

Goal: Make your own counting book

Grades: K-6

Minimum number of participants: 1

Suggested grouping: individual

Time: 20-60 minutes

Math: counting by 1's, 2's, 5's and other numbers

Materials:

- Colored or white paper: several sheets per child
- Markers or crayons
- Stickers or rubber stamps and ink
- Counting Tickets: 1 or more per child

Prerequisites: writing numbers 0 to 10

Books about counting by numbers other than 1:

Desert Digits: An Arizona Number Book. Gowan, Barbara. (Sleeping Bear Press, 2006).

One is a Snail, Ten is a Crab: A Counting by Feet Book. Pullye Sayre, April and Jeff Sayre. (Candlewick, 2006).

Before beginning

Copy and cut up enough Counting Tickets (pg. 3) so each child can pick one at the right level of challenge.

Optional: Fold sheets of paper in half and staple to make blank counting books (alternatively, each child can do this).

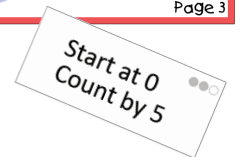
1 Introduce counting books

Read a counting book with the group.

Tell children they will be making counting books. Each page should show a number and a picture to match. Children use stickers or stamps to show how many.



Children choose a Counting Ticket. The ticket shows where to start the count and what to count by.



2 Count and draw

Distribute blank books or paper and art supplies.

As children are working, ask:

How can you group the objects in your pictures so they're easy to count?

Talk About...

3 Share books

Children read to the group or to a partner:

What number comes next? Will there be a page about "17"? Why or why not?

Talk About...

Variations

Count them all (easier). To help count and keep track, children number each object on the page.

Square stories (harder). Read a counting book about square numbers, such as *Sea Squares* by Joy Hulme (Hyperion, 1999). Children make a square number counting book.

Time stories (same as main activity). Each page shows a different time. Younger children count by the hour (noon, 1pm, 2pm...) or month; older ones count by 20 minutes or 10 days (January 1, 10,...).

Counting through the grades

As children count objects in different ways—by 1, 2, 5, or other numbers—they begin to see how larger numbers are made from smaller ones.

Early elementary grades: Count objects one at a time

Counting out objects involves several skills. These include the ability to:

- recite the counting sequence (1, 2, 3...);
- match numbers to amounts;
- keep track of objects counted and those still to be counted;
- relate “one more” to the next number in the sequence.

Can you show me the eight stars on this page? How many stars were on the page before? How many two pages ahead?

As children may flip through their books to find the answers, they work with “more” and “less,” and simple addition and subtraction.



Middle elementary grades: Count objects by 2, 5, and other numbers

Children may know skip-counting patterns from games and rhymes (“2, 4, 6, 8, who do we appreciate?”). Help them connect these patterns to amounts by asking about number of groups a page.

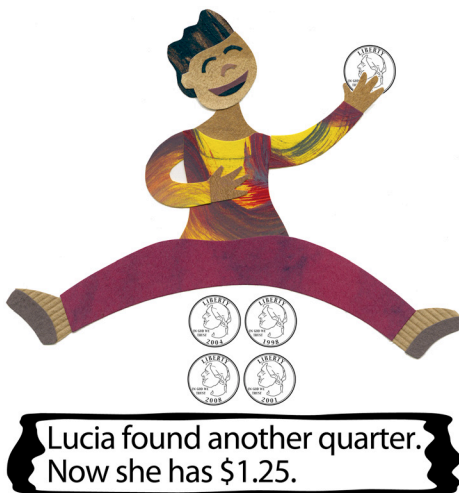
How many groups of four of on page 3? How many will be on the next page? How does grouping the birds in fours help you count them?


Children may count, add, or multiply to find their answers.

Upper elementary grades: Count by $\frac{1}{2}$, $\frac{1}{4}$, and coins

Skip counting relates to multiplying fractions. For example, $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$, $\frac{4}{4}$ —four $\frac{1}{4}$'s is 1. Ask children about combining fractions to make whole numbers.

How many more pages until you get to \$2.00? Will two pages ahead show a whole-dollar amount? How do you know?



| Easy ●○○ | Medium ●●○ | Hard ●●● |
|--|--|---|
|  <p>Start at 0 Count by 1</p> | <p>Start at 0 Count by 4</p> | <p>Start at 0 Count by $\frac{1}{2}$</p> |
| <p>Start at 0 Count by 1¢</p> | <p>Start at 0 Count by 5</p> | <p>Start at 0 Count by $\frac{1}{4}$</p> |
| <p>Start at 10 Count back by 1</p> | <p>Start at 0 Count by 2</p> | <p>Start at 40 Count back by 4</p> |
| <p>Start at 0 Count by 1 dollar</p> | <p>Start at 0 Count by 3</p> | <p>Start at 3 Count by -1</p> |
| <p>Start at 0 Count by 1</p> | <p>Start at 1 Count by 2</p> | <p>Start at 0 Count by 25¢</p> |
| <p>Start at 0 Count by 1¢</p> | <p>Start at 0 Count by 10¢</p> | <p>Start at 21 Count back by 2</p> |
| <p>Start at 10 Count back by 1</p> | <p>Start at \$1.00 Count back by 10¢</p> | <p>Start at 99¢ Count back by 10¢</p> |
| <p>Start at 0 Count by 1 dollar</p> | <p>Start at 0 Count by 5¢</p> | <p>Start at \$3.00 Count back by 25¢</p> |