

PATTERNS IN A CIRCLE: Sequence Overview

Summary of learning goals

Students explore the various possibilities for constructing a circular three-pattern using two different colours. They discover that, although the three-patterns may at first look different, they form identical circular patterns. Students then create different circular four-patterns and identify similarities and differences between these patterns.

Australian Curriculum: Mathematics (Foundation)

ACMNA005: Sort and classify familiar objects and explain the basis for these classifications. Copy, continue and create patterns with objects and drawings.

Summary of lessons

Who is this Sequence for?

This sequence is written for Foundation students with experience in copying, continuing and creating repeated patterns. Students should be familiar with describing patterns and naming them based on the number of elements in the pattern.

Lesson 1: Three Pom-Poms

The task uses the context of decorating party hats to explore patterns forming a circle. Students look at different patterns that can be made with three pom-poms and what these patterns look like when made into a circle. Students create their own patterns using two green pom-poms and one blue, and discover that all possible combinations look the same when repeated in a circle.

Lesson 2: What About Four?

Students look at the ways four pom-poms can be arranged to form a repeating pattern around the base of a party hat. Students recognise the similarities and differences between the various circular patterns.

We value your feedback after these lessons via <http://tiny.cc/resource-feedback>

Reflection on this sequence

Rationale

Children have an intuitive sense of pattern and enjoy creating and exploring patterns of all kinds. The regularity of patterns allows students to explore the structure in mathematics, particularly structure related to number. Through an exploration of pattern, students start to form ideas and understandings around skip counting, unitising, multiplication and division.

This resource explores repeating patterns that are constructed using colour. Students are asked to explore the different three- and four-patterns that can be made with a given number of colours, and to identify similarities in the patterns by repeating them in a circle.

reSolve Mathematics is Purposeful

- Repeating patterns are an important part of early algebraic reasoning.
- Students draw on a context for patterns that can be easily imagined.

reSolve Tasks are Challenging Yet Accessible

- Students are challenged to find repeating three- and four-patterns that can be constructed using given colours and are then asked to look at how these patterns are similar and different.
- Students use counters to explore possible patterns, enabling them to experiment with different combinations and changing their working as needed.

reSolve Classrooms Have a Knowledge Building Culture

- Different students will construct different patterns. The collective work of the class allows for a comparison of similarities and differences between the patterns.