

# Croftlands Infant and Nursery School

## Mathematics



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 5 and then 10, they will be introduced to 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 resources such as small pebbles for example to sort and count - children will develop a secure base of knowledge and vocabulary from which mathematical skills are 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.

# Badger room

## (Toddler room – 2 - 3 years)

### Curriculum Sequence

- Explore play with numbers.
- Exploring shape fit puzzles.
- Exploring simple jigsaw puzzles, with encouragement look at colours and patterns and match them to fit shapes.
- Play with 3D shapes.
- Fill and empty containers using available resources.
- Begin to follow and take part in the daily routine confidently and willingly.

- Begin to use number names as they play.
- Count 1-5.
- Be able to complete a simple 4 or 6 piece jigsaw puzzle
- Compare groups of objects, recognising more/less.
- Exploring patterns and begin to create patterns using available resources.
- Use jugs to pour, scoops, funnels etc to fill and empty containers.

- Count 1-10 and beyond.
- Recognise some numerals, especially ones with personal significance (age, house number etc)
- Compare groups of objects, sorting according to size, shape, colour.
- Begin to explore more complicated jigsaw puzzles.
- Talk about full/empty, heavy/light as they fill and empty containers.

### Vocabulary

Numbers/counting. Colour names. Fit, same, match, full, empty, fill, pour, scoop, puzzle, mix, heavy, light, house, home, street, dots, line, zig-zag, wavy.

### Implementation

Provide jigsaws and shape fit puzzles.

Numbers available around the classroom in all learning areas, number lines displayed.

Counting everyday objects with children. Observe and match patterns in the environment, indoors and outdoors.

Water and sand play

# Squirrel room (Nursery room – 3-4 years)

## Curriculum Sequence

### Comparison

- To begin to compare and recognise changes in numbers of things.

### Counting

- To begin to say numbers in order, some of which are in the right order.

### Cardinality

- To give or take two or three objects from a group, in everyday situations.
- To begin to notice numerals.
- To begin to count on their fingers.

### Spatial Awareness

- To move their bodies and toys around objects and explores fitting into spaces.
- To begin to remember their way around familiar environments.
- To explore how things look from different viewpoints.

### Shape

- To choose puzzle pieces and try to fit them in.
- To recognise that two objects have the same shape.
- To make simple constructions.

### Pattern

- To join in and anticipate repeated sound and action patterns.
- To be interested in what happens next using the pattern of everyday routines.

### Measures

- To explore differences in size, length, weight and capacity.
- To begin to understand some talk about immediate past and future.

### Comparison

- To compare and recognise changes in numbers of things, using words like more, lots or same.

### Counting

- To enjoy counting verbally as far as they can go.
- To point or touch each item, using the stable order of 1,2,3,4,5.

### Cardinality

- To subitise one, two and three objects.
- To count up to five items, recognising that the last number said represents the total.

### Spatial Awareness

- To respond to some spatial and positional language.

### Shape

- To choose items based on their shape which are appropriate for their purpose.
- To respond to both informal language and common shape names.

### Pattern

- To create their own spatial patterns showing some organisation or regularity.

### Measures

- To begin to find longer or shorter, heavier or lighter and more/less full.
- To anticipate times of the day.

### Comparison

- To compare two small groups of up to five objects, saying when there are the same number of objects.

### Counting

- To begin to recognise numerals 0-10.

### Cardinality

- To link numerals with amount up to 5 and beyond.
- To explore using a range of their own signs.

### Spatial Awareness

- To respond to and use language of position and direction.
- To predict, move and rotate objects to fit the space or create a shape.

### Shape

- To enjoy partitioning and combining shapes to make new shapes.
- To show awareness of shape similarities and differences between objects.

### Pattern

- To explore and add to simple linear patterns of two or three repeating items.
- To join in with simple patterns in sounds, objects, games and movement, predicting what comes next.

### Measures

- To find longer or shorter, heavier or lighter and more/less full in meaningful context.
- To recall a sequence of events in everyday life and stories.

### Vocabulary

Numbers, give, take, count, same, different, sounds, pattern, big, small, long, short, full, empty, on, under, behind, circle, square, rectangle, triangle, heavy, light, morning, night, day.

**Implementation Master the curriculum-** Colours, Matching, Sorting, Number 1, Number 2: Subitising, Number 2, Pattern, Number 3: Subitising, Number 3, Number 4, Number 4: Composition, Number 5 6, Height and length, Mass, Capacity, More/Fewer, One More, One Less, 2D Shapes, 3D Shapes, Number composition, Night and Day, Positional language

# Ladybird and Robin class (Reception 4-5 years old)

## Curriculum Sequence

<p><b>Comparison</b></p> <ul style="list-style-type: none"> <li>To compare two small groups of up to five objects, saying when there are the same number of objects.</li> </ul> <p><b>Counting</b></p> <ul style="list-style-type: none"> <li>To begin to recognise numerals 0-10.</li> </ul> <p><b>Cardinality</b></p> <ul style="list-style-type: none"> <li>To link numerals with amount up to 5 and beyond.</li> <li>To explore using a range of their own signs.</li> </ul> <p><b>Spatial Awareness</b></p> <ul style="list-style-type: none"> <li>To respond to and use language of position and direction.</li> <li>To predict, move and rotate objects to fit the space or create a shape.</li> </ul> <p><b>Shape</b></p> <ul style="list-style-type: none"> <li>To enjoy partitioning and combining shapes to make new shapes.</li> <li>To show awareness of shape similarities and differences between objects.</li> </ul> <p><b>Pattern</b></p> <ul style="list-style-type: none"> <li>To explore and add to simple linear patterns of two or three repeating items.</li> <li>To join in with simple patterns in sounds, objects, games and movement, predicting what comes next.</li> </ul> <p><b>Measures</b></p> <ul style="list-style-type: none"> <li>To find longer or shorter, heavier or lighter and more/less full in meaningful context.</li> <li>To recall a sequence of events in everyday life and stories.</li> </ul>	<p><b>Comparison</b></p> <ul style="list-style-type: none"> <li>To use number names and symbols</li> </ul> <p><b>Counting</b></p> <ul style="list-style-type: none"> <li>To recite forwards and backwards to 10 and beyond.</li> <li>Confidently order numbers to 10.</li> </ul> <p><b>Cardinality</b></p> <ul style="list-style-type: none"> <li>To subitise to 5</li> <li>Count up to 10 objects from larger groups</li> <li>To match numbers to objects. .</li> </ul> <p><b>Spatial Awareness</b></p> <ul style="list-style-type: none"> <li>To give directions and describe what they see.</li> <li>To turn and flip objects.</li> <li>To make maps with imagination.</li> </ul> <p><b>Shape</b></p> <ul style="list-style-type: none"> <li>To use informal shape language</li> <li>To make shapes from other shapes.</li> </ul> <p><b>Pattern</b></p> <ul style="list-style-type: none"> <li>To spot pattern in the environment</li> <li>To choose loose parts to create repeating patterns.</li> </ul> <p><b>Measures</b></p> <ul style="list-style-type: none"> <li>To carry out problem solving with measuring</li> <li>Measure using time</li> <li>Use measuring tools in play</li> <li>Order and sequence events using everyday language.</li> </ul>	<p>Have a deep understanding of number to 10, including the composition of each number;</p> <ul style="list-style-type: none"> <li>- Subitise (recognise quantities without counting) up to 5;</li> <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> <li>- Verbally count beyond 20, recognising the pattern of the counting system;</li> <li>- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;</li> <li>- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.</li> </ul>
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**Vocabulary** Count, subitise, ordering, compare, forwards, backwards, one more, one less, equal to, more than, fewer than, add, altogether, number bonds, part, whole, double, ha,f, odd, even, share, equal, unequal, measure, short, long, tall, small, heavy, light, full, empty, half full, almost full, almost empty, 2D shapes, 3D shapes, triangle, circle, square, rectangle, cuboids, cubes, cone, cylinder sphere, curved, flat, over, under, between, around, through, on, below, next to, repeat, pattern.

**Implementation** White Rose Maths Scheme of Learning- Just like me, Its me 1,2,3!, Light and Dark, Alive in 5, Growing 6,7,8, Building 9 and 10, To 20 and Beyond, First, then, now, Find my pattern, On the move,