Content Emphasized in Kindergarten

In *Everyday Mathematics*, children develop a broad background by learning concepts and skills in all these six content strands. The Kindergarten program emphasizes the following content.

Number and Numeration
Counting every day in different ways and from different numbers—by 1s, forward and backward, and by 5s and 10s; reading and writing numerals; comparing numbers through daily routines, games such as *Top It* and *Monster Squeeze*, and other activities; exploring different ways to represent numbers (equivalent names for numbers) using manipulatives, words, drawings, and operations

Operations and Computation
Exploring addition and subtraction through concrete activities, games, and number stories; developing and sharing multiple strategies for solving addition and subtraction problems including counting and using fingers or other objects, all of which are still very acceptable and useful, using the +, −, and = symbols to write number models for number stories

Data and Chance
Collecting, organizing, displaying, and analyzing classroom data through the daily Weather, Temperature, and Survey Routines as well as through games and activities; working with data and graphing in activities such as graphing dice rolls; exploring probability through games and by describing the likelihood of events as *for sure, maybe, no way, likely, definite, impossible,* or *possible*

Measurement and Reference Frames
Making direct measurement comparisons followed by using nonstandard units of measure (such as their own feet and hands), all of which lay the groundwork for understanding the need for standard units of measure and learning proper measurement techniques; learning coins and their values; developing an understanding of time measures (day, week, and month); and temperature measures through daily routines (Calendar, Daily Schedule, and Temperature)

Geometry
Exploring 2-dimensional and 3-dimensional shapes with manipulatives—such as pattern blocks, attribute blocks, and building blocks—and through games like *I Spy*; exploring line symmetry

Patterns, Functions, and Algebra
Identifying, creating, and extending sound, movement, and visual patterns; exploring number patterns on the Growing Number Line and Class Number Grid; using rules to sort objects, make patterns, and play "What's My Rule?"

See the Content by Strand Poster for an overview of how the mathematics strands and activities are interwoven throughout the year.

Everyday Mathematics in the Classroom

Background

- Developed by the University of Chicago School Mathematics Project
- Based on research about how children learn and develop mathematical power
- Provides the broad mathematical background needed in the 21st century

In *Everyday Mathematics* you can expect to see...

...a problem-solving approach based on everyday situations;

...key mathematical ideas repeated over time in slightly different ways;

...learning through age-appropriate, playful activities;

...a broad range of mathematics topics based on an optimistic view of children's capabilities and motivation to learn; and

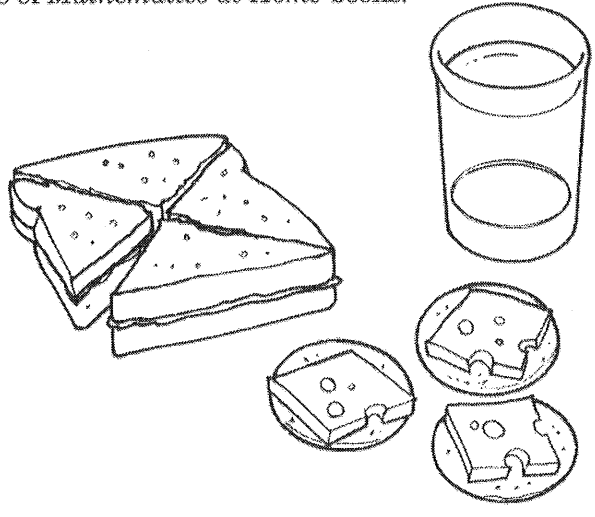
...opportunities to "do math" at home.

Do-Anytime Activities for Early Childhood: 1st Quarter

These Do-Anytime Activities are easy and fun to do with your child at home, and they will reinforce the skills and concepts your child is learning in school.

- Count the steps needed to walk from the sidewalk to the front door (or between any two places). Try to walk the same distance with fewer steps or with more steps.
- Start collecting pennies in a family penny jar. Count them from time to time.
- Encourage your child to figure out answers to real-life situations. "We have one can of soup, but we need five. How many more do we have to buy?"
- Collect a number of different types of rocks, leaves, or sticks. Have your child sort them by shape, color, size, or another way. With your assistance, have your child make a graph using the items collected.
- Record family heights, in centimeters as well as inches, on a door frame. Measure again periodically in the same location throughout the school year. You can also look for items around the house that are about the same height as each family member.
- Help your child plan and prepare a snack that includes common shapes. Decide which shapes will be in your snack and choose or cut food that represents the shapes. For example, use cheese slices for squares, oranges for circles, grapes for ovals, crackers for rectangles, and cut a watermelon in triangle slices.
- Collect different kinds and sizes of objects: buttons, milk tops, soda caps, coins, barrettes and so on. Both you and your child can make different patterns using the items. Take turns guessing each other's patterns and describing them.

For more mathematics activities to try in your home and neighborhood, see the *Everyday Mathematics* series of *Mathematics at Home* books.

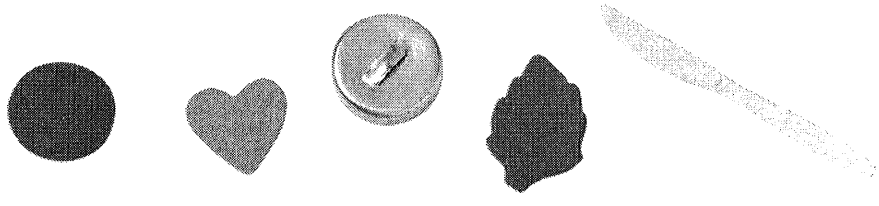


Do-Anytime Activities for Early Childhood: 2nd Quarter

These Do-Anytime Activities are easy and fun to do with your child at home, and they will reinforce the skills and concepts your child is learning in school.

- Make a number matching game using 20 index cards. On 10 of the cards, write the numerals 1 through 10. On the other 10 cards, draw a set of objects for each number (or use stamps or stickers), such as 1 apple, 2 stars, 3 spiders, and so on. Mix up the cards and lay them facedown. Players take turns flipping over two cards, trying to find a matching pair—that is, a set of objects and the numeral card that tells how many objects there are. Players keep the pairs they find and count them at the end of the game.
- Show your child 3 objects and count them aloud together. Then put the objects in your pocket, a box, or a bag. Put 2 more objects in with the 3 objects, and ask your child, "How many are in my pocket now?" Repeat with other numbers and then with subtraction (taking objects out of the pocket, box, or bag).
- Have your child think about how much cereal (or other basic food) your family eats each week. Is there a way to keep track of the amount? Help your child plan a way to collect this data during the week. You could keep track by making tally marks, drawing pictures of bowls, and so on.
- Help your child measure the length of a room with his or her feet by measuring "heel to toe." Then measure the length of the room in the same way with your own feet. Compare the measurements and discuss why they are different.
- Look for shapes around the house, supermarket, mall, playground, or while driving in the car. Talk about what shapes seem to appear most often.
- Use cookie cutters or plastic knives and play dough to make sets of a certain number of things. For example, if your number is 5, your child can make 5 circles, 5 squares, 5 bells, 5 leaves, and so on. You and your child can arrange the shapes in a pattern (such as 2 circles–1 square–2 circles–1 square). Guess each other's pattern and continue the pattern with more shapes.

For more mathematics activities to try in your home and neighborhood, see the *Everyday Mathematics* series of *Mathematics at Home* books.

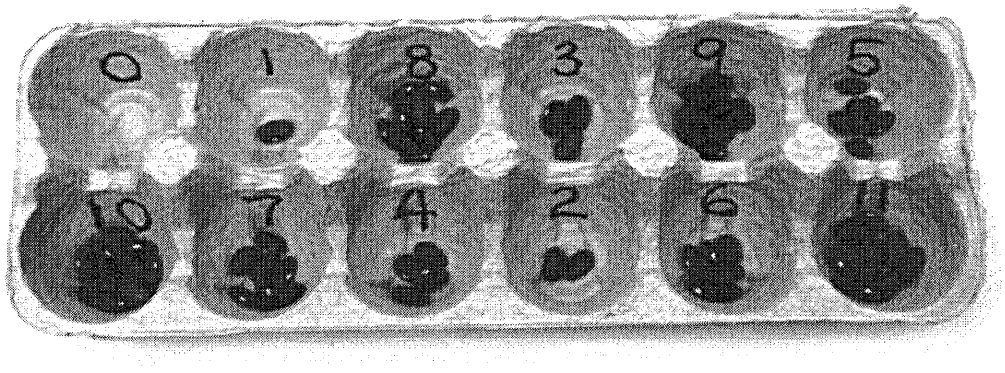


What Is Number Sense?

Number sense in mathematics is much more than just knowing how to count and write numbers. It is a general understanding and intuitive "feel" for numbers. It is seeing the various ways we can use numbers. It also is having the ability to use this understanding to solve problems. Number sense develops gradually over time, through many different experiences exploring and working with numbers.

Children begin acquiring number sense long before they begin school because they do, in fact, use numbers in their play and day-to-day activities. When we talk about young children and number sense, we are typically referring to their sense of the relative "size" of numbers, what certain numbers of objects look like, the different ways numbers of objects might be arranged, combined and taken apart, and how numbers relate to measurements (for example, *What does 5 pounds feel like?*). All of these understandings lead to a sense of the "threeness of 3" or the "ten-ness of ten."

The kinds of *Everyday Mathematics* activities that help young children develop number sense involve ordering numbers, matching quantities of objects (such as pennies) to written numbers, making up number stories, matching physical actions to numbers, identifying "more–less–the same" relationships, finding equivalent names for numbers, working with part-whole relationships, exploring "special numbers" (such as 2, 5, and 10), and measuring things with different units.



The entire *Everyday Mathematics* program emphasizes developing children's number sense, and, in fact, gives this goal the highest priority of the program. Why? When people have number sense, they can think flexibly, they use estimation and mental mathematics, and they believe that numbers and mathematics are useful. People with good number sense use mathematics to help them make judgments and to solve problems—a long-term goal most parents have for their children.