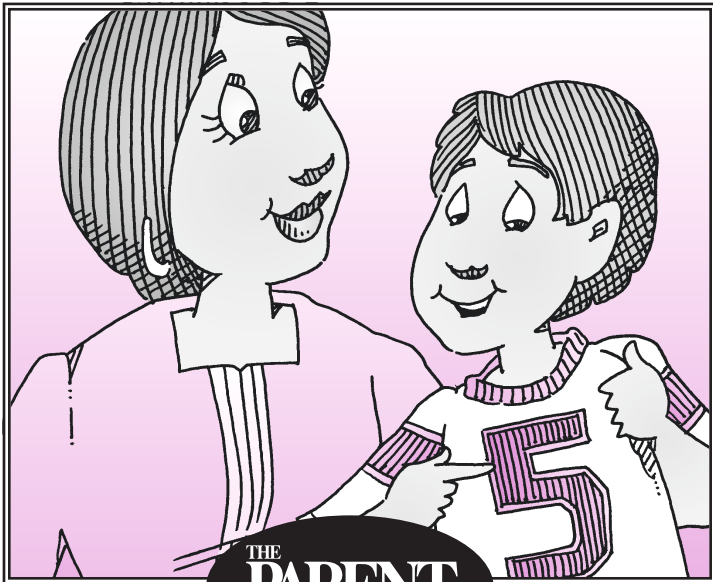


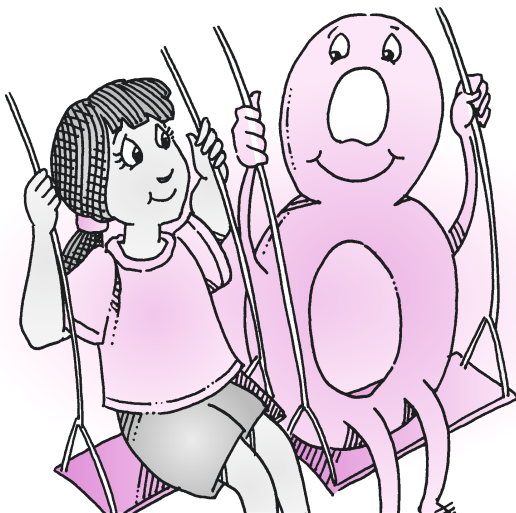
SCHOOL READINESS SERIES
FOR
PRESCHOOL
PARENTS

Getting Ready *for* Math



THE
PARENT
INSTITUTE®

One of a Series of Booklets for Parents



Why Is Getting Ready for Math So Important?

Many parents remember struggling with math in school and can't imagine helping their children with it. But teaching kids about math isn't difficult, especially once you realize that math is a big part of daily life. Subtraction is used to pay bills, addition to keep score during a game, and multiplication to double a recipe—and those are just a few examples!

The key is to mention math to your child throughout the day and plan interesting activities that involve math skills. These experiences teach kids that math is important—and fun!

Remember that during the preschool years, the most important thing is for kids to *like* math. If your child ever gets bored or frustrated during an activity, take a break or switch to something else. Your goal is to help your child develop a positive attitude about math that will last through school and beyond.



**Every child is unique, so we often use the singular pronoun.*

We'll alternate using "he/him" and "she/her" throughout this booklet.

Find Things For Your Child to Sort

When experts list the abilities children need to succeed in math, they almost always include sorting. Children start gaining this skill at about 18 months—and they can improve it with practice. Here are some things your child can sort:

- **Shapes.** Cut out rectangles, circles, squares and triangles in various colors. Mix them up and ask your child to separate them by shape.
- **Colors.** Have your child sort the same shapes—or other items—by color.
- **Laundry.** Let your child help sort clothes before and after they're washed. Sort dirty loads by shade (lights and darks), and clean loads by type (pants, shirts and socks, for example).
- **Toys.** At cleanup time, have your child sort his playthings. Blocks might go in one box and stuffed animals in another. It can help to label each storage space with a picture that shows its contents.
- **Groceries.** See how many items can be divided into groups. For example, have him group canned goods, fruits, vegetables, breads, frozen items, etc.
- **Tableware.** When putting away dishes and utensils, have your child sort them. For instance, ask him to separate spoons, plates and cups.



You can also sort some items yourself, then let your child tell what you did. For example, sort toys by color. Then ask, "What makes each of these groups special?"

Keep On Counting

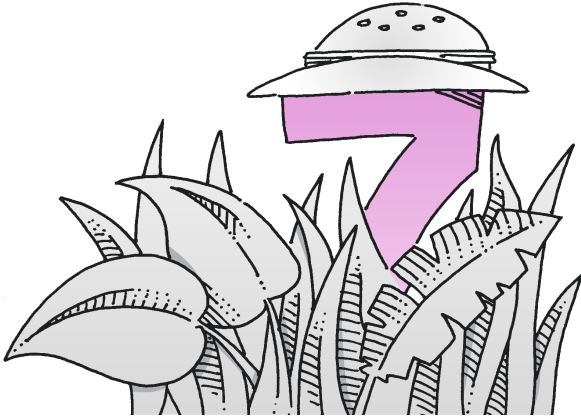
By age three, most kids have started to “count.” They’ve learned numbers by hearing their parents (and probably a few television characters) use them often.

But children who can say numbers in order don’t always know what they mean. They need help learning that numbers actually represent “how many.” Here are some activities that teach this:

- **Touch things.** Have your child touch items as she counts them aloud. You can help by doing the same thing: “Let’s count these three apples. One, two, three.”
- **Play board games.** Choose games that involve rolling dice or instructions like “Move forward six spaces” or “Go back one space.”
- **Bounce a ball.** Say a number out loud and have your child bounce the ball that many times. Then let her choose a number for you to bounce.



- **Set the table.** Have your child help count out the proper number of plates, napkins and other items.



- **Go on a number hunt.** Call out a number and let your child find something that matches it. For example, a table might represent “four” (with four legs) or a bike might represent “two” (with two wheels).
- **Read counting books.** Find books that teach about numbers. For instance, one page might feature the number 7 next to seven frogs. Point to the frogs and count them with your child.
- **Make snacks.** Try this “Ants on a Log” recipe with your child: Spread peanut butter or cheese spread on celery stalks to make “logs.” Then let your child count out raisins (or “ants”) to put on top.

Tip: *It's helpful to practice simple counting sometimes, too. Here's a fun approach: Say “one,” and let your child say the next number. Continue taking turns and count as high as you can. For variety, let your child start the game, say two numbers each, or try counting backwards (this is challenging for kids!).*

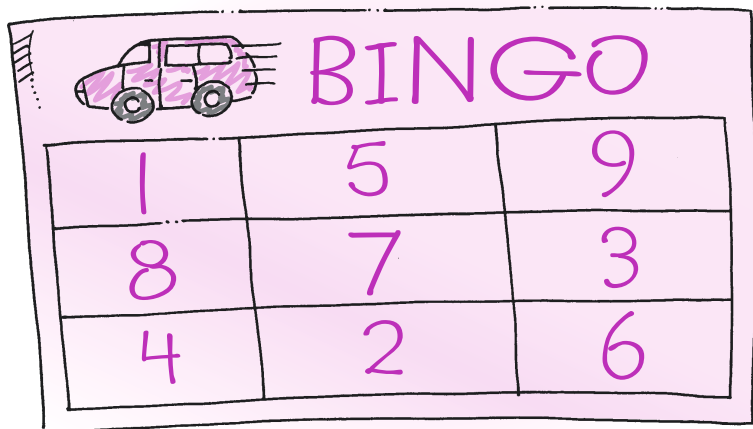
Be on the Lookout for Numbers

Saying and using numbers is one thing—knowing what they look like is another. In order to start recognizing numbers, your child needs you to point them out. Fortunately, they're everywhere! And there are lots of ways to add numbers to your day, too. These ideas will help:

- **Take walks.** How many numbers you can find—on houses, mailboxes, license plates and street signs, for example? Have your child say the numbers as he spots them. You can do this at other times, too—at the mall, at home, in the car.
- **Make number cards.** Write numbers from 1 to 10 on individual index cards. Then give your child a box of cereal and have her put the right number of cereal pieces on each card.
- **Park cars.** Tape a number on each of your child's toy cars. Then put the same number of dots on a small box or "garage." Have your child park each car in its garage by matching numbers to dots.
- **Connect numbers.** Instead of playing "connect the dots," play "connect the numbers." Write numbers from 1 to 10 on a piece of paper, and have your child connect them in order.



- **Create an obstacle course.** Attach numbers to items inside or outside your home. A couch might be “1” for example, and a table might be “2.” Then give your child directions like, “Go around 1 and under 2.”



- **Play car bingo.** Make game cards for your children by drawing large squares and dividing them into nine boxes. Put one number (between 1 and 10) in each box. Each time a child sees a number, she can cross it off. The first to cross off a row across, down or diagonally wins.
- **Pick a “number of the week.”** Make a poster featuring a certain number. Have your child look for that number everywhere and use it as often as possible. You can also cut sandwiches into three pieces, offer three vegetables for dinner, read three bedtime stories, etc.
- **Make numbers.** If your child is old enough, have her create numbers with paint, clay, crayons, cookie dough and other materials.

Solve Problems Through Play

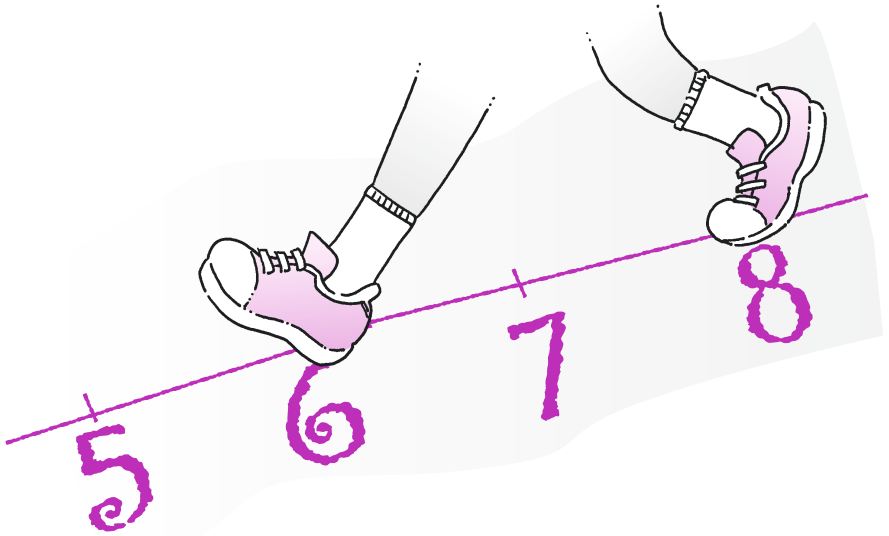
Once children become comfortable with numbers, they can begin learning about calculations, including addition, subtraction, multiplication and division. The best way to teach preschoolers these skills is through real-life experiences. Here are some examples:

- **Combine objects.** For instance, put four pennies in one pile and two pennies in another. Count each stack with your child, then have her combine them. Ask, "How many pennies do we have all together?"



- **Remove objects.** Start with a group of items, and then take away one or more: "We have four crayons. Let's take away one. How many are left?"

- **Play games with two dice.** Your child can practice addition by totaling the dots. Eventually, he may remember certain combinations, such as $2 + 3 = 5$.

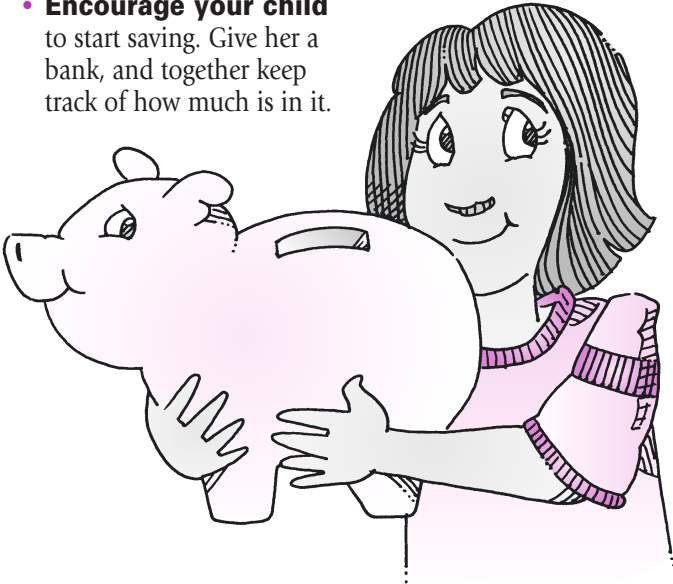


- **Make a number line.** Use chalk outside to draw a number line that goes from 1 to 10. Let your child stand on any number, then give him instructions such as "Move forward two spaces" or "Step back four spaces."
- **Divide food.** During a meal, say "When we cut this sandwich in half, we have two pieces." "There are three of us, so let's cut this apple into three pieces."
- **Mention multiplication.** For example, "I like twice as much sugar in my tea as Dad. He likes one lump, and I like two."

Make the Money-Math Connection

Letting kids handle money is another way to teach them about math. Start by naming coins and pointing out how they differ in size, color and design. If your child seems interested, explain that each coin has a specific value. Then try these activities:

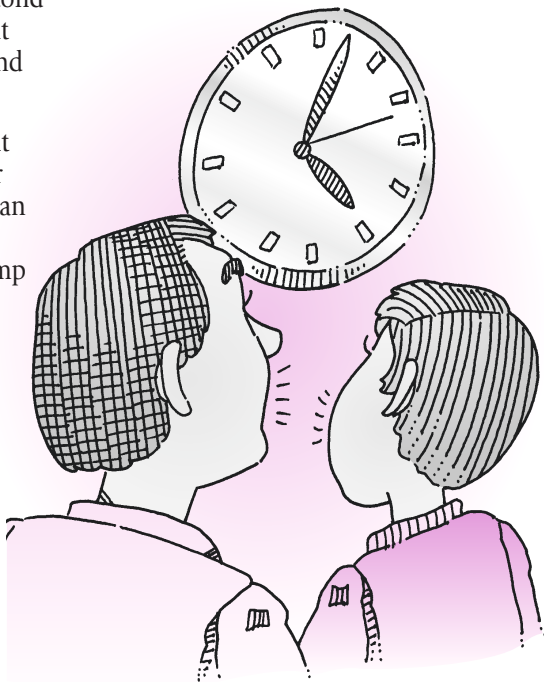
- **Have your child pay** for an item while shopping. It's OK if she doesn't understand exactly how much money is being exchanged.
- **Play store** and let your child be the cashier. Use real money, if possible, and props such as cereal boxes and receipts.
- **Play restaurant.** At dinner, let your kids "order" their meals. Charge prices they can pay with coins and help them count out what they need.
- **Encourage your child** to start saving. Give her a bank, and together keep track of how much is in it.



Teach About Telling Time

When looking for numbers, don't forget to check clocks and calendars! Using these items to teach about time also builds number skills. Here are some activities to try:

- **Watch a clock** with a second hand with your child. Count aloud together as each second passes by.
- **Try to complete** different tasks within 30 seconds. For example, how many times can your child clap his hands? How many times can he jump up and down?
- **Estimate how long** it will take to do various things. Then check your guesses with a timer. For instance, how long will it take to eat breakfast? Get dressed? Take a walk?
- **Plan ahead.** Say, "We're going to Aunt Betsy's house in three days," and mark it on the calendar. Or "We'll be home by six o'clock, just in time for dinner."
- **Make a play clock.** Write numbers on a paper plate to make it look like a clock. Using a paper fastener, attach "hands" made of sturdy material, such as poster board. Help your child set the clock for different times, such as breakfast or bedtime.

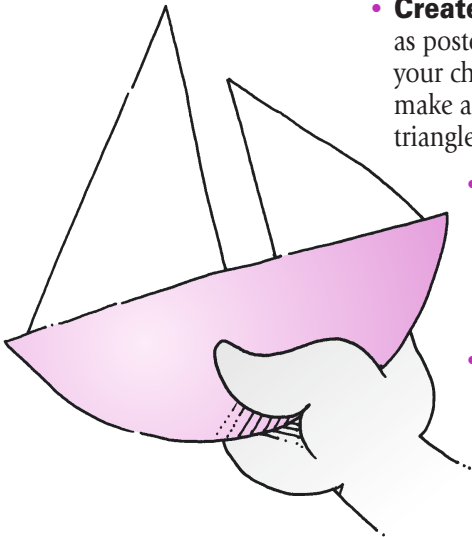


Help Your Child Shape Up

There's much more to math than numbers. Learning about shapes is also important. Geometry class is a long way off, but children will be asked to recognize circles, squares, triangles and rectangles in kindergarten. These suggestions can help:

- **Touch shapes.** One way to learn about shapes is by feeling them. For instance, you might trace your child's finger along the edges of a square cake pan, saying "square." Then show her a circle by letting her trace her fingers around the top of a mixing bowl.
- **Mention shapes often.** For example, "That poster is a rectangle" or "Do you like these round crackers?" Older preschoolers may enjoy learning a more advanced shape, such as "octagon"—the shape of a stop sign. You can also introduce three-dimensional shapes, such as "cones."

- **Create shapes.** Using thick paper, such as poster board, cut out different shapes for your child to play with. For example, she can make a sailboat with a half-circle and two triangles.



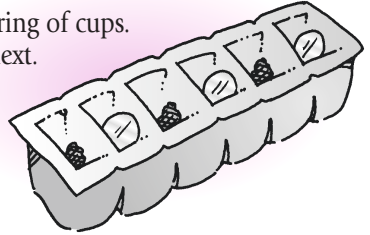
- **Trace objects.** Give your child items of various shapes to trace. A cup and a book, for example. You can also ask, "If we traced this, what shape would it make?"
- **Make a collage.** Cut out shapes from colored construction paper. Include the basic shapes and maybe some new ones, too. Let your child paste them on poster board any way she chooses.

More Ways to Learn About Math

There are many other skills that help children prepare for math. Here are some of them, followed by ways to practice each:

Ordering

- **Find family photos that tell a story.** For example, your family leaving on a trip, sitting on a beach and arriving home. Have your child put them in order.
- **Cut an egg carton** so you have a long string of cups. Put a raisin in one cup and a penny in the next. (Or use other objects you like.) Have your child continue the pattern.



Comparing

- **Ask questions** that involve comparisons, such as “Would you like *more* orange juice than I have, or *less*?” or, “Which do you like better, the *bigger* or *smaller* blanket?”
- **Play “I spy.”** Pick an object near you to describe. Say something like, “I spy with my little eye a toy that’s bigger than you.” Keep giving hints until your child guesses correctly. Then let him describe mystery items for you.
- **Use descriptive words**, such as *empty/full*, *some/all*, *inside/outside*, *under/over*, *short/tall*, *right/left* and *high/low*.

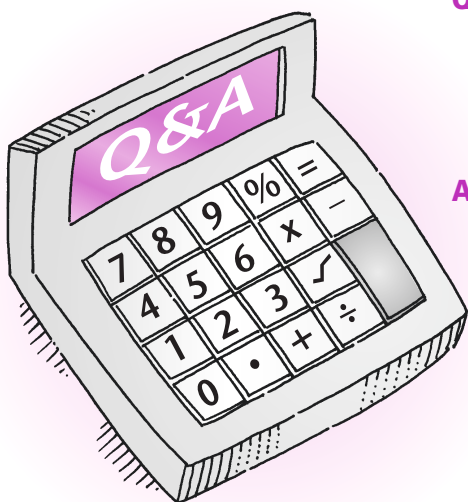
Measuring

- **Use a scale** to measure people and objects. Guess who or what will weigh the most.
- **Buy an outdoor thermometer.** Check it at different times of the day and year.
- **Cook together** and use teaspoons, tablespoons, cups and more.
- **Figure out who’s tallest** in your family. Who has the smallest hands? The biggest?

Questions and Answers

Q. Are boys naturally better at math than girls?

A. Research shows that girls can do just as well in math as boys. It's important to encourage and expect both boys and girls to succeed.



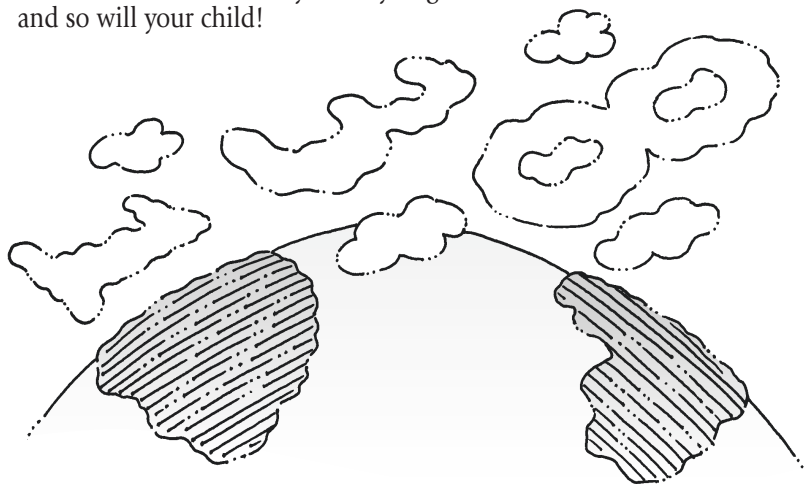
Q. My child counts well—but instead of saying “fifteen,” she often says “fiveteen.” Is this normal?

A. Yes. It's one of the most common counting errors kids make. Children assume that since other numbers combine this way with “teen” (fourteen, sixteen, seventeen, etc.), fifteen should work the same way. With practice, your child will learn to say it correctly.

Q. How high should my child be able to count by kindergarten?

A. It's more important for your child to understand and enjoy numbers than to be able to count high. But most children can reach somewhere between 9 and 19 when they start school.

The more you look for ways to teach your preschooler about math, the more you'll find. Soon you'll be seeing opportunities to use math everywhere you go—and so will your child!



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