



48 months *to* 60 months

NUMBER SENSE

How are children learning about numbers?

Introduction

What are preschool children learning about numbers?

Young children begin to practice the skills needed for arithmetic and math far before they enter elementary school. Most of these skills are developed through their self-initiated play with materials and through simple interactions with adults.

- Young children learn counting skills through everyday interactions such as putting plates on the table, counting their fingers to tell you how old they are, and counting the number of apples needed so each child can have one.
- Children usually learn how to say “1-2-3-4-5” (sometimes putting the numbers in different order) before they know that each number represents something. For example, they might have three strawberries and count them “1-2-3-4-5,” because they don’t know that each strawberry gets only one number. As a child begins to get this concept, you might see her lining up all the animals and giving each one a leaf to eat. Eventually, they learn that if you are counting something each object gets one number.
- Young children are also beginning to understand the ideas of “more” and “less” and will notice if someone has more cookies than they do, but they don’t clearly understand quantity. If they have one cookie and their friend has one cookie cut into two pieces, they might think that their friend has more cookies. Their ideas about “more” and “less” help them learn to compare more than two things. As they get more experience, they will be able to sort three sticks from shortest to longest or three balls from smallest to biggest.



- Children around the age of 5 can count to twenty, but may miss some numbers (for example, 1-2-3-4-5-6-7-8-9-10-13-14-16-17-19-20). They may count while they are hopping, or waiting for a turn, or just showing you, “I can count to 20!”
- They recognize some written numbers: “See the numbers are in the corner of the page. That is a 6. That is a 7.”
- Five-year-olds can look at a group of things—up to 4—and tell you the number without counting. In reading a book, they can look at the page and tell you, “Now there are 4 ducks.” During snack, a child can look at her plate and announce, “I have 4 crackers on my plate.”
- At five years of age, children can usually count up to 10 objects, pointing at each when they say the number. Putting 10 potatoes in the bag at the grocery store, she can count each one as they go in the bag.
- When counting, children at this age can tell you how many things they have, because they understand that the last number they used in counting is the total number they have. “One, two, three, four, five, six. I have six pinecones!” They can also count the number of people in the family and count the number of napkins they need so everyone can have one.
- They can also tell you that if more dolls are added to the doll bed, there will be more. Similarly, if they count the number of sticks they have as 8 and the number their friend has as 6, they will tell you that they have more than their friend has or that their friend has fewer than they do. If they have five blocks and their friend has five, they will tell you that they both have the same.
- Five-year-old children can do simple addition and subtraction. If they have 6 strawberries, they can ask for one more and tell you they have 7. If they have 5 crackers and they eat two, they might announce, “Now I have three. If I eat two more, I’ll only have one left!” Sometimes they may need to re-count the new group to confirm how many are there.
- They can think about two small groups making a larger group when put together. “I have 3 boats and you have 3 boats. If we put them all in the water, there will be 6 boats.” They can also imagine that a bigger group will be smaller if separated into two groups. “There are 4 cookies. That means 2 for you and 2 for me.”



Tips for families to help children in understanding numbers:

Many of the things that families do naturally with children help them to develop their math and number skills. There are many opportunities in our everyday lives where adults are counting things and children are practicing numbers in their play. Here are some suggestions of things families can do:

- Count out loud, so your children can hear the sequence of numbers and notice how often you use counting in your day.
 - Count the kisses you give your child, count the trees outside your home, or count the number of times the dog barks.
- Point to things as you count them so that children can see how each number you say represents one object.
- Shopping, cooking and eating provide many opportunities for counting:
 - “Shall we get 4 apples or 5? Can you count them for me as I put them in the bag?”
 - “If we get 3 yellow apples and 3 red ones, how many will we have? Let’s count them.”
 - “I think I’ll get the bigger bag of tortillas, because we have all our cousins coming for dinner. Can you reach the bigger one for me?”
 - “We have 3 bags of groceries. Do you think they will all fit in our car?”
 - “How many bags would you like to carry in and how many shall I carry?”
 - “After we wash our hands, can you get 5 tortillas out of the bag for me?”
 - “I need to have 4 potatoes washed. Can you get them out of the refrigerator and scrub them in the sink?”
 - “Can you get the plates to put on the table? How many people do we have in our family? How many plates will you need? Can you make sure there are enough chairs for everyone, too?”
- Ask your child to guess or predict how many things there are and then count them together. Making predictions, even if children's guesses are wrong, gives them a chance to think about numbers and increases their interest in counting.

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- “How many buses will come by before our bus gets here?”
- “How many strawberries do you think are in this basket?”
- You can ask your child simple adding or subtracting questions.
 - “If you have five cookies and you eat two, how many will you have left?”
 - “If you have four pennies and I give you one more, how many will you have?”
 - These little games can be done with actual objects so that your child can see the things. Once they are confident with these problems using objects, you can try asking the questions without the objects.
- You can also invite your child to ask you number questions.
- Children will make lots of mistakes when they are learning about numbers. Without saying that they are “wrong,” you can gently suggest that we count again together. Or you can say, “You counted five ducks and I only see four.”
- These conversations about numbers should be fun. If your child seems stressed or doesn't want to do these games, you can wait and try again later or try a different game. Most young children are naturally interested in numbers. Keeping number activities fun strengthens their natural interest and encourages them to learn more about numbers.

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