

FULWELL INFANT SCHOOL ACADEMY



**Maths Whole School
Progression guide**

Year 1 Coverage

Year 1- Yearly Overview Autumn Term

| | | Week 1 – 4 (BLOCK 1) | Week 5 – 9 (BLOCK 2) | Week 10 (BLOCK 3) | Week 11 – 12 (BLOCK 4) |
|---------------------------------------|--------------------------|--|--|--|---|
| | | Number: Place Value (within 10) | Number: Addition and Subtraction (within 10) | Geometry: Shape | Number: Place Value (within 20) |
| White Rose Maths Small Steps | | <ul style="list-style-type: none"> Sort objects. Count objects. Represent objects. Count, read & write forwards from any number 0-10. Count, read & write backwards from any number 0-10. Count one more. Count one less. One to one correspondence to start to compare groups. Compare groups using language such as equal, more/greater, less/fewer. Introduce =, > and < symbols. Compare numbers. Order groups of objects. Order numbers. Ordinal numbers (1st, 2nd, 3rd ...). The number line. | <ul style="list-style-type: none"> Part whole model. Addition symbol. Fact families – Addition facts. Find number bonds for numbers within 10. Systematic methods for number bonds within 10. Number bonds to 10. Compare number bonds. Addition: Adding together. Addition: Adding more. Finding a part. Subtraction: Taking away, how many left? Crossing out. Subtraction: Taking away, how many left? Introducing the subtraction symbol. Subtraction: Finding a part, breaking apart. Fact families – 8 facts. Subtraction: Counting back. Subtraction: Finding the difference. Comparing addition and subtraction statements $a + b > c$. Comparing addition and subtraction statements $a + b > c + d$. | <ul style="list-style-type: none"> Recognise & name 3D shapes. Sort 3D shapes. Recognise & name 2D shapes. Sort 2D shapes. Patterns with 3D & 2D shapes. | <ul style="list-style-type: none"> Count forwards and backwards and write numbers to 20 in numerals and words. Numbers from 11 to 20. Tens and ones. Count one more and one less. Compare groups of objects. Compare numbers. Order groups of objects. Order numbers. |
| | National Curriculum Link | <ul style="list-style-type: none"> Count to ten, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 10 in numerals and words. Given a number, identify one more or one less. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. | <ul style="list-style-type: none"> Represent and use number bonds and related subtraction facts within 10. Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Add and subtract one digit numbers to 10, including zero. Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems. | <ul style="list-style-type: none"> Recognise and name common 2-D shapes, including: (e.g. rectangles (including squares), circles and triangles). Recognise and name common 3-D shapes, including: (e.g. cuboids (including cubes), pyramids and spheres). | <ul style="list-style-type: none"> Count to twenty, forwards and backwards, beginning with 0 or 1, from any given number. Count, read and write numbers to 20 in numerals and words. Given a number, identify one more or one less. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. |
| TAF Statements 2018 – 2019 onwards | WT | <ul style="list-style-type: none"> Read and write numbers in numerals (to 10). | <ul style="list-style-type: none"> Add and subtract (one digit numbers) explaining their method verbally in pictures or using apparatus. Recall at least four of the six number bonds for 10 and reason about associated facts. | <ul style="list-style-type: none"> Name some common 2D and 3D shapes from a group of shapes or from pictures of the shapes and describe some of their properties. | <ul style="list-style-type: none"> Read and write numbers in numerals (to 20). Partition a two-digit number into tens and ones and demonstrate and understanding of place value, though they may use structured resources to support them. |
| | WA | <ul style="list-style-type: none"> Read scales in divisions (of ones). | <ul style="list-style-type: none"> Recall all the number bonds to and within 10. and use these to reason with. | <ul style="list-style-type: none"> Name and describe properties of 2D and 3D shapes. | <ul style="list-style-type: none"> Partition two digit numbers into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus. |
| | GD | <ul style="list-style-type: none"> Read scales where not all numbers on the scale are given and estimate points in between. Solve unfamiliar word problems that involves more than one step. Use reasoning about numbers and relationships to solve more complex problems and explain their thinking. | <ul style="list-style-type: none"> Use reasoning about numbers and relationships to solve more complex problems and explain their thinking. Solve unfamiliar word problems that involves more than one step. | <ul style="list-style-type: none"> Describe the similarities and differences of 2D and 3D shapes, using their properties. | <ul style="list-style-type: none"> Use reasoning about numbers and relationships to solve more complex problems and explain their thinking. Solve unfamiliar word problems that involve more than one step. |

Year 1- Yearly Overview Spring Term

| | | Week 1 (BLOCK 1) | Week 2 - 4 (BLOCK 1) | Week 5 - 7 (BLOCK 2) | Week 8 - 9 (BLOCK 3) | Week 10 - 11 (BLOCK 4) | Week 12 |
|---------------------------------------|--------|---|--|--|---|---|---------------|
| | | Consolidation | Number: Addition and Subtraction | Number: Place Value (within 50) (including multiples of 2, 5 and 10) | Measurement: Length and Height | Measurement: Weight and Volume | Consolidation |
| White Rose Maths Small Steps | All | <ul style="list-style-type: none"> Add by counting on. Find and make number bonds. Add by making 10. Subtraction – Not crossing 10. Subtraction – Crossing 10 (1). Subtraction – Crossing 10 (2). Related Facts. Compare Number Sentences. | <ul style="list-style-type: none"> Numbers to 50. Tens and ones. Represent numbers to 50. One more one less. Compare objects within 50. Compare numbers within 50. Order numbers within 50. Count in 2s. Count in 5s. | <ul style="list-style-type: none"> Compare lengths and heights. Measure length (1). Measure length (2). | <ul style="list-style-type: none"> Introduce weight and mass. Measure mass. Compare mass. Introduce capacity. Measure capacity. Compare capacity. | All | |
| National Curriculum Link | All | <ul style="list-style-type: none"> Represent and use number bonds and related subtraction facts within 20. Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Add and subtract one-digit and two-digit numbers to 20, including zero. Solve one step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$. | <ul style="list-style-type: none"> Count to 50 forwards and backwards, beginning with 0 or 1, or from any number. Count, read and write numbers to 50 in numerals. Given a number, identify one more or one less. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least. Count in multiples of twos, fives and tens. | <ul style="list-style-type: none"> Measurement: Length and Height Measure and begin to record lengths and heights. Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, double/half). | <ul style="list-style-type: none"> Measurement: Weight and Volume Measure and begin to record mass/weight, capacity and volume. Compare, describe and solve practical problems for mass/weight:[for example, heavy/light, heavier than, lighter than]; capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]. | All | |
| TAF Statements 2018 – 2019 onwards | W T | <ul style="list-style-type: none"> Add and subtract (one digit numbers) explaining their method verbally in pictures or using apparatus. Recall at least four of the six number bonds for 10 and reason about associated facts. | <ul style="list-style-type: none"> Read and write numbers in numerals (to 50). Partition a two-digit number into tens and ones and demonstrate and understanding of place value, though they may use structured resources to support them. | N/A | N/A | All | |
| | W A | <ul style="list-style-type: none"> Recall all the number bonds to and within 10, and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships. | <ul style="list-style-type: none"> Read scales in divisions of ones, twos, fives. Partition two digit numbers into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus. | N/A | N/A | All | |
| | G D | <ul style="list-style-type: none"> Use reasoning about numbers and relationships to solve more complex problems and explain their thinking. Solve unfamiliar word problems that involves more than one step. | <ul style="list-style-type: none"> Read scales where not all numbers on the scale are given and estimate points in between. Solve unfamiliar word problems that involves more than one step. | <ul style="list-style-type: none"> Use reasoning about numbers and relationships to solve more complex problems and explain their thinking. Solve unfamiliar word problems that involves more than one step. | <ul style="list-style-type: none"> Use reasoning about numbers and relationships to solve more complex problems and explain their thinking. Solve unfamiliar word problems that involves more than one step. | All | |

Year 1- Yearly Overview Summer Term

| | | Week 1 (BLOCK 1) | Week 2 – 4 (BLOCK 2) | Week 5 – 6 (BLOCK 3) | Week 7 (BLOCK 4) | Week 8 – 9 (BLOCK 5) | Week 10 (BLOCK 6) | Week 11 – 12 (BLOCK 7) |
|------------------------------------|--------------------------|---------------------|---|--|--|--|--|---|
| | | Consolidation | Number: Multiplication and (including multiples of 2, 5 and 10) | Number: Fractions | Geometry: Position and Direction | Number: Place Value (within 100) | Measurement: Money | Measurement: Time |
| White Rose Small Steps | All | | <ul style="list-style-type: none"> Count in 10s. Make equal groups. Add equal groups. Make arrays. Make doubles. Make equal groups – grouping. Make equal groups – sharing. | <ul style="list-style-type: none"> Halving shapes or objects. Halving a quantity. Find a quarter of a shape or object. Find a quarter of a quantity. | <ul style="list-style-type: none"> Describe turns. Describe Position (1). Describe Position (2). | <ul style="list-style-type: none"> Counting to 100. Partitioning numbers. Comparing numbers (1). Comparing numbers (2). Ordering numbers. One more, one less. | <ul style="list-style-type: none"> Recognising coins. Recognising notes. Counting in coins. | <ul style="list-style-type: none"> Before and after. Dates. Time to the hour. Time to the half hour. Writing time. Comparing time. |
| | National Curriculum Link | All | <ul style="list-style-type: none"> Count in multiples of twos, fives and tens. Solve one step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. | <ul style="list-style-type: none"> Recognise, find and name a half as one of two equal parts of an object, shape or quantity. Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity. Compare, describe and solve practical problems for: lengths and heights (for example, long/short, longer/shorter, tall/short, double/half) Compare, describe and solve practical problems for: mass/weight (for example, heavy/light, heavier than, lighter than); capacity and volume (for example, full/empty, more than, less than, half, half full, quarter). | <ul style="list-style-type: none"> Describe position, direction and movement, including whole, half, quarter and three quarter turns | <ul style="list-style-type: none"> Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number. Count, read and write numbers to 100 in numerals. Given a number, identify one more and one less. Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than, most, least. | <ul style="list-style-type: none"> Recognise and know the value of different denominations of coins and notes. | <ul style="list-style-type: none"> Sequence events in chronological order using language (for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening). Recognise and use language relating to dates, including days of the week, weeks, months and years. Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times. Compare, describe and solve practical problems for time (for example, quicker, slower, earlier, later). Measure and begin to record time (hours, minutes, seconds). |
| TAF Statements 2018 – 2019 onwards | W T | All | <ul style="list-style-type: none"> Count in 2s, 5s and 10s from 0 and use this to solve problems. | N/A | N/A | <ul style="list-style-type: none"> Read and write numbers in numerals (to 50). Partition a two-digit number into tens and ones and demonstrate and understanding of place value, though they may use structured resources to support them. | <ul style="list-style-type: none"> Know the value of different coins. | <ul style="list-style-type: none"> Read the time on a clock |
| | W A | All | <ul style="list-style-type: none"> Recall multiplication and division facts for 2 and 10 and use them to solve simple problems, demonstrating and understanding of the commutativity as necessary. | <ul style="list-style-type: none"> Identify $\frac{1}{4}$ of a number or shape and know that all the parts must be equal parts of the whole. | N/A | <ul style="list-style-type: none"> Read scales in divisions of ones, twos, fives. Partition two digit numbers into different combinations of tens and ones, explaining their thinking verbally, in pictures or using apparatus. | <ul style="list-style-type: none"> Use different coins to make the same amount. | <ul style="list-style-type: none"> Read the time on a clock (to half an hour) |
| | GD | All | <ul style="list-style-type: none"> Use reasoning about numbers and relationships to solve more complex problems and explain their thinking. Solve unfamiliar word problems that involves more than one step. | <ul style="list-style-type: none"> Use reasoning about numbers and relationships to solve more complex problems and explain their thinking. Solve unfamiliar word problems that involves more than one step. | <ul style="list-style-type: none"> Solve unfamiliar word problems that involves more than one step. Use reasoning about numbers and relationships to solve more complex problems and explain their thinking. | <ul style="list-style-type: none"> Read scales where not all numbers on the scale are given and estimate points in between. Solve unfamiliar word problems that involves more than one step. Use reasoning about numbers and relationships to solve more complex problems and explain their thinking. | <ul style="list-style-type: none"> Solve unfamiliar word problems that involves more than one step. Use reasoning about numbers and relationships to solve more complex problems and explain their thinking. | <ul style="list-style-type: none"> Solve unfamiliar word problems that involves more than one step. Use reasoning about numbers and relationships to solve more complex problems and explain their thinking. |

Problem Solving Progression Reception-Year 2

| Reception |
|---|
| Problem Solving Skills |
| Engage with mathematical activities and problems (sorting, counting, measuring) within a range of contexts and with clear links made to the wider curriculum, real-life and role-play <i>Concrete: real objects</i> <i>Concrete: mathematical equipment or other real objects to represent the context</i> <i>Pictorial: pictures of real objects</i> |
| Use trial and trial strategy <i>Try something out to give insight into the context</i> |
| Use trial and improvement strategy <i>Use ideas gained from a trial to decide what to do next</i> |
| With support find some possibilities that match the context |
| With support check their work <i>Continue looking for other possibilities</i> |
| With support pattern spot and copy and continue a pattern with actions |
| With support pattern spot and copy and continue a pattern with objects |
| With support pattern spot and copy and continue a pattern with shapes |
| With support pattern spot and copy and continue a pattern with numbers |
| Reasoning Skills |
| STAGE 1 DESCRIBE |
| With support describe their work verbally with simple conclusions and appropriate language <i>Different ways they have sorted objects: what is the same and what is different, which set has most/least, which object is biggest/smallest/tallest etc.</i> <i>Numbers and calculations: how many: altogether, used, hidden, left, each etc.</i> <i>Patterns spotted</i> <i>Respond to questions and ideas from peers and adults</i> <i>Refer to the materials they have used when talking about what they have done</i> |
| With support describe how a pattern (actions, shapes, objects and numbers) will develop using appropriate language |
| Listen to others' descriptions <i>(Unless pupils are ready to record in written form, pupils' verbal reasoning should be captured by an adult)</i> |

| Year 1 |
|---|
| Problem Solving Skills |
| Make links and move between different representations (concrete, pictorial, abstract) of a problem, with clear links made to the wider curriculum and real-life and those based in mathematics <i>Abstract: Verbal description of a problem</i> <i>Concrete: real objects and mathematical equipment to represent the context</i> <i>Pictorial: pictures of real objects and mathematical equipment to represent the context</i> <i>Abstract: mathematical notation (numerals and symbols)</i> |
| With support choose to scaffold thinking using concrete and pictorial representations if appropriate |
| With support choose to represent thinking using concrete, pictorial or abstract representations as appropriate |
| With support (classroom discussion, paired work, guided group) find a starting point to break into a problem |
| Use trial and improvement strategy <i>Use ideas gained from a trial to decide what to do next</i> |
| Independently find some possibilities |
| With support check their work <i>Continue looking for other possibilities</i> <i>Check for repeats</i> <i>Check for missing answers</i> |
| Independently pattern spot and copy and continue a pattern with objects, predicting what will come next |
| Independently pattern spot and copy and continue a pattern with shapes, predicting what will come next |
| Independently pattern spot and copy and continue a sequence with numbers, predicting what will come next |
| Independently pattern spot and copy and continue a spatial pattern, predicting what will come next |
| Reasoning Skills STAGE 1 DESCRIBE STAGE 2 EXPLAIN |
| With support describe and explain with reasons their work, verbally, using appropriate mathematical language <i>Strategies and methods used</i> <i>Patterns spotted</i> <i>Respond to questions and ideas from peers and adults</i> <i>Refer to the materials they have used and their work when describing about what they have done</i> |
| Describe how a pattern/sequence (shapes, objects, numbers, spatial) will continue and explain their reasons using appropriate language |
| Listen to others' explanations and try to make sense of them <i>(Unless pupils are ready to record in written form, pupils' verbal reasoning should be captured by an adult)</i> |

| Year 2 |
|---|
| Problem Solving Skills |
| Independently choose to scaffold and represent thinking using concrete, pictorial or abstract representations if and as appropriate <i>With support (classroom discussion, paired work, guided group) find a starting point to break into a problem</i> <i>Identifying key facts/relevant information</i> |
| With support work systematically <i>Adopt a model suggested by others: peer or adult</i> <i>Make connections and apply knowledge to similar problems</i> <i>Spot patterns</i> |
| Find most possibilities that match the context |
| Check their work <i>Continue looking for other possibilities</i> <i>Check for repeats</i> <i>Check for missing answers</i> |
| Predict what will come next in a sequence with numbers |
| Predict what will come next in a pattern with shapes |
| Predict what will come next in a spatial pattern |
| With support, investigate statements and conjectures <i>Conjectures: something unproven may use the sentence stem: 'I think' Statement: something proven</i> |
| Reasoning Skills STAGE 1 DESCRIBE STAGE 2 EXPLAIN |
| Explain their work, verbally and where and when appropriate in written form, using precise mathematical language <i>Strategies and methods used</i> <i>Reference to patterns spotted</i> <i>Respond to questions and ideas from peers and adults</i> <i>Refer to the materials they have used and their work when talking about what they have done</i> <i>Begin to use given sentence stems and connectives to expand, such as: 'I know that because</i> |
| Give an explanation for their prediction of what will come next in a simple pattern/sequence (numbers, shape, spatial) using precise mathematical language |
| Explain why a statement or conjecture is correct or incorrect using precise mathematical language |
| Listen to others' explanations , make sense of them and compare and evaluate |
| Begin to edit and improve their own and a peer's explanation |
| With support investigate 'what if?' questions <i>(If pupils are not ready to record in written form or have a weakness, pupils' verbal reasoning should be captured by an adult)</i> |