

**St Mary’s RC Primary School**

**Mathematics**

**Progress Model for Knowledge and Skills**

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|  | **Minimum Expectations For Nursery**  | **Minimum Expectations For Reception** |
| **Counting** | Recite numbers past 5.  | Recite numbers past 10 forwards | Recite numbers up to 10 forwards and backwards.  | Recite numbers beyond 20.  | Count objects, actions and sounds matching one number name for each item.  | Children to always have 1:1 correspondence when counting out loud and touching the item.  |
| Able to recognise up to 3 objects without counting them.  | 1 - Able to count things and then repeat the last number. 1,2,3 – 3 cars!2- knows that the last number reached when counting a small set of objects tells you how many there are.  | Say how many objects there are after counting. ‘6,7,8 8 balls!’ | Able to recognise beyond 5 objects without counting them.  |   |
| Able to count out objects from a group of 5. “Give me 3.”  | Able to count out objects from a large group up to 10 confidently by moving them to help.  | Count out a small number from a large group. “Give me 7” | Count out objects from a group of 20. “Please give me 15”  | If children stop, it shows that children understand the cardinal principle.  |
| Show finger numbers up to 5.  | Show finger numbers up to 10.  | Able to show a number of fingers ‘all at once’ without counting.  |
| Able to count out from a group of 5 objects.  | Use counting in every day routine. Shall we count how many children are in today? How many should we have? |  | Use counting in every day routine. Count the children everyday today. Work out how many children are not in today. How many pieces of fruit do we need? How many more do we need?  |
|  | Display numerals in order to 5 alongside dot quantities or tens frame arrangements.  | Display numerals in order to 10 alongside dot quantities or tens frame arrangements.  | Display numerals in order to 15 alongside dot quantities or tens frame arrangements.  | Display numerals in order to 20 alongside dot quantities or tens frame arrangements.  |
|  | Say what one more than a number is up to 10. Count objects if needed and count again when added one more.  | Say what one less is than a number up to 10. Practically use objects if needed.  | Make predictions what the outcome will be when saying one more and one less up to 20.  | Children to use number lines, 100 squares, maths resources etc to find out what one more and one less is.  |
| **Comparing**  | Compare two groups of objects to say which group has more or fewer objects. | Children to use vocabulary to describe ‘more than, less than, fewer.’  | Children to compare objects. Include more small things and fewer large things. Draw attention to the number not the size.  | Children to use vocabulary; more than, less than, fewer, the same as, equal to etc.  |
| **Subitise**  | Put objects into five frames to begin to familiarise children with the tens structure.  | Show small quantities in familiar patterns and random arrangements. E.g. dice.  | Play games which involve quickly revealing and hiding numbers of objects. Put objects into five frames and then tens frames to begin to familiarise children with the tens structure of the number system. Prompt children to subitise first when looking at groups of up to 4 or 5 objects. “I don’t think we need to count those. They are in a square shape so there must be 4” count to check.  |
| **Composition of numbers to 10.**  |  | Provide a range of visual models for children to see. E.g. six as double three on dice.  | Plan games which involve partitioning. E.g throw 5 beanbags aiming at a hoop. How many go in and how many don’t? |
| **Number bonds**  | Have a sustained focus on each number to 10.  | Visual and practical displays in the classroom showing the different ways of making numbers to 10. (REC TOO)  | Play hiding games. ‘7 went in the tent, 2 came out. How many are left?’  | Use opportunities for children to apply number bonds. ‘6 of us but only 2 clipboards. How many more do we need?’  |
| **Predicting** | Children to guess how many objects are there up to 5. Remind children not to count and just guess.  | Children to predict how many items there are up to 10. Children to say if it’s a good guess or not.  | Predict how many objects there are without counting. ‘I think there are 8, shall we count and see?’  | Children to be able to predict how many objects there are up to 20.  |
| **Resources**  | Number flash cards to 20.  | Abacus. Visuals with numbers recorded in different ways. E.g. dominoes, spots, lines, fingers etc. Numerals inside/outside.  | Lots of resources to count. Bears, Numicon, multilink etc. (Can also be real life objects) ANY OBJECTS!  | Number fans. Number tracks, calendars, hundred squares indoors and outdoors, painted on the ground.  |
| **Mark making**  | 1. Experiment with own symbols and marks as well as numerals.
2. Able to record by drawing lines, drawing circles or writing some numerals
 | Discuss the different ways children might record quantities such as scores in games. Children to record using tallies, dots, numeral cards and numerals.  |
| **Problem Solving**  | Sole real world mathematical problems with numbers up to 5. E.g. counting out sweets, chairs for people or cars.  | Support children to solve problems using fingers, objects and marks.  |  | Children to distribute items evenly. Put 3 in each bag. Make mistakes to provoke discussion. 2 include stories where characters distribute snacks unfairly. Children to make sure everyone has the same.  |
| **Shapes** | To play with shapes in the environment.  | To name 2D and explore with 3D shapes.  | Use mathematical language ‘sides, corners, straight, flat, round.’ | Challenge children to copy increasingly complex 2D pictures and patterns with 3D resources. ‘Pattern blocks, tangrams, building blocks and magnetic construction tiles.’  |
|  | To talk about the picture and tell an adult what shapes you have used.  | To tell an adult how many sides, and corners 2D shapes have.  | REC – Investigate how many shapes can be combined to make new shapes. ‘2 triangles can be put together to make a square’  | Investigate how many ways there are to make a hexagon with pattern blocks. Find 2D shapes within 3D shapes including through printing or shadow play.  |
| **Resources** | Play with a variety of construction materials such as blocks and interlocking bricks.  | Play with a variety of den making materials. Allow children to play freely with these outdoors and inside.  | Provide shapes that combine to make other shapes, such as pattern blocks and interlocking shapes.  | Discuss the different designs that children make. Suggest challenges so that children build more increasingly more complex constructions.High quality pattern and building sets. Pattern blocks, tangrams, building blocks and magnetic construction materials. Jigsaws.  |
| **Positional Language**  | To listen to an instruction using positional language and put it in the correct position. E.g. ‘the bag is under the table’  | Discuss positions in real context. Tell an adult/peers where the object is.  |  |  |
|  | Describe and talk about a familiar route. E.g. going to grandmas, going to school etc.  | Use spatial words in play. ‘In, on, under, up, down, besides, between’  | Use story books to talk about the journey. Children to re enact the familiar route. E.g. bear hunt, Goldilocks, little red riding hood.  |  |
| **Size, length, weight and Capacity** | Provide experiences of size changes. E.g. can you make a puddle larger?  | Talk with children about everyday ways of comparing size, length, weight and capacity.  | Children to order things according to size, length, weight and capacity.  | Use comparative language using ‘than’ e.g. ‘This is heavier than that.’ Children to make and test predictions. “What if we pour the jugful into the teapot? Which holds more?’  |
|  | Children to be able to say which object was the biggest or smallest.  | Children to use non-standard measure to compare size, length, weight and capacity.  | Children to use simple standard measure to compare size, length, weight and capacity.  |  |
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| **Patterns**  | To look at and talk about patterns from different cultures, such as fabrics.  | Children to invent and follow a movement and music pattern. E.g clap, clap, stamp.  | Talk about patterns of events in cooking and getting dressed. “First, then, after, before, every day we, every evening we.’ (REC)  |  |
|  | Talk about the sequence of events in stories.  | Use vocabulary like ‘morning, afternoon, evening, night-time, earlier, later, too late or too soon’ etc.  | Count down to events. Refer to the days of the week using yesterday and tomorrow.  | Children to know what day of the week it is. What day is it tomorrow?What day was it yesterday?  |
|  | Able to create a pattern using 2 colours.  | Able to create a pattern using 3 colours.  | Able to create a repeated pattern using colours, animals, objects etc.  | Make patterns with varying rules (AB, ABB, ABBC) and objects. Children to finish patterns. Make a deliberate mistake and discuss how to fix it.  |