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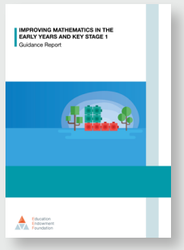
DEVELOPMENTAL PROGRESSIONS IN EARLY MATHS

Recommendation 1 of the EEF's 'Improving Mathematics in the Early Years and Key Stage 1' guidance report highlights the importance of developing practitioners' understanding of how children learn mathematics, and how this relates to effective pedagogy.

'Developmental progressions' are descriptions of the typical path that children tend to follow in developing understanding of a mathematical topic. The diagrams below provide simple examples of progressions in number development, operation development and spatial thinking. The spirals highlight the progression of individual skills or concepts that develop over time.

The diagrams are a spiral to convey that whilst there is some ordering in which these skills may emerge, development does not take place in clearly defined linear steps.

Children may develop several skills in parallel, or develop skills in different orders. However, children will need to master each of these skills to reach full understanding.



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How to use this information

This knowledge can support practitioners to:

- have a good understanding of what children need to learn to progress;
- make judgements about the range of experiences that children may benefit from to develop a full understanding of mathematical topics;
- determine the developmental pre-requisites for a particular skill;
- assess a child's level of understanding; and
- intervene at the appropriate levels of challenge and build on what children already know.

Further information

Researchers Douglas Clements and Julie Sarama have produced detailed developmental progressions that also include activities and tasks for each step, which are coined 'Learning Trajectories'.

Erikson Institute Early Maths Collaborative have identified a set of "Big Ideas", mapping and providing guidance around the key mathematical concepts young children need to explore between the ages of 3 and 6.