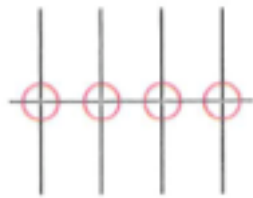# Chapter 13
Exploring Multiplication and Division

In this chapter, children are formally introduced to the concepts of multiplication and division through modeling activities- such as drawing and interpreting diagrams of intersections and rectangular arrays- as well as forming different combinations of objects. Using these models, children transition from exploring multiplication facts to completing division facts, and finally relating the two operations.
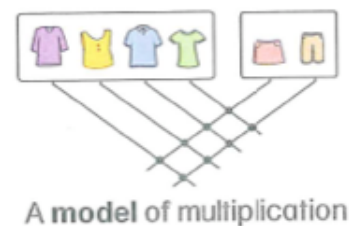
About the Math

- Multiplication is used when counting the number of different pairings that can be made by selecting a single object from one set and a single object from another set.
- Children explore multiplication in different ways such as sets, arrays, intersections, and pairings.
- The intersection model helps children understand multiplication by zero. By showing 3 lines in one direction and no lines in the other, children relate to the fact $3 \times 0 = 0$.
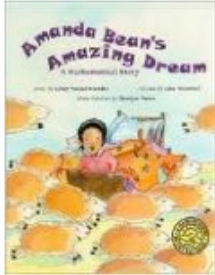
Vocabulary

intersection   model

A **model** of multiplication

Literature Connection

<u>Amanda Bean's Amazing Dream</u>
By Cindy Neuschwander
Math Concept: using multiplication models

In the Car Activities
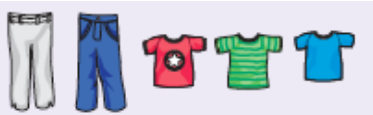
★ Describe numbers as groups of 6 and some extras. Ex. 8 is a group of 6 plus 2 more.

Family Fun

What Will I Wear?

Work with your child to act out one of the activities from class.

- **Use some of your child's clothing to find how many different outfits can be made. Take out 2 pairs of pants or skirts and 2 or 3 tops.**
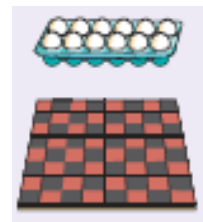
- **Work with your child to make outfits by combining each top with a bottom. Help your child come up with a method to make sure you get all the combinations, such as pairing the first top with every bottom and then doing the same with each top.**

- **Together, make a list to keep track of all the different outfits. Count all of the different combinations.**

- **If time allows, add another top or bottom to see how many more outfits you can make.**

Scavenger Hunt

Work with your child to count equal groups.

- **Look around the house to find objects that are arranged in equal rows and columns. For example, tiles on the floor, pictures on a wall, panels on a door, or paints in a box.**

- **Help your child find the total number of objects in a display with equal groups. Talk about how to skip-count by the number of objects in a row or column. To find how many eggs are in a full carton, skip-count by twos or by sixes.**

- **Help your child write a multiplication sentence to show each arrangement.**

2 × 6 = 12 or 6 × 2 = 12