fraction s as numbe rs. Add and subtrac t fraction s with the same denomi nator.	Unders tand what angles are. Identify right angles and explore their relation ship to half turns and full turns. Compa re angles to a right angles to a restint to a right angles to a right a rig right a right a right a right a right r	Use the inverse to check answers Solve problem s includin g more complex addition and subtracti money, includin g to find change.	Use array to represent multiplica on problems Match number sentence to the correct picture. Multiplying visual represent tions. Introduce and use the grid method.	ys Counti in tentt t Unders ding fraction fracti	ng Dins. idi istan sh stan sh s sh e m j m ns Di e sh R nina sh di or	raw and entify 2D tapes. tapes. ake 3D tapes using odelling atterials. escribe 3D tapes in fferent ientations.		Introduce column addition, first without regrouping then with. Apply to problems. Introduce column subtraction , first without exchange then with. Solve a mixture of addition and subtract ion moblems. Measure, add and subtract lengths. Measure the perimeter.	Revi se prev ious fract ions lear ning C C o mpa re and orde r unit fract ions and fract ions with the sam e and orde r r.	Tell the time from an analog ue clock. Use 12- and 24- hour clock. Know the rof second s in a minute, the numbe r of second s in a minute, the second s in a second s in a second sec	Unders and finc the differen e, and differen e questio s such as how many more. Model with cuisinai e rods and unifix. Interpre- and present data using bar charts, pictogra ms and tables.	t Revi d prev multi c on ai divis learn Solv n prob invol scali and corre ence prob	se ous plicati id on ing. ems ems ving 19 spond ems.	Read Romar numera s to 12 Revise time objecti es. Calcula e the duratio of events using a vertica numbe line. Compa e the duratio s of events	E the second sec	stimate e nswer alculati ns. easure ompare add nd abtract ass nd apacity	Revise all previous fractions knowled ge. Recogni se and show equivale equivale problems involving fractions.	Us dewwh nee be recc ann cou ed.	e AfL to cide at eds to eapped d nsolidat
	Vocabulary	smaller larger greater digit less more	add, subtract and associat ed word problem vocabul ary multiple s of 10	fraction half quarter denomi nator numer ator	angle turn half turn right angle greater smaller horizon tai vertical perpen dicular parallel	money change pounds pennies	arrays rows columns multiples of 10 grid method	fenths fraction denom tor numer	ns cc iina vec ator fa q tri	des priners princes dges ces uadrilateral angle		column addition regrouping column subtraction exchange measure cm m ruler tape measure tape measure stok trundle wheel perimeter	unit fract ions com pare orde r bigg er larg er larg er larg er larg er aller less mor e e qu al	analog ue digital am/pm 12/24 hour clock evenin g mornin g second minute hour	find the differen e, how many more, how much taller and other associa ed vocabu ary bar chart pictogra m table one-ste	tt I A A A A A A A A A A A A A	bulary ciated plicati nd on s ems ng	Romar Numer s duratio how long vertical numbe line	i e: al m ci m m m n i r- si si si	stimate ass apacity kg l/l easuri j jug easuri j d/inder savier savier shter	equivale nt fraction numerat or denomin ator		



Term		Autum	n 1			Autumn 2	!			Spring 1		Spi	ring 2	s	Summer 1	Sumr	mer 2
Concept	Place Value	Addition and Subtraction	Fractions	Shape	Addition and subtraction	Multiplication and Division	Fractions	Shape	Addition and Subtraction	Fractions	Time	Addition and Subtraction	Multiplication and Division	Time	Addition and Subtraction	Fractions	Recap and apply.
							National	Curriculu	m Subject Co	ntent							
Learn By Heart	3 x tabl 6 x tabl	le le			4 x table 8 x table				Pairs to 1 Pairs to 1	00 in 5s 000 in 50s		Division fact Division fact	ts for 3x table ts for 6x table	Divisi 4x tal Divisi 8x tal	ion facts for ble ion facts for ble	Revise consolida previous t	and te targets.
Arithmetic	Revise number and me Missing Fraction Adding denomi + and -	adding and rs mentally and entally. g box questions. ns of a number. fractions inator. 10, 100 and 100	subtracting on a num with the 10 to any nu	2-digit aber-line same mber.	Grid method Division by	d partitioning.			Grid meth Column subtractio	od addition n.	and	Revise and	consolidate all	previous	s objectives.		
Problem Solving	Act it o	ut			Draw a diag	ıram			Make a ta	ble/list		Trial and Im (new strateg	iprovement gy)	Apply variet	ving problem s ty of problems.	olving strate	egies to a
	Dia mer dou hal	imond thod for ubling and ving		Dou 20 40	ble 27 27 + 7 + 14 54		Half of 30 30 + 15 + 15	f <sup>36</sup> 6 - 6 + 3 8		Multiplyir multiples Find a fra of an amo	ig of 10 ction ount	40 x 6 4x6 is 24 Make it bigger is 34 of 16	5 4 ten times 240	<b>40</b> 4 x 6 Make 240 Make 2400	<b>x 60</b> 5 is 24 e it ten time e it ten time ) 16	s bigger i s bigger i	zi
Salcuttions	Add	dition		UU 123 +89 212						Find dura of an even using a ve	tion it ertical	4 √ An event and lasts When do	4 √ starts at 1:20 12 minutes. es it end?	12 Dpm	4 √ An event st and finishes How long d	4 arts at 3:3 at 3:59pr oes it last	30pm   m. ?
0	S (wi	Column Subtraction ith exchang	2)	2 - 1 3	7 8.16 <u>37</u> 49	Ensur langu "6 — numb	e the cor age is us 7 is a ne er."	rrect sed. gative		numberlin	le	(1:32pm) 1:30pm	+2mir	15	3:59pm 3:50pm	+9mii )+10i	n min
	Gri	d Method	13	х З	x 10	3 30	30 33	+ 3	=			1:20pm	+10	min	3:40pm 3:30pm 10+10-	)+10i	min
					3	3									29min	)	r



Term	Autu	mn 1	Autu	mn 2	Spri	ng 1	Spri	ing 2	Sum	mer 1	Sum	mer 2
cept	Place Value	Addition and Subtraction	Addition and Subtraction	Multiplication and Division	Place value	Fractions	Fractions	Shape	Shape and Time	Place Value	Addition and Subtraction	Multiplication and Division
Con												
					Nationa	al Curriculum Subje	ect Content					
Objectives	How big is 10,000? Identify and represent numbers in different ways. Round numbers to the nearest 10 and 100. Recognise the place value of each digit and partition numbers with four digits. Compare and order numbers beyond 1000. Round to the nearest 1000. Count backwards through 0 to include negative numbers. Read Roman numerals (I to C) and explain how the number system changed.	Addition and subtraction with 4-digit numbers, including using column addition and subtraction. Using bar models to represent addition, subtraction and difference problems. Estimate and use the inverse to check answers. Solve adding, subtracting and find the difference problems involving negative numbers by counting forwards and backwards through zero.	Solve addition, subtraction and find the difference two-step problems in contexts, deciding which operations and methods to use and why. Use bar models to represent these problems. Measure and calculate the perimeter of a rectilinear figure.	What is multiplicatio n? Recognise, find and use factor pairs (factor rainbow jotting). Find the area of rectilinear shapes by counting squares – counting in rows. Multiply 2- and 3-digit number by a 1-digit number by a 1-digit number stand in division? Understandi ng grouping and sharing. Answer questions like "How many 7s in 36?" Use the partition method for division to aid mental division.	Revise place value objectives. Divide by 10 and 100. Convert between different units of measure.	Recognise and show families of common equivalent fractions. Count in hundredths; recognise that dividing by 100 and dividing tenths by tenths is to make hundredths. Recognise and write decimal equivalents of any number of tenths or hundredths.	Revise dividing by 10 and 100. Compare numbers with the same number of decimal places. Round decimals to nearest whole number using a number line jotting. Recognise and write decimal equivalents of ½, ¼ and ¾.	Identify lines of symmetry. Complete a symmetric picture. Identify acute and obtuse angles. Compare and order angles. Compare and classify geometric shapes.	Co- ordinates. Plot points to complete a polygon. Translations Revise telling the time objectives from Y3. Write and convert time between analogue and digital. 12- and 24- hour clock Solve problems involving converting from hours to minutes, minutes to seconds, years to months and weeks to days.	Estimate, compare and calculate different measures. Solve simple measure and money problems involving fractions and decimals.	Consolidate and revise all previous addition and subtraction objectives. Interpret and present information on bar graphs, pictograms and time graphs. Revise using a vertical number line to find the duration of events from information presented on time graphs. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	Consolidate, revise and extend all previous multiplicatio n and division objectives.
Vocabulary	round nearest multiple compare order partition ten times bigger ten times smaller negative Roman numerals	column estimate inverse difference vocabulary associated with addition, subtraction and difference word problems.	perimeter rectilinear figure	Multiplicatio n, grouping, sharing and associated vocabulary in word problems. partitioning remainder	convert cm, m, km	numerator denominator equivalent ones tenths hundredths	decimal places round	compare classify triangles (equilateral, isosceles, scalene) quadrilateral angle obtuse acute right angle symmetry symmetrical	estimate compare	co-ordinates polygon translate analogue digital 24-hour 12-hour	bar chart time graph duration pictogram table	convert



Term	Autum	ın 1	Auto	ımn 2	Spri	ng 1		S	pring 2	Sum	mer 1	Sum	mer 2
Concept	Place Value	Addition and Subtraction	Addition and Subtraction	Multiplication and Division	Place Value	Fractio	ons	Fractions	Shape	Place value	Shape and Time	Addition and Subtraction	Multiplication and Division
			•		Nationa	al Curricu	ulum Subje	ect Content		•	•		
Learn By Heart	Times tables. Value of I, V, X, L and C in Roman Numerals.	Number pairs to 20 (revision) Times tables.	Times tables	Times tables.	Conversions mm to cm and cm to mm. Times tables.	Times t	tables.	Know Fraction and decimal equivalences for ½, ¼ , ¾ , 1/ <sub>10</sub> .	Times tables. Converting units of time.	Division Facts. Revise times tables for children who need it.	Division Facts. Revise times tables for children who need it.	Division Facts. Revise times tables for children who need it.	Division Facts. Revise times tables for children who need it.
Arthmetic	Find 1000 more or given number. Colu and subtraction. Efficient subtraction Using estimation to answers. Using the inverse tr missing box question	less than an umn addition n calculations. o check o answer ons.	Recap partitionin Continue to prac addition and sub Dividing by 10 ar Add and subtrac same denominat Multiplying 3 nun Multiplying by 10. Division by partit "How many 7s in for bus stop met!	g. ise column traction. ad 100 tractions with the or abers. and 100. ividing by 1 and toning. 36?" Foundation tod.	Multiplying and dividing by 10 and 100.	Revise	all arithme	etic methods.					
Problem Solving	Act it out.	Make a list or a table.	Draw a diagram.		Trial and Improve	ement		Find a pattern. (New strategy)				Draw a diagram.	Make a list.
	Rounding	g Circle pointi be zer	For Round 2 fore An efj Round 61 the number th ng to the decid o in the answe	understandin 13 to the neare 215 middle ficient proced 8 to the neares H T O 618 v at could change ing digit. Unde r.	g: ist 10. 220 10 after ure: st 100. e. Draw an arro rlined digits wi	•w -	Short multip Factor	Rainbow	How many	$\frac{1}{7} = \frac{1}{8}$ $\frac{x}{5} = \frac{2}{6}$ $\frac{20}{5} = \frac{1}{5}$ $\frac{20}{5} = \frac{1}{5}$ $\frac{20}{5} = \frac{1}{5}$			
Calculations	Column heading:	s Th	spaupun <sub>H</sub> H T O O Length ÷10 ÷100	t thursender thousandths thousandths thousandths	Capacity ÷1000		Divisio Prepa the bu metho	on – ration for is stop d	7 14 21 28 35 <u>42</u> 49	•••			
	Converting units jottings x and ÷ by 1 100	Write 10, <sup>in the</sup>	10 ×100 52. the column f correct colur T 0 5	$\frac{1 \div 1000}{1 \div 1000}$	x1000 e the number digits. h th 2 7		Divisio Partiti	on – ioning	80÷4 =20	<b>96÷4</b> 96÷ 4	16÷4 =4		



Term	Autu	mn 1	Autu	mn 2	Spri	ing 1	Spri	ng 2	Sum	mer 1	Sum	mer 2
Concept	Place Value	Addition and Subtraction	Fractions	Multiplication and division	Addition and Subtraction	Multiplication and division	Place Value	Fractions	Addition and Subtraction	Multiplication and Division	Fractions	Revision
-	•	L	L	L	Nationa	al Curriculum Subje	ect Content	L		L	L	I
Objectives	Read, write and represent numbers to 1 million. Order and compare numbers to 1 million. Count forwards and backwards in steps of powers of 10. Rounding to the nearest 10, 100, 1000, 10 000 using a number-line jotting. Introduce efficient jotting. Interpret negative numbers in context. Count forwards and backwards with positive and backwards with positive and backwards with positive and backwards with positive and solve problems using these skills.	Add and subtract numbers mentally with increasingly large numbers. Solve addition and subtraction multi-step problems in contexts, deciding which operations to use and why.	Revise previous fractions knowledge. Identify equivalent fractions with visual representati ons. Move on to the jotting for equivalent fractions. Compare and order fractions whose denominator s are multiples of the same denominator Recognise mixed and improper fractions and convert from one to the other.	Recognise and use square and cube numbers. Find all the factors of a number using the factor rainbow jotting. Identify multiples of a number. Find common factors and multiples. Use the vocabulary of prime numbers, prime factors and composite numbers. Recall all primes up to 19 and establish whether a number up to 100 is prime.	Solve comparison, sum and difference problems using information presented in a line graph. Complete, read, interpret and answer questions about information in tables including timetables. Use a vertical number-line to work out time problems. Use adding and subtracting skills to solve problems involving measure. Use the properties of rectangles to deduce related facts. Measure and calculate the perimeter of composite rectilinear shapes.	Interpret remainders appropriatel y for the context when solving division problems. Solve problems, including multistep problems, involving all four operations and understand the meaning of the equals sign. Solve problems involving multiplication n and division including scaling by simple fractions and problems involving rates. Solve problems involving rates. Solve problems involving rates. Solve problems involving rates. Solve problems involving rates. Solve problems involving rates. Solve problems involving rates. Solve problems involving rates. Solve problems involving converting between different units of time.	Convert between different units of metric measureme nt. Solve problems involving conversions. Recognise and read Roman numerals to 1000 and recognise years written in Roman Numerals. Recognise years written in Roman Numerals. Recognise dand use thousandths and relate this to tenth, hundredths and relate this to tenth, hundredths and decimal notation. Read, write, order and compare numbers with up to 3 decimal places. Solve problems involving decimal sup to 3dp. Round a decimal places.	Add fraction with denominator s that are multiples of the same number. Multiply fractions and mixed numbers by whole numbers by whole numbers (with support from equipment and diagrams). Recognise and understand the % symbol. Write percentages as a fraction with denominator 100 and as a decimal. Convert fractions with denominator s of 2, 4, 5, 10 and 25 to a fraction with a denominator of 100 and then a percentage. Solve problems involving a knowledge of percentage and decimal equivalents of fractions with the denominator s 2, 4, 5, 10 or 25.	Know angles are measured in degrees. Estimate and compare acute, obtuse and reflex angles. Draw and measure a protractor. Identify: Angles using a protractor. Identify: Angles at a point, one whole turn, on a straight line, half a turn and other multiples of 90°.	Understand and use approximate equivalence s between metric and imperial units (e.g. inches, pounds and pints). Distinguish between regular and irregular polygons based on reasoning about sides and angles. Calculate and compare the area of rectangles (including squares) using standard units (cm <sup>2</sup> and m <sup>2</sup> ). Estimate the area of irregular shapes. Identify 3D shapes from 2D representati ons. Estimate volume (e.g. by using 1cm <sup>3</sup> blocks to build cuboids). Estimate capacity (e.g. by using water).	Revise, consolidate and extend all fractions learning.	Use AFL to determine which subjects need to be revised and consolidated
Vocabulary	compare value round nearest multiple of 10, 100, 1000 negative positive	mentally estimate levels of accuracy vocabulary associated with addition, subtraction and difference problems	numerator denominator equivalent mixed numbers improper fractions convert	multiples factors common multiple common factor prime composite prime factor square number cube number	length mass volume perimeter rectilinear comparison line graph timetable vertical	remainders vocabulary associated with multiplication and division word problems scaling rates	metric units convert Roman numerals thousandths decimal places equivalents	percent parts per hundred denominator equivalence vocabulary associated with fractions and percentage word problems.	angle degrees obtuse acute reflex whole turn; half turn; quarter of a turn around a point; straight line; right angle	imperial metric pints pounds (lb) inches polygons regular irregular area length width volume capacity	Revise and consi vocabulary.	olidate all



Term	Autum	ın 1	Autu	mn 2	Spri	ing 1	Sprir	ng 2	Sum	mer 1	Sum	mer 2
Concept	Place Value	Addition and Subtraction	Fractions	Multiplication and division	Addition and Subtraction	Multiplication and division	Place Value	Fractions	Addition and Subtraction	Multiplication and Division	Fractions	Revision
					Nationa	al Curriculum Su	bject Content				1	
Learn By Heart	Name all column headings from millions to ones.	All times tables an (revision)	nd division facts.	Square numbers up to 12 <sup>2</sup> Primes up to 19.	Fraction and decimal equivalents for halves and quarters.	Key time facts e.g. 60 minutes = 1hr; 365 days = 1 year	Column headings from tenths to millionths. Convert between different units of measurement.	Write a percentage as a fraction with a denominator of 100 and as a decimal.	Angle facts e.g. straight line = 180° Identify 3D shapes from their nets.	Fraction, decimal and percentage equivalents for halves and quarters.	Fraction, decimal and percentage equivalents for tenths.	Fraction, decimal and percentage equivalents for fifths.
Arithmetic	Multiply and divide 1000. Add and subtract n more than 4 digits i column addition and	by 10, 100 and umbers with including using d subtraction.	Multiply numbers 1 digit number us multiplication. Use long multiplic a 4 digit by a 2 di Use bus stop divi Convert between fractions and mix Add and subtract same denominate	up to 4 digits by ing short ation to multiply git number. sion to divide. improper ed numbers. fractions with the or.	Use column addi subtraction to add decimals, includi form 5-3.43. Multiply and divid mentally, drawing Find a fraction of	tion and d and subtract ng question of the de numbers g on known facts. a number.	Multiplying a fracti number. Add two fractions denominators.	ion by a whole with different	Revise and cons	olidate all arithmetic	methods.	
Problem Solving	Act it out. Draw a picture. Trial by improveme	nt.	Make a list or tabl Find a pattern.	e.	Act it out. Trial by improver	nent.	Working backward for Y5)	ds (new strategy	Draw a picture. Find a pattern.		Working backwar	ds.
	Roundi	ng Circl poin zero	Fe Round 21 000 2 1000 before Round 21 P 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	ar understand 3,523 to the n 13,500 middle efficient proc 3,523 to the n HTh TTh Th H 2 1 3 5 2 hat could chan ding digit. Und	ding: tearest 1000. 214,000 1000 af tearest 1000. T 0 2 3 terlined digits v	iter rrow will be	Fractions of a Number Convert between mixed numbers and improper fractions.	<sup>3</sup> /4 of 3 Mixed n Imprope	240 + 4 $60 + 3$ $180 + 3$ $180 + 5$ $1 + 2$ $1 + 2$ $1 + 2$ $1 + 2$ $1 + 2$ $1 + 2$ $1 + 2$ $2$ $2$ $3$ $3$ $3$ $3$ $4$ $7$	proper fractio 7 5 mixed numbe	n. 17	
Calculations	Co lum heading	n gs Mallions	표 Hundred Thousands 너희 Thousands 너희 Thousands	H Mundreds H Tens O Ones A tenths	In hundredths In thousandths In ten thousandths	<ul> <li>hundred thousandths</li> <li>millionths</li> </ul>		A journey	= 1  with	= 1 – 5 2 left ove Ppm and lasts 1	1 2 minutes. Wh	ien.
	Long Multiplice	ation	13 78 <u>x 2 4</u> 3 1 2 <u>1 5 6 0</u> <u>1 8 7 2</u>				Use a vertical	1.30	pm +2m	ins +10min		
	Bus Sta Divisio	op on	230 371010	5 4 1 12			numberline to answer questions abou timetables.	A journey How long 5:	pm V y starts at 3:30 y does it last? 59pm +1	0pm and finishe 29min	s at 5:59pm.	
	Equivalent fractions jotting	3 4 x	$\frac{x5}{20} = \frac{15}{20}$					5: 4: 3:	30pm 30pm 30pm	1hr + +1 hour 29min 29 min +1 hour	1hr + = 2hr	



Term	Autu	ımn 1	Autu	ımn 2	Spr	ring 1	Spring 2	Sum	mer 1	Su	nmer 2
Concept	Place Value (3 weeks)	Fractions (3-4 weeks)	Addition and Subtraction (3 weeks)	Multiplication and Division (3-4 weeks)	Shape (3 – 4 weeks)	Fractions (2-3 weeks)	SATs Revision	Place Value (2 weeks)	Multiplication and Division (2 weeks)	Fractions (2 weeks)	Problem Solving- Make an equation (3-4 weeks)
					National Curric	ulum Subject Conter	t				
Objectives	Read, write, order and compare numbers up to 10,000,000. Determine the value of each digit. Round any whole number to any degree of accuracy. Solve problems involving the calculation and conversion of units of measure. Use, read, write and convert between standard units.	Identify the value of each digit in decimals. Recall and use equivalences between simple fractions, decimals and percentages. Convert between fractions, decimals and percentages. Reason about which fraction/decimal l/percentage igreater using knowledge of equivalents. Use percentage equivalents to compare fractions and decimals. Associate a fraction with division and calculate decimal fraction equivalents.	Solve addition, subtraction and find the difference multi- step problems, deciding which operations and methods to use and why. Find unknown angles in any triangles, quadrilaterals, and regular polygons. Find missing angles around a point, on a straight line, or when vertically opposite. Interpret and construct line graphs and answer questions about them. Use negative numbers in context, and calculate intervals across 0 – related to line graphs of temperature.	Solve problems involving all operations. Identify common factors, common multiples and prime numbers. Know and apply formulae for area and volume. Calculate, estimate and cuboids. Recognise that shapes with the same area can have different perimeters and vice versa. Calculate and interpret the mean as an average. Convert between miles and km.	Describe positions on the full coordinate grid (all 4 quadrants). Draw and translate simple shapes on the coordinate plane, and reflect them in the axes. Compare and classify geometric shapes based on their properties. Investigate simple formula (Euler's law f+v-e=2). Recognise, describe and build simple 3- D shapes including making nets. Draw 2-D shapes using given dimensions and angles. Solve problems involving scale	Recall and use equivalences between simple fractions, decimals and percentages. Use common factors to simplify fractions. Use common multiples to express fractions in the same denomination Compare and order fractions, including fractions >1 Understand and solve word problems involving the calculation of percentages. Interpret and construct pie charts.	Objectives to be covered determined by AfL.	Round fluently and automatically to any degree of accuracy. Estimate answers to calculations. Solve problems that involve answers being rounded to a specified degree of accuracy. Determine an appropriate degree of accuracy given the context of a problem.	Solve problems involving unequal sharing. Solve problems involving the relative size of two quantities. Solve problems involving scales and maps.	Use equivalent fractions and FDP equivalences fluently and accurately. Use common multiples to express fractions with a common denominator. Reason about the size of fractions, decimals and percentages using knowledge of equivalence.	Use simple formulae. Expressing missing number problems algebraically. Use substitution to solve problems using algebraic equations.
Vocabulary	value round degree of accuracy convert standard units multiple of 10 nearest	equivalent	triangles quadrilaterals regular polygons point straight line vertically opposite negative	common factors multiples primes composite area volume perimeter mean average miles km	co-ordinates quadrant translate reflect classify formula vertices edges faces curved flat scale factors	common factors multiples denominator percentages improper fractions pie chart		round accuracy appropriate multiple of 10 nearest	unequal sharing scale scale factor	equivalent common multiples compare	formula formulae express equations
Subsequent KS3 Learning	Understand and use place value for decimals, measures and integers of any size.	Work interchangeabl y decimals fractions Define percentage as 'number of parts per hundred', interpret percentages as a fraction or a decimal.	Use the four operations, including formal writter methods, applied to integers, decimals, proper and improper fractions, and mixed numbers, all both positive and negative.	Use the concepts and vocabulary of prime numbers, factors, multiples, common factors and multiples, highest common factor, lowest common multiple and prime factorisation. Derive and apply formulae to calculate area and perimeter.	Construct and interpret appropriate tables, charts, and diagrams, including frequency tables, bar charts, pie charts, pie charts, nd pictograms for categorical data, and vertical line (or bar) charts for ungrouped and grouped and mumerical data.	Use approximation through rounding to estimate.		Answers and calculate possible resulting errors expressed using inequality notation a <xsb. Round numbers and measures to an appropriate degree of accuracy.</xsb. 	Use ratio notation, including reduction to simplest form. Understand that a multiplicative relationship between two quantities can be expressed as a ratio or a fraction. Use scale factors, scale diagrams and maps.	Work interchangea bly with terminating decimals and their correspondin g fractions.	Model situations or procedures by translating them into algebraic expressions or formulae and by using graphs.



Term	Autu	mn 1	Autu	ımn 2	Spr	ring 1	Spring	2	Sum	nmer 1	Sum	mer 2
Concept	Place Value (3 weeks)	Fractions (3-4 weeks)	Addition and Subtraction (3 weeks)	Multiplication and Division (3-4 weeks)	Shape (3 – 4 weeks)	Fractions (2-3 weeks)	SATs Revision		Place Value (2 weeks)	Multiplication and Division (2 weeks)	Fractions (2 weeks)	Problem Solving- Make an equation (3-4 weeks)
					National (	Curriculum Su	bject Content					
Learn By Heart	Place Value Headings Length Conversions	Fraction, Decimal and Percentage Equivalents – Quarters/Fifths	Angle Facts	Prime Numbers Area Facts	Names of polygons. Name parts of a circle; diameter= 2x radius.	Revise FDP equivalences – mixed types.	Revise LBH as need	ded.	Revise LBH as needed.	Square numbers Cube numbers	Further FDP equivalences.	Revise LBH as needed.
Arithmetic	Multiply and divide numbers by 10, 100 and 1,000.	Multiply two fractions. Divide a fraction by whole numbers. Add and subtract fractions.	Adding and subtracting with decimals (link to place value).	Long Multiplication Long Division BODMAS	Give answers to division questions with up to 2 decimal places. Multiply decimals by a whole number.	Percentage of a number. Adding mixed numbers.	Use knowledge of fr decimals equivalent with calculations.	actions and is to be flexible	Revise and appl	y all arithmetic metho	ods learned.	
Problem Solving	Act it out/Draw a Solve problems in sharing. Solve problems in relative size of two	diagram wolving unequal wolving the o quantities.	Draw a diagram table Use bar models t Use tree diagram all possible comb variables.	/ Make a list or to solve problems ns to enumerate pinations of	Make an Equati (New Y6 Learnin Learn to solve al equations. Apply this skill to problems.	ion 1g) Igebraic 9 solving	Working Backward	is	Trial and Impro Develop mathen and determinatio	vement natical resilience n.	Find a Pattern	
Calculations	+ fractio butterfl method * fractio equals method half a butterfl butterfl	ns y 1 ns y ns y 1 1 1 1 1 1 1 1 1 1 1 1 1		+ 4 $+ 2$ $3$ $3$ $2$ $3$ $3$ $3$ $3$ $3$ $3$ $3$ $3$ $3$ $3$	$\frac{7}{6}$	25	finding a % of a number	30% of 4 Replace 9 $\frac{3}{10}$ of 450 45 135 52% of 4 Replace 9 $\frac{52}{100}$ of 450 45 234 2132 ÷ 4 1. Write times 40 + 1 = 80 + 2 = 120 + 3 = 160 + 4 = 240 + 6 = 280 + 7 = 360 + 9 = 2. Use th 41 $\begin{bmatrix} 1\\ 2\\ 3\\ 3\\ 3\\ 4\\ 3\\ 4\\ 1\end{bmatrix}$	50 % with a fra 300 % with a fra 300 % with a fra 0 2 $2^{\pm}100$ x 3 300 x 52 1 the 41 times table to the 1 = 41 = 82 = 164 = 205 = 246 = 287 = 328 = 369 we normal bus 0 0 5 2 2 $2^{\pm}1^{\pm1/3}$ $^{\circ}2$	ction. ction. table by addir times table	ng the 40	
	+ mixee number		$\frac{1}{2} + 2$	$\frac{1}{3} = \chi$	• • •	6		Find r neede 21: - <u>20</u>	emainders usi d. 3 <u>5</u> 8	ng column sub	otraction if	