

## Unit 1: Counting and the Number System

### About this Unit

#### Classroom Routines

Throughout the school year, students will be engaged in common classroom routines to reinforce mathematical understanding. These routines include taking attendance, using the calendar to count and to keep track of time and events, counting sets of objects in the "counting jar," and collecting and discussing data about the class. Students will also analyze and compare objects by finding objects that share one attribute, using attributes to sort a group of objects, and comparing how objects are the same and different.

#### Exploring Math Tools

In this unit, students are introduced to some of the materials they will be using to explore mathematics in the math curriculum: Snap cubes, pattern blocks, Geoblocks, color tiles, and Geoboards.



The PreK-12 Mathematics curriculum focuses on problem solving, communication, and critical thinking in order to provide a foundation where every student reaches their potential to become a globally competitive, mathematically literate citizen.



### Counting

Throughout the school year, students will be engaged in meaningful counting activities. These activities are designed to develop one-to-one correspondence, stable order, order irrelevance, and cardinality.

**One-to-One Correspondence:** Students recognize that one number name, and only one number name, stands for one object that is being counted. It is important that students touch each object as it is being counted to keep track of the count.

**Stable Order:** Students understand that the counting sequence and number names are used in a fixed order every time a group of objects is counted. It is always 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, etc., not 1, 2, 5, 7, 9.

**Order Irrelevance:** Students understand that the counting of objects can begin with any object in the set, and can be counted in any order. The total stays the same.

**Cardinality:** Students understand that when counting a group of objects, the last count word represents the total number of objects in the group. A student who is able to answer the question of how many, without having to recount the group of objects demonstrates cardinality.



## Learning to Count

As children learn to count they go through the following stages:

### Rote Counting

Students know the number names and their sequence by memory. They can count out loud. "1, 2, 3, 4, 5, 6, etc..."

### Counting On

Students give the correct number names as counting proceeds, starting at any number.

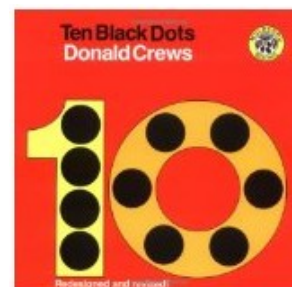
### Skip Counting

Students skip count by tens.

"10, 20, 30, 40, 50, 60, 70, 80, 90, 100."

## Helping Your Child at Home

- Read **counting books**.
- Make a **number book**. Write a number on each page, and let your child draw or glue on the correct number of items.
- Keep a **calendar** where your child can see it. Count the days until a special event. Talk about the days when routine events occur.
- Play **board games** that require counting to move around the game board like Trouble or Sorry.
- Count everything:
  - Count the number of steps from the car to the front door, the buttons on a coat, the food on your plate.
  - Count sets of items needed to set a table (three forks, three napkins).
  - Count out sets of snacks for friends and family members; for example: *"Let's give everyone two cookies and four pretzels."*
  - Ask your child to help you match and count the pairs of socks when you do laundry.
  - Help your child look for sets of objects to count when you are reading, shopping, cooking, or playing.



### Visit these Web sites for counting activities.

- Investigations ([http://investigations.terc.edu/library/Games\\_K1.cfm](http://investigations.terc.edu/library/Games_K1.cfm))  
Students can explore a variety of games leveled for K-1 students focusing on numbers, addition and subtraction, geometry, data, and patterns.
- PBS (<http://pbskids.org/games/123/>)  
Students can explore a variety of games that focus on basic number sense skills such as counting, measuring, and comparing.
- Sesame Street (<http://www.sesamestreet.org/games>)  
Students can explore a variety of games that focus on basic numbers, measurement, shapes, and counting.
- Cool Math (<http://www.coolmath.com/>)  
Students can explore a variety of games leveled for all ages focusing on number sense, computation, and geometry.
- Sprout (<http://www.sproutonline.com/games/spuds-counting-game>)  
Students count objects and match them from a choice of given numerals.

