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Three cats stack. Four cats teeter and five cats totter. Count and compare cats of different shapes and sizes in this book full of feline fun.

Ages: 2 to 5 years

ATOS Reading Level:

N/A

Lexile: N/A

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Stack the Cats

How would you stack the cats?

Topics: comparison, counting, balancing, sorting, mathematical reasoning, stacking, subtraction, addition, measurement

Activities To Do Together:

As you read the book *Stack the Cats* with your child:

- Notice the different types of cats in the story. Talk about their differences and similarities. Ask your child to describe the cats or point out the colors, sizes, and positions of the cats to your child.
- Count the cats. Notice that two stacks of three cats makes a total of six cats.
- The eight cats tried to stack, but they tumbled. Ask your child how they would arrange the eight cats so they wouldn't fall down.
- Ten cats are just too many! Count how many cats remain once one cat falls asleep. Count how many cats remain after two cats climb up and away.

When you are done reading *Stack the Cats*:

- Explore how many different ways you can stack five different objects.
- Make stacks with toys. Figure out how to stack the toys so they don't teeter, totter, or tumble. How many toys can you stack before they fall? Is that number different depending on what you are stacking?
- Measure the stacks of toys. How tall are they? What do you notice about the differences?
- Find three different ways to stack nine objects.
- Make a group with ten objects. Find all of the ways that you can divide the ten objects into two groups that are equal to ten.
- Find three different combinations of three numbers that are equal to ten.
- Start with a group of stuffed animals. What if two left to play? How many stuffed animals remain? Pick some stuffed animals to run off to play hide and seek, how many are left now?



Conversations During Daily Routines with Infants and Toddlers:

1. Snack time - Stack a snack. Notice the shapes of foods that stack easily.
2. Bed time - Count stuffed animals. Find three that will stack. Talk about which stuffed animal is on the bottom, in the middle, and on top.
3. Play time - Make a stack with different size shoes. Talk about the sizes of the shoes and explore how the different shoes stack. What types of shoes are best on the bottom of the stack? On the top of the stack?
4. Outside time - Look for leaves, twigs, stones, pinecones, and other natural objects. Count them and explore how they fit together.

Questions for Mathematical Thinking:

1. Why do you think the eight cats tumbled?
2. How would you measure a stack of cats? How tall do you think a stack of three cats would be?
3. How would you describe the cats in the story? How are they alike? How are they different?
4. If you had five cats of different sizes, what strategy would you use to stack them to make a tower?
5. How would you stack seven cats? Why?
6. When some cats went off to play, how did it change the number of cats that were left to stack?

Early Math Project Resources:

[Cat Stack](#) (English)

[Compare the Cats](#) (English)

[Cat Illustrations](#)

**Spanish Versions coming soon!

Follow this [link](#) for additional online resources.

Vocabulary for Building Math

Concepts: eight, five, four, nine, one, seven, six, ten, three, too many, two, up

Spanish Title: not available

Also Available in: Chinese

Related Books:

This link to the [World Catalog](#) will help you find *Stack the Cats* in the public library.



Math Connections:

Children need many opportunities to count, to compare quantities, and to recognize the number of objects in a small group without actually counting them (the concept of subitizing). Counting is important because it's key to children's understanding of numbers and quantities. Find ways to incorporate counting into your daily routine. Count the dogs at the park, the books on a shelf, or the buttons on a shirt.

Learning to count includes all of the following:

- Recognizing and learning number names.
- Saying number names in sequence.
 - It's common for children to mix up the order, repeat numbers, and/or omit numbers when learning the counting sequence.
- Understanding the concept of one-to-one correspondence, the idea that each object is counted once.
 - When learning this concept children often count an object more than once, have trouble keeping track of the objects that have been counted, skip over some of the objects while counting, or count all objects without using the correct order of numbers.
- Understanding that when all the objects in a group have been counted once, the last number said represents the total number of objects. This is the concept of cardinality.
 - It is common for children to count the objects in a group and then recount the objects again when asked how many objects are in the group. When children master this concept, they associate the last number said with the total number of objects.
- Knowing the correct order of the number names.
 - As children learn the number sequence it is common for them to omit, repeat, and say the number names in incorrect order.
- The ability to create a group of objects of a certain number, for example making a group of exactly five strawberries when asked to remove five strawberries from a bowl of many strawberries.

Provide opportunities for children to hear and say numbers in the correct counting sequence as part of your everyday activities. Count together and ask your child counting questions. "I wonder how many wheels are on this car. One, two, three, four." "How many people are waiting in this line?"

Vocabulary for Extending Math

Concepts: above, array, behind, beside, left, near, next to, on, right, under

Vocabulary for Reading

Comprehension: agree, prefer, seek, stack, teeter, totter, tumble

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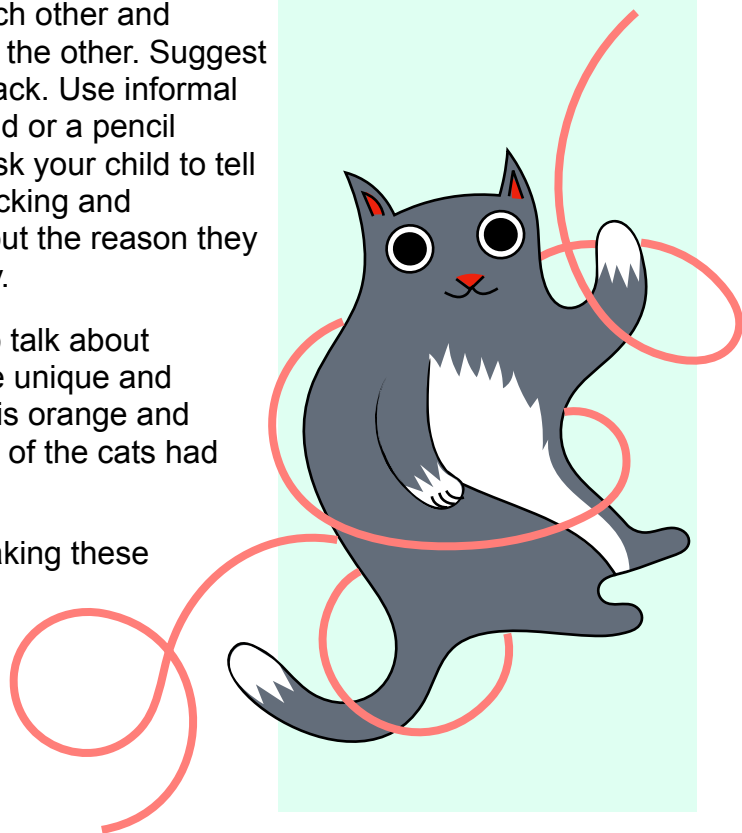
“Which plate has more blueberries? How many more? Let’s find out!”

Give young children opportunities to practice counting the number of objects in a group. Start with a small group of just a few similar objects and gradually add objects as your child gains confidence. Encourage your child to use strategies so they can see which objects have been counted and which remain to be counted. This might include arranging objects in a line or moving the counted objects into a separate pile. Encourage your child to point to or touch each object as it is counted. When your child makes a mistake, encourage them to try again.

Stack the Cats is a playful way to explore counting and to start thinking about combinations of numbers that equal other numbers. Give your child a collection of objects, count the objects, and challenge them to make different stacks with the collection of objects. Let them combine the objects in different ways to see how a number of objects looks when grouped differently. Encourage your child to make a stack of three objects and investigate how the objects stack, to observe what objects make a solid base for stacking, and to identify which objects are most challenging to stack. Let your child test different ways and combinations to stack materials and ask why they think some objects are harder to stack than others. Encourage your child to play with the objects long enough to become familiar with the way they fit with each other and develop a strategy for stacking one on top of the other. Suggest that your child measure the height of their stack. Use informal measurement such as the length of their hand or a pencil length, to measure the height of the stack. Ask your child to tell you about the strategies they used when stacking and measuring. Encourage your child to talk about the reason they chose to stack the objects in a particular way.

Stack the Cats also provides opportunities to talk about attributes. Notice the ways that the cats were unique and describe them. Make comparisons “This cat is orange and small. That cat is white, large, and fluffy.” “All of the cats had two ears.”

Introduce mathematical vocabulary when making these comparisons, talk about the cats’ sizes and positions. “The large black cat is at the bottom of the stack. The smaller tan cat is in the middle of the stack. The smallest orange cat is at the top of the stack.”



FINDING THE MATH: BOOK GUIDE

Age Level	Related Infant Toddler Foundations, Preschool Foundations and CA State Standards
Infant/ Toddler	<p>Classification The developing ability to group, sort, categorize, connect, and have expectations of objects and people according to their attributes</p> <p>Number Sense The developing understanding of number and quantity</p> <p>Attention Maintenance The developing ability to attend to people and things while interacting with others and exploring the environment and play materials</p>
Preschool/ TK	<p>Algebra and Functions 1.0 Children begin to sort and classify objects in their everyday environment</p> <p>Measurement 1.0 Children expand their understanding of comparing, ordering, and measuring objects</p> <p>Number Sense 1.0 Children begin to understand numbers and quantities in their everyday environment</p>
Kindergarten	<p>Counting and Cardinality K.CC.4; K.CC.5; Count to tell the number of objects</p> <p>Operations and Algebraic Thinking K.OA.1; K.OA.2; K.OA.3; Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.</p>