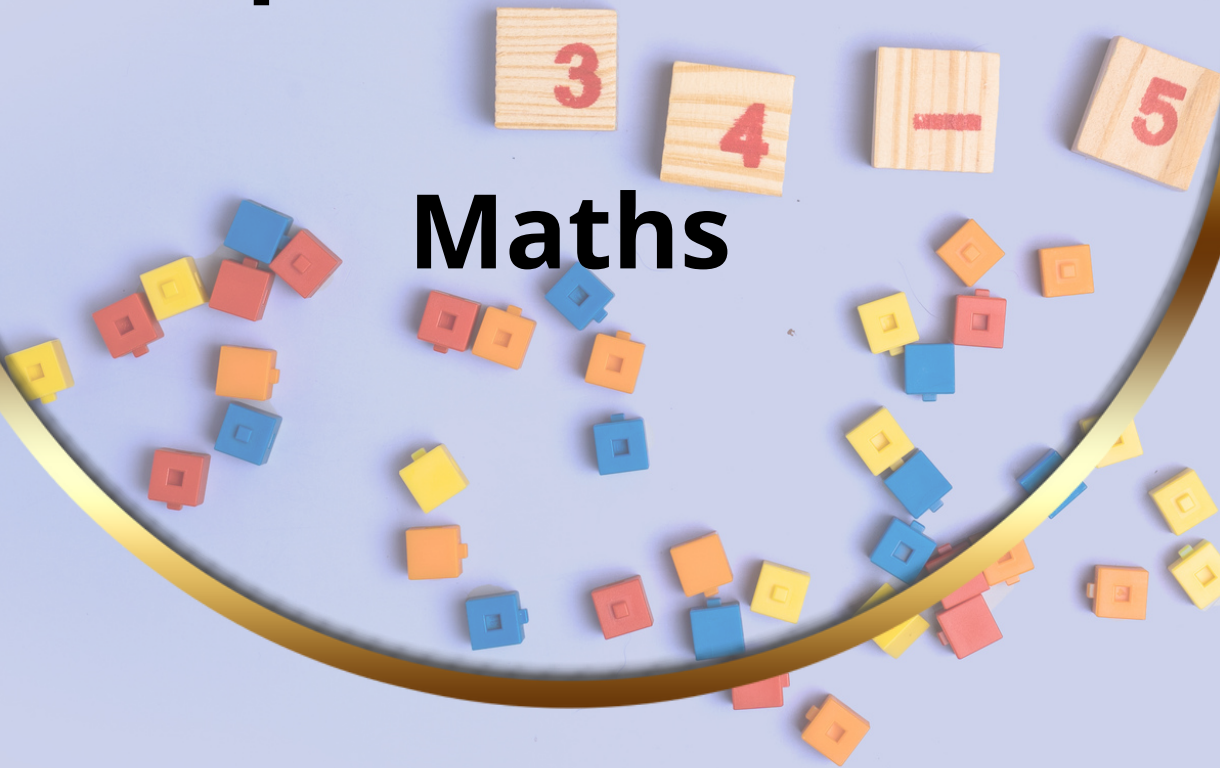




# Subject Curriculum Map and Rationale

**Maths**



# Maths in the Early Years Foundation Stage

EYFS	Development Matters 3&4 Years will learn to:	Development Matters Children in Reception will learn to:	Statutory Framework Early Learning Goals
<p>Development Matters and Statutory ELGs are not the EYFS curriculum. This outlined a top-level view of how children develop and learn. Children's early learning is not neat and orderly, as such these are used as a pathway to help practitioners assess each child's level of development and make informed decisions about what a child needs to learn and be able to do next.</p>	<p>Recite numbers past 5. Say one number name 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'). Fast recognition of up to 3 objects, without having to count them individually ('subitising'). 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 Solve real world mathematical problems with numbers up to 5. Compare quantities using language: 'more than', 'fewer than'. Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides' 'corners'; 'straight', 'flat', 'round'. Understand position through words alone - for example, "The bag is under the table," - with no pointing. Describe a familiar route. Discuss routes and locations, using words like 'in front of' and 'behind' Make comparisons between objects relating to size, length, weight and capacity. 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. 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. Extend and create ABAB patterns - stick, leaf, stick, leaf. Notice and correct an error in a repeating pattern. Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then.'</p>	<p>Count objects, actions and sounds. Count beyond ten. Link the number symbol (numeral) with its cardinal number value. Subitise (recognising quantities without counting) up to 5. Compare numbers Understand the 'one more than/one less than' relationship between consecutive numbers. Explore the composition of numbers to 10. Automatically recall number bonds for numbers 0-5 and some to 10 Select, rotate and manipulate shapes in order to develop spatial reasoning skills. Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can. Continue, copy and create repeating patterns. Compare length, weight and capacity</p>	<p><b>Number</b> Have a deep understanding of number to 10, including the composition of each number; Subitise (recognise quantities without counting) up to 5; 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. <b>Numerical Patterns</b> Verbally count beyond 20, recognising the pattern of the counting system; Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity; Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.</p>

# EYFS Long Term Plan Autumn

Week 1	Week 2	Week 3		Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
<p>Getting to Know You</p> <p>Opportunities for settling in, introducing the areas of provision and getting to know the children.</p> <p>Key times of day, class routines. Exploring the continuous provision inside and out. Where do things belong? Positional language.</p>			Phase	Just Like Me!			It's Me 1 2 3!			Light and Dark		
			Number	Match and Sort Compare Amounts			Representing 1, 2 & 3 Comparing 1, 2 & 3 Composition of 1, 2 & 3			Representing Numbers to 5. One More and Less.		
			Measure, Shape and Spatial Thinking	Compare Size, Mass & Capacity Exploring Pattern			Circles and Triangles Positional Language			Shapes with 4 Sides. Time		

# EYFS Long Term Plan Spring

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9
Phase	Alive in 5!			Growing 6, 7, 8			Building 9 & 10		
Number	Introducing zero Comparing numbers to 5 Composition of 4 & 5			6, 7 & 8 Combining 2 amounts Making pairs			Counting to 9 & 10 Comparing numbers to 10 Bonds to 10		
Measure, Shape and Spatial Thinking	Compare Mass (2) Compare Capacity (2)			Length & Height Time			3d-shapes Patterns		

# EYFS Long Term Plan Summer

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Phase	To 20 and Beyond			First Then Now			Find my Pattern			On the Move		
Number	Building Numbers Beyond 10 Counting Patterns Beyond 10			Adding More Taking Away			Doubling Sharing & Grouping Even & Odd			Deepening Understanding Patterns and Relationships		
Spatial Thinking	Spatial Reasoning (1) Match, Rotate, Manipulate			Spatial Reasoning (2) Compose and Decompose			Spatial Reasoning (3) Visualise and Build			Spatial Reasoning (4) Mapping		

# Year 1 Long Term Plan

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number Place value (within 10)					Number Addition and subtraction (within 10)					Geometry Shape	Consolidation
Spring	Number Place value (within 20)			Number Addition and subtraction (within 20)			Number Place value (within 50)		Measurement Length and height		Measurement Mass and volume	
Summer	Number Multiplication and division			Number Fractions		Geometry Position and direction	Number Place value (within 100)		Measurement Money	Measurement Time		Consolidation

Consolidation weeks may move within a term to support the learning needs of the children.

# Year 2 Long Term Plan

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number Place value				Number Addition and subtraction				Geometry Shape			
Spring	Measurement Money	Number Multiplication and division					Measurement Length and height		Measurement Mass, capacity and temperature			
Summer	Number Fractions			Measurement Time			Statistics		Geometry Position and direction		Consolidation	

Consolidation weeks may move to support the learning needs of the children.

# Year 3 Long Term Plan

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number Place value			Number Addition and subtraction				Number Multiplication and division A				
Spring	Number Multiplication and division B			Measurement Length and perimeter			Number Fractions A		Measurement Mass and capacity			
Summer	Number Fractions B		Measurement Money	Measurement Time			Geometry Shape		Statistics		Consolidation	

Consolidation weeks may move to support the learning needs of the children.

# Year 4 Long Term Plan

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number Place value				Number Addition and subtraction			Measurement Area	Number Multiplication and division A			Consolidation
Spring	Number Multiplication and division B			Measurement Length and perimeter		Number Fractions			Number Decimals A			
Summer	Number Decimals B	Measurement Money		Measurement Time		Consolidation		Geometry Shape		Statistics	Geometry Position and direction	

Consolidation weeks may move to support the learning needs of the children.

# Year 5 Long Term Plan

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number Place value			Number Addition and subtraction		Number Multiplication and division A			Number Fractions A			
Spring	Number Multiplication and division B			Number Fractions B		Number Decimals and percentages			Measurement Perimeter and area		Statistics	
Summer	Geometry Shape			Geometry Position and direction		Number Decimals			Number Negative numbers	Measurement Converting units		Measurement Volume

Consolidation weeks may move to support the learning needs of the children.

# Year 6 Long Term Plan

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12
Autumn	Number Place value		Number Addition, subtraction, multiplication and division					Number Fractions A		Number Fractions B		Measurement Converting units
Spring	Ratio		Algebra		Number Decimals		Number Fractions, decimals and percentages		Measurement Area, perimeter and volume		Statistics	
Summer	Geometry Shape			Geometry Position and direction	Themed projects, consolidation and problem solving							

Consolidation weeks may move to support the learning needs of the children.

# Mathematics Rationale

At Guardian Angels, we are committed to ensuring that all children are mathematically proficient and confident in the use of maths in their everyday lives. To achieve this, we teach for maths mastery designed to ensure all children develop a deep and sustainable understanding of age-appropriate mathematical concepts, which can be built upon in the future. We believe that every child can achieve and encourage the growth mindset 'can do' attitude. Pupils learn to think mathematically to find patterns, connections and relationships between different concepts.

Building on relevant educational research, our maths curriculum has been responsive to the concept of retrieval practice and we understand that children need regular opportunities to revisit prior learning in order to commit mathematical understanding to long term memory.

We teach maths using the White Rose scheme, which is a whole-class, mastery resource. It is based on a small-steps approach, which means the concepts are broken down so the children can acquire a deep, long-term, secure and adaptable understanding. It has been designed to support and challenge all pupils, and is built on the belief that everyone can learn maths successfully, by building number fluency, confidence and understanding, step by step.

By taking a Concrete, Pictorial, Abstract (CPA) approach, we allows children to tackle concepts in a tangible and accessible way. All ideas are built on previous knowledge and pupils have lots of opportunity to recognise relationships between topics.



# Mathematics Rationale

Lessons typically are split into four parts:

## Prior Learning (Flashback 4)

Children will review learning from previous lessons, days, units and years to consolidate learning and ensure children know more and remember more

## Direct Teaching (Let's Learn)

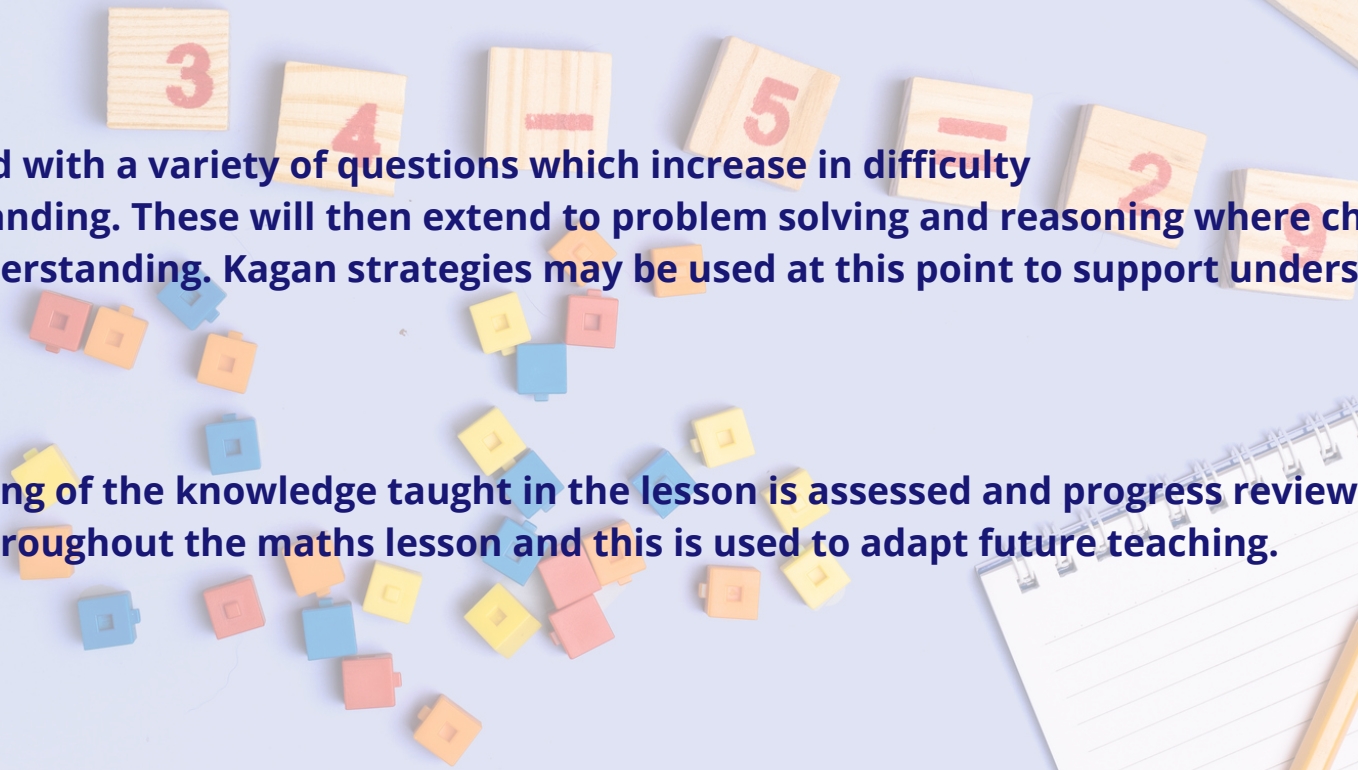
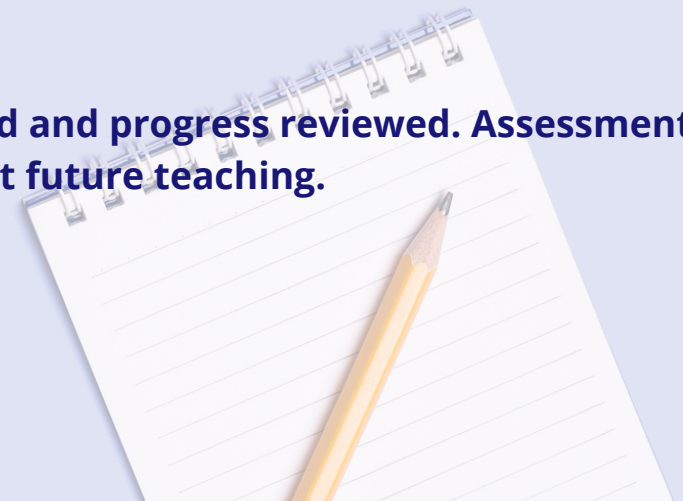
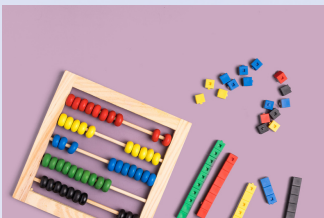
Children are taught the key concepts they need to succeed in the lesson. The direct teaching will include elements of concrete, pictorial and abstract where appropriate and prepare the children for their independent, paired or group tasks.

## Task

Children to be provided with a variety of questions which increase in difficulty to apply their understanding. These will then extend to problem solving and reasoning where children demonstrate their understanding. Kagan strategies may be used at this point to support understanding and mastery.

## Plenary

Children's understanding of the knowledge taught in the lesson is assessed and progress reviewed. Assessment for learning takes place throughout the maths lesson and this is used to adapt future teaching.



# Maths Rationale

When we plan our lessons and sequences of lessons we structure the learning so that all pupils work through new content together as a whole group. Although we do not differentiate the learning task by reducing the level of difficulty for certain groups, the questioning and scaffolding that individual children receive in class will differ.

Teachers allow time for children to fully understand, explore and apply ideas using Kagan strategies, rather than accelerate through new topics. Pupils' difficulties and misconceptions are identified through immediate formative assessment and addressed with rapid intervention. This approach enables pupils to truly grasp a concept.

Fluency comes from deep knowledge and practice. At early stages, explicit teaching of multiplication tables is important in the journey towards fluency and contributes to quick and efficient mental calculation. We teach multiplication both through progressive teaching sequences and through multiplication chanting and recall of the times tables appropriate for each year group alongside 99 Club assessments to monitor progress.

At Guardian Angels we teach multiplication tables in the following year groups so that children are proficient in the rapid recall of all multiplication tables up to  $12 \times 12$  by the end of Year 4

- Year 2: 2s, 5s and 10s
- Year 3: 3s, 4s and 8s
- Year 4: 6s, 7s, 9s, 11s and 12s.

We also use Numbots and Times Tables Rockstars as tools to help pupils develop fluency in number facts and multiplication tables in school and at home.


$$2 \times 3 = 6$$

# Maths Rationale

## Maths in Early Years

Our EYFS at Guardian Angels provides an engaging and encouraging climate for children's early encounters with mathematics. This develops their confidence and their ability to understand and use maths and is the foundation for their future maths learning.

We are passionate about the teaching of early mathematics. We actively introduce mathematical concepts, methods, and language through a variety of engaging and stimulating practical experiences, both within the classroom and in the outside environment. We guide children to see connections of ideas within maths as well as with other subjects, developing their mathematical knowledge throughout the day and across the curriculum. We encourage children to communicate, explaining their thinking as they interact with maths in a deep and sustained way.

We ensure that children have sufficient practice to be confident in using and understanding numbers which provides a strong basis for more complex learning later on. Focus is placed on the use of concrete resources to develop deep structural knowledge and the ability to make connections, with the aim of ensuring that what is learnt is sustained over time.

