Mathematics Curriculum

Intent

A strong grounding in numbers is essential for all children to 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 spatial reasoning skills across all areas of mathematics including shape, space and measures. It is important that children develop positive attitudes and an interest in mathematics, look at patterns and relationships, spot connections, 'have a go' and talk to adults and peers about what they notice and not be afraid to make mistakes

We want children to:

- use mathematical language in their play
- think about and to problem solve using mathematical language
- rehearse and apply their mathematical knowledge in their play
- explore numerals, shapes, size, and patterns in the environment.

Implementation

Mathematics is valued and promoted in the daily routine at St Joseph's preschool. Practitioners support and use child led and adult led activities to enhance children's knowledge and develop skills in preparation for future mathematical learning. We use all opportunities to ensure that children are taught the skills of mathematical language and concepts for them to become critical and problem-solving learners. Practitioners support them in talking about their mathematical learning and encourage open ended questions, asking for explanations and suggestions of what to do next and what will happen next.

Our environment provides opportunities for mathematical teaching and learning to happen everywhere and at any time, not just in allocated spaces at planned times.

We do this is by:

- continuous provisions providing opportunities for practitioners to teach and enhance children's learning and development including play dough station, brick and construction play, mud kitchen and gross motor resources
- on entry assessments carried out to review what they know and their next steps in learning
- role play and home corner.
- organising resources, such as brick play so children can see how many are available and independently access how many they would like to use
- trips to the spinney – looking at shapes in the environment and using mathematical tools, jugs, tape measures, magnifying glasses.
- tidy up time – sorting objects and putting them back where they belong
- using natural resources and equipment for problem solving, practicing skills learnt, exploring numbers, shapes, size and patterns
- Numicon – resources to explore more and less and number lines to recognise and match the amount to the numeral
- providing opportunities for children to use mathematical language in their play – loose parts play, mud kitchen, water and sand trays

Impact

By the time children leave St Joseph's preschool we want them to:

- use mathematics to solve problems
- experiment with signs, symbols and numerals
- recognise and name numerals
- recognise patterns
- match quantities to number
- count objects by pointing or touching
- compare quantities using language 'more', 'less', 'more than' 'less than'
- sequence numbers
- understand and respond to positional language
- be able to estimate and predict
- subsidise up to six using visuals such as dice
- talk about shapes, space and measure
- have knowledge and understanding of 2D and 3D shapes,
- show awareness and understanding of patterns
- copy a simple pattern sequence
- be able to give explanations for my answers
- identify similarities and differences
- compare quantities

Key vocabulary

Number, number names, more than, less than, one more, one less, more, same, lots, forwards, backwards, subitise, 5's frame, 10's frame, point, touch, move, balance, level, heavy, light, more, most, less, least, most, few, fewer, long, longer, longest, short, shorter, shortest, tall, taller, tallest, high, low, full, empty, half empty, half full, forwards, backwards, next to, beside, on top, under, in front of, behind, first, then, after, before, morning, afternoon, evening, night time, earlier, later, too late, too soon,, Shape names (2D square, circle, triangle, rectangle, oval, semi-circle,, corners, sides, straight, curved, 3D cone, sphere, cylinder, cube, cuboid – sides, corners, edges, faces, flat, curved, round. pattern, repeating, colour, shape, size, stripes, spots, copy, continue