

Maths at St Columb Minor

What are the aims?

INTENT

At St Columb Minor, Mathematics is a fundamental part of each day. We believe that Maths teaches us how to make sense of the world around us. We aim to provide children with the skills in order to develop the ability to calculate, to communicate, to reason and to solve problems; this enables them to explore, understand, and appreciate relationships and patterns in both number and shape in their everyday life. We wish to promote enjoyment and enthusiasm for learning through practical activity, cross-curricular learning, exploration, and discussion.

We deliver the teaching and learning for maths by following the **small steps** outlined in **White Rose 3.0**. We believe all children can achieve in mathematics, and we teach for secure and

deep understanding of mathematical concepts through manageable steps. Most children will be taught the content from their year group only. We aim for children to become true masters of content, applying and being creative with new knowledge in multiple ways.

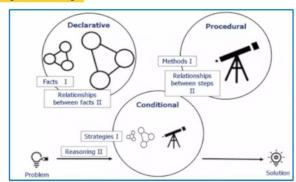
At St Columb Minor, we ensure that all children access an ambitious and aspiring curriculum whilst there is equity in our offer for all pupils to secure their factual (declarative) knowledge – introduced as "I know that" and refers to facts and formulae, and the relationship between facts.

Teachers model how to make links between the relationships of steps in the methods they use (procedural knowledge) - introduced with "I know how" - and the principles underpinning them.

Teachers will also model the strategies that can be used to apply prior learning to reason and solve problems (conditional knowledge) - this can be introduced with "I know when". This extends to combinations of declarative and procedural knowledge which then become strategies for particular types of problems.

As a school, we have adopted the Chris Moyse 'I Do, We Do, You Do' approach. Pupils' learning is scaffolded with a gradual release from teacher instruction to independent learning as a lesson progresses.











Maths at St Columb Minor - What does a typical maths lesson look like?

Number Facts
5 mins

This will be linked to the number facts focus for the half term and previously learnt

KS1 - Number bond/ facts activities e.g. number fans, missing numbers, counting sticks, counting with actions

KS2 - Times tables practice e,g. chanting tables, times table games, Daily 10 (TOPMARKS)

Get Ready
10 mins

5 warm up questions – based upon teacher assessment. Revise a single skill.

Here the declarative and the procedural link – I KNOW HOW

Provide a star challenge for pupils working confidently.

Share the WALT for the lesson. Vocab- no more than 4 key words (as reading)

Model and gradual release of responsibility. I do, we do, you do approach

Children who are confident in the concept can have responsibility and withdraw quickly whilst others may need support from class teacher or TA.

Class teacher/ TA may become the resource for adapting according to need whilst the other may helicopter the room checking in and live marking.

New Content
I do, we do,
you do

10 mins



Learning Task
30 mins

Children should work towards the same outcome.

Learning should be adapted according to need - this could include scaffolding the task or deepening the learning.

All children must have the opportunity to apply their conditional knowledge throughout a unit.

Assessment
Task
5 mins

Use of a specific question or True / False Q / Odd one out / Prove it to determine who has understood the learning and who may need further support.

Conditional knowledge – **I KNOW WHEN** – to be taught at a later date when the DECLARATIVE and PROCEDURAL has been embedded in the long-term memory.

White Rose materials are used to support resources and body of knowledge.



St Columb Minor Academy Mathematics Curriculum Document KIRFS (Key Instant Recall Facts) Overview

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	I can say the numbers from 0 to 5 and back from 5 to 0 in order.	I can say the numbers from 0 to 10 and back from 10 to 0 in order.	I can read and write numbers to 5 in numerals.	I can partition numbers to 5 into two groups.	I can count, read and write numbers to 10 in numerals.	I can partition numbers to 10 into two groups.
Year 1	I know number bonds for each number to 6.	I know number bonds to 10 (+ and -).	I know one more or one less than numbers to 20.	I know doubles of numbers to 10.	I know halves of numbers to 10.	I can count in 2s.
Year 2	I can count, read and write numbers to 100 in numerals.	I know number bonds for each number to 20.	I know doubles and halves of numbers to 20.	I know the multiplication and division facts for the 10 times table.	I know multiplication and division facts for the 5 times table.	I know the multiplication and division facts for the 2 times table.
Year 3	I can count in multiples of 4, 8, 50 and 100.	I can find 10 or 100 more or less than a given number.	I know number bonds to 100.	I know the multiplication and division facts for the 4 times table.	I know multiplication and division facts for the 8 times table.	I know multiplication and division facts for the 3 times table.
Year 4	I know multiplication and division facts for the 6 and 9 times tables.	I know multiplication and division facts for the 7 and 11 times tables	I know multiplication and division facts for the 12 times tables.	I know the multiplication and division facts for all times tables up to 12 × 12.	I can multiply and divide single-digit numbers by 10 and 100.	I can recall decimal equivalents of fractions.
Year 5	I can round numbers to 1 million to the nearest 10, 100 and 1,000.	I can recall square numbers up to 122 and their square roots.	I know the first 5 cube numbers.	I can identify prime numbers up to 50.	I can identify multiples and factors up to 12x12.	I can read and write decimal numbers as fractions.
Year 6	I can count in powers of 10, forwards and backwards with numbers to 10 million.	I can identify common factors of a pair of numbers.	I can find fractions of amounts.	I know common fraction, decimal and percentage equivalences.	I can divide and multiply by 10, 100 and 1,000.	I can find simple percentages of amounts (1%, 5%, 10% etc).



<u>Declarative activities at St Columb Minor</u>

	Monday	Tuesday	Wednesday	Thursday	Friday
KS1	Counting with actions	Counting stick	Chanting - times tables, number bonds	Class finger games - number bonds, tables	Partner challenge - stick em up times tables, number bonds
KS2 Times tables	Chanting times tables – always table number second e.g. 1 x 2 is 2/ 2 x2 is 4	Times table games – ping pong game	Chanting times tables	Whiteboard show me activity	Times table application – e.g. quiz



St Columb Minor Academy Mathematics Curriculum Document Early Years Foundation Stage

Year Group	Autum	n Term	Sprir	ng Term	Summ	er Term			
Reception		Mastering Number: Subitising Subitise (recognise quantities without counting) Identify smaller numbers within a number (conceptual subitising) Mastering Number: Cardinality, ordinality and counting Say number words in sequence. Count objects in irregular arrangements. Count objects from a larger group. Link the number symbol (numeral) with its cardinal number value. Match numeral to quantity. Recognise amounts that amounts that have been rearranged remain the same, if nothing has been							
	Automatically re (including Understand tha Unde Com	Master er in a range of ways ecall (without referen subtraction facts) ar t group that has bee erstand that a numbe Understand how man Master apare collections and Check that groups ar Say which number is mpare numbers that	ce to rhymes, count and some number both of partitioned can be partitioned to the real by things are hidden aring Number: Count to the partition of the partition of the real by matching larger by counting of the far apart, near number does not me	mposition e pairs of numbers maing or other aids) numbers to 10, including doe recombined to make a dinto more than two grown a known quantity mparison roup has more or less to gon a one-to-one baser matching one-to-one to and next to each of atch a quantity. The provided in the provi	per bonds up to 5 buble facts. ethe same total. roups. y. hings. is. ether.				
	Getting to Know You Key times of the day, class routines. Exploring the continuous provision inside and out. Where do things belong?	It's Me 1,2,3 Representing 1,2,3 Comparing 1,2,3 Composition of 1,2,3 Circles & triangles	Alive in 5	Building 9 & 10 9 & 10 Comparing numbers to 10	To 20 and Beyond Building numbers beyond 10 Counting patterns beyond 10	Find My Pattern Doubling Sharing & Grouping Even and Odd			



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		Positional language.	Positional language	Compare Mass (2) Compare Capacity (2)		Spatial Reasoning (1) Match, Rotate, Manipulate	Spatial Reasoning (3) Visualise and Build
		Just Like Me Match & sort. Exploring pattern.	Light & Dark Representing numbers to 5	Growing 6,7,8 6, 7 & 8 Making pairs		First, Then, Now Adding More Taking Away	On the Move Deepening Understanding Patterns and Relationships
			One more one less		3D-shape Pattern (2)	Spatial Reasoning (2)	Spatial Reasoning (4)
		Compare amounts. Compare size,	Shapes with 4 sides	Combining 2 groups.		Compose and Decompose	Mapping
		mass and capacity.	Time	Length & Height Time	_		
Pattern, Shape & Space and Measure will be covered	Continue an AB pattern. Create their own AB pattern. Spot an error in an AB pattern. Identify the unit of repeat in a pattern.		Continue an ABC pa Continue an ABB pa Continue an ABBC p Continue a pattern v repeat.	ttern. attern. which ends mid-unit of B and ABBC patterns.	Use symbols to represent a pattern. Recreate a pattern in a different medium. Create a pattern which works in a circle. Create a cyclical pattern which works with a fixed number of spaces.		
through White Rose blocks, taught in addition to Mastering Number.	Shape and Space	Visualise how things of turned around and ir might fit together. Make constructions, and select shapes where the rotated or flipped in sorters and jigsaws. Notice the results of rimages, and in visual Use language of pos	different perspectives. will appear when magining how they patterns and pictures, nich will fit when insert boards, shape otating and reflecting ising them. ition and direction.	Explore shapes, the attributes of particular shapes and select shapes to fulfil a particular need. Discuss items built in terms of how towers are built and why certain shapes are chosen to make a tower, and the space that has been created within an enclosure. Represent spatial relationships in small world play. Construct and create things that represent objects in their environment.		Develop an awareness of the properties of	
	Measures	Recognise attributes vocabulary to descri	of measure and use be them.	Compare continuou Show an awareness estimating and predi Compare indirectly. Recognise the relation	of comparison in icting.	Use units to compare t Experience specific tin start to develop an ov	ne spans in order to

ACP: Continuous throughout. Through direct teaching, small group work and continuous provision, our EYFS team regularly observe and assess children's learning to inform their next steps planning (e.g. observation, assessment, planning cycle).



Autumn	Year 1		Place va	lue to 10		Add	dition and	subtraction	s within 10		PV asses	SS	Ge	eometry		+ and – assess	
Spring	Year 1	Geometry assess	Place value to 20	Addition	and subtractio	n within 20	PV to 2	O assess P	lace value to 50		+ and – assess	Length ar height	nd	PV to 50 ass	sess	Mass and volume	
Summer	Year 1	Measure assess	Multiplication and division	Fractions	X & ÷ assess	Position and o	direction	Fractions assess	Place value to 100)	Money	PV to 1		Time		loney and Cons time assess	olidation

Year 1	Declarative- knowing what	Procedural- knowing how	Conditional- knowing when and why
Autumn Block 1 Place Value within 10	Read and write numbers from 1 to 10 in numerals and words. ACP: Quick quiz on mini whiteboards. Identify one more or less than a given number. ACP: Quick quiz on mini whiteboards.		
Autumn Block 2 Number: Addition and subtraction		Compose numbers to 10 from 2-parts, and partition numbers to 10 into parts. ACP: How many ways can you make 7?	
	Assessment: Place Value withing 10		
Autumn Block 3 Geometry: Shape	Recognise common 2-D shapes: rectangles (including squares, circles and triangles presented in different orientations. ACP: PPT quick quiz. Show a variety of shapes and assess understanding orally. Recognise common 3D shapes: Including cuboids, cubes, pyramids and spheres presented in different orientations. ACP: Quick oral identification quiz. Know that the above shapes are not always similar to each other.	Compose 2-D and 3_d shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations. ACP: Practical assessment.	



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	ACP: Assess during above composites.		
		Assessment: Addition and Subtraction	
Spring Term	Assessment: Geometry 1	Assessment: Geometry 1	
Spring Block 1 Place Value within 20	Read and write numbers from 1 to 20 in numerals and words. ACP: Quick quiz on mini whiteboards. Identify one more or less than a given number. ACP: Quick quiz on mini whiteboards.	Identify and represent numbers using objects and pictorial representations including the number line. ACP: PPT quick quiz. Show a variety of numbers using different representations. Children to identify and represent using a different representation. Use the language of: equal to, more than, less than, most, least ACP: Oral assessment.	Reason about the location of numbers to 20 within the linear number system, including comparing using < > and =. ACP: Assess orally and on mini whiteboards using the symbols.
Spring Block 2 Addition and subtraction within 20	Represent and use number bonds and related subtraction facts within 20. ACP: Recall on whiteboards. Develop fluency in addition and subtraction facts within 10. ACP: Speedy recall on Hit the Button (Topmarks)	Add and subtract one-digit and two-digit numbers to 20, including zero. ACP: Low stakes test with access to resources. Read, write and interpret mathematical statements involving addition, subtraction and equals sign. ACP: Low stakes test.	Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations. ACP: Low stakes test with choice of resources. Solve missing number problems such as 7 = * - 9 ACP: Mini whiteboards. Relate additive expressions and equations to real-life contexts. ACP: Low stakes test.
	Assessment: Place Value within 20	Assessment: Place Value within 20	Assessment: Place Value within 20
Spring Block 3 Place Value within 50	Identify one more or less than a given number. ACP: Quick quiz on mini whiteboards.	Identify and represent numbers using objects and pictorial representations including the number line. ACP: PPT quick quiz. Show a variety of numbers using different representations. Children to identify and represent using a different representation. Use the language of: equal to, more than, less than, most, least ACP: Oral assessment.	
	Assessment: Addition and Subtraction within 20	Assessment: Addition and Subtraction within 20	Assessment: Addition and Subtraction within 20
Spring Block 4 Measurement: Length and height		Measure and record: lengths/heights, mass/weight, capacity volume, time. ACP: Practical session.	Compare, describe and solve practical problems for: lengths/heights. ACP: Practical session.



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	Assessment: Place Value within 50	Assessment: Place Value within 50	
Spring Block 5 Measurement: Mass and volume		Measure and record: mass/weight, capacity volume. ACP: Practical session.	Compare, describe and solve practical problems for: mass/weight, capacity volume. ACP: Practical session.
		Assessment: Measurement: Mass and volume	Assessment: Measurement: Mass and volume
<u>Summer Term</u>		Assessment: Multiplication and division	Assessment: Multiplication and division
Summer Block 1 Number: Multiplication and division		Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables. ACP: Low stakes test.	Solve one-step problems involving multiplication and division, using concrete objects, pictorial representations and arrays with support. ACP: Low stakes test.
Summer Block 2 Number: Fractions	Recognise, find and name a half as one of two equal parts of an object, shape or quantity. ACP: Practical assessment. Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. ACP: Practical assessment.		
Summer Block 3 Geometry: Position and direction	Use the language of position, direction and motion, including: left and right, top, middle and bottom, on top of, in front of, above, between, around, near, close and far, up and down, forwards and backwards, inside and outside. ACP: Practical sessions to assess all aspects orally. Assessment: Fractions	Make whole, half, quarter and three- quarter turns in both directions. ACP: Practical sessions to assess all aspects orally.	Connect turning clockwise with movement on a clock face. ACP: Practical sessions to assess all aspects orally.
	Assessment: Fractions		



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Summer Block 4 Number: Place Value within 100	Read and write numbers to 100 in numerals. ACP: Quick quiz on mini whiteboards. Count to and across 100 forwards and backwards. ACP: Oral counting as class. TA led; T assess. Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers. ACP: Oral counting as class. TA led; T assess. Recognise odd and even numbers. ACP: Oral recognition and reasoning of odd and even numbers 37 is odd because it ends in 7.	Identify and represent numbers using objects and pictorial representations including the number line. ACP: PPT quick quiz. Show a variety of numbers using different representations. Children to identify and represent using a different representation. Use the language of: equal to, more than, less than, most, least ACP: Oral assessment.	
Summer Block 5	Assessment: Geometry: Multiplication and division Recognise and know the value of different denominations of coins.	Assessment: Geometry: Multiplication and division	Assessment: Geometry: Multiplication and division
Measurement: Money	ACP: Practical assessment session. Assessment: Place value within 100	Geometry: Multiplication and division	
Summer Block 6 Measurement: Time	Tell the time to the hour and half past the hour. ACP: Assess throughout the day: What time is it? Also use mini clocks. Recognise and use language relating to dates, including the days of the week, weeks, months and years. ACP: Oral assessment.	Measure and record: time. ACP: Practical session.	Sequence events in chronological order. ACP: Order 4 images of school day events. Compare, describe and solve practical problems for: time. ACP: Practical session.
	Assessment: Measurement: Money and time	Assessment: Measurement: Time	Assessment: Measurement: Time



Autumn	Year 2		Place value			Addition and subtraction			Place value a	assess	Geometry	+ and — assess		
Spring	Year 2	Shape assess	Money	Multi	plication	n and divisior	n Mo	oney ess	Length and heig	ht	X 8	& ÷ assess	Mass Capacity Temperature	
Summer	Year 2	Measure assess	Fractions	Ti	ime	Fractions assess	Statistics	Time assess	Position and direction	Statistics/ PD a	assess	Consolida	ition and investigation	

Year 2	Declarative- knowing what	Procedural- knowing how	Conditional- knowing when and why		
Autumn Block 1 Place Value	Read and write numbers to at least 100 in numerals and in words. ACP: Quiz on mini whiteboards. Identify numbers using different representations. ACP: Show numbers on a number line, using Base 10, bead string, part whole model etc. Recognise the value of each digit in a 2-digit number. ACP: Mini whiteboard quiz. What does this 2 represent? Count in steps of 10 from any number, forward and backwards. ACP: Oral counting using counting stick. TA lead and T asses.	Order and compare numbers from 0 up to 100; use < > and = signs. ACP: Mini whiteboard with <, > and = Represent and estimate numbers using different representations, including the number line. ACP: Explode the number 7. Compose and decompose 2-digit numbers using standard and non-standard partitioning. ACP: How many ways can you partition 37?	Reason about the location of any 2-digit number in the linear number system, including identifying the previous and next multiple of 10. ACP: Display a 1-100 number line. T asks questions about numbers, TA records. Use place value and number facts to solve problems. ACP: Quick quiz, multiple choice: plan in answers with misconceptions.		
Autumn Block 2 Number: Addition and subtraction	Secure fluency in addition and subtraction facts within 10. ACP: Rapid fire questions on mini whiteboards. Secure fluency in addition and subtraction facts that bridge 10, through continued practice. ACP: Rapid fire questions on mini whiteboards.	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; adding three one-digit numbers.	Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures. ACP: Low stakes test covering all aspects of the composite. Free choice of resources, assess level of abstraction.		



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	Recall (to 10) and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100. ACP: Rapid fire questions on mini whiteboards.	ACP: Low stakes test covering all aspects of the composite. Free choice of resources, assess level of abstraction. Add and subtract across 10. ACP: Mini quiz. Add and subtract within 100 by applying related 1-digit facts. ACP: Mini quiz. Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more?" ACP: Multiple choice quiz.	Apply their increasing knowledge of mental and written methods. ACP: Low stakes test covering all aspects of the composite. Orally assess methods used and reason for choice. Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. ACP: Quick quiz, multiple choice: plan in answers with misconceptions. Orally assess use of vocabulary. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. ACP: Low stakes test. Include questions which cover the above.
	Assessment: Place Value	Assessment: Place Value	Assessment: Place Value
Autumn Block 3 Geometry: Shape	Identify and describe the properties of 2-D shapes using precise language, including the number of sides and line symmetry in a vertical line. ACP: Show shapes and ask children to name and describe them. Identify and describe the properties of 3-D shapes using precise language, including the number of edges, vertices and faces. ACP: Show shapes and ask children to name and describe them. Identify 2-D shapes on the surface of 3-D shapes ACP: Show shapes and ask children to name faces.	Compare and sort common 2-D and 3-D shapes and everyday objects. ACP: Practical session to assess all aspects of the composite orally.	Order and arrange combinations of mathematical objects in patterns and sequences. ACP: Practical activities using Pattern Blocks/Unifix cubes. Compare 2D and 3D shapes by reasoning about similarities and differences in properties. ACP: Display 2 shapes e.g., a cube and a square, a cube and a cuboid. What is the same and what is different?
	Assessment: Addition and Subtraction	Assessment: Addition and Subtraction	Assessment: Addition and Subtraction
Spring Term	Assessment: Geometry: Shape	Assessment: Geometry: Shape	Assessment: Geometry: Shape
Spring Block 1 Measurement: Money	Recognise and use symbols for pounds (£) and pence (p). ACP: Mini quiz on whiteboard in response to slide showing amounts.	Combine amounts of money to make a particular value. ACP: Show coins to make 29p and 42p. 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. ACP: Practical activity.



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		ACP: Explode a pound.	
	Possill and use multiplication and	Calculate mathematical statements for	
Spring Block 2	Recall and use multiplication and division facts for the 2, 5 and 10	multiplication and division within the	
Number: Multiplication	multiplication tables, including	multiplication tables and write them	
	recognising odd and even number.	using the multiplication (×), division (÷)	
and division	ACP: TTRS - 2, 5 and 10s. Orally check for	and equals (=) signs.	
	odd and even numbers.	ACP: Paper-based quiz involving all 3	
		signs in different locations.	
	Assessment: Measurement: Money	Assessment: Measurement: Money	Assessment: Measurement: Money
Spring Block 3		Choose and use appropriate standard	
		units to estimate and measure	
Measurement: Length and		length/height in any direction (m/cm)	
<u>height</u>		using rulers.	
		ACP: Practical observation. Compare and order lengths and record	
		the results using >, < and =	
		ACP: Practical session and observation	
		of recording.	
	Assessment: Multiplication and Division	Assessment: Multiplication and Division	
Carta Black A		Choose and use appropriate standard	
Spring Block 4		units to estimate and measure mass	
Measurement: Mass,		(kg/g); temperature (°C); capacity	
Capacity & Temperature		(litres/ml) to the nearest appropriate	
capacity & remperature		unit, using scales, thermometers and	
		measuring vessels.	
		ACP: Practical observation.	
		Compare and order mass,	
		volume/capacity and record the results using >, < and =	
		ACP: Practical session and observation	
		of recording.	
		Assessment: Measurement: Length and	
		<u>Height</u>	
Summer Block 1	Recognise, find, name and write	Write simple fractions for example, 1/2 of	
Fractions	fractions 1/3, 1/4,2/4 and 3/4 of a	6 = 3	
HIGCHOIS	length, shape, set of objects or quantity. ACP: Low stakes paper-based quiz	ACP: Mini quiz to solve fractions. Include errors, such as $\frac{1}{2}$ of 4 = 8	
	covering all elements of the composite.	enois, such as 72 of 4 - 0	
	Recognise the equivalence of 2/4 and		
	1/2.		
	1 · / = ·		



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	ACP: Show an image of a shapes with $\frac{1}{2}$		
	and 2/4 coloured. Ask what is the same		
	and what is different?		
		Assessment: Measurement: Mass,	
		Capacity and Temperature	
Summer Block 2	Tell and write the time to five minutes,	Draw the hands on a clock face and	
Summer Block 2	including quarter past/to the hour and	write the time to five minutes, including	
Measurement: Time	draw the hands on a clock face to show	quarter past/to the hour.	
	these times.	ACP: Low stakes test.	
	ACP: Low stakes test	Compare and sequence intervals of	
	Know the number of minutes in an hour	time.	
	and the number of hours in a day.	ACP: Low stakes test.	
	ACP: Oral responses.	ACF. LOW SIGKES IESI.	
	Assessment: Fractions	Assessment: Fractions	
	Assessment, Fractions	Assessment. Fractions	
Summer Block 3		Interpret and construct simple	Ask and answer simple questions by
Suffiffier Block 3		pictograms, tally charts, block diagrams	counting the number of objects in each
<u>Statistics</u>		and simple tables.	category and sorting the categories by
		ACP: Low stakes test.	quantity.
		7.0.7.2077 0.0.1.00	ACP: Whole class oral responses.
			Ask and answer questions about
			totalling and comparing categorical
			data.
			ACP: Whole class oral responses.
	Assessment: Measurement: Time	Assessment: Measurement: Time	ACT. Whole class oral responses.
	Assessment. Measorement. Iline	Assessment, Medsorement, filme	
Summer Block 4	Use mathematical vocabulary to		Order and arrange combinations of
	describe position, direction and		mathematical objects in patterns and
Geometry: Position and	movement, including movement in a		sequences.
-	straight line and distinguishing between		ACP: Practical activities using Pattern
<u>Direction</u>	rotation as a turn and in terms of right		Blocks/Unifix cubes (Focus on
	angles for quarter, half and three-		orientation)
	quarter turns (clockwise and		,
	anticlockwise).		
	ACP: Practical session		
	Assessment: Geometry: Position and	Assessment: Statistics	Assessment: Statistics; Geometry: Position
	direction	7 1330331110111. OTGIISIICS	and direction
	<u>direction</u>		<u>drid direction</u>



Autumn	Year 3		Place Value			ition action		Place va	lue assess	Shape	+ and - assess		Aultiplication Divis	ion
Spring	Year 3	X & ÷ assess	Multipli	cation and Divis	ion	Leng Perime		≩ ÷ assess	Fractio	ns	Length 8 perimete assess		Fractions assess	Consolidation
Summer	Year 3	Mass and capacity assess	Fractions	Money		ctions sess	Time	Money assess	Geometi Shape	′	Time assess	Statistics	Geometry and stats assess	Consolidation

Year 3	Declarative- knowing what	Procedural- knowing how	Conditional- knowing when and why
Autumn Block 1 Place Value	Read and write numbers up to 1000 in numerals and in words. ACP: Quick quiz on whiteboards. Recognise the place value of each digit in a three-digit number. ACP: Quick quiz on whiteboards, focusing on digit values. Identify numbers using different representations. ACP: How many ways can you represent 7892? Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number. ACP: Oral skip counting and 10/100 more or less than questions. Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to work out how many 10s there are in other 3-digit multiples of 10. ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.	Order and compare numbers up to 1000. ACP: Fluent in 5 questions. Represent and estimate numbers using different representations. ACP: PPT quiz. Compose and decompose 3-digit numbers using standard and nonstandard partitioning. ACP: How many ways can you partition 367? When & why might you use a particular decomposition?	Reason about the location of any 3-digit number in the linear number system, including identifying the previous and next multiple of 100 and 10. ACP: Oral session using ITP Number Line - Mathsframe Solve number problems and practical problems involving the declarative and procedural knowledge above. ACP: Low stakes quiz.
<u>Autumn Block 2</u>	Calculate complements to 100. ACP: Quick quiz n whiteboards.	Add and subtract numbers mentally, including: a three-digit number and	Solve problems with addition and subtraction using concrete objects and pictorial representations, including those



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Number: Addition and subtraction	Understand and use the commutative property of addition and understand the related property for subtraction. ACP: Write a brief explanation as to why addition is commutative and subtraction is not.	ones; a three-digit number and tens; a three-digit number and hundreds. ACP: Quick quiz to include missing numbers. Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction. ACP: Quick quiz to include missing numbers.	involving numbers, quantities and measures. ACP: Low stakes test. Apply their increasing knowledge of mental and written methods Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. ACP: Low stakes test, including space for children to explain methods. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems. ACP: Low stakes test.
	Assessment: Place value	Assessment: Place value	<u>Assessment: Place value</u>
Autumn Block 3 Number: Multiplication and Division A	Recall multiplication facts, and corresponding division facts, in the 10, 5, 2, 4 and 8 multiplication tables, and recognise products in these multiplication tables as multiples of the corresponding number. ACP: Use TTRS to ensure recall speed is less than 3 seconds per response. Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts. ACP: Quick multiple-choice quiz. Plan in answers with misconceptions. Assessment: Addition and Subtraction	Assessment: Addition and Subtraction	Assessment: Addition and Subtraction
	Assessment: Addition and Subtraction	Assessment: Addition and Subtraction	Assessment: Addition and Subtraction
<u>Consolidation</u>	,		
<u>Spring Term</u>	Assessment: Multiplication and Division A		
Spring Block 1 Number: Multiplication and Division B		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 involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. ACP: Give the children multiplication and division problems. Ask them to solve



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		ACP: Quick quiz to cover all element of the composite.	them using as many of the above ways
		me composite.	as possible. Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations
			(quotative division). ACP: Quick quiz on whiteboards. Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. ACP: Write a mini explanation as to why multiplication is commutative and division is not. Give examples to match!
Spring Block 2		Measure, compare, add and subtract	
Measurement:		lengths (m, cm, mm). ACP: Practical measuring session.	
Length and Perimeter		Record +/- calculations.	
<u>tengin ana remnerer</u>		Measure the perimeter of simple 2-D shapes.	
		ACP: Practical session.	
		Assessment: Multiplication and Division B	Assessment: Multiplication and Division B
Spring Block 3	Recognise fractions of a discrete set of objects: unit fractions and non-unit	Find and write fractions of a discrete set of objects: unit fractions and non-unit	
<u>Fractions</u>	fractions with small denominators.	fractions with small denominators.	
	ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.	ACP: Quick fire questions. Record on whiteboards.	
	Recognise and show, using diagrams,	Recognise and use fractions as	
	equivalent fractions with small denominators.	numbers: unit fractions and non-unit fractions with small denominators.	
	ACP: Quick fire questions. Record on	ACP: Quick fire questions. Record on	
	whiteboards.	whiteboards. Compare and order unit fractions, and	
		fractions with the same denominators.	
		ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.	
		Assessment: Measurement: Length and	
		<u>Perimeter</u>	
Spring Block 4		Measure, compare, add and subtract mass (kg, g), volume/capacity (l, ml).	
Measurement: Mass and		ACP: Practical measuring session.	
capacity		Record +/- calculations.	



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	<u>Assessment: Fractions</u>	Assessment: Fractions	
<u>Summer Term</u>		Assessment: Measurement: Mass and Capacity	
Summer Block 1 Fractions	Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts. ACP: Quick fire questions. Record on whiteboards. Find unit fractions of quantities using known division facts. (Multiplication tables fluency). ACP: Quick fire questions. Record on whiteboards.	Add and subtract fractions with the same denominator within one whole. ACP: Quick fire questions. Record on whiteboards.	Solve problems that involve Year 3 declarative and procedural fractions knowledge. ACP: Low stakes quiz including all of the above. Reason about the location of any fraction within 1 in the linear number system. ACP: Oral session using ITP Number Line - Mathsframe
Summer Block 2 Measurement: Money		Add and subtract amounts of money to give change, using both £ and p in practical contexts. ACP: Low stakes quiz. Possibly a practical session.	
	<u>Assessment: Fractions</u>	Assessment: Fractions	<u>Assessment: Fractions</u>
Summer Block 3 Measurement: Time	Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks. ACP: Quick multiple-choice quiz. Plan in answers with misconceptions. Estimate and read time with increasing accuracy to the nearest minute. ACP: Quick fire oral questions. Use vocabulary such as o'clock, a.m., p.m., morning, afternoon, noon and midnight. ACP: Quick fire oral questions. Know the number of seconds in a minute and the number of days in each month, year and leap year. ACP: Fluent in 5 questions.	Record and compare time in terms of minutes, seconds and hours. ACP: Practical session – mins and secs. Compare the duration of events. ACP: Quick quiz on whiteboards.	
		Assessment: Measurement: Money	



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Summer Block 4	Recognise 3-D shapes in different	Draw 2-D shapes and make 3-D shapes	
	orientations and describe them.	using modelling materials.	
Geometry: Shape	ACP: Display shapes on slides. Quick	ACP: Practical session.	
	quiz in response on whiteboards.	Identify whether angles are greater than	
	Recognise angles as a property of	or less than right-angle.	
	shape or a description of turn.	ACP: Display angles on slides. Quick	
	ACP: Write a definition of an angle.	quiz in response on whiteboards.	
	Identify right-angles, recognise that two		
	right-angles make a half-turn, three		
	make three quarters of a turn and four a		
	whole turn.		
	ACP: Quick fire questions on		
	whiteboards.		
	identify horizontal and vertical lines and		
	pairs of perpendicular and parallel lines.		
	ACP: Quick quiz – show in different		
	orientations and sizes.		
	Identify right angles in 2-D shapes in		
	different orientations.		
	ACP: Display shapes on slides. Quick		
	quiz in response on whiteboards.		
	Assessment: Measurement: Time	Assessment: Measurement: Time	
Summer Block 5		Interpret and present data using bar	Solve one-step and two-step questions
		charts, pictograms and tables.	[for example, 'How many more?' and
<u>Statistics</u>		ACP: Low stakes quiz.	'How many fewer?] using information
			presented in scaled bar charts and
			pictograms and tables.
			ACP: Low stakes quiz.
	Assessment: Geometry: Shape	Assessment: Geometry: Shape	
Summer Block 6			
Consolidation			
		Assessment: Statistics	Assessment: Statistics



YEAR 4

Autumn	Year 4		Place Value		Addition Place valu Subtraction assess			Measurement Area		+ and – assess	Multiplication	and Division	
Spring	Year 4	X and ÷ assess	Multiplication and Division	Length and Perimeter	X and ÷ assess	Fractions	Length a Perimet assess	ter	D	ecimals A		Fractions assess	Consolidation
Summer	Year 4	Decimals assess	Decimals B		Decimals assess	Time	Money assess	Geometry Position + Direction	Time assess	Statistics	Geometry assess	Geometry Position and Direction	Statistics & Geometry assess

Year 4	Declarative- knowing what	Procedural- knowing how	Conditional- knowing when and why
Autumn Block 1 Place Value	Identify and represent numbers using different representations. ACP: How many ways can you represent 4378? Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones). ACP: Quick quiz on whiteboards, focusing on digit values. Count in multiples of 6, 7, 9, 25 and 1000. ACP: Oral counting as a class. Count backwards through zero to include negative numbers. ACP: Oral counting as a class. Find 1000 more or less than a given number. ACP: Fluent in 5 questions. Know that 10 hundreds are equivalent to 1 thousand, and that 1000 is 10 times the size of 100; apply this identify and work out how many hundreds there are in other 4-digit multiples of 100.	Order and compare numbers beyond 1000. ACP: Fluent in 5 questions. Estimate numbers using different representations. ACP: Response to slides. Compose and decompose 4-digit numbers using standard and nonstandard partitioning. ACP: How many ways can you partition 3679? When & why might you use a particular decomposition? Round any number to the nearest 10, 100 or 1000. ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.	Reason about the location of any 4-digit number in the linear number system, including identifying the previous and next multiple of 1000 and 100 and rounding to the nearest of each. ACP: Oral session using ITP Number Line - Mathsframe Solve number and practical problems that involve all of the above and with increasingly large positive numbers. ACP: Low stakes quiz.



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Autumn Block 2 Number: Addition and subtraction	ACP: Quick multiple-choice quiz. Plan in answers with misconceptions. 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. ACP: Fluent in 5 questions. Compare system with ours.	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. ACP: Quick quiz to include exchanging, missing box and find the mistake.	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. ACP: Low stakes quiz. Include formal/mental methods. Solve problems involving multiplying and adding. ACP: Low stakes quiz on whiteboards Apply place-value knowledge to known additive and multiplicative number facts (scaling by 100). ACP: Quick quiz on whiteboards. Estimate and use inverse operations to check answers to a calculation. ACP: Quick quiz for estimation. Use whiteboards to record inverse calculation.
	Assessment: Place Value		
Autumn Block 3 Measurement: Area	Recall multiplication and division facts for multiplication tables up to 12 × 12 and recognise products in multiplication tables as multiples of the corresponding number. ACP: Use TTRS to ensure recall speed is less than 3 seconds per response.	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. ACP: Quick quiz.	
		Assessment: Addition and Subtraction	Assessment: Addition and Subtraction
Autumn Block 4 Number: Multiplication and division A		Find the area of rectilinear shapes by counting squares. ACP: Quick quiz.	
	Assessment: Measurement Area	Assessment: Measurement Area	



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<u>Spring Term</u>		Assessment: Multiplication and Division A	
Spring Block 1 Number: Multiplication and division B	Recognise factor pairs. ACP: Fluent in 5 questions. Divide 1000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1000 with 2, 4, 5 and 10 equal parts. ACP: Quick multiple-choice quiz. Plan in answers with misconceptions. Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size. ACP: Quick quiz.	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout. ACP: Quick quiz to include exchanging, missing box and find the mistake. Use factor pairs and commutativity in mental calculations. ACP: Fluent in 5. Solve division problems, with 2-digit dividends and 1-digit divisors that involve remainders. ACP: Quick quiz to include algorithm and word problems.	Interpret remainders appropriately according to the context. ACP: Hinge questions. Solve problems involving multiplying and adding, including using the distributive law to multiply two-digit numbers by one digit. ACP: Low stakes quiz. Apply place-value knowledge to known additive and multiplicative number facts (scaling by 100). ACP: Quick quiz on whiteboards. Manipulate multiplication and division equations and understand and apply the commutative property of multiplication. ACP: Quick multiple-choice quiz. Plan in answers with misconceptions. Understand and apply the distributive property of multiplication. ACP: Explain how the distributive property of multiplication works to a Y3 child. Estimate and use inverse operations to check answers to a calculation. ACP: Quick quiz for estimation. Use whiteboards to record inverse calculation.
Spring Block 2 Measurement: Length and perimeter		Convert between different units of measure (for example, kilometre to metre; hour to minutes). ACP: Quick quiz on whiteboards. Measure and calculate the perimeter of rectilinear figures (including squares) in centimetres and metres. ACP: Low stakes test. Find the perimeter of regular and irregular polygons. ACP: Quick quiz.	
	Assessment: Multiplication and Division B		Assessment: Multiplication and Division B



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Spring Block 3	Recognise families of common	Show, using diagrams, families of	Solve simple measure and money
Number: Fractions	equivalent fractions.	common equivalent fractions.	problems involving fractions and
Itomber: ITaenons	ACP: Quick multiple-choice quiz. Plan	ACP: Quick multiple-choice quiz. Plan	decimals to two decimal places.
	in answers with misconceptions.	in answers with misconceptions.	ACP: Low stakes quiz.
		Solve problems involving increasingly	Reason about the location of mixed
		harder fractions to calculate quantities,	numbers in the linear number system.
		and fractions to divide quantities,	ACP: Oral session using ITP Number Line
		including non-unit fractions where the answer is a whole number.	<u>- Mathsframe</u>
		ACP: Quick quiz.	
		Add and subtract improper and mixed	
		fractions with the same denominator,	
		including bridging whole numbers.	
		ACP: Fluent in 5 questions.	
		Convert mixed numbers to improper	
		fractions and vice versa.	
		ACP: Quick quiz on whiteboards.	
		Assessment: Measurement: Length and	
		<u>Perimeter</u>	
Spring Block 4	Recognise and write decimal	Find the effect of dividing a one- or	
Number: Decimals A	equivalents to 1/4, 1/2, 3/4.	two-digit number by 10 and 100,	
Nottiber: Decimais A	ACP: Quick fire questions.	identifying the value of the digits in the	
	Recognise and write decimal	answer as ones, tenths, and	
	equivalents of any number of tenths or	hundredths.]	
	hundredths.	ACP: Record on whiteboards and	
	ACP: Quick fire questions.	explain orally. Can children use the correct vocabulary?	
	Assessment: Fractions	Assessment: Fractions	Assessment: Fractions
<u>Summer Term</u>	Assessment: Decimals A	Assessment: Decimals A	
Summer Block 1		Compare numbers with the same	Solve simple measure and money
Number: Decimals B		number of decimal places up to two	problems involving fractions and
INTERIOR DECIMALS D		decimal places.	decimals to two decimal places.
		ACP: Compare 2 numbers on	ACP: Low stakes quiz.
		whiteboards using < and >. Round decimals with one decimal	
		place to the nearest whole number.	
		ACP: Oral session using ITP Number	
		Line - Mathsframe	
Summer Block 2		Estimate, compare and calculate	
Measurement: Money		different measures, including money in	
THE STORY		pounds and pence.	
		ACP: Low stakes quiz.	1.5
		<u>Assessment: Decimals B</u>	Assessment: Decimals B



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Summer Block 3 Measurement: Time	Read and write time in analogue and digital 12- and 24-hour clocks. ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.	Convert time between analogue and digital 12- and 24-hour clocks. ACP: Quick quiz on whiteboards. Convert from hours to minutes; minutes to seconds; years to months; weeks to days. ACP: Quick quiz on whiteboards. Convert between different units of measure (for example, kilometre to metre; hour to minutes). ACP: Quick quiz on whiteboards.	Solve problems involving converting units of time. ACP: Quick quiz on whiteboards.
Consolidation		<u>Assessment: Measurement Money</u>	
Summer Block 4 Geometry: Shape	Identify acute and obtuse angles. ACP: Show angles on slides. Children identify orally. Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal, and the angles are equal. ACP: Write a definition of a regular polygon and give examples.	Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. ACP: Practical sorting activity, Explain reasoning. Compare and order angles up to two right angles by size. ACP: Quick quiz. Identify lines of symmetry in 2-D shapes presented in different orientations. ACP: Quick quiz. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry. ACP: Quick quiz.	
	<u>Assessment: Measurement: Time</u>	<u>Assessment: Measurement: Time</u>	<u>Assessment: Measurement: Time</u>
Summer Block 5 Statistics		Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. ACP: Provide a set of data for children to present and interpret.	Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. ACP Low stakes quiz.
	Assessment: Measurement: Shape	Assessment: Measurement: Shape	



Summer Block 6	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	
Geometry: Position and direction	ACP: Quick fire questions. Show positions on slides.	left/right and up/down. ACP: Quick quiz.	
		Plot specified points and draw sides to complete a given polygon.	
		ACP: Low stakes quiz. Draw polygons specified by coordinates in the first quadrant and translate within the first quadrant. ACP: Low stakes quiz.	
	Geometry: Position and Direction	Assessment: Statistics Geometry: Position and Direction	Assessment: Statistics



Autumn	Year 5	Nι	umber- Place Value	Addition Subtraction	PV asse condit		Multiplication Divisi	as	and – sess and nditional	Fr	actions	X and ÷ Assess and conditional	
Spring	Year 5	Fractions A assess	Multiplication and Division	on B Fractions E		Multiplication and Division B assess		Fractions E	Perimete	r and Area	Decimals &percentages assess	Statistics	Perimeter and Area assess
Summer	Year 5	Statistics	Shape	Position and dire		Shape assess	Decimals	Position a direction as	_	tive numbers	Decimals ass	sess Consolic	numbers assess

Year 5	Declarative- knowing what	Procedural- knowing how	Conditional- knowing when and why
Autumn Block 1 Place Value	Read and write numbers to at least 1 000 000 and determine the value of each digit. ACP: Quick quiz on whiteboards, focusing on digit values. Recognise the place value of each digit in numbers with up to 2 decimal places. ACP: Quick quiz on whiteboards,	Order and compare numbers to at least 1 000 000. ACP: Quick quiz with responses on whitebaords. Compose and decompose numbers with up to 2 decimal places using standard and non-standard	Reason about the location of any number with up to 2 decimal places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each. ACP: Oral session using ITP Number Line - Mathsframe
	focusing on digit values. Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. ACP: Oral whole class chanting. Count forwards and backwards with positive and negative whole numbers, including through zero. ACP: Oral whole class chanting. Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. ACP: Quick multiple-choice quiz. Plan in answers with misconceptions. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01.	partitioning. ACP: Quick quiz with responses on whitebaords. Round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000. ACP: Oral session using ITP Number Line - Mathsframe	Solve number problems and practical problems that involve all Year 5 Declarative and Procedural knowledge. ACP: Low stakes quiz. Interpret negative numbers in context. ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.
	ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.		



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Autumn Block 2 Number: Addition and subtraction	Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01. ACP: Quick multiple-choice quiz. Plan in answers with misconceptions. Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. ACP: Quick quiz with responses on whiteboards.	Add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction). ACP: Quick quiz to include exchanging, missing box and find the mistake. Add and subtract numbers mentally with increasingly large numbers. ACP: Quick quiz on whiteboards and oral reasoning.	Solve addition and subtraction multistep problems in contexts, deciding which operations and methods to use and why. ACP: Low stakes test; orally assess choice of methods. Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth). ACP: Quick quiz with responses on whiteboards. Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of =. ACP: Low stakes test. Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.
	Assessment: Place Value	Assessment: Place Value	Assessment: Place Value



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Autumn Block 3	Secure fluency in multiplication table		
Multiplication and division A	facts, and corresponding division facts,		
Moniphedion and aivision A	through continued practice.		
	ACP: Use TTRS to ensure recall speed is		
	less than 3 seconds per response.		
	Recognise and use square numbers and		
	cube numbers, and the notation for		
	squared (2) and cubed (3).		
	ACP: Fluent in 5 questions.		
	Know and use the vocabulary of prime		
	numbers, prime factors and composite		
	(non- prime) numbers.		
	ACP: Write definitions of the 3 terms.		
	Recall prime numbers up to 19.		
	ACP: Quick fire questions – responses		
	on whiteboards.		
	Multiply and divide numbers by 10 and		
	100; understand this as equivalent to		
	making a number 10 or 100 times the		
	size, or 1 tenth or 1 hundredth times the		
	size.		
	ACP: Quick fire questions – responses on		
	whiteboards. Include all vocabulary in		
	composite.		
		Assessment: Addition and Subtraction	Assessment: Addition and Subtraction
Autumn Block 4	Recognise mixed numbers and	Add and subtract fractions with the	
Fractions A	improper fractions and write	same denominator and denominators	
Tacilotis A	mathematical statements > 1 as a	that are multiples of the same number.	
	mixed number.	ACP: Quick quiz on whiteboards. Oral	
	ACP: Quick quiz on whiteboards.	reasoning.	
	Identify, name and write equivalent	Convert from mixed numbers and	
	fractions of a given fraction, including	improper fractions.	
	tenths and hundredths, and understand	ACP: Quick quiz on whiteboards.	
	they have the same position in the linear		
	number system.		
	ACP: Quick quiz on whiteboards.		
	Compare and order fractions whose		
	denominators are all multiples of the		
	same number.		
	ACP: Quick quiz on whiteboards.		
	Assessment: Multiplication and Division A		



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Spring Term	Assessment: Fractions A	Assessment: Fractions A	
Spring Block 1 Multiplication and division B	Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts. ACP: Quick multiple-choice quiz. Plan in answers with misconceptions. 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. ACP: Quick fore questions, including above vocabulary.	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. ACP: Quick quiz – responses on whiteboards. Multiply and divide numbers mentally drawing upon known facts. ACP: Quick quiz – responses on whiteboards. 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. ACP: Quick quiz to assess all elements of the composite. Find factors and multiples of positive whole numbers, including common factors and common multiples, finding all factor pairs of a number, and express a given number as a product of 2 or 3 factors. ACP: Low stakes test.	Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes. ACP: Low stakes test. Orally assess knowledge of factors, multiples, squares and cubes. Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. ACP: Quick multiple-choice quiz. Plan in answers with misconceptions. Apply place-value knowledge to known additive and multiplicative number facts (scaling facts by 1 tenth or 1 hundredth). ACP: Quick quiz on whiteboards. Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. ACP: Low stakes test. Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.
Spring Block 2 Fractions B		Find non-unit fractions of quantities. ACP: Quick quiz on whiteboards. Oral reasoning. Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. ACP: Low stakes test – free choice of resources.	
	Assessment: Multiplication and Division B	Assessment: Multiplication and Division B	Assessment: Multiplication and Division B



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Spring Block 3	Read and write decimal numbers as	Order and compare numbers with up	
Number: Decimals and	fractions.	to three decimal places.	
percentages	ACP: Fluent in 5.	ACP: Quick quiz on whiteboards. Oral	
perceniages	Recall decimal fraction equivalents for	reasoning.	
	1/2, 1/4, 1/5, and 1/10, and for multiples	Round decimals with two decimal	
	of these unit fractions.	places to the nearest whole number	
	ACP: Quick fire questions – record on whiteboards	and to one decimal place.	
	Recognise and use thousandths and	ACP: Quick quiz on whiteboards. Oral	
	relate them to tenths, hundredths and	reasoning.	
	decimal equivalents.		
	ACP: Quick multiple-choice quiz. Plan in		
	answers with misconceptions.		
	Read and write numbers with up to		
	three decimal places.		
	ACP: Fluent in 5.		
	Recognise the percent 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.		
	ACP: Quick multiple-choice quiz. Plan in		
	answers with misconceptions.		
		<u>Assessment: Fractions B</u>	
Spring Block 4	Convert between different units of	Measure and calculate the perimeter of	Use all four operations to solve problems
Perimeter and area	metric measure (for example, kilometre	composite rectilinear shapes in	involving measure [for example, length,
remierer and area	and metre; centimetre and metre;	centimetres and metres.	mass, volume, money] using decimal
	centimetre and millimetre; gram and	ACP: Measure - practical session.	notation, including scaling.
	kilogram; litre and millilitre) including	Calculate - quick quiz	ACP: Low stakes test to include all
	using common decimals and fractions.	Calculate and compare the area of	aspects of the composite.
	ACP: Oviet avia modified abaics along	rectangles (including squares), and	
	ACP: Quick quiz, multiple choice: plan in answers with misconceptions.	including using standard units, square centimetres (cm²) and square metres	
	in answers with misconceptions.	(m²) and estimate the area of irregular	
		shapes.	
		ACP: Quick quiz, multiple choice: plan	
		in answers with misconceptions.	
		in diswers with misconcephons.	
	Assessment: Decimals and percentages	Assessment: Decimals and percentages	
Spring Block 5		Complete, read and interpret	Solve comparison, sum and difference
		information in tables, including	problems using information presented in
<u>Statistics</u>		timetables.	a line graph.
			<u> </u>



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		ACP: Provide a partially completed (time)table for children to complete, read and interpret.	ACP: Low stakes test to cover all elements of the composite.
	Assessment: Measurement: Perimeter	Assessment: Measurement: Perimeter	Assessment: Measurement: Perimeter
	and Area	and Area	and Area
<u>Summer Term</u>		Assessment: Statistics	<u>Assessment: Statistics</u>
Summer Block 1 Shape	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. ACP: Show 2D representations on slides. Children identify 3D shapes orally. Know angles are measured in degrees. ACP: Write a definition of degrees in the context of shape. Identify: angles at a point and one whole turn (total 360°); angles at a point on a straight line and 1/2 a turn (total 180°); other multiples of 90°. ACP: Low stakes test.	Estimate and compare acute, obtuse and reflex angles. ACP: Show angles on slides. Children estimate and compare orally. Draw given angles, and measure them in degrees (°). ACP: Low stakes test.	Use the properties of rectangles to deduce related facts and find missing lengths and angles. ACP: Quick multiple-choice quiz. Plan in answers with misconceptions. Distinguish between regular and irregular polygons based on reasoning about equal sides and angles. ACP: Show polygons slides. Orally assess reasoning re sides and angles.
Summer Block 2 Position and direction		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. ACP: Low stakes test.	
	Assessment: Geometry: Shape	Assessment: Geometry: Shape	Assessment: Geometry: Shape
Summer Block 3 Decimals			Solve problems involving number up to three decimal places. ACP: Low stakes test. 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. ACP: Low stakes test.
		Assessment: Geometry: Position and Direction	
Summer Block 4 Negative numbers			Interpret negative numbers in context. ACP: Quick quiz, multiple choice: plan in answers with misconceptions.
			Assessment: Decimals Negative Numbers



YEAR 6

Autumn	Year 6	Number- Place Value	Addition, Subtraction Multiplication Division	1,	/ assess	Fractions A	+, -, X and ÷ assess	Fractions B	Fractions A assess I		easurement – nverting units	Fractions B assess	Consolidation
Spring	Year 6	Converting units assess	Ratio	Algebra	Ratio assess	Decimals	Alge		ls and A	ecimals	Area perimeter and volume	F, D & Percentages assess	Consolidation
Summer	Year 6	Perimeter Area Geo and Volume assess	metry: Shape	Position and Direction	Geometry assess	Consolidation and Problem Solving Preparation for KS3							

Year 6	Declarative- knowing what	Procedural- knowing how	Conditional- knowing when and why
Autumn Block 1 Place Value	Read and write numbers up to 10 000 000 and determine the value of each digit. ACP: Quick quiz on whiteboards regarding digit values. Recognise the place value of each digit in numbers with up to 10 million, including decimal fractions. ACP: Quick quiz on whiteboards regarding digit values. Understand the relationship between the powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply by 10, 100 and 1000). ACP: Oral assessment of relationships. Round any whole number to a required degree of accuracy. ACP: Quick multiple-choice quiz – plan in misconception options.	Order and compare numbers up to 10 0000. ACP: Quick whiteboard quiz. Compose and decompose numbers with up to 10 million using standard and non-standard partitioning. ACP: How many ways can you partition 5, 964, 267? When and why might you use a particular decomposition? Use negative numbers in context and calculate intervals across zero. ACP: Quick multiple-choice quiz – plan in misconception options.	Reason about the location of any number with up to 2 decimal places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each. ACP: Oral session using ITP Number Line - Mathsframe Solve number problems and practical problems that involve all Year 6 Declarative and Procedural knowledge. ACP: Low stakes test.



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Autumn Block 2	Sustain fluency in multiplication table	Multiply multi-digit numbers up to 4 digits	Solve addition and subtraction multi-
Number: Addition,	facts, and corresponding division facts,	by a two-digit whole number using the	step problems in contexts, deciding
subtraction, multiplication and	through continued practice.	formal written method of long	which operations and methods to use
-	ACP: Use TTRS to ensure recall speed is	multiplication.	and why.
division	less than 3 seconds per question. Identify common factors, common	ACP: Quick quiz to assess all elements of the composite.	ACP: Low stakes quiz to assess all elements of the composite. Oral
	multiples and prime numbers.	Divide numbers up to 4 digits by a two-	assessment of choice o methods.
	ACP: Fluent in 5 questions.	digit whole number using the formal	Solve problems involving addition,
	ACI : Hoelli III 5 questions.	written method of long division, and	subtraction, multiplication, and division.
		interpret remainders as whole number	ACP: Low stakes quiz to assess all
		remainders, fractions, or by rounding, as	elements of the composite. Oral
		appropriate for the context.	assessment of choice o methods.
		ACP: Quick quiz to assess all elements of	Use estimation to check answers to
		the composite.	calculations and determine, in the
		Divide numbers up to 4 digits by a two-	context of a problem, an appropriate
		digit number using the formal written	degree of accuracy.
		method of short division where	ACP: Quick multiple-choice quiz – plan
		appropriate, interpreting remainders	in misconception options.
		according to the context.	
		ACP: Quick quiz to assess all elements of	
		the composite. Perform mental calculations, including	
		with mixed operations and large	
		numbers.	
		ACP: Quick whiteboard quiz.	
		Use their knowledge of the order of	
		operations to carry out calculations	
		involving the four operations.	
		ACP: Quick whiteboard quiz.	
	Assessment: Place Value	Assessment: Place Value	Assessment: Place Value
Autumn Block 3		Use common factors to simplify	
·		fractions; use common multiples to	
Fractions A		express fractions in the same	
		denomination.	
		ACP: Quick whiteboard quiz.	
		Compare and order fractions, including	
		fractions > 1.	
		ACP: Quick whiteboard quiz.	
		Add and subtract fractions with different denominators and mixed numbers, using	
		the concept of equivalent fractions.	
		ACP: Quick multiple-choice quiz – plan	
		in misconception options.	
		in misconcephon ophons.	



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	Assessment: Addition, Subtraction, Multiplication and Division	Assessment: Addition, Subtraction, Multiplication and Division	Assessment: Addition, Subtraction, Multiplication and Division
Autumn Block 4 Fractions B		Multiply simple pairs of proper fractions, writing the answer in its simplest form. ACP: Quick multiple-choice quiz – plan in misconception options. Divide proper fractions by whole numbers. ACP: Quick whiteboard quiz. Assessment: Fractions A	
Autumn Block 5 Measurement: Converting units	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. ACP: Low stakes quiz to include all aspects of the composite.	Convert between miles and kilometres. ACP: Quick whiteboard quiz.	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. ACP: Low stakes quiz to include all aspects of the composite.
		Assessment: Fractions B	
Spring Term	Assessment: Measurement: Converting units	Assessment: Measurement: Converting units	Assessment: Measurement: Converting units



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Spring Block 1		Calculate percentages of quantities.	Solve problems involving the relative
Ratio		ACP: Quick multiple-choice quiz – plan	sizes of two quantities where missing
Kallo		in misconception options.	values can be found by using integer
		Calculate scale factors of similar shapes.	multiplication and division facts.
		ACP: Quick multiple-choice quiz – plan	ACP: Quick multiple-choice quiz – plan
		in misconception options.	in misconception options.
			Solve problems involving the calculation
			of percentages [for example, of
			measures, and such as 15% of 360] and
			the use of percentages for comparison.
			ACP: Quick multiple-choice quiz – plan
			in misconception options.
			Solve problems involving similar shapes
			where the scale factor is known or can
			be found.
			ACP: Quick multiple-choice quiz – plan
			in misconception options.
			Solve problems involving unequal
			sharing and grouping using knowledge
			of fractions and multiples.
			ACP: Quick multiple-choice quiz – plan
			in misconception options.
Spring Block 2		Use simple formulae.	
		ACP: Quick multiple-choice quiz – plan	
<u>Algebra</u>		in misconception options.	
		Generate and describe linear number	
		sequences.	
		ACP: Quick whiteboard quiz. Orally	
		assess reasoning to check for any	
		misconceptions.	
		Express missing number problems	
		algebraically.	
		ACP: Quick multiple-choice quiz – plan	
		in misconception options.	
		Find pairs of numbers that satisfy an	
		equation with two unknowns.	
		ACP: Low stakes quiz (2 or 3 questions).	
		Orally assess reasoning.	
		Enumerate possibilities of combinations	
		of two variables.	
		ACP: Low stakes quiz (2 or 3 questions).	
		Orally assess reasoning.	
		Assessment: Ratio	Assessment: Ratio



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Spring Block 3 Decimals	Identify the value of each digit in numbers given to three decimal places. ACP: Quick whiteboard quiz to ascertain awareness of digit values.	Associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, 3/8]. ACP: Quick whiteboard quiz. Orally assess understanding of association. Multiply and divide numbers by 10, 100 and 1000, giving answers up to three decimal places. ACP: Quick fire whiteboard quiz. Use written division methods in cases where the answer has up to two decimal places. ACP: Quick multiple-choice quiz – plan in misconception options. Assessment: Algebra	Solve problems which require answers to be rounded to specified degrees of accuracy. ACP: Quick multiple-choice quiz – plan in misconception options.
Spring Block 4 Fractions, decimals and percentages	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.	Assessment: Algebra	
	ACP: Quick fire whiteboard quiz. Assessment: Decimals	Assessment: Decimals	Assessment: Decimals
Spring Block 5 Area, perimeter and volume	Recognise that shapes with the same areas can have different perimeters and vice versa. ACP: Low stakes quiz. Orally assess reasoning. Recognise when it is possible to use formulae for area and volume of shapes. ACP: Quick quiz. Multiple choice of methods.	Calculate the area of parallelograms and triangles. ACP: Low stakes quiz. Orally assess reasoning. Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units [for example, mm3 and km3]. ACP: Low stakes quiz. Orally assess reasoning.	
	Assessment: Fractions, Decimals and Percentages		



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Spring Block 6 Statistics Summer Term	Assessment: Area, Perimeter and Volume	Interpret and construct pie charts and line graphs. ACP: Low stakes quiz. Pay attention to accuracy. Calculate and interpret the mean as an average. ACP: Quick multiple-choice quiz – plan in misconception options. Assessment: Area, Perimeter and Volume Assessment: Statistics	Solve problems from pie charts and line graphs which have been constructed. ACP: Quick multiple-choice quiz – plan in misconception options. Assessment: Statistics
	December and describe since 2.D.		
Summer Block 1 Properties of Shape	Recognise and describe simple 3-D shapes. ACP: Show shapes on IWB – name and describe on whiteboards/orally. Name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. ACP: Quick quiz – label circle and complete formula (d = 2r). Recognise angles where they meet at a point, are on a straight line, or are vertically opposite. ACP: Low stakes quiz to include all elements of the composite.	Draw 2-D shapes using given dimensions and angles. ACP: Low takes quiz including 2 or 3 questions, Assess accuracy. Build simple 3-D shapes, including making nets. ACP: Practical session. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons. ACP: Low stakes quiz. Orally assess reasoning. Illustrate parts of circles, including radius, diameter, and circumference. ACP: Low stakes quiz. Assess accuracy.	
Summer Block 2 Position and direction	Describe positions on the full coordinate grid (all four quadrants). ACP: PPT displaying co-ordinate grid. Record on whiteboards.	Draw and translate simple shapes on the coordinate plane and reflect them in the axes. ACP: Low stakes quiz (2 or 3 questions). Assess accuracy.	
	Assessment: Geometry: Properties of Shape Geometry: Position and Direction	Assessment: Geometry: Properties of Shape Geometry: Position and Direction	

Consolidation and problem solving

- Preparation for Key Stage 3