

Developing practice

Our pattern journey began with a pre-assessment; what did the children do when asked to create a pattern? The children were given a range of open-ended resources, provided as part of the pattern workgroup collection, and given the choice of a 'base' to create their pattern on. What I quickly learned was that the children had no experience or knowledge of what a 'traditional' repeating pattern was. They all created arrangements, some with just one type of resource, others using as many as they could.



The next step was clear and so, using the NCETM pattern progression as a starting point, we embarked on a week of whole class teaching to introduce simple 'AB' repeating patterns; patterns where 2 items, actions or sounds are repeated in a sequence. The aspect of our teaching that had the biggest impact was using a 'mantra' with the children. We taught them a simple phrase to support them with their understanding of the idea of a 'unit of repeat'; knowing what the smallest element of a pattern is. For example, in a: circle, triangle, circle, triangle, circle, triangle pattern, the unit of repeat is 'circle, triangle.' We used the phrase, "here is the pattern, now make the pattern the same again and again and again," with our hands cupped around the unit of repeat to emphasise it broken into chunks, rather than in single items.

Eventually the children were confident in recognising, continuing and creating their own AB patterns with colours, for instance: red, blue, red, blue etc. Some children had moved on in their learning and were able to identify and fix errors in these kinds of patterns.



However, just focusing on colour meant that the children's ability in creating their own patterns became limited. We needed to deepen their understanding that patterns exist beyond alternating colours.

We began to spot patterns everywhere. We found patterns in the daily routine, for example: "before lunch we always go to the toilet and wash our hands". We spotted patterns and could find what happened when the pattern was broken (when they don't keep repeating: "there is 1 person away, then 2 here, then 1 away again, but then there are 5 here so the pattern stops!")

We also changed the resources that we presented to the children to create patterns. We provided sticks, stones, bobbins, shells, pine cones and branch slices to ensure that the children became more open to making patterns with different objects. Some children needed to make sure that each shell in their pattern was the same as the other shells, as this was part of their 'rule'. For others, it didn't matter that the bobbin was a different size to the last bobbin as their pattern was a "stick, bobbin" pattern. As long as it was a bobbin, the size wasn't important as this wasn't part of their rule. It was important that we understood each child's individual rule. All children were successful at their own current level of understanding.



Some children moved on naturally from simple AB patterns and created ABB or AABB patterns.



Following on from this activity, the natural resources were set up in the environment in a patterning area. This is now part of our continuous provision with enhancements added to encourage the children to explore the area frequently and to broaden their knowledge of how patterns can be arranged. One example of an enhancement is when we added circular bases to the area for children to create cyclic patterns. They created patterns that repeated around a circle. This required them to have an understanding of how to fix the pattern if, at the point the pattern joins up, it does not follow the rule. Adult modelling is important to prompt the children. Sometime children created A patterns (patterns where one item repeats) and we made sure we valued these as well as the more complex repeating patterns.

We have now moved onto teaching the children about other types of repeating patterns, such as ABC or AAB to ensure that their understanding of pattern is not limited to 2 items in the unit of repeat.

Impact

The impact upon the children has been that they are now confident in making AB repeating patterns and some have developed even further. This has been seen in how they have completed certain creative tasks where they have created patterns in their activities without it being a suggested way to approach the task. When making Kenyan inspired collar necklaces, for example, many of the children included a pattern element to their design.



Many more children are engaging with pattern making and have been exploring patterning that hasn't even been taught through their independent explorations in the patterning area.

Key message

The most important thing we learned about pattern is that they are everywhere and they can be exploited if you take the time to notice them and make them explicit to the children. My class are well on their way to becoming 'pattern-sniffers' which should help them in all aspects of their mathematical journey.