

ELAN Mathematical Development Curriculum Map for Reception

Educational Programme: Mathematical Development

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.

Early Learning Goal: Number

- Have a deep understanding of number to 10, including the composition of each number;
- Subitise (recognise quantities without counting) up to 5;
- 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.

Early Learning Goal: Numerical Patterns

- Verbally count beyond 20, recognising the pattern of the counting system;
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity;
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

Our Intent at ELAN Multi-Academy Trust

We have created a curriculum around each aspect of the educational programme which is sequenced for progression and depth. We will develop this learning by exposing children to the same thinking across a range of different contexts. We will further encourage learning to be deepened by asking children to represent their mathematical thinking in other ways. For example, through talk, manipulatives, pictures or symbols. We will enhance our provision by ensuring that the mathematical area, in the classroom, supports learning and development of what is being taught. This will include mathematical books that will have been read to children. We will also ensure that children have time to consolidate and apply their knowledge, concepts and skills, particularly in term 6, to ensure a smooth and effective transition into Year 1. The NCETM teaching for mastery materials, for those schools using the programme, will either be combined or used in addition to this curriculum plan.

School Inspection Handbook September 2024

Teaching is a broad term which covers the many different ways in which adults help young children learn. It includes their interactions with children during planned and child-initiated play and activities: communicating and modelling language, showing, explaining, demonstrating, exploring ideas, encouraging, questioning, recalling, providing a narrative for what they are doing, facilitating and setting challenges. It takes account of the equipment that adults provide and the attention to the physical environment as well as the structure and routines of the day that establish expectations. Integral to teaching is how practitioners assess what children know, understand and can do, as well as take account of their interests and dispositions to learning (characteristics of effective learning), and how practitioners use this information to plan children's next steps in learning and monitor their progress.

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Element	Summary
Subitising	Children develop rapid recognition of quantities
Five Frames / Ten Frames	Children use five to build number sense, composition, estimation, odd and even understanding, and place value up to 20.
Fingers	Children represent, compose and manipulate numbers using fingers, progressing from 1-5 to numbers beyond 10 with partners.
Numberblocks	Children deepen understanding of number concepts through increasingly complex Numberblocks episodes and related mathematical play experiences.
Number Representations	Children explore and connect multiple representations of numbers
Numicon	Children explore number using Numicon to recognise, compare, order and manipulate numbers,
Comparing and Ordering Numbers	Children learn to compare, sequence and reason about numbers using mathematical vocabulary and a range of visual representations.
Oral Counting	Children develop fluent counting forwards and backwards
Object Counting	Children build accurate counting skills by counting, selecting and estimating quantities in increasingly complex contexts.
Talk Pictures / Displays	Children use mathematical discussion and visual prompts to describe, represent, compare and solve number problems.
Reading and Writing Numerals	Children progressively learn to recognise, read and record numerals while linking them to meaningful quantities.

Addition and Subtraction / Number Bonds	Children develop understanding of composition, calculation and number bonds.
Doubling and Halving	Children explore equal sharing, doubling and halving through practical experiences and real-life mathematical contexts.
Spatial Reasoning: Relationships and Construction	Children develop spatial awareness by solving puzzles, building structures and manipulating shapes in increasingly sophisticated ways.
Spatial Reasoning: Position, Direction and Representation	Children strengthen spatial language, memory, mapping and directional skills through play, navigation and model-making.
Shape	Children investigate the properties, composition and relationships of 2D and 3D shapes through exploration and construction.
Pattern	Children identify, continue, create and explain increasingly complex repeating patterns across a range of materials and contexts.
Measure	Children explore and compare length, weight, capacity and time using practical experiences, predictions and mathematical language.