

CASE STUDY: BEYOND SCRIBBLES - INSPIRING MEANINGFUL MATHEMATICAL MARK MAKING



A CASE STUDY DISCUSSING MATHEMATICAL MARK MAKING

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WHY IS MATHEMATICAL MARK MAKING IMPORTANT?

Mathematical mark making can sometimes be missed in early years settings. We often focus our time on teaching the practical side of maths and forget how to support children with developing their ideas through mark making. As children's mathematical understanding develops, practitioners need to provide opportunities for them to represent their ideas and thinking through drawing and symbols (EEF 2020, p.20).

This blog draws upon strand three of the 'Improving Mathematics in the early years and key stage 1 guidance' from the EEF, and shares how to use manipulatives and representations to develop mathematical understanding in nursery.

<https://educationendowmentfoundation.org.uk/education-evidence/guidance-reports/early-maths>



Children need to understand and explore the more abstract side of maths, and in order to do this, they need to have lots of concrete and real experiences first. The practical experiences and the resources that are shared with children will help them understand mathematical concepts and embed learning.

Once they have had time to explore, offering them the opportunity to represent their mathematical thinking in two dimension will then be more successful. Here's an example of how we support mathematical development in the nursery, which develops into opportunities to explore mathematical mark making.

A PRACTICAL EXAMPLE

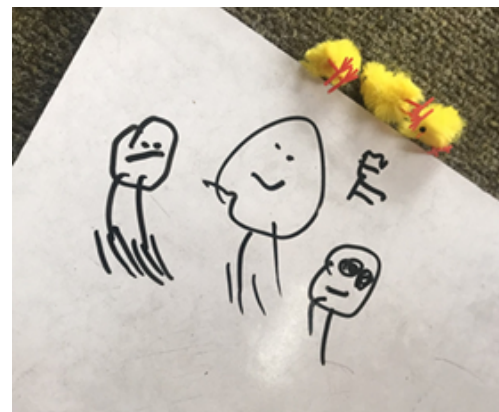
Each year we hatch chicks, and there is great excitement when the incubator arrives and the children count the eggs and then start to count the chicks as they hatch. This real, first-hand experience provides a great foundation for further mathematical learning. The children enjoy the song 'Five Little Chicks' and the book 'Six Little Chicks' by Jez Alborough. Number rhymes and counting books are a powerful way to support children with developing good number sense; more information on using story books in maths can be found at www.mathsthroughstories.org.

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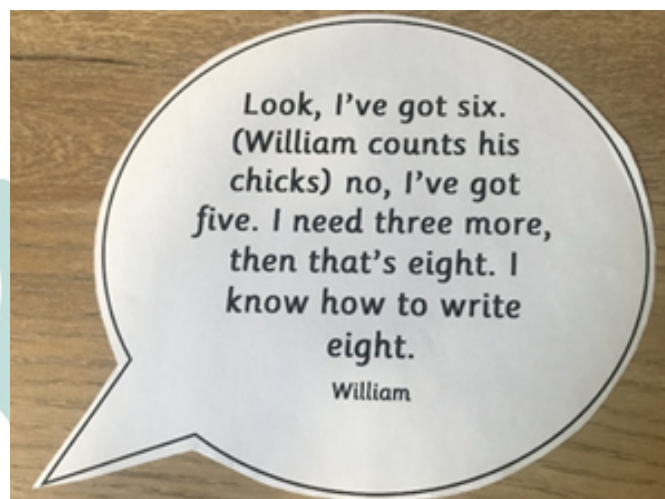
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An activity using eggs with chicks hidden inside, as engaging manipulatives, provides a great opportunity for counting and subitising, and lays the foundation to lead into mathematical mark making opportunities.



Using whiteboards to introduce mathematical marking allows the children to change and refine their representations easily and leads to more confident mark making.

As the children's confidence grew, they moved to recording their ideas on paper and the teacher captured their thinking.



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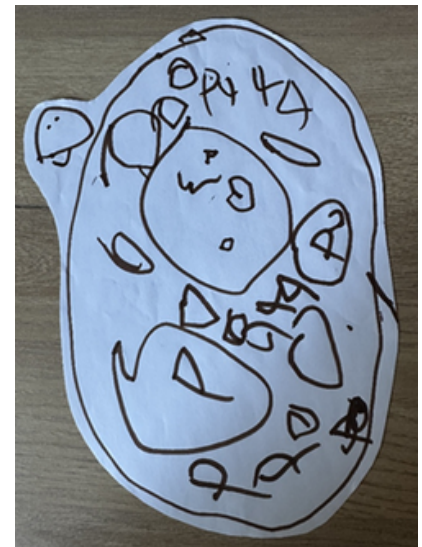
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RECORDING CHILDREN'S THINKING

Capturing children's thinking alongside their mark making, provides a really valuable insight into their mathematical understanding. The comment from William below that accompanies his drawing, reveals a lot about his mathematical knowledge. Sienna also shares her knowledge by counting carefully using one to one correspondence and sharing her total. She has been observing what William has been doing.

'Children should be free to invent and explore their own representations to record their thinking and communicate their understanding'. (EEF 2020, p.21)

It's important that all attempts to mark make are valued. Observing the child who drew the picture on the right revealed insights into what she knew about counting. As she drew the circles inside the egg she counted, understanding the order of numbers and using one to one correspondence. While she was not at this stage to share the total number of chicks she had drawn, she understood that she could write a numeral to represent the chicks as she had observed others doing. She wrote a four saying 'I'm four'. This important number was then labelled across her drawing .



Why was this learning successful?

- The learning was meaningful, starting with an engaging first hand experience which was then supported by books, rhymes and engaging practical activities.
- The children explored manipulatives first which then helped to make their representations meaningful.
- The children were encouraged to represent their thinking in their own way through drawings and marks.

References:

EEF (2020) Improving Mathematics in the Early Years and Key Stage One: Guidance Report. London: EEF
<https://educationendowmentfoundation.org.uk/education-evidence/guidance-reports/early-maths>

