

How Three-Year-Olds See Quantity

"It's not fair. He has more than I do."

Bryan and Dana had started out with identical candy canes. Dana's had dropped and broken into three pieces. There was no convincing her that Bryan had the same amount as she did.

She wanted the long peppermint stick. It was more. Bryan, then six-years-old, traded his one long stick for the three short pieces. Peace again ruled the day.

Research shows that preschool children perceive the length of objects to be the indicator of quantity, instead of the actual number of objects.

Children were asked to say which of three vases contained the most number of flowers. One vase had three flowers. Another vase had five flowers. The third vase had two flowers about three inches taller than the flowers in the other vases. The children chose the vase with the two tall flowers as having the most flowers.

After working with young children for many years, I've observed this phenomenon of children perceiving length to indicate quantity.

This perception explains the tears behind a broken peppermint stick, as children see the short pieces of a broken candy cane as being of less value than an equal unbroken piece of candy.

This perception of length for quantity can make it difficult for some children to grasp the concept of quantity.

The following activity, Counting Trains, can be put together with jumbo colored craft sticks.

This activity can help your three-year-old or older child with the concept of quantity while using their innate perception of length for quantity.

Counting Trains

Materials Needed

- 55 Jumbo craft sticks in red and blue (30 red, 25 blue)
- Two containers or baskets for sticks

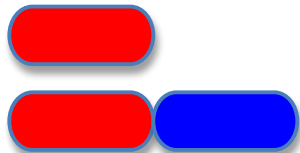
Place the 30 red sticks in one container, the 25 blue ones in the other.

Activity

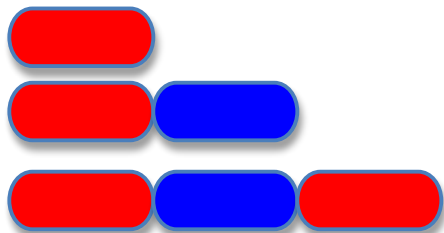
1. Take one red stick out, and place it horizontally in front of the child. Say to the child, "One. This is one stick."



2. Take out a red stick, and place it directly underneath the first red stick. To the right place a blue stick. Place your index finger on the red stick and say "One." Then place your index finger on the blue stick and say "Two. Here are two sticks."



3. Take out a red stick, and place it directly under the first two red sticks. Add a blue stick and then another red one. Place your index finger on the first red one and say "One". Then place index finger on blue and say "Two." Then place your index finger on the third and red stick and say, "Three. Here are three sticks."

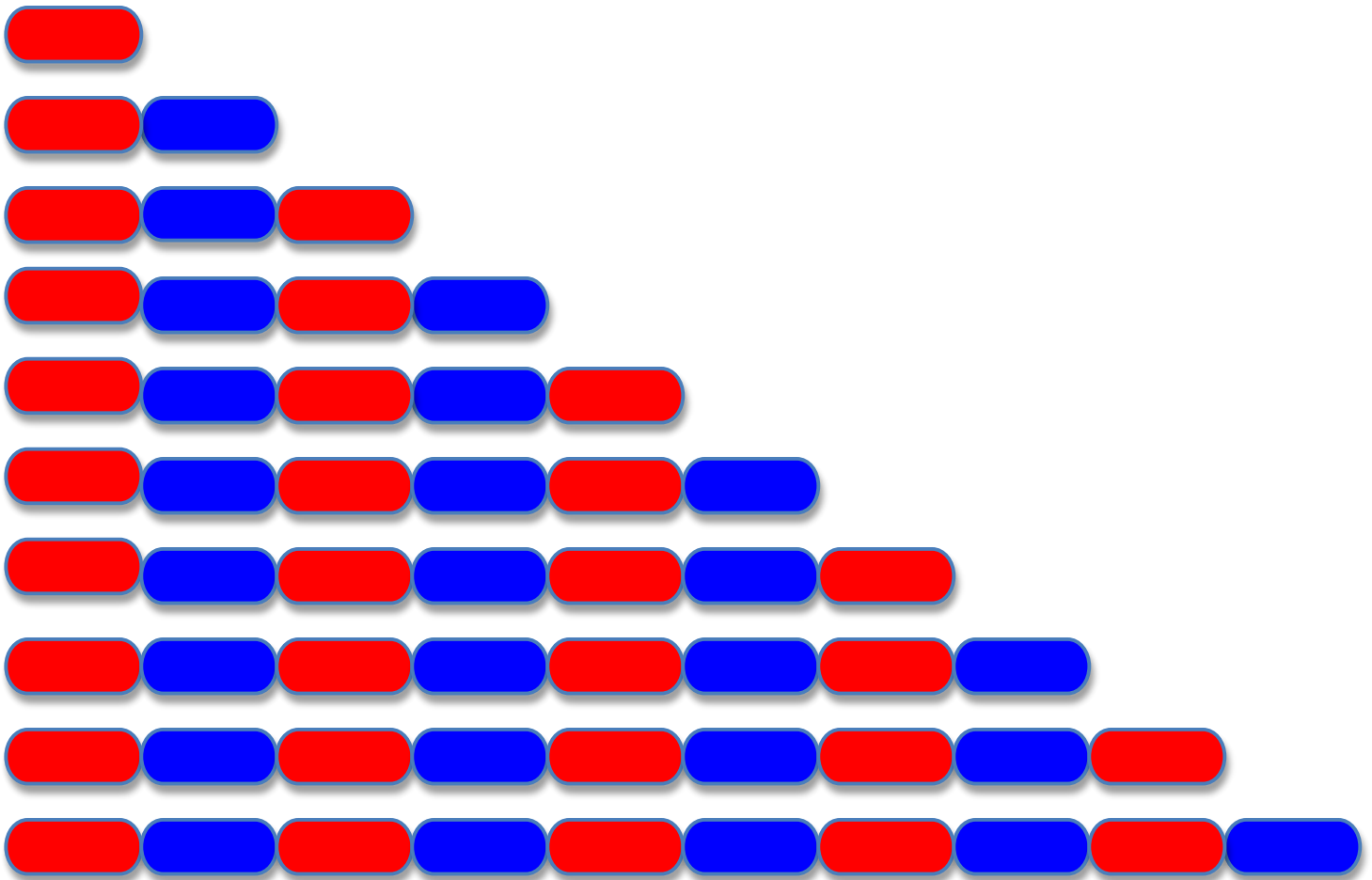


Return the sticks to the containers and say to the child, "Now it's your turn to build one, two and three."

After the child can build these three "counting trains" independently, which may be anywhere from one day to many days, introduce four, five and six, in the same manner as you introduced one, two and three.

Introduce quantities to ten as your child independently builds the Counting Trains, one by one, length by length.

Counting Train Layout 1 to 10





Teaching Number Sense

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It's about skills and thrills to fuel enthusiasm.

Mathematics is the language we use to talk about quantity, structure, space and change, as well as other qualities of the physical world.

Our experiences within our physical world determine how we learn to think and communicate this knowledge.

In this LIVE webinar, I'll show you how to give children foundational experiences with quantity, structure, space and change, experiences that will develop their number sense and love of using the language of mathematics.

This workshop is based on current research along with my twenty plus years of experience teaching children ages 3 to 15.

You'll find information in this LIVE webinar that might turn the children around you into math lovers!

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