

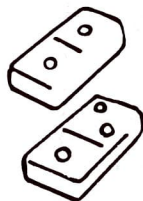
Everyday Materials for Mathematics at Home



Children enjoy repeating school math activities at home and often explore these ideas further in the comfort of the family environment. In addition, your child's teacher may send home suggestions for activities that you and your child can do together. Here is a list of materials, many of which you probably have already, that lend themselves to math exploration at home. Some families collect small items in plastic bags and place them in a "Math Materials" box or shopping bag.

For counting and exploring numbers

- ◆ pennies, buttons, and beads
- ◆ beans, pasta (macaroni, rigatoni), and peanuts in the shell
- ◆ popsicle sticks
- ◆ dominoes and game chips
- ◆ small plastic figures such as dinosaurs
- ◆ muffin tins and egg cartons (to count into)



For measuring

- ◆ measuring cups and spoons
- ◆ small and large milk cartons, plastic bottles
- ◆ materials to scoop and measure, such as sand, rice, tiny noodles, dry beans
- ◆ tape measure, ruler
- ◆ kitchen or bathroom scales
- ◆ egg timer or wind-up timer



For exploring shapes

- ◆ containers and boxes of various shapes (shoe boxes, cereal boxes, oatmeal containers, paper and plastic cups)
- ◆ blocks

For sorting

Collections of different sizes, colors, shapes, thicknesses, and so on:

- ◆ buttons
- ◆ coins (including foreign coins)
- ◆ old keys
- ◆ shells, seeds, and rocks
- ◆ blocks
- ◆ hardware (screws, nuts, and bolts)
- ◆ stamps
- ◆ small toys (cars, doll accessories)



For finding patterns

Scraps of:

- ◆ fabric
- ◆ wallpaper
- ◆ wrapping paper
- ◆ decorative trim for sewing



Other items to have at home

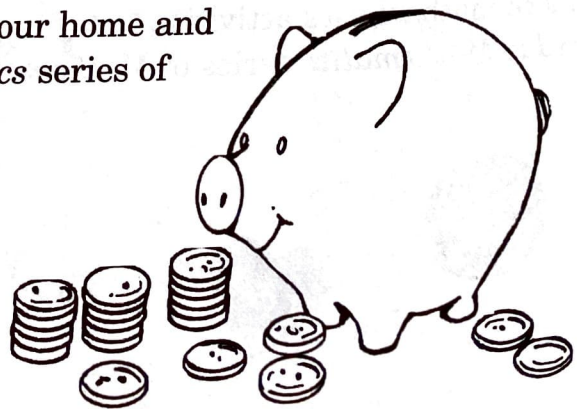
- ◆ a growth chart
- ◆ a chalkboard and chalk
- ◆ a small white board with erasable pen
- ◆ a deck of playing cards
- ◆ a clock your child can set with help



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.

- ◆ Have your child count pennies from your family penny jar into stacks of 5. Then help your child count by 5s. You may want to exchange some of the stacks of pennies for nickels.
- ◆ Play a guessing game to help your child visualize and recognize written numbers by “writing” a number with your finger on your child’s back. If your child has trouble guessing the number, give hints. (“It has two curves” or “Your sister is this many years old.”) Switch roles and let your child write numbers on your back.
- ◆ Make up “one more” and “one less” stories. Have your child use counters, such as pennies or raisins to model the mathematics. For example, “The dinosaur laid 5 eggs.” (Your child puts down 5 counters.) “Then the dinosaur laid one more egg.” (Your child puts down another counter.) “How many eggs are there?”
- ◆ With your child, take a look in each family member’s closet and tally the different colors you see. Ask your child, “What do you notice?” “What does this tell you about the colors your family likes to wear?”
- ◆ Gather 5 or 6 of the same type of object (books, boxes, and cans) of various sizes. Help your child arrange the objects in some kind of order—by length, by thickness, by weight. Engage your child in a conversation about how the objects are arranged using comparison words such as *taller*, *shorter*, *narrower*, *wider*, *heaviest*, *lightest*, *more*, *less*, *about*, and *the same*.
- ◆ Gather several of the same type of items such as stuffed animals, dolls, trucks, cars, or balls. Think of a rule for sorting the objects into two groups. For example, sort the stuffed animals into one group that has tails and another group that does not have tails. Ask “Why did I pick those animals?” or “Why do they belong together?” Have your child verbalize the rule. Switch roles and have your child make up a sorting rule for you to solve.

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



Supporting Your Child in Mathematics



Children develop positive feelings about mathematics when they have fun experiences “doing math things” with their family members. Here are some ideas to help you support your child’s mathematical learning.

Have a positive attitude about the mathematical abilities your child already has.

Parents are impressed and proud when their children recognize letters and write their names. Your child’s developing math abilities (recognizing numbers, counting and representing quantities with pictures or numbers, identifying shapes, learning days of the week, and so on) deserve just as much admiration and praise as their developing literacy skills.

Read Home Links.

Teachers periodically send home Home Links pages. They include Family Notes that describe what your child is learning so you can help. They also suggest fun and easy math activities you can do at home. Consider keeping these pages in a special folder to refer to time and again.

Think aloud when you use math.

Notice the times you use math each day, and share your thinking aloud with your child. For example, let your child know how you decide which coins to give a cashier. (*I need to keep my quarters, so I’m going to give her two dimes and a nickel.*) Share the calculations you do during activities. (*Last week I ran a mile in 11 minutes, and this week it took me only 9 minutes, so I’m 2 minutes faster!*) You’ll be surprised at how interested your child is in math.

Play games.

Children learn best through play. In addition to the math games your child’s teacher sends home, teach your child the traditional games you played as a child. Many of them use counting or mathematical thinking, such as hopscotch, hide-and-seek, go fish, and checkers.

Use numbers in practical ways.

Numbers can be used to solve problems and to get things done. When two children have a disagreement, write down a number between one and ten and have the children try to guess the number. The child who makes the closest guess “wins.” When you are grocery shopping, give your child simple directions involving numbers. (*Put five apples in the cart. Find Aisle 7. Choose enough oranges for our whole family.*) You can also use numbers to keep track of things. (*Your library books are due in two weeks. Let’s mark that date on the calendar.*) Whenever you can, let your child help with tasks that involve numbers.

Give hints, not answers.

Always give your child a chance to think through a problem rather than receive an answer he or she might not understand. Everyone likes to be able to “get it” or solve a problem on his or her own. The more your child is able to do this, the more confident he or she will become.

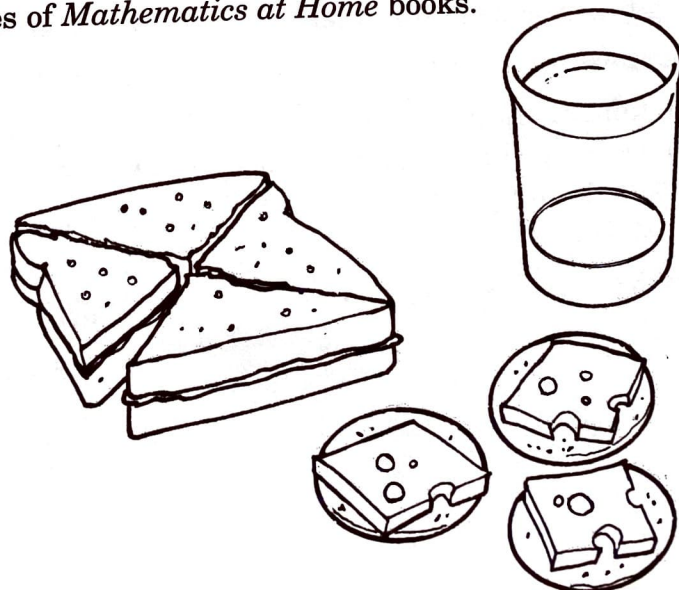
Do-Anytime Activities for Early Childhood: 1st Quarter



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.

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