Statutory Educational Programme for Mathematics

(taken from the EYFS Statutory Framework)

Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers. By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built. In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

Early Learning Goals

ELG: Number

Children at the expected level of development will:

• Have a deep understanding of numbers 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.

ELG: Numerical Patterns

Children at the expected level of development will:

• 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

Development Matters Statements

Non-statutory curriculum guidance for the early years foundation stage.

Three and Four-Year Olds	• 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. • 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 identifies 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…'
Children in the Reception Year	• Count objects, actions and sounds. • Subitise. • Link the number symbol (numeral) with its cardinal number value. • Count beyond ten. • 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 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.

Our Rational

The early years of a child's life are crucial for developing mathematical understanding. Research shows that early mathematical knowledge is a strong predictor of later achievement, not only in mathematics but also in reading, wider educational attainment and social development. Conversely, children who begin their education with gaps in mathematical understanding are more likely to face ongoing challenges throughout their educational journey.

At Springdale First School, we follow the **NCETM Mastering Number Programme** from Reception to Year 2. This carefully sequenced programme is designed to develop secure foundations in number sense for all children. Through a mastery approach, children are supported to develop a deep understanding of the key mathematical concepts of **counting, subitising, comparison and the composition of number**. Our aim is for children to leave Key Stage 1 with fluency in calculation, confidence in their mathematical thinking, and flexibility when working with number. The programme places a strong emphasis on the essential knowledge and understanding required in the Early Years and provides a coherent progression throughout Key Stage 1 to support future success in mathematics.

Four Mastering Number sessions are timetabled each week. These short, focused sessions typically last 10 to 15 minutes and provide all children with opportunities to explore key mathematical concepts together. Ongoing assessment is integral to each session, enabling adults to identify children who may benefit from additional support or further opportunities to consolidate their learning. These children participate in targeted small-group sessions to strengthen their understanding and ensure they are well prepared for subsequent learning. Mathematical learning is further enriched through carefully planned enhancements within the continuous provision and through opportunities embedded in daily routines.

The fifth mathematics session each week focuses on the development of **Shape, Space and Measure**. The progression for this area is informed by research and guidance from the NCETM. Children explore the three interconnected areas of **Pattern, Shape and Space, and Measures**, which provide the foundations for later mathematical learning. Developing knowledge and understanding in these areas enables children to make sense of the world around them, recognise relationships and patterns, and build the spatial reasoning skills that underpin future success in mathematics and beyond.

Through a rich, engaging and carefully sequenced mathematics curriculum, we aim to foster positive attitudes towards mathematics, enabling every child to develop confidence, curiosity and a lifelong enjoyment of learning.

AUTUMN OVERVIEW

Autumn 1	Number Theme	Shape, Space, Measure, Pattern Theme
Week 1-2	BASELINE	BASELINE
Week 3	**Subitising** • *Perceptual subitising to 3*	**Pattern** • *Copy and continue an AB pattern*
Week 4	**Counting** • *Counting sequence* • *1:1 correspondence* • *Cardinality*	**Pattern** • *Copy, continue and make an AB pattern* • *Continue a pattern which ends mid-unit*
Week 5	**Composition** • *Composition of 3 & 4*	**Pattern** • *Copy and continue an ABC pattern*
Week 6	**Subitising** • *Subitising to 4* • *Perceptual and conceptual* • Making 4	**Pattern** • *Copy, continue and make an ABC pattern* • *Continue a pattern which ends mid-unit*
Week 7	**Comparison** • *Focus on language and think about attributes*	**Pattern** • *Spot errors in patterns*
Week 8	**Assessment and Revision of key knowledge**	**Pattern** • *Create AB/ABC patterns around a circle/border*

Autumn 2	Number Theme	Shape, Space, Measure, Pattern Theme
Week 1	**Cardinality and Counting** • *Focus on counting to 5*	**2D Shape** • *Identify similarities between shapes*
Week 2	**Comparison** • *Comparisons by matching*	**2D Shape** • *Name simple 2D shapes – square, rectangle, circle, triangle, pentagon*
Week 3	**Composition** • *Focus on the concept of a 'whole'*	**2D Shape** • *Properties of 2D shapes – sides – corners* • *Describing properties*
Week 4	**Composition** • *Focus on the composition of 5*	**2D Shape** • *Develop an awareness of relationships*
Week 5	**Cardinality and Counting** • *Counting beyond 5*	**Time** • *Beginning to use time to sequence events – times of the day, visual timetable*
Week 6	**Assessment and Revision of key knowledge**	**Time** • *Calendar events – Birthday*
Week 7	**Assessment and Revision of key knowledge**	**Time** • *Experience specific time durations – 1 minute challenges, tidy up time*

SPRING OVERVIEW

Spring 1	Number Theme	Shape, Space, Measure, Pattern Theme
Week 1	**Subitising** • *Focus on linking subitising amounts to 5 with numerals*	**Length** • *Recognising attributes – long and short* • *Comparing amounts of continuous quantities – longer, shorter – introducing starting points are aligned*
Week 2	**Ordinality** • *Ordering numbers to 5.* • *Focus on each number being 1 more than the previous number.*	**Length** • *Measuring using a non-standard unit* • *Recognising the relationship between the size and number of units*
Week 3	**Composition** • *Focus on the composition of five and considering missing numbers*	**Length** • *Showing awareness of comparison in estimating and predicting*
Week 4	**Composition** • *Beginning to consider '5 and a bit' numbers using fingers and die frames as key representations*	**Length** • *Comparing indirectly – ordering by length*
Week 5	**Composition** • *Focus on equal and unequal groups*	**Height** • *Recognising attributes – tall and short* • *Measuring using a non-standard unit and compare amounts*
Week 6	**Counting** • *Counting sequence* • *Ordinality of 1-5* • *1 more and 1 less than within 10* • *Linking ordinality and cardinality through use of staircase pattern*	**Height** • *Showing awareness of comparison in estimating and predicting* • *Comparing indirectly – ordering by height*

Spring 2	Number Theme	Shape, Space, Measure, Pattern Theme
Week 1	**Comparison** • *Comparison using knowledge of ordinality rather than comparison by matching of quantities* • *Children to notice whether a change creates a number which is more or less than another*	**3D Shapes** • *Shape awareness – developing shape awareness through construction* • *Identifying similarities between shapes*
Week 2	**Composition** • *Composition of 7 as 2 groups* • *Focus on 5 and a bit*	**3D Shapes** • *Introduce shape name and properties* • *Cube and Cuboid*
Week 3	**Subitising** • *Subitising within 6* • *Look at doubles – which numbers can be made using doubles and which numbers cannot*	**3D Shapes** • *Introduce shape name and properties* • *Cone and Pyramid*
Week 4	**Composition** • *Sort odd and even numbers by looking at their tops; odd blocks and flat tops*	**3D Shapes** • *Introduce shape name and properties* • *Cylinder and Sphere*
Week 5	**Counting, Cardinality and Ordinality** • *Counting larger amounts* • *Strategies for counting*	**3D Shapes** • *Revisit all 3D shapes and their properties*

SUMMER OVERVIEW

Summer 1	Number Theme	Shape, Space, Measure, Pattern Theme
Week 1	**Subitising** *Structured arrangements including the 10 frame*	**3D Shapes** *Developing an awareness of relationships between shapes*
Week 2	**Composition** • *Focus on representations of numbers using fingers and 10-frame*	**Measure - Mass** • *Recognising attributes – heavy and light* • *Comparing amounts of continuous quantities – heavier, lighter – indicated by a greater downward pull, link to balance scales – expose to small heavy things and large light things*
Week 3	**Composition** • *Focus on doubles using different representations*	**Measure - Mass** • *Showing awareness of comparison in estimating and predicting* • **Checking through measuring using units to compare*
Week 4	**Comparison** • *Focus on ordinality, comparing numbers*	**Measure - Mass** • *Comparing indirectly – ordering by mass*
Week 5 REVIEW AND ASSESS	**Subitising and The Rekenrek** • *'Seeing' small quantities and numbers within larger amounts* • *Introduction to Rekenrek* • *Linking familiar representations such an numbers of fingers to representations on the Rekenrek*	**Measure – Capacity** • *Recognising attributes – full and empty* • *Comparing amounts of continuous quantities – 'holds more than' 'holds less than'*
Week 6 REVIEW AND ASSESS	**Counting** • *Strategies for counting.* • *Recognising the pattern of the counting system, when beginning to count beyond 20*	**Measure - Capacity** • *Showing awareness of comparison in estimating and predicting eg. what container would be best to hold a given substance?*
Week 7 REVIEW AND ASSESS	**Comparison** • *Comparing groups of objects that are of different sizes/colours/attributes* *Developing a sense of magnitude eg knowing that 8 is a lot more than 2. But that 4 is only a little bit more than 2*	**Measure - Capacity** • *Comparing indirectly – ordering by capacity* • *Recognise the relationship between the size and number of units*

Summer 2	Number Theme	Shape, Space, Measure, Pattern Theme
Week 1 REVIEW AND ASSESS	**Pattern in Number** • *Investigating 'parts' and 'wholes'.* • *Exploring the composition of numbers to 10* • *Investigating the equivalence, doubles and making odd and even numbers*	**Space** • *Experiencing different viewpoints* • *Developing spatial vocabulary – position, direction and viewpoint*
Week 2 REVIEW AND ASSESS	**Deep Understanding of Numbers to 10** • *Continuing to practically explore the composition of numbers to 10* • *Investigati ng 5 as a key 'anchor' in our number system* • *Beginning to generalise about 1 more/1 less within 10*	**Revisit Pattern** • *Continuing and creating AB/ABC/ABB/ABBA patterns*
Week 3 REVIEW AND ASSESS	**Recall of Number Facts** • *Learning the 'numbers within' 3. 4. 5 and 10* • *Knowing double facts up to 5 and 5 make 10* • *Investigating whole amounts and hidden quantities within 5*	**Revisit 2D Shape** • *Names and properties*
Week 4 REVIEW AND ASSESS	**Developing awareness of numbers beyond 10** • *Counting past 10* • *Recognising numbers to 20*	**Revisit 3D Shape** • *Names and properties*
Week 5 REVIEW AND ASSESS	**Composition beyond 10** • *Building numbers beyond 10 – spotting pattern eg. 12 = 10 +2 11= 10 +1*	**Revisit Time** • *Sequence times of the day* • *O'clock*
Week 6 REVIEW AND ASSESS	**Composition beyond 10** *Building numbers beyond 10 – spotting pattern eg. 12 = 10 +2 11= 10 +1*	**Revisit Length and Height** • *Attribute language, comparative language, non-standard units,*
Week 7 REVIEW AND ASSESS	**Content to be determined by ongoing assessments**	**Revisit Mass** • *Attribute language, comparative language, non-standard units*,