**Mathematics policy**

**Rationale**

At Willow Nursery School, we aim to support and extend children’s learning and competence with their mathematics skills and development. We aim provide opportunities for children to use their skills in a variety of situations and for a range of purposes. The children will be supported in developing their confidence and disposition to achieve this. The Statuary Framework for the Early Years Foundation Stage provides the structure for the curriculum for mathematics. Mathematics is seen as a specific area in the Early Years Curriculum and is fundamental to support other areas of learning.

The co-ordinator for mathematics is **Mrs. Rebecca Cashmore**

This policy was reviewed in the **Spring Term 2022**

Next review: **Spring Term 2024**

**Aims**

The objectives within the Early Years Foundation Stage framework for Mathematics are organised into two groups:

1. Numbers
2. Shape, space and measure.

The Statutory Framework for the Early Years Foundation Stage (2021) states that ‘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 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 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.’

**Within the birth – 3 years’ age band, our aims in the teaching and learning of maths are that the children will begin to:**

* Combine objects like stacking blocks and cups. Put objects inside others and take them out again.
* Take part in finger rhymes with numbers.
* React to changes of amount in a group of up to three items.
* Compare amounts saying ‘lots’, ‘more’ or ‘same’.
* Develop counting like behaviour, such as making sounds, pointing or saying some numbers in sequence.
* Count in everyday contexts, sometimes skipping numbers – ‘1, 2, 3, 5.’
* Climb and squeeze themselves into different types of spaces.
* Build with a range of resources.
* Complete inset puzzles.
* Compare sizes, weights etc. using gesture and language – ‘bigger/little/smaller,’ ‘high/low’, ‘tall’, ‘heavy’.
* Notice patterns and arrange things in patterns.

**Within the 3 – 4 years’ age band, our aims in the teaching and learning of maths are that children will begin to:**

* Develop fast recognition of up to 3 objects, without having to count them individually (‘subitising’).
* Recite numbers past 5.
* Say one number for each item in order: 1, 2, 3, 4, 5.
* Know that the last number reached when counting a small set of objects tells you how many there are in total (‘cardinal principle’).
* Show ‘finger numbers’ up to 5.
* Link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5.
* Experiment with their own symbols and marks as well as numerals.
* Solve real world mathematical problems with numbers up to 5.
* Compare quantities using language: ‘more than’, ‘fewer than’.
* Talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: ‘sides’, ‘corners’; ‘straight’, ‘flat’, ‘round’.
* Understand position through words alone – for example, “The bag is under the table,” – with no pointing.
* Describe a familiar route.
* Discuss routes and locations, using words like ‘in front of’ and ‘behind’.
* Make comparisons between objects relating to size, length, weight and capacity.
* Select shapes appropriately: flat surfaces for building, a triangular prism for a roof, etc.
* Combine shapes to make new ones – an arch, a bigger triangle, etc.
* 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.
* Extend and create ABAB patterns – stick, leaf, stick, leaf.
* Notice and correct an error in a repeating pattern.
* Begin to describe a sequence of events, real or fictional, using words such as ‘first’, ‘then...’

**Guidelines**

The curriculum for mathematics is covered using the ‘development matters’ document. The teaching targets for the age band ‘birth – 3 years’ are taught in our Catkins class. The teaching targets for the age band 3 – 4 years are taught in ‘little nursery’ and big nursery’.

Weekly planning includes activities to develop mathematics skills. The curriculum for Mathematics includes a range of adult led activities, as well as child – initiated activities. Activities take place individually and/or in small groups.

‘Basic Skills’ sessions are taught once a week to the children for a ten week block in the term in which children turn 4 years of age. These sessions include ten well planned lessons which promote and encourage children’s mathematics through maths activities.

Throughout children’s time in catkins, little nursery and big nursery, a variety of whole class sessions are taught which encourage the development of children’s mathematical skills.

**Recording and Assessment.**

A 3-4 years baseline assessment in mathematics is carried out on each child within their first 2 weeks of starting in ‘little nursery’ or ‘big nursery’ depending on when they start at Willow Nursery School. These assessments are recorded in a ‘class list’ for each colour group. The class lists are used as a format for recording children’s progress during their time at Willow Nursery School. They are used daily for planning and they are updated regularly each term. A tracking record keeps account of children’s progress in mathematics during their time at Willow Nursery School.

An exit assessment in mathematics is carried out at the end of the academic year.

If the child is in Catkins class, a ‘Birth to 3’ document is kept on each child to record their progress and development. Keyworkers update these records regularly and use them for planning for individual children.