

# The Foundations of Maths



At the John Henry Newman Academy we understand that the Early Years Foundation Stage (EYFS) is structured very differently to the national curriculum as it is organised across 7 areas of learning, rather than discrete subjects.

Each subject leader endeavours to make sure their subject meets the need of every child in the school, from Nursery to Year 6. Therefore, this document shows which statements and areas from the '2020 Development Matters' are essential knowledge and skills for Maths in The National Curriculum. The table below outlines the most relevant statements taken from the Early Learning Goals (ELG) in the EYFS statutory framework, the Development Matters age ranges for the Three and Four-Year-Olds and Reception as well as any relevant texts outlined to match the programme of study for Maths.

| Mathematical Vocabulary  |                            |          |                                                                                                                                                                               |
|--------------------------|----------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Programme of Study       | EYFS Area                  |          | Statements                                                                                                                                                                    |
| Three and Four-Year-Olds | Communication and Language |          | <ul style="list-style-type: none"><li>Use a wider range of vocabulary.</li><li>Understand 'why' questions, like: 'Why do you think the caterpillar is so fat?'</li></ul>      |
| Reception                | Communication and Language |          | <ul style="list-style-type: none"><li>Learn new vocabulary</li><li>Use new vocabulary throughout the day.</li></ul>                                                           |
| ELG                      | Communication and Language | Speaking | <ul style="list-style-type: none"><li>Participate in small group, class and one-to-one discussions, offering their own ideas, using recently introduced vocabulary.</li></ul> |

| Number and Place Value   |             |                    |                                                                                                                                                                                                                                                                                   |
|--------------------------|-------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Counting                 |             |                    |                                                                                                                                                                                                                                                                                   |
| Programme of Study       | EYFS Area   |                    | Statements                                                                                                                                                                                                                                                                        |
| Three and Four-Year-Olds | Mathematics |                    | <ul style="list-style-type: none"><li>Recite numbers past 5.</li><li>Say one number for each item in order: 1, 2, 3, 4, 5.</li><li>Know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle').</li></ul> |
| Reception                | Mathematics |                    | <ul style="list-style-type: none"><li>Count objects, actions and sounds.</li><li>Count beyond ten.</li></ul>                                                                                                                                                                      |
| ELG                      | Mathematics | Numerical patterns | <ul style="list-style-type: none"><li>Verbally count beyond 20, recognising the pattern of the counting system.</li></ul>                                                                                                                                                         |



| Number and Place Value                           |             |                    |                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------------------------------|-------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Identifying, Representing and Estimating Numbers |             |                    |                                                                                                                                                                                                                                                                                                                                                                                          |
| Programme of Study                               | EYFS Area   |                    | Statements                                                                                                                                                                                                                                                                                                                                                                               |
| Three and Four-Year-Olds                         | Mathematics |                    | <ul style="list-style-type: none"><li>Develop fast recognition of up to 3 objects, without having to count them individually ('subitising').</li><li>Show 'finger numbers' up to 5.</li><li>Link numerals and amounts: for example showing the right number of objects to match the numeral, up to 5.</li><li>Experiment with their own symbols and marks as well as numerals.</li></ul> |
| Reception                                        | Mathematics |                    | <ul style="list-style-type: none"><li>Subitise</li><li>Link the number symbol (numeral) with its cardinal number value.</li></ul>                                                                                                                                                                                                                                                        |
| ELG                                              | Mathematics | Number             | <ul style="list-style-type: none"><li>Subitise (recognise without counting) up to 5.</li></ul>                                                                                                                                                                                                                                                                                           |
| Reading and Writing Numbers                      |             |                    |                                                                                                                                                                                                                                                                                                                                                                                          |
| Three and Four-Year-Olds                         | Mathematics |                    | <ul style="list-style-type: none"><li>Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.</li><li>Experiment with their own symbols and marks as well as numerals.</li></ul>                                                                                                                                                      |
| Reception                                        | Mathematics |                    | <ul style="list-style-type: none"><li>Link the number symbol (numeral) with its cardinal number value.</li></ul>                                                                                                                                                                                                                                                                         |
| Compare and Order Numbers                        |             |                    |                                                                                                                                                                                                                                                                                                                                                                                          |
| Three and Four-Year-Olds                         | Mathematics |                    | <ul style="list-style-type: none"><li>Compare quantities using language: 'more than', 'fewer than'.</li></ul>                                                                                                                                                                                                                                                                            |
| Reception                                        | Mathematics |                    | <ul style="list-style-type: none"><li>Compare numbers.</li></ul>                                                                                                                                                                                                                                                                                                                         |
| ELG                                              | Mathematics | Numerical Patterns | <ul style="list-style-type: none"><li>Compare quantities up to 10 in different contexts, recognising when one quantity is great than, less than or the same as the other quantity.</li></ul>                                                                                                                                                                                             |
| Understanding Place Value                        |             |                    |                                                                                                                                                                                                                                                                                                                                                                                          |
| Reception                                        | Mathematics |                    | <ul style="list-style-type: none"><li>Understanding the 'one more than/ one less than' relationship between consecutive numbers.</li><li>Explore the composition of numbers to 10.</li></ul>                                                                                                                                                                                             |
| ELG                                              | Mathematics | Number             | <ul style="list-style-type: none"><li>Have a deep understanding of numbers to 10, including the composition of each number.</li></ul>                                                                                                                                                                                                                                                    |
| Solve Problems                                   |             |                    |                                                                                                                                                                                                                                                                                                                                                                                          |
| Three and Four-Year-Olds                         | Mathematics |                    | <ul style="list-style-type: none"><li>Solve real world mathematical problems within numbers up to 5.</li></ul>                                                                                                                                                                                                                                                                           |



| Addition and Subtraction |             |                    |                                                                                                                                                                                                                                    |
|--------------------------|-------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mental Calculations      |             |                    |                                                                                                                                                                                                                                    |
| Programme of Study       | EYFS Area   |                    | Statements                                                                                                                                                                                                                         |
| Reception                | Mathematics |                    | <ul style="list-style-type: none"> <li>Automatically recall number bonds for numbers 0-5 and some to 10.</li> </ul>                                                                                                                |
| ELG                      | Mathematics | Number             | <ul style="list-style-type: none"> <li>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.</li> </ul> |
| Solve Problems           |             |                    |                                                                                                                                                                                                                                    |
| ELG                      | Mathematics | Numerical Patterns | <ul style="list-style-type: none"> <li>Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.</li> </ul>                                     |

| Measurement                                        |             |                                                                                                                                                    |
|----------------------------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| Describe, Measure, Compare and Solve (All Strands) |             |                                                                                                                                                    |
| Programme of Study                                 | EYFS Area   | Statements                                                                                                                                         |
| Three and Four-Year-Olds                           | Mathematics | <ul style="list-style-type: none"><li>Make comparisons between objects relating to size, length and weight capacity.</li></ul>                     |
| Reception                                          | Mathematics | <ul style="list-style-type: none"><li>Compare length, weight and capacity.</li></ul>                                                               |
| Telling the Time                                   |             |                                                                                                                                                    |
| Three and Four-Year-Olds                           | Mathematics | <ul style="list-style-type: none"><li>Begin to describe a sequence of events, real or fictional, using words such as 'first', 'then ...'</li></ul> |

| Properties of Shapes                            |             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Recognise 2D and 3D shapes and their Properties |             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Programme of Study                              | EYFS Area   | Statements                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Three and Four-Year-Olds                        | Mathematics | <ul style="list-style-type: none"><li>• Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: ‘sides’, ‘corners’, ‘straight’, ‘flat’ and ‘round’.</li><li>• Select shapes appropriately: flat surfaces for a building, a triangular pattern for a rood, etc.</li><li>• Combine shapes to make new ones – an arch, a bigger triangle.</li></ul> |
| Reception                                       | Mathematics | <ul style="list-style-type: none"><li>• Select rotate and manipulate shapes in order to develop spatial reasoning skills.</li></ul>                                                                                                                                                                                                                                                                                                  |
| Compare and Classify Shapes                     |             |                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Reception                                       | Mathematics | <ul style="list-style-type: none"><li>• Compose and decompose shapes so that children can recognise a shape can have other shapes within it, just as numbers can.</li></ul>                                                                                                                                                                                                                                                          |



| Position and Direction           |             |                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Position, Direction and Movement |             |                                                                                                                                                                                                                                                                                                                                                                 |
| Programme of Study               | EYFS Area   | Statements                                                                                                                                                                                                                                                                                                                                                      |
| Three and Four-Year-Olds         | Mathematics | <ul style="list-style-type: none"> <li>Understand position through words alone - for example, "The bag is under the table," – with no pointing.</li> <li>Describe a familiar route.</li> <li>Discuss routes and locations, using words like 'in front of' and 'behind'.</li> </ul>                                                                              |
| Reception                        | Mathematics | <ul style="list-style-type: none"> <li>Draw information from a simple map.</li> </ul>                                                                                                                                                                                                                                                                           |
| Patterns                         |             |                                                                                                                                                                                                                                                                                                                                                                 |
| Three and Four-Year-Olds         | Mathematics | <ul style="list-style-type: none"> <li>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.</li> <li>Extend and create A B A B patterns – stick, leaf, stick, leaf.</li> <li>Notice and correct an error in repeat pattern.</li> </ul> |
| Reception                        | Mathematics | <ul style="list-style-type: none"> <li>Continue, copy and create repeating patterns.</li> </ul>                                                                                                                                                                                                                                                                 |

| Statistics                         |             |                                                                                                                     |
|------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------|
| Record, Present and Interpret Data |             |                                                                                                                     |
| Programme of Study                 | EYFS Area   | Statements                                                                                                          |
| Three and Four-Year-Olds           | Mathematics | <ul style="list-style-type: none"> <li>Experiment with their own symbols and marks, as well as numerals.</li> </ul> |