Birches First School

Long Term Plan and Curriculum Coverage

Our Long-term plan is developed from White Rose whilst incorporating the aims and objectives from the Statutory Framework for the Early Years Foundation Stage and National Curriculum to meet the needs of our school. It is designed to support a mastery approach to teaching and learning. Through a 'block approach' it allows for basic skills to be mastered first and built upon throughout the year. We believe that spending longer on mastering key topics will build children's confidence and help secure understanding meaning less time will be spent on other topics throughout the year. It allows for incorporation of concrete, pictorial and abstract approaches to ensure secure understanding of mathematical concepts. Furthermore it provides opportunity to build reasoning and problem solving elements into the curriculum. It is the expectation that the Long-Term Plan is adapted throughout the year based on what has previously been taught, prior assessments (hot/ cold tasks/ GL assessments/ White Rose End of Block Assessments) and formative assessment. Alongside the children's Maths lesson, children will benefit from a fact fluency session for 10-15 minutes a day following Early Years Number Sense (YR), White Rose Fluency Bee Programme (Y1/2) or fact fluency/ times tables (Y3/4).

Curriculum Coverage:

Number and place value
Addition and Subtraction
Multiplication and division
Fractions (Decimals and percentages)
Measurement
Geometry (properties of shapes, position and direction)
Statistics

Reviewed and Updated September 2023 (S.Hulme)

*Highlights more time has been given to the unit (-) highlights less time has been given to the unit

Birches First School

Mathematics Long Term Plan **Nursery**

Autumn 1

Number Songs	Colours	Matching	Sorting
Opportunities for settling in, introducing the areas of provision and getting to know the children.	Children should be taught to recognise and name colours in a variety of contexts e.g. toys within the classroom, colours in nature, colours in the environment, matching colours, colours on themselves such as hair, skin, clothes. Children should be able to say when objects are and are not the same colour. Link to expressive art and design through painting.	Provide opportunities for the children to explore and match objects which are the same. Can you find one exactly like mine? How do you know it's the same? Can you find one different to mine? Why is this one not like mine?	Children learn that collections can be sorted into sets based on attributes such as colour, size or shape. Sorting enables the children to consider what is the same about all the objects in one set and how they are different to the other sets. They begin to understand that the same collection of objects can be sorted in different ways

Development Matters:
Take part in finger rhymes with numbers.
Show 'finger numbers' up to 5 whilst singing nursery rhymes.
Make comparisons between objects relating to size.
Complete inset puzzles related to size and colour.
Compare sizes using gestures and language 'bigger, little, small'

Autumn 2

Number 1	Number 2: Subitising	Number 2	Pattern 1	Pattern 2
Children identify representations of 1. They subitise or count to find out how many and make their own collections of 1 object. Number blocks episode 1, counting to 1, finding 1 object, representing 1 on a 5 frame, a circle – 1 sides shape (including in the environment), 1 action e.g. 1 hop, 1 jump, 1 clap, what is 1 made of 1 nose, 1 mouth, 1 body, exploring different varieties of circles 1 being the first number, its position on a number line, ordinal numbers Numicon 1 Dice 1 Subitising 1 The numeral and formation of 1 Number 1 in the environment Representing 1 using marks, pictures and finger Matching numeral to quantity	Children identify representations of 1, 2. They subitise or count to find out how many and make their own collections of 1 or 2 objects. Numicon 2 Dice 2 Subitising 2	Children match the number names to quantities and numerals. They touch count in different arrangements and recognise the final number is the quantity of the set. Number blocks episode 2, counting to 2, finding 2 objects, representing 2 on a 5 frame, a semi-circle – 2 sides shape (including in the environment), 2 actions e.g. 2 hops, 2 jumps, 2 claps, what 2 is made of 1 is a part of me, 1 is a part of me and the whole of me is 2 2 being the second number, its position on a number line, ordinal numbers The numeral and formation of 2 Number 2 in the environment Representing 2 using marks, pictures and finger Matching numeral to quantity	Children copy and continue a simple AB pattern. It is important to provide patterns with at least three full units of repeat. Encourage the children to say the pattern out loud as this helps them to identify the part which repeats and supports them to continue the pattern.	Build upon children's previous learning by introducing more complex patterns. Model extending and creating own ABAB patterns. Encourage children to begin to notice errors in patterns.

Development Matters:
Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').
Recite numbers past 5.
Say one number for each item in order: 1,2,3,4,5.
Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').
Show 'finger numbers' up to 5.
Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 3.
Talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs', etc.
Create ABAB simple patterns – stick, leaf, stick, leaf.
Notice and correct an error in a repeating pattern.

Spring 1

Number 3: Subitising	Number 3	Number 4: Subitising	Number 4	Number 5: Subitising	Number 5
Children identify representations of 1, 2, 3. They subitise or count to find out how many and make their own collections of 1, 2 or 3 objects. Numicon 3 Dice 3 Subitising 3	Children match the number names to quantities and numerals. They touch count in different arrangements and recognise the final number is the quantity of the set. Number blocks episode 3, Counting to 3, Finding 3 objects, Representing 3 on a 5 frame, A triangle – 3 sides shape (including in the environment), 3 actions e.g. 3 hops, 3 jumps, 3 claps, What is 3 made of - 2 is a part of me, 1 is a part of me and the whole of me is 3, Exploring different varieties and orientations of triangles. 3 being the third number, its position on a number line, ordinal numbers, the numeral and formation of 3, number 3 in the environment, representing 3 using marks, pictures and finger, matching numeral to quantity	Children subitise sets of up to 4 objects to find out how many make their own collections of objects. Numicon 4 Dice 4 Subitising 4	Children count on and back to 4. They match the number to numerals and quantities and are able to say which sets have more and fewer items. When counting they continue to learn that the final number they say names the set. Number blocks episode 4, Counting to 4, Finding 4 objects, Representing 4 on a 5 frame, Squares and rectangles, 4 sided shapes including in the environment, 4 actions e.g. 4 hops, 4 jumps, 4 claps, Composition of 4 (2 is a part of me, 2 is a part of me and the whole of me is 4; 3 is a part of me, 1 is a part of me and the whole of me is 4) 4 being the fourth number, its position on a number line, ordinal numbers, the numeral and formation of 4, number 4 in the environment, representing 4 using marks, pictures and finger, matching numeral to quantity.	Children continue to subitise up to 5 items. Numicon 5 Dice 5 Subitising 5	Children count forwards and backwards to 5 accurately using the counting principles. They represent up to 5 items on a five frame. Number blocks episode 5, Counting to 5, Finding 5 objects, Representing 5 on a 5 frames, Pentagons, 5 sided shapes including in the environment, 5 actions e.g. 5 hops, 5 jumps, 5 claps, Composition of 5 (3 is a part of me, 2 is a part of me and the whole of me is 5; 4 is a part of me, 1 is a part of me and the whole of me is 5) 5 being the fifth number, its position on a number line, ordinal numbers, numicon 5, dice 5, subitising 5, the numeral and formation of 5, number 5 in the environment, representing 5 using marks, pictures and finger, matching numeral to quantity

Development Matters:
Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').
Recite numbers past 5.
Say one number for each item in order: 1,2,3,4,5.
Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').
Show 'finger numbers' up to 5.
Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.
Experiment with their own symbols and marks as well as numerals.

Spring 2

Number 6	Height & Length	Mass	Capacity
Children count on and back to 6.They match the number to numerals and quantities and are able to say which sets have more and fewer items. When counting they continue to learn that the final number they say names the set. Number blocks episode 6, Counting to 6, Finding 6 objects Introduce ten frame- representing 6, 6-sided shape-hexagon, 6 actions e.g. 6 hops, 6 jumps, 6 claps 6 being the sixth number, its position on a number line, ordinal numbers, numicon 6, dice 6, the numeral and formation of 6, number 6 in the environment, representing 6 using marks, pictures and finger, matching numeral to quantity	Children begin by using language to describe length and height e.g. the tree is tall the pencil is short. When making direct comparisons they may initially say something is bigger than something else. The children should then move on to finding objects that are longer/shorter than a given item. They should be encouraged to utilise strategies such as direct comparison (e.g. placing objects side by side to determine which is longer). Encourage them to use more specific mathematical vocabulary in relation to Length - longer, shorter height – taller, shorter Breadth – wider, narrower	Encourage them to make direct comparisons holding items to estimate which feels the heaviest then use the balance scales to check. Prompt them to use the language heavy, heavier than, heaviest, light, lighter than, lightest to compare items starting with items that have an obvious difference in weight. Avoid common misconception that bigger items are always heavier by providing some small heavier items and some large lighter ones heavy, heavier than, heaviest, light, lighter than, lightest	Provide opportunities to explore capacity with different materials such as water, sand, rice and loose parts Initially children should be exposed to the comparison of full, half full, empty using the same container. Provide different sized and shaped containers to investigate, When comparing capacities directly children can pour from one container to another to find which holds more or less water.

Development Matters:
Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').
Recite numbers past 5.
Say one number for each item in order: 1,2,3,4,5.
Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').
Show 'finger numbers' up to 6.
Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 6.
Experiment with their own symbols and marks as well as numerals.
Make comparisons between objects relating to size, length, weight and capacity.

Summer 1

More/Fewer	One More	One Less	2D Shape	3D Shape
Begin to sort collections into sets, they learn that these sets can be compared and ordered. Making comparisons that sets can have more, fewer items or the same amount as another set. Show examples where the difference is greater. Encourage children to make comparisons in different contexts as they play. NOTE – it is easier for children to notice the difference between sets when the difference is greater. Start by asking the children to compare 2 and 5 rather than 5 and 6	The children will use real objects to see that the quantity of a group can be changed by adding more. The first, then, now structure can be used to create mathematical stories in meaningful contexts. Children continue to count, subitise and compare as they explore one more. Prompt children to see the link between counting forwards and the one more pattern. To understand as we count, each number is one more than the number before. Use a range of representations to support this understanding and encourage the children to represent the one more and one less pattern as they count.	The children will use real objects to see that the quantity of a group can be changed by taking items away. Children continue to count, subitise and compare as they explore one more and one less. Prompt children to see the link between counting forwards and the one more pattern and back and the one less pattern.	Children to begin to recognise shapes on everyday items in the classroom and outside. Encourage them to build their own circles, triangles, squares and rectangles. Learn that squares, rectangles and triangles have straight sides and corners. Show shapes in a variety of different sizes and orientations. To consolidate shape names and properties. Opportunities to explore similarities and differences between them as they play and to sort them according to what they notice.	The primary focus in relation shapes should be on the properties of shapes. For example, children should be encouraged to notice and describe shapes in the environment and talk about the properties using words such as 'straight/flat/round/ curved'. When teaching the names of shapes, wherever possible, real-life shapes in the environment should be used. Note that only flat surfaces should be referred to as faces. Include sorting of natural shapes; the children may sort stones, for example, into sets that have straight edges etc.

Development Matters:
Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').
Recite numbers past 5.
Say one number for each item in order: 1,2,3,4,5.
Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').
Show 'finger numbers' up to 6.
Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 6.
Experiment with their own symbols and marks as well as numerals.
Solve real world mathematical problems with numbers up to 5.
Compare quantities using language: 'more than', 'fewer than.'
Talk about and explore 2D shapes (for example, circles, rectangles and triangles) using informal and mathematical language: 'sides', 'curved', 'corners', 'straight', 'round'.
Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc
Combine shapes to make new ones-an arch, a bigger triangle, etc

Summer 2

Number Composition	Night and Day	Positional Language 1	Positional Language 2
Comparing quantities that can be more, the same as, or fewer than another quantity. Using a range of representations to support this understanding and encourage children to compare quantities using a variety of objects and representations. Encourage children in their own ways of recording quantities. Provide nearby numerals for reference. Encourage children to subitise.	Children talk about night and day and order key events in their daily routines, such as waking up, coming to school, dinner, bed time. Children explore measuring time. They use language to describe when things happen e.g. day, night, morning, afternoon, before after, today, tomorrow. Encourage the vocabulary of first, next, then and possibly last.	Children need opportunities to be exposed to and to use the language of position and direction; *Position: 'in', 'on', 'under'. Direction: 'up', 'down', 'across'* Children also need opportunities to use terms which are relative: *'in front of, 'behind', 'on top of'.* Create as many opportunities as possible to explore this language such as hunting for hidden objects with some prompts (e.g. look behind the shed).	Encourage children to build on their understanding of positional language. Use positional language to describe a familiar route. E.g. a map of the outdoor classroom. Discuss routes and locations, using words like 'in front of' and 'behind'.

Development Matters:
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Recite numbers past 5.
Say one number for each item in order: 1,2,3,4,5.
Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').
Show 'finger numbers' up to 6.
Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 6.
Experiment with their own symbols and marks as well as numerals.
Solve real world mathematical problems with numbers up to 5.
Compare quantities using language: 'more than', 'fewer than.'
Describe a familiar route.
Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then…'
Understand position through words alone – for example, "The bag is under the table," – with no pointing.
Discuss routes and locations, using words like 'in front of' and 'behind'.

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Mathematics Long Term Plan **Reception**

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15
Autumn	Reception Baseline Assessment Positional Language Times of the Day Class Routines		Match, Sort and Compare		Talk About Measure and Patterns		It's Me 1, 2, 3! *			Circles and Triangles	1, 2, 3, 4, 5 *			Shapes with 4 sides	Consolidation inc. Number blocks/ ten town focus

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Spring	Alive in 5!		Mass and Capacity	Growing 6, 7, 8		Length, Height and Time		Building 9 and 10		

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Summer	Exploring 3D Shapes *Sp*		To 20 and Beyond		How many now?	Manipulate, Compose and Decompose		Sharing and Grouping		Visualise, Build and Map			Make Connections	Consolidation inc. Number blocks/ ten town focus

Suggested yearly plan for whole class maths sessions in Reception

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Autumn 1				Non-number		Number: Subitising quantities to 3	
				Spatial reasoning *Construction and 3D shapes*	Spatial reasoning *Construction 3D shapes*	**Book 1:** Subitising 1 - 2	**Book 2:** Subitising 1 – 3
				Continue spatial reasoning for rest of term through provocations in continuous provision			
Autumn 2	Non-number		Number: Subitising quantities to 5				
	Spatial reasoning *2D shapes and shape puzzles*	Spatial reasoning *2D shapes and shape puzzles*	**Book 3:** Subitising 1 - 4	**Book 3:** Subitising 1 - 4	**Book 4:** Subitising 1 - 5	**Book 4:** Subitising 1 – 5 (tens frames)	
	Continue spatial reasoning all term through provocations in continuous provision →						
Spring 1	Non-number		Number: Enumerating between 6 and 10 items				
	Pattern	Pattern	**Book 5:** Subitising 6 - 10	**Book 5:** Subitising 6 - 10	Counting out up to 10 items from a collection (not covered by EYNS)		
	Continue pattern all term through provocations in continuous provision →						
Spring 2	Non-number	Partitioning 2, 3, 4, 5 and 10 and 'number bonds' for these number					
	Spatial reasoning *Symmetry (incl. shape puzzles & construction)*	**Books 6 & 7:** Partitioning 2 and 3	**Book 8:** Partitioning 4	**Book 9:** Partitioning 5	**Book 10:** Partitioning 10	**Book 10:** Partitioning 10	
	Continue spatial reasoning all term through provocations in continuous provision →						
Summer 1	Non-number		Composition of 6 – 9, and comparison of numbers to 10				
	Measures	Measures	**Book 11:** Composition of 6 - 9	**Book 11:** Composition of 6 - 9	**Book 12:** Comparing numbers to 10	**Book 12:** Comparing numbers to 10	
	Continue measures all term through provocations in continuous provision →						
Summer 2	Patterns in numbers to 10			Non-number			
	Book 13: Patterns in odd and even numbers	Book 13: Patterns in doubles	Book 13: Equal distribution	Pattern	Spatial reasoning *Maps and plans*	Measures	

Number Sense Maths

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Mathematics Long Term Plan **Year 1**

Throughout the year – Multiples of 2, 5, 10, Months of the Year, Days of the Week

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15
Autumn	Place Value (within 10)					Addition (within 10) * Subtraction (within 10) *						Shape *		Consolidation	

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Spring	Place Value (within 20)			Addition and Subtraction (within 20)			Number: Place Value (within 50)		Length and Height	

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Summer	Mass and Volume *Sp		Number: Multiplication and Division (Reinforce multiples of 2, 5 and 10)			Fractions*			Position and Direction	Place Value (within 100)		Money	Time	Consolidation

Year 1 overview

Stage 1

Block 1	Block 2	Block 3	Block 4	Block 5	Block 6
Perceptual subitising	Conceptual subitising	Composition to 5	Comparison to 5	1 more (within 5)	1 less (within 5)

Stage 2

Block 1	Block 2
Composition of 6 and 7	Composition of 8 and 9

Stage 2

Block 3	Block 4
Composition of 10	Comparison to 10

Stage 3

Block 1	Block 2	Block 3	Block 4	Block 5	Block 6
Introduction to addition and subtraction	1 more (within 10)	1 less (within 10)	Add and subtract with 0	Odd and even numbers	Doubles to 10

Stage 3

Block 7	Block 8	Block 9
Add 2	Subtract 2	Final facts

Stage 4

Block 1	Block 2	Block 3
Ten and a bit 11–15	Ten and a bit 16–20	Comparison to 20

Stage 5

Block 1	Block 2	Block 3
Count in 10s	Count in 5s	Count in 2s

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Mathematics Long Term Plan **Year 2**

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15
Autumn	Place Value to 100*					Addition and Subtraction*						Shape			Consolidation

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Spring	Money		Multiplication and Division (-)				Length and Height		Mass, Capacity and Temperature (-)	

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Summer	Fractions*				Time*				Statistics (also covered in Science)		Position and Direction		Consolidation	

Year 2 overview

Stage 1

Block 1	Block 2	Block 3	Block 4	Block 5	Block 6	Block 7
6 and 7	8 and 9	10	Comparison to 10	Addition and subtraction	Ten and a bit	Comparison to 20

Stage 2

Block 1	Block 2	Block 3
1 more (within 20)	1 less (within 20)	Make connections

Stage 2

Block 4	Block 5	Block 6	Block 7	Block 8
Odd and even	Doubles to 20	Near doubles	Add 2	Subtract 2

Stage 3

Block 1	Block 2	Block 3
Add through 10	Subtract through 10	Bonds to 20

Stage 4

Block 1	Block 2
How many?	Comparison to 100

Stage 5

Block 1	Block 2	Block 3	Block 4
Introduction to multiplication and division	The 2 times-table	The 10 times-table	The 5 times-table

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Mathematics Long Term Plan **Year 3**

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15
Autumn	Place Value			Addition and Subtraction*						A+S: Estimation/ Inverse* *2-step problems	Multiplication and Division A *3, 4, 8 including related calculations			Consolidation	

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Spring	Multiplication and Division B* *Formal Methods				Length and Perimeter *Consolidate addition/ subtraction			Fractions A		

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Summer	Mass and Capacity		Fractions B		Money		Time*			Shape		Statistics		Consolidation

Fact Fluency

Year 3	Yearly Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
Autumn 1	Stage 5 Book 1 (review)	Stage 5 Book 2 (review)	Stage 5 Book 3 (review)	Stage 5 Book 4 (review)	Stage 5 Book 6	Stage 6 Book 6	Stage 6 Book 7
	Make Ten and Then: Addition	Make Ten and Then: Subtraction	More Doubles and Near Doubles	Adjusting	Make Ten and Then: Subtraction Part 2	Make Ten and Then: Subtraction Part 2	Strategy Selection Part 2
Autumn 2	Stage 6 Books 1 – 3 (review)	Stage 6 Books 3 – 5 (review)	Stage 6 Book 6	Stage 6 Book 6	Stage 6 Book 6	Stage 6 Book 6	
	Calculating with multiples of 10 Calculating with ones Calculating with tens	Calculating with tens Make the next 10 and then Make the previous 10 and then	Strategy Selection	Strategy Selection	Strategy Selection	Strategy Selection	

Stage 1	Stage 2		
Doubles	2 Times Tables	5 Times Tables	10 Times Tables

Stage 3		
3 Times Tables	4 Times Tables	8 Times Tables

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Mathematics Long Term Plan **Year 4**

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15
Autumn	Place Value				Addition and Subtraction			A & S inc. 2 step problems*	Area	Multiplication and Division*				Consolidation	

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10
Spring	Multiplication and Division (Consolidation of 2, 5, 10, 3, 4 and 8)			Length and Perimeter		Fractions				Decimals A

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14
Summer	Decimals A and B*				Measurement: Money		Time	Geometry – Properties of Shape Including position and direction*					Statistics	Consolidation

Fact Fluency

Stage 1	Stage 2		
Doubles	2 Times Tables	5 Times Tables	10 Times Tables

Stage 3		
3 Times Tables	4 Times Tables	8 Times Tables

Stage 4				
6 Times Tables	7 Times Tables	9 Times Tables	11 Times Tables	12 Times Tables

Stage 5		
Consolidation	MTC Practice	Consolidation to 12 x 12