Constantine School Mathematics Curriculum
2024– 2025

Teaching Overview

Maths at Constantine School is dynamic, practical, exciting, creative and challenging. There is a strong focus on learning, embedding and recalling number facts, multiplication and division facts. We endeavour to ensure that our children are confident mathematicians.

We work hard to make links with our learning in Maths with our wider creative curriculum as well as applying the skills and knowledge learnt into other areas such as the school garden, technology and everyday life. We encourage the children to explain and discuss their mathematical thinking and skills. This approach enables the children to learn new concepts through their Declarative and Procedural knowledge. Explicit time is given to teaching the knowledge needed to solve Conditional problems.

Our scheme of learning incorporates the small steps provided by the White Rose Scheme of Learning. These small steps are broken down into smaller components to meet the needs of our children.

For children to become confident mathematicians, time must be given to consolidate their knowledge and understanding within each unit. Throughout the teaching of the units, the children will complete an assessment checkpoint before moving on to the next step. The majority of the cohort should grasp the composite before moving on. Teaching staff will identify any children who require further support with the concept.

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Lesson Structure

Throughout a school week, it is expected that children will have 5 hours of Maths teaching in addition to a daily 10-15 minute Rapid Recall/Mastering Number session. During the lessons, children will explore their mathematical learning through opportunities for declarative and procedural knowledge. Representations are used in lessons to expose the mathematical structure that is being taught. Whole class teaching provides a clear and coherent journey through each small step. Scaffolding is provided to ensure **all** learners achieve. Children are encouraged to use manipulatives whenever they feel they require them. Within the EYFS, manipulatives can also be seen used through play.

A typical Maths lesson will include the following key features:

- Mastering Number in the Early Years and Key Stage 1: This is a programme aimed at strengthening the understanding of number and fluency with number facts among children in the first three years of school. This takes place on 4 days of the week with an opportunity for recap on the fifth day. A clear sequence of learning, powerful visuals and practical resources (including the Rekenrek) help to move learning forward for ALL pupils.
- Rapid Recall in Key Stage 2: In this part of the lesson, learners will develop the number facts which are at the core of the declarative knowledge.
- Warm ups in years 1 to 6. This part of the lesson will involve 4 – 5 questions. The focus of this knowledge can be found on the warm up overview document; the areas have been highlighted from data analysis.
- Vocabulary This takes place at the beginning of the lesson through a 'My turn, your turn' style for Maths vocabulary the children will be exposed to during the lesson
- Stem Sentences These provide a scaffold to help children communicate their understanding with precision and clarity, holding a focus on Oracy.
- Manipulatives: Children have access to a range of manipulatives including counters, Numicon and Rekenreks. The children will always be taught **how** to use a resource.
- Visuals: Pictures help children see mathematical ideas, which aids understanding.

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Early Years Foundation Stage

In Reception, Maths is in line with the EYFS. They follow the Mastering Number programme detailed at the top of the grid below. This project aims to secure firm foundations in the development of good number sense for all children from Reception through to Year 1 and Year 2. The aim over time is that children will leave KS1 with fluency in calculation and a confidence and flexibility with number. Attention will be given to key knowledge and understanding needed in Reception, and progression through KS1 to support success in the future. Whilst Mastering Number leads the learning, our EYFS teacher draws upon the following White Rose units each half term.

Year Group	Autumn Term	Spring Term	Summer Term
Reception	Mastering Number: Subitising Subitise (recognise quantities without counting) Identify smaller numbers within a number (conceptual subitising)		In this half-term, the children will consolidate their understanding of concepts previously taught through working in a variety of contexts and with different numbers.
	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 added or taken away (conservation).		
	Mastering Number: Composition Partition a number in a range of ways and identify that the pairs of numbers make the same total. Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts. Understand that group that has been partitioned can be recombined to make the same total.		

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<table>
<tr><td rowspan="6"></td><td colspan="6">Understand that a number can be partitioned into more than two groups.
Understand how many things are hidden from a known quantity.</td><td rowspan="2"></td></tr>
<tr><td colspan="6">Mastering Number: Comparison
Compare collections and talk about which group has more or less things.
Check that groups are equal by matching on a one-to-one basis.
Say which number is larger by counting or matching one-to-one.
Compare numbers that are far apart, near to and next to each other.
Say when a number does not match a quantity.
Recognise that if they add one they will get the previous number.</td></tr>
<tr><td><u>Getting to Know You</u>
Key times of the day, class routines.
Exploring the continuous provision inside and out.</td><td><u>It's Me 1,2,3</u>
Representing 1,2,3
Comparing 1,2,3
Composition of 1,2,3</td><td><u>Alive in 5</u>
Introducing zero
Comparing numbers to 5.
Composition of 4 & 5.</td><td><u>Building 9 & 10</u>
9 & 10
Comparing numbers to 10</td><td><u>To 20 and Beyond</u>
Building numbers beyond 10
Counting patterns beyond 10</td><td><u>Find My Pattern</u>
Doubling
Sharing & Grouping
Even and Odd</td></tr>
<tr><td rowspan="2">Where do things belong?
Positional language.</td><td>Circles & triangles</td><td rowspan="2">Compare Mass (2)
Compare Capacity (2)</td><td rowspan="3">Bonds to 10</td><td rowspan="2">Spatial Reasoning (1)
Match, Rotate, Manipulate</td><td rowspan="2">Spatial Reasoning (3)
Visualise and Build</td></tr>
<tr><td>Positional language</td></tr>
<tr><td rowspan="2"><u>Just Like Me</u>
Match & sort.
Exploring pattern.</td><td><u>Light & Dark</u>
Representing numbers to 5</td><td rowspan="2"><u>Growing 6,7,8</u>
6, 7 & 8
Making pairs</td><td><u>First, Then, Now</u>
Adding More
Taking Away</td><td><u>On the Move</u>
Deepening Understanding Patterns and Relationships</td></tr>
<tr><td>One more one less</td><td>3D-shape
Pattern (2)</td><td>Spatial Reasoning (2)
Compose and Decompose</td><td>Spatial Reasoning (4)
Mapping</td></tr>
<tr><td>Compare amounts.
Compare size,</td><td>Shapes with 4 sides</td><td>Combining 2 groups.</td></tr>
</table>

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		mass and capacity.					
			Time	Length & Height			
				Time (2)			
Pattern, Shape & Space and Measure is no longer an ELG but will be covered through White Rose blocks, taught in addition to Mastering Number.	Pattern	Copy an AB pattern. 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 pattern. Continue an ABB pattern. Continue an ABBC pattern. Continue a pattern which ends mid-unit of repeat. Create their own ABB and ABBC patterns. Spot an error in an ABB pattern.		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.	
	Shape and Space	Move themselves and objects around, so they see things from different perspectives. Visualise how things will appear when turned around and imagining how they might fit together. Make constructions, patterns and pictures, and select shapes which will fit when rotated or flipped in insert boards, shape sorters and jigsaws. Notice the results of rotating and reflecting images, and in visualising them. Use language of position 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.		Notice shape properties of objects that they want to represent and think about the appropriateness of the shapes they choose. Describe properties of shapes. Develop an awareness of the properties of shape.	
	Measures	Recognise attributes of measure and use vocabulary to describe them. Use time to sequence events.		Compare continuous quantities. Show an awareness of comparison in estimating and predicting. Compare indirectly. Recognise the relationship between the size and number of units.		Use units to compare things. Experience specific time spans in order to start to develop an overall sense of time.	

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Key Stage 1

We follow the small steps outlined in White Rose Version 3.0 when planning Key Stage 1 Maths learning; these are adapted further to support the needs of our cohorts. In addition, we use the Mastering Number programme in additional 10 – 15 minute sessions securing firm foundations in the development of good number sense for all children. The aim over time is that children will leave KS1 with confidence in key declarative knowledge in calculation and a confidence and flexibility with number.

Year 1 Maths Long Term Plan

Autumn	Place value to 10				Addition and subtractions within 10			PV assess and conditional	Shape	A & S assess and conditional		
Spring	Shape assess and conditional	Place value to 20	Addition within 20	PV to 20 ass and conditional	Subtraction within 20		Place value to 50	A & S assess and conditional	Length and height	Mass and volume	PV to 50 ass and conditional	
Summer	Measure assess and	Multiplication and	Fractions	M & D asses s and	Position and direction	Fractions assess and	Place value to 100	Money	PV to 100 assess and	Time	Consolidation	

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	contitional	division		conditional		conditional			conditional		

Year Group	Autumn Term	Spring Term	Summer Term
Year 1	1. Number: Place Value (within 10)	1. Place Value (within 20)	1. Number: Multiplication & Division
Declarative	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.*	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.*	---
Procedural		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.*	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.*
Conditional		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.*	Solve one-step problems involving multiplication and division, using concrete objects, pictorial representations and arrays with support. *ACP: Low stakes test.*
	2. Number: Addition and Subtraction (within 10)	2. Addition and Subtraction (within 20)	2. Number: Fractions
Declarative		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)*	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.*

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Procedural	Compose numbers to 10 from 2-parts, and partition numbers to 10 into parts. **ACP: How many ways can you make 7?**	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.***	---
Conditional		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.***	---
	3. Geometry: Properties of Shape	**3. Place Value (within 50)**	**3. Geometry: Position & Direction**
Declarative	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. ***ACP: Assess during above composites.***	Identify one more or less than a given number. ***ACP: Quick quiz on mini whiteboards.***	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.***
Procedural	Compose 2-D and 3-D shapes from smaller shapes to match an example, including	Identify and represent numbers using objects and pictorial representations including the number line.	Make whole, half, quarter and three-quarter turns in both directions.

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	manipulating shapes to place them in particular orientations. *ACP: Practical assessment.*	*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.*	*ACP: Practical sessions to assess all aspects orally.*
Conditional	---	---	Connect turning clockwise with movement on a clock face. *ACP: Practical sessions to assess all aspects orally.*
	4. Consolidation	4. Measurement: Length and Height	4. Number: Place Value (within 100)
Declarative		---	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.*
Procedural		Measure and record: lengths/heights, mass/weight, capacity volume, time. *ACP: Practical session.*	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.*
Conditional		Compare, describe and solve practical problems for: lengths/heights. *ACP: Practical session.*	---

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		5. Measurement: Mass and Volume	5. Measurement: Money
Declarative		---	Recognise and know the value of different denominations of coins. *ACP: Practical assessment session.*
Procedural		Measure and record: mass/weight, capacity volume. *ACP: Practical session.*	---
Conditional		Compare, describe and solve practical problems for: mass/weight, capacity volume. *ACP: Practical session.*	---
			6. Measurement: Time
Declarative			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.*
Procedural			Measure and record: time. *ACP: Practical session.*
Conditional			Sequence events in chronological order. *ACP: Order 4 images of school day events.* Compare, describe and solve practical problems for: time. *ACP: Practical session.*
			7. Consolidation

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Year 2 Maths Long Term Plan																							
Autumn	Place value							Addition and subtraction									Place value assess and conditional		Shape			A & S assess and conditional	
Spring	Money		Shape assess and conditional		Multiplication and division					Money assess and conditional		Length and height				Mass Capacity Temperature					M & D assessment and conditional		
Summer	Measure assess and conditional		Fractions			Time		Fractions assess and conditional		Statistics		Position and direction					Statistics/ PD assess and conditional		Consolidation and investigation				

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Year Group	Autumn Term	Spring Term	Summer Term
Year 2	1. Number: Place Value	1. Measurement: Money	1. Statistics
Declarative	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.*	Recognise and use symbols for pounds (£) and pence (p). *ACP: Mini quiz on whiteboard in response to slide showing amounts.*	---
Procedural	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?*	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. *ACP: Explode a pound.*	Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. *ACP: Low stakes test.*

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Conditional	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.***	Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. ***ACP: Practical activity.***	Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity. ***ACP: Whole class oral responses.*** Ask and answer questions about totalling and comparing categorical data. ***ACP: Whole class oral responses.***
	2. Number: Addition & Subtraction	2. Number: Multiplication & Division	2. Fractions
Declarative	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.*** 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.***	Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even number ***ACP: TTRS – 2, 5 and 10s. Orally check for odd and even numbers.***	Recognise, find, name and write fractions 1/3, 1/4 ,2/4 and 3/4 of a length, shape, set of objects or quantity. ***ACP: Low stakes paper-based quiz covering all elements of the composite.*** Recognise the equivalence of 2/4 and 1/2. ***ACP: Show an image of a shapes with ½ and 2/4 coloured. Ask what is the same and what is different?***
Procedural	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.	Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs. ***ACP: Paper-based quiz involving all 3 signs in different locations.***	Write simple fractions for example, 1/2 of 6 = 3 ***ACP: Mini quiz to solve fractions. Include errors, such as ½ of 4 = 8***

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	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.*		
Conditional	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.* 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.*	Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts. *ACP: Low stakes quiz.* Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations (quotitive division). *ACP: Quick quiz on whiteboards. Give unknown group problem. Children represent the same problem as missing factor multiplication problem.* Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot. *ACP: Present a fact family, Children identify incorrect statements e.g. 3 x 5 = 15, 5 x 3 = 15, 15 ÷3 = 5 & 3 ÷15 = 3.*	---
		3. Measurement: Length & Height	3. Geometry: Position and Direction

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Declarative	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.***	---	Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anticlockwise). ***ACP: Practical session***
Procedural		Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm) using rulers. ***ACP: Practical observation.*** Compare and order lengths and record the results using >, < and = ***ACP: Practical session and observation of recording.***	
Conditional		---	Order and arrange combinations of mathematical objects in patterns and sequences. ***ACP: Practical activities using Pattern Blocks/Unifix cubes (Focus on orientation)***
	3. Geometry: Properties of Shape	4. Measurement: Mass, Capacity & Temperature	4. Problem Solving 5. Measurement: Time
Declarative	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.***	---	Tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times. ***ACP: Low stakes test*** Know the number of minutes in an hour and the number of hours in a day. ***ACP: Oral responses.***

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	Identify 2-D shapes on the surface of 3-D shapes ***ACP: Show shapes and ask children to name faces.***		
Procedural	Compare and sort common 2-D and 3-D shapes and everyday objects. ***ACP: Practical session to assess all aspects of the composite orally.***	Choose and use appropriate standard units to estimate and measure mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate 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.***	Draw the hands on a clock face and write the time to five minutes, including quarter past/to the hour. ***ACP: Low stakes test.*** Compare and sequence intervals of time. ***ACP: Low stakes test.***
Conditional	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?***	---	---

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Key Stage 2

We follow the small steps outlined in White Rose Version 3.0 when planning Key Stage 1 Maths learning; these are adapted further to support the needs of our cohorts. In addition, each class completes a daily 10-15 minute session of Rapid Recall, developing the skill of automaticity.

Year 3 Maths Long Term Plan									
Autumn	Place Value	Addition and Subtraction	Place value assess and conditional	Multiplication and Division A	Addition and subtraction assess and conditional				
Spring	Multiplication and Division B	Multiplication and Division A assess and	Length and Perimeter	Fractions A	Multiplication and Division B assess and	Mass and Capacity	Length and perimeter assess and	Consolidation	

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			conditional			conditional		conditional			
Summer	Fractions A assess and conditional	Fractions B	Money	Mass and Capacity assess and conditional	Time	Shape	Fractions B and Money assess and conditional	Statistics	Time and Shape assess and conditional	Consolidation	

Year Group	Autumn Term	Spring Term	Summer Term
Year 3	2. Number: Place Value	1. Number: Multiplication and Division B	1. Number: Fractions
Declarative	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.		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.***

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	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 of10; 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.***		
Procedural	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 non-standard partitioning. *ACP: How many ways can you partition 367? When & why might you use a particular decomposition?*	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. *ACP: Quick quiz to cover all element of the composite*	Add and subtract fractions with the same denominator within one whole. *ACP: Quick fire questions. Record on whiteboards.*
Conditional	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.*	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 them using as many of the above ways 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.	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

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		ACP: Write a mini explanation as to why multiplication is commutative and division is not. Give examples to match!	
	3. Number: Addition and Subtraction	2. Measurement: Length and Perimeter	2. Measurement: Money
Declarative	Calculate complements to 100. *ACP: Quick quiz n whiteboards.* 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.*		
Procedural	Add and subtract numbers mentally, including: a three-digit number and 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.*	Measure, compare, add and subtract lengths (m, cm, mm). *ACP: Practical measuring session. Record +/- calculations.* Measure the perimeter of simple 2-D shapes. *ACP: Practical session.*	Add and subtract amounts of money to give change, using both £ and p in practical contexts. *ACP: Low stakes quiz. Possibly a practical session.*
Conditional	Solve problems with addition and subtraction using concrete objects and pictorial representations, including those 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.*		

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	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.*		
	3. Number: Multiplication and Division A	4. Fractions	3 Measurement: Time
Declarative	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.*	Recognise fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. *ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.* Recognise and show, using diagrams, equivalent fractions with small denominators. *ACP: Quick fire questions. Record on whiteboards.*	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.*
Procedural		Find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators. *ACP: Quick fire questions. Record on whiteboards.* Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators. *ACP: Quick fire questions. Record on whiteboards.* Compare and order unit fractions, and fractions with the same denominators. *ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.*	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.*

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Conditional			
	4 Consolidation	4 Mass and Capacity	4 Geometry: Shape
Declarative			Recognise 3-D shapes in different orientations and describe them. ***ACP: Display shapes on slides. Quick quiz in response on whiteboards.*** Recognise angles as a property of shape or a description of turn. *ACP: Write a definition of an angle.* 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.***
Procedural		Measure, compare, add and subtract mass (kg, g), volume/capacity (l, ml). ***ACP: Practical measuring session. Record +/- calculations.***	Draw 2-D shapes and make 3-D shapes using modelling materials. ***ACP: Practical session.*** Identify whether angles are greater than or less than right-angle. ***ACP: Display angles on slides. Quick quiz in response on whiteboards.***

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Conditional			
			5 Statistics
Declarative			
Procedural			Interpret and present data using bar charts, pictograms and tables. *ACP: Low stakes quiz.*
Conditional			Solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?] using information presented in scaled bar charts and pictograms and tables. *ACP: Low stakes quiz.*
			6 Consolidation
Declarative			
Procedural			
Conditional			

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Year 4 Maths Long Term Plan										
Autumn	Place Value		Addition and Subtraction		Place value assess and conditional	Measurement; Area		Addition and subtraction assess and conditional	Multiplication and Division A	
Spring	Area assess and conditional	Multiplication and Division B		Length and Perimeter	Multiplication and Division A assess and conditional	Fractions	Multiplication and D B assess and conditional	Decimals A		Length and perimeter assess and conditional

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Summer	Fractions assess and conditional	Decimals B	Money	Decimals A and B assess and conditional	Time	Shape	Money and Time assess and conditional	Statistics	Shape and Statistics assessment and conditional	Position and Direction

Year Group	Autumn Term	Spring Term	Summer Term
Year 4	1. Number: Place Value	1. Number: Multiplication and Division B	1. Number: Decimals
Declarative	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.***	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);	

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	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. ***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.***	understand this as equivalent to making a number 10 or 100 times the size. ***ACP: Quick quiz.***	
Procedural	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 non-standard 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.***	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.***	Compare numbers with the same number of decimal places up to two decimal places. ***ACP: Compare 2 numbers on whiteboards using < and >.*** Round decimals with one decimal place to the nearest whole number. ***ACP: Oral session using ITP Number Line - Mathsframe***
Conditional	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.	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.***	Solve simple measure and money problems involving fractions and decimals to two decimal places. ***ACP: Low stakes quiz.***

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	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.***	
	2. Number: Addition and Subtraction	2. Measurement: Length and Perimeter	2. Measurement: Money
Declarative	---	---	---
Procedural	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.***	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.***	Estimate, compare and calculate different measures, including money in pounds and pence. ***ACP***: *Low stakes quiz.*
Conditional	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.***	---	---

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	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.***		
	3. Number: Multiplication and Division A	**3 Fractions**	**3 Measurement: Time**
Declarative	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.***	Recognise families of common equivalent fractions. ***ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.***	Read and write time in analogue and digital 12- and 24-hour clocks. ***ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.***
Procedural	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.***	Show, using diagrams, families of common equivalent fractions. ***ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.*** Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number. ***ACP: Quick quiz.*** Add and subtract improper and mixed fractions with the same denominator, including bridging whole numbers. ***ACP: Fluent in 5 questions.***	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.***

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		Convert mixed numbers to improper fractions and vice versa. ***ACP: Quick quiz on whiteboards.***	
Conditional	---	Solve simple measure and money problems involving fractions and decimals to two decimal places. ***ACP: Low stakes quiz.*** Reason about the location of mixed numbers in the linear number system. ***ACP: Oral session using*** *ITP Number Line - Mathsframe*	Solve problems involving converting units of time. ***ACP: Quick quiz on whiteboards.***
	4. Area	**4 Decimals**	**4. Geometry: Shape**
Declarative	---	Recognise and write decimal equivalents to 1/4, 1/2, 3/4. ***ACP: Quick fire questions.*** Recognise and write decimal equivalents of any number of tenths or hundredths. ***ACP: Quick fire questions.***	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.***
Procedural	Find the area of rectilinear shapes by counting squares. ***ACP: Quick quiz.***	Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths, and hundredths.] ***ACP: Record on whiteboards and explain orally. Can children use the correct vocabulary?***	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.***

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			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.***
Conditional	---	---	---
			5. Statistics
Declarative			---
Procedural			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.***
Conditional			Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. ***ACP Low stakes quiz.***
			6. Geometry: Position and Direction
Declarative			Describe positions on a 2-D grid as coordinates in the first quadrant. ***ACP: Quick fire questions. Show positions on slides.***

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Procedural			Describe movements between positions as translations of a given unit to the 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.***
Conditional			---

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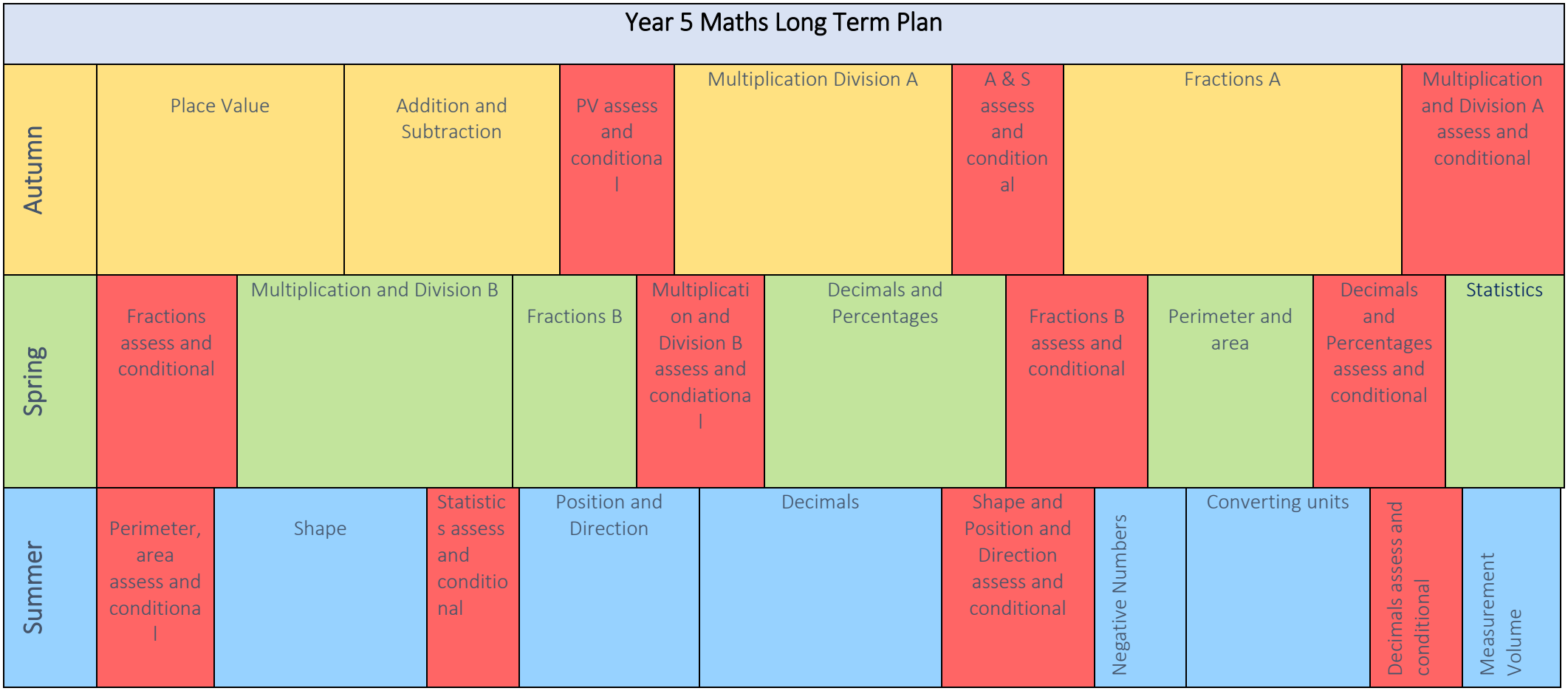

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Year Group	Autumn Term	Spring Term	Summer Term
Year 5	1. Number: Place Value	1. Number: Multiplication and Division B	1. Number: Decimals
Declarative	Read and write numbers to at least 1 000 000 and determine the value of each digit. ***ACP: Quick 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, 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. ***ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.*** 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 whitebaords.***	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.***	---
Procedural	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 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.	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	---

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	ACP: Oral session using *ITP Number Line - Mathsframe*	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.***	
Conditional	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 5 Declarative and Procedural knowledge. ***ACP: Low stakes quiz.*** Interpret negative numbers in context. ***ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.***	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.	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.***

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		ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.	
	2 Number: Addition and Subtraction	**2 Fractions (A&B)**	**2 Measurement: Time**
Declarative	---	Recognise mixed numbers and improper fractions and write mathematical statements > 1 as a mixed number. ***ACP: Quick quiz on whiteboards.*** Identify, name and write equivalent fractions of a given fraction, including tenths and hundredths, and understand 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.***	---
Procedural	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.***	Find non-unit fractions of quantities. ***ACP: Quick quiz on whiteboards. Oral reasoning.*** Add and subtract fractions with the same denominator and denominators that are multiples of the same number. ***ACP: Quick quiz on whiteboards. Oral reasoning.*** Convert from mixed numbers and improper fractions. ***ACP: Quick quiz on whiteboards.*** Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams. ***ACP: Low stakes test – free choice of resources.***	---

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Conditional	Solve addition and subtraction multi-step 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.***	---	Solve problems involving converting between units of time. ***ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.***
	3 Number: Multiplication and Division A	**3 Number: Decimals and Percentages**	**3 Statistics**
Declarative	Secure fluency in multiplication table facts, and corresponding division facts, 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.***	Read and write decimal numbers as fractions. ***ACP: Fluent in 5.*** Recall decimal fraction equivalents for 1/2, 1/4, 1/5, and 1/10, and for multiples of these unit fractions. ***ACP: Quick fire questions – record on whiteboards*** Recognise and use thousandths and relate them to tenths, hundredths and 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.***	---

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	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.***	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.***	
Procedural	---	Order and compare numbers with up to three decimal places. ***ACP: Quick quiz on whiteboards. Oral reasoning.*** Round decimals with two decimal places to the nearest whole number and to one decimal place. ***ACP: Quick quiz on whiteboards. Oral reasoning.***	Complete, read and interpret information in tables, including timetables. ***ACP: Provide a partially completed (time)table for children to complete, read and interpret.***
Conditional	---	---	Solve comparison, sum and difference problems using information presented in a line graph. ***ACP: Low stakes test to cover all elements of the composite.***
		4 Measurement: Length, Perimeter and Area	**4 Geometry: Properties of Shape**
Declarative		---	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.***

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Procedural		Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres. ***ACP: Measure – practical session; calculate – quick quiz.*** Calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm2) and square metres (m2) and estimate the area of irregular shapes. ***ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.***	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.***
Conditional		Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling. ***ACP: Low stakes quiz.***	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.***
			5 Geometry: Position and Direction
Declarative			---
Procedural			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.***
Conditional			---

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			6 Measurement: Converting Units & Volume
Declarative			Convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) including using common decimals and fractions. ***ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.*** Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. ***ACP: Quick multiple-choice quiz. Plan in answers with misconceptions.***
Procedural			Estimate volume [for example, using 1 cm3 blocks to build cuboids (including cubes)] and capacity [for example, using water]. ***ACP: Practical session.***
Conditional			Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling. ***ACP: Low stakes test.***

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Year 6 Long Term Plan

Autumn	Place Value		Addition Subtraction			PV assess and conditional	Fractions A		A & S assess and conditional	Fractions B			Converting Units	
Spring	Fractions assess and conditional		Ratio		Algebra	Converting Units and Ratio assess and conditional	Decimals	Fractions, Decimals and Percentages		Algebra assess and conditional	Area, Perimeter and Volume		FDP assess and conditional	Statistics
Summer	Area, Perimeter and volume assess and conditional		Shape		Position and Direction	Revision			SATS	Projects, consolidation				

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Year Group	Autumn Term	Spring Term	Summer Term
Year 6	1. Number: Place Value	1 Number: Ratio	1 Geometry: Properties of Shape
Declarative	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.***	---	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.***
Procedural	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.***	Calculate percentages of quantities. ***ACP: Quick multiple-choice quiz – plan in misconception options.*** Calculate scale factors of similar shapes. ***ACP: Quick multiple-choice quiz – plan in misconception options.***	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.***

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			Illustrate parts of circles, including radius, diameter, and circumference. ***ACP: Low stakes quiz. Assess accuracy.***
Conditional	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.***	Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. ***ACP: Quick multiple-choice quiz – plan 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.***	---
	2 Number: Addition, Subtraction, Multiplication and Division.	2 Number: Algebra	2.Geometry: Position and Direction
Declarative	Sustain fluency in multiplication table facts, and corresponding division facts, through continued practice. ***ACP: Use TTRS to ensure recall speed is less than 3 seconds per question.*** Identify common factors, common multiples and prime numbers. ***ACP: Fluent in 5 questions.***	---	Describe positions on the full coordinate grid (all four quadrants). ***ACP: PPT displaying co-ordinate grid. Record on whiteboards.***
Procedural	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.	Use simple formulae. ***ACP: Quick multiple-choice quiz – plan in misconception options.***	Draw and translate simple shapes on the coordinate plane and reflect them in the axes.

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	ACP: Quick quiz to assess all elements of the composite. Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. ***ACP: Quick quiz to assess all elements of the composite.*** Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context. ***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.***	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.***	***ACP: Low stakes quiz (2 or 3 questions). Assess accuracy.***
Conditional	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. ***ACP: Low stakes quiz to assess all elements of the composite. Oral assessment of choice o methods.*** Solve problems involving addition, subtraction, multiplication, and division. ***ACP: Low stakes quiz to assess all elements of the composite. Oral assessment of choice o methods.*** Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.	---	---

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	ACP: Quick multiple-choice quiz – plan in misconception options.		
	3 Number: Fractions A	3. Number: Decimals	**Themed projects, consolidation and problem solving.** **Preparation for Key Stage 3**
Declarative	---	Identify the value of each digit in numbers given to three decimal places. ***ACP: Quick whiteboard quiz to ascertain awareness of digit values.***	
Procedural	Use common factors to simplify fractions; use common multiples to 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.***	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.***	
Conditional	---	Solve problems which require answers to be rounded to specified degrees of accuracy. ***ACP: Quick multiple-choice quiz – plan in misconception options.***	
	4 Number: Fractions B	4.Number: Fractions, Decimals and Percentages	
Declarative	---	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. ***ACP: Quick fire whiteboard quiz.***	
Procedural	Multiply simple pairs of proper fractions, writing the answer in its simplest form.	---	

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	ACP: Quick multiple-choice quiz – plan in misconception options. Divide proper fractions by whole numbers. ***ACP: Quick whiteboard quiz.***		
Conditional	---	---	
	5 Measurement: Converting Units	5.Measurement: Area, Perimeter and Volume	
Declarative	**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.***	**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.***	
Procedural	Convert between miles and kilometres. ***ACP: Quick whiteboard quiz.***	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.***	
Conditional	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.***	---	

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		6. Statistics	
Declarative		---	
Procedural		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.***	
Conditional		Solve problems from pie charts and line graphs which have been constructed. ***ACP: Quick multiple-choice quiz – plan in misconception options.***	