

Models and Connections

This document explains the types of models and connection children should be making in Kindergarten math.

Supporting Kindergarten

April 2011

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New mathematics is continuously developed by creating new models as well as combining and expanding existing models. Although the final products of mathematics are most frequently represented by symbolic models, their meaning and purpose is often found in the concrete, physical, pictorial, and oral models and the connections between them.

To develop a deep and meaningful understanding of mathematical concepts, children need to represent their ideas and strategies using a variety of models (concrete, physical, pictorial, oral, and symbolic). In addition, children need to make connections between the different representations. These connections are made by having the children try to move from one type of representation to another (how could you write what you've done here using mathematical symbols?) and by having children compare their representations with others in the class.

In making these connections, children should be asked to reflect upon the mathematical ideas and concepts that are being used in their new models (e.g., I know that addition means to put things together into a group, so I'm going to move the two sets of blocks together to determine the sum).

Making connections also involves looking for patterns. For example, in outcome NK.2:

Recognize, at glance, and name familiar arrangements of 1 to 5 objects, dots, or pictures.

[C, CN, ME, V]

To develop a deep and meaningful understanding of the children's recognition of patterns, such as recognizing and relating familiar arrangements of objects, dots, or pictures, helps the children to develop a stronger understanding of whole numbers, including the composition and decomposition of whole numbers.



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Models and Connections is a publication of the Saskatchewan Ministry of Education.

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