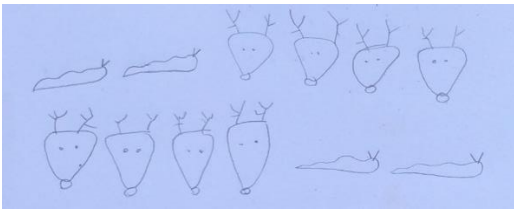


Developing practice

To develop our understanding of how to teach pattern, we first needed to know how the understanding of pattern is integral to mathematical thinking and needed a logical progression for learning in pattern.

Becoming familiar with current research and developing our own knowledge on the progression and skills was essential in helping to decide what we were going to do to develop pattern thinking in our setting. The article 'How Early is Too Early for Thinking Algebraically?' by John Mason gave a simple but informative overview on why patterning is fundamental in children's mathematical thinking and what an intricate concept it is to develop understanding within.

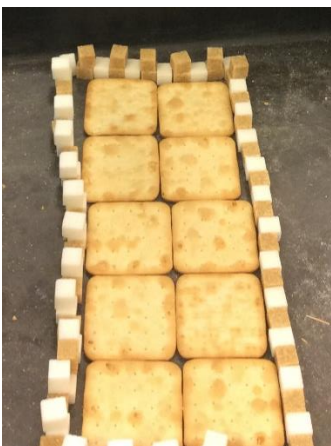


After a group of children created a rhythm, an adult initiated a conversation about how it might be recorded. The children decided a slug would represent a slow clap and a reindeer would represent a fast clap. It only needed recording once as it repeated. The pattern was the reversed to change the sound and develop an understanding of pattern structure.

Our new knowledge allowed us to recognise different patterns around our setting and seize opportunities to model, challenge and develop the understanding of pattern throughout the provision.

Having a greater understanding of different patterns helped us to see that we were teaching pattern in a narrow way, without thinking about different kinds of patterns or the range of ways that we could develop children's knowledge. After reassessing our current provision, we were able to begin planning changes to our practice and consider how to develop the opportunities that we provide for our pupils.

We decided to raise the profile of patterns and give the children as many opportunities to explore patterns as possible. This involved thinking about enhancements to our enabling environment and using the opportunities that we already provide to challenge thinking and bring in mathematical reasoning.



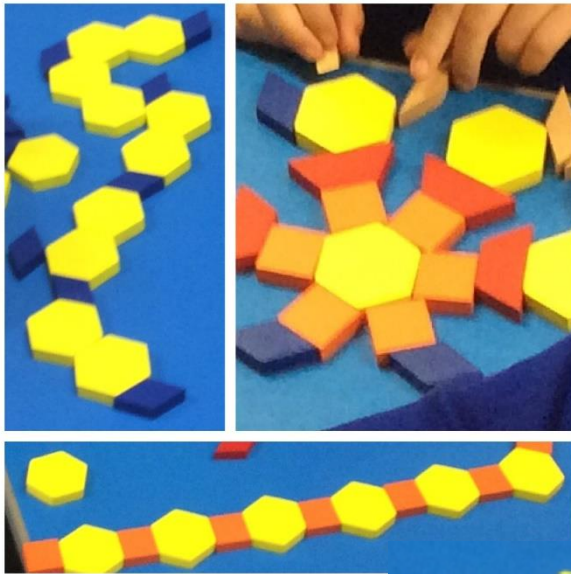
Whilst completing a house building challenge, having a choice of 2 colour sugar cubes allowed children to explore a cyclical AB repeating pattern.

We thought carefully about the loose parts and open ended resources that we could use within our environment. We purposefully decided to stay away from specific pattern resources and used items such as coloured lollipop sticks, geometric tiles and items that children would be familiar with in everyday life such as stones and other natural resources.

Impact

The impact on the children was that they were able to explore patterns at their own pace. Having familiar resources readily available meant that they were able to develop their own understanding by consolidating their learning and continuing to challenge themselves.

With time and effort, the children were able to create quite complex patterns which demonstrated a deep understanding of repetition, substitution and spatial awareness - which often surpassed our expectations.



By having familiar resources available this child was able to develop his understanding of shape and pattern from a simple AB repeating pattern to a more complicated pattern with rotational symmetry.

Key message

The most important thing we learned about pattern was

- A good understanding of pattern is essential for children to develop their future mathematical thinking
- Be creative! Don't just stick to linear repeating patterns
- Give children time to develop their own skills. Leaving resources available for an extended amount of time allows children to consolidate their learning and return to develop their skills
- Seize opportunities. Remember patterns can be found everywhere, in stories, songs, fabric, machinery, furnishings ...