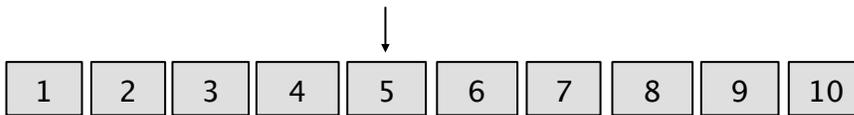


Number Lines vs. Number Paths

Many kindergarten and 1st grade classrooms have a number line along the classroom wall and on every child's desk. However, research has shown that *number lines* are conceptually too difficult for young children and instead we should be using *number paths* until a child is in 2nd grade (Fuson, et.al., 2009). A number path is a count model; the numbers are represented by a rectangle and each rectangle can be counted. A number line is a length model; each number is represented by its length from zero. With a number line children have to count the length units and not the numbers. The number line model makes it difficult for young children to see the units whereas in the number path the units are easy to recognize. With a number line, some children start their count with zero and are off by one. Some count the space between the numbers and when they end their count their finger is between two numbers (count 4 spaces and your finger is between the 3 and 4) so they are unsure which number to use. Both of these errors do not occur when using a number path. Young children are still making sense of numbers, we do not want to use models that confuse them; instead we want models that help solidify and build their understanding. For those reasons, in this book we use a number path instead of a number line as the iconic representation of what the child does in the enactive stage. Below are examples of a number path and a number line along with the understandings that children must have for the model to make sense (Fuson, et.al., 2009, p.44):

Count and Cardinal Word Meanings When Counting Things in a Number Path

Count word reference: "This rectangle is where I say five."



Cardinal word reference: "These are five rectangles."



Count and Measure Word Meanings When Counting Unit Lengths on a Number Line

Count word reference: "This unit length is where I say five."



Measure word reference: "These are five unit lengths."

