

Development of Mathematical Terminology

This document explains the development of mathematical terminology in Kindergarten.

Supporting Kindergarten

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Part of learning mathematics is learning how to communicate mathematically. Teaching children mathematical terminology when they are learning for deep understanding requires that the children connect the new terminology with their developing mathematical understanding. As a result, it is important that children first linguistically engage with new mathematical concepts using words that children already know or that make sense to them.

For example, in outcome PK.1:

Demonstrate an understanding of repeating patterns (two or three elements) by:

- identifying
- reproducing
- extending
- creating
- patterns using manipulatives, sounds, and actions.

[C, CN, ME, R]

The term “repeating patterns” will likely be new to most of the children, however; children will likely have experienced many repeating patterns: dance steps, sports moves, routines at home and in school, and so on. children should be asked to observe, take part in constructing, analyze and talk about different patterns that are repeating as well as contrasting those patterns with other contexts in which a repeating pattern does not exist. Once children understand the concept, then the term “repeating pattern” should be introduced to the children. It is definitely possible that children may already know the term “repeating pattern” before coming to school

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and, in such cases, they should be encouraged to use that term while others in the class may still be using their other personally meaningful words.

In helping children develop their working mathematical language, it is also important for the teacher to recognize that for many children, including First Nations and Métis, they may not recognize a specific term or procedure, but the child may in fact have a deep understanding of the mathematical topic. Many perceived learning difficulties in mathematics are the result of children's cultural and personal ways of knowing not being connected to formal mathematical language.

In addition, the English language often allows for multiple interpretations of the same sentence, depending upon where the emphasis is placed. For example, consider the sentence "The shooting of the hunters was terrible" (Paulos, 1980, p. 65). Were the hunters that bad of a shot, was it terrible that the hunters got shot, was it terrible that they were shooting, or is this all about the photographs that were taken of the hunters? It is important that children be engaged in dialogue through which they explore possible meanings and interpretations of mathematical statements and problems.