



Stuart J. Murphy's  
**MathStart**<sup>®</sup>

**The Sundae Scoop**  
**Level 2 / Ages 6+**  
**Combinations**



**Determining how many different combinations can be made from given sets of items is an important first step in understanding probability.**

### Story Description

Winnie, the nice lady in charge of the cafeteria, has a stupendous idea for the school picnic: "Let's make sundaes!" Lauren, James, and Emily help out and are amazed by how many different kinds of sundaes you can make with just two ice-cream flavors, two sauces, and two types of toppings. But when supplies run low, the number of combinations changes. Determining how many different combinations can be made from given sets of items is an important first step in understanding probability.

Illustrated by Cynthia Jabar.

### Activities

Create your own sundae scoop story. Have your child (or students) think of several different flavors of ice-cream, sauces and toppings and write them down. Help them draw diagrams similar to those in the story to determine the number of different sundaes they could create with their imaginary ingredients.

Teacher Idea: When we read "The Sundae Scoop," we discuss the different combinations. Then we'll do combinations with something else, like clothing. For example, you have three t-shirts to pick from, and two pairs of pants and shoes. Or we can do t-shirts and shorts, or skirts for girls. If you want to add on shoes, it makes the problem even harder. I give them a choice. They are amazed they have so many outcomes.

They can sketch the clothes and show colors and stripes. We make the combinations tree, like the one in the book, and they add up the combinations. For homework, they can use food. For example, a dinner at McDonalds: You can get a cheeseburger, a hamburger or a chicken McNuggets, with French fries, a cookie or apple dippers. And you can get fruit punch or orange juice or milk. What are all the different combinations you can have?

—Jennifer Hong, Punahou School, Honolulu, HI



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