

CircleTM Time MAGAZINE



Support Dual Language Learners.
Count in home languages!

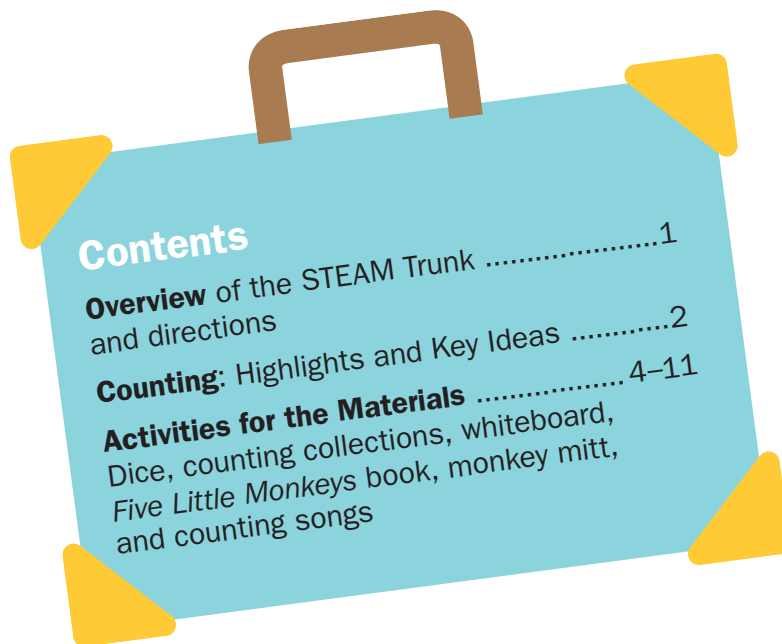


Show children that
numbers are everywhere!



Have fun counting! Use white
boards, counting collections,
puppets, *more!*





STEAM Trunk[™]: Counting

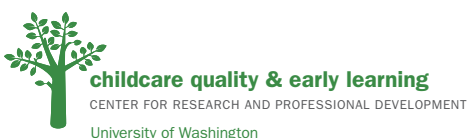
Congratulations on receiving your first STEAM Trunk! This STEAM Trunk is filled with counting materials that you can use in your early learning environment. Watch the corresponding episode of Circle Time Magazine for ideas on how to use these materials. This episode highlights how young children develop an understanding of number concepts.

Participating in the STEAM Trunk project is simple:

1. Review the materials in the box and decide how you will use them (use this guide and the episode of Circle Time Magazine for ideas).
2. Film yourself using the materials and upload a video to Coaching Companion www.cqelcoach.org
3. Once your video is successfully uploaded to Coaching Companion we will send you the next trunk.

This Trunk contains:

- Inflatable dice
- Counting collection (clear container and puff balls)
- Mini white board with a marker and eraser
- *Five Little Monkeys* book and monkey mitt
- Counting cards
- Choking hazard measuring tube
- Dice template
- STEAM Trunk enrollment letter
- Disclaimer

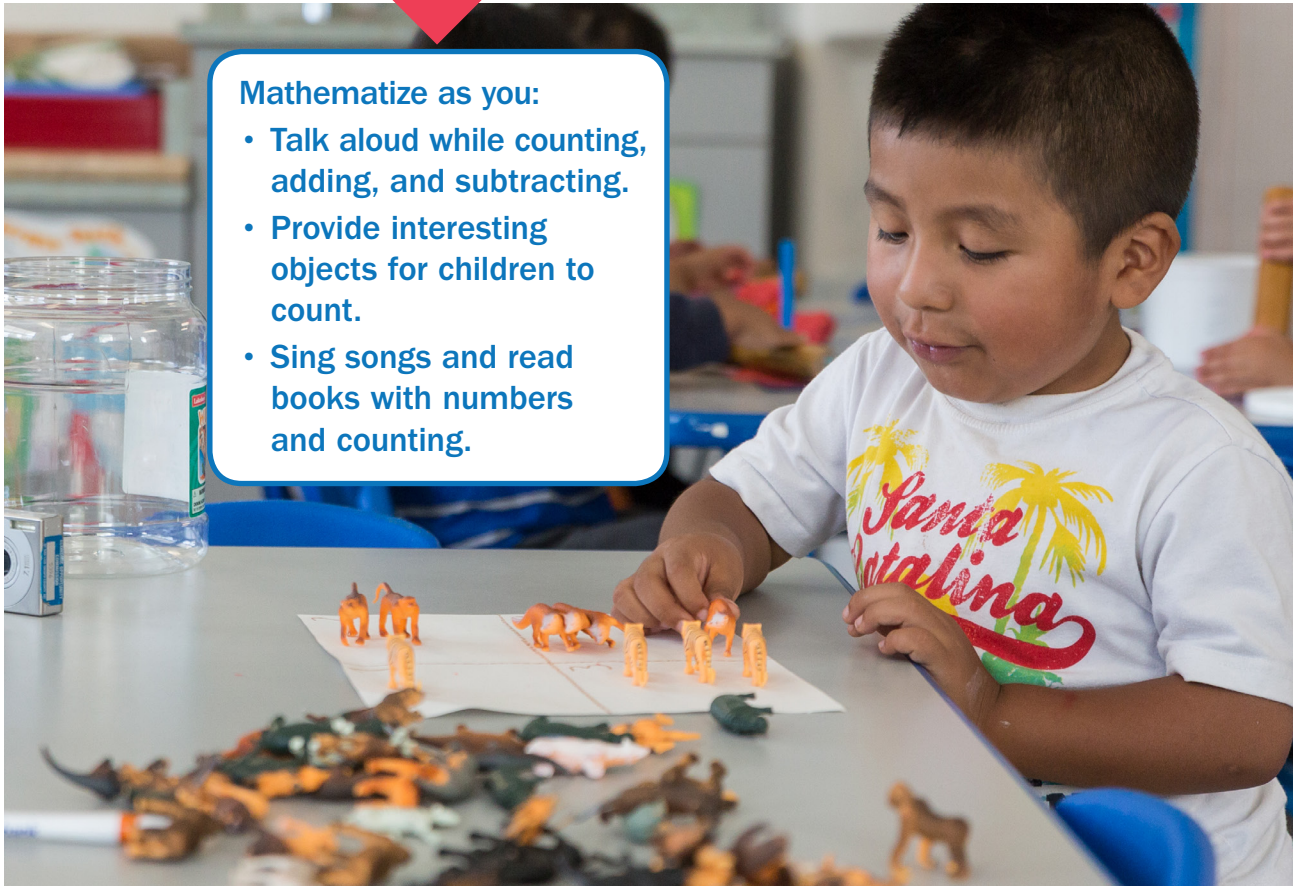


For questions or comments contact CTmag@uw.edu

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COUNTING: Highlights and Key Ideas

Mathematize! Mathematizing means bringing out the math in what children are doing by commenting on and asking questions to encourage children's comments.



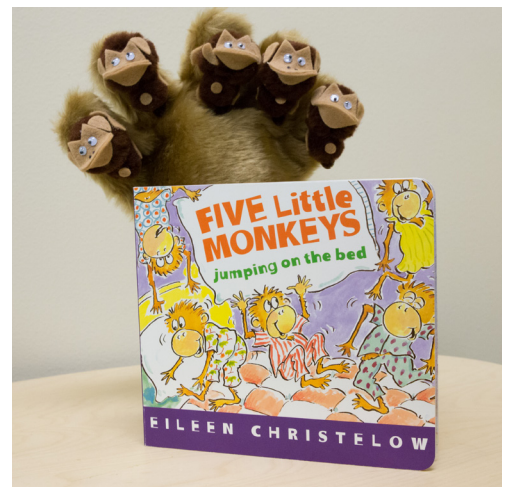
Mathematize as you:

- Talk aloud while counting, adding, and subtracting.
- Provide interesting objects for children to count.
- Sing songs and read books with numbers and counting.

Math is More Than Counting

Understanding number concepts helps educators promote the development of number sense in young children. Key number concepts include:

- **Cardinality:** The last number counted is the total number of objects in a group.
- **Subitizing:** Recognizing without counting how many objects are in a group.
- **Counting sequence:** Counting words are always said in a specific order.
- **One-to-one correspondence:** Understanding that you can assign only one number to an object.
- **Combining and separating:** Putting together and taking apart sets to create new sets.



Refer to the Washington State Early Learning Guidelines for guidance on what children know and experience about math. <https://del.wa.gov/helpful-resources/washington-state-early-learning-and-developmental-guidelines>
Here are some highlights related to this trunk of materials:

Learning About My World: Math

With **infants**, it's all about the relationship and connection educators have with infants in their care. The goal is to expose infants to math through talking, singing, and playing.

- **Play with toys and things of different shapes and sizes.**
- **Understand the idea of more related to food or play.**
- **Put things together, such as simple matching puzzles and nesting cups.**

Toddlers practice, explore and experiment with math. Accuracy with counting is not the priority. Educators can provide many opportunities to practice and experience math.

- **Count to at least 10 from memory.**
- **Begin counting small groups of up to five items.**
- **Understand the concepts of one and two, such as by following directions to take one cracker.**
- **Recognize and name a few numerals.**

Preschoolers are capable of so much math and can demonstrate what they know.

- **Count to 20 and beyond.**
- **Count 10 or more objects accurately.**
- **Count out 10 items and often use fingers, body parts, or other counters.**
- **Count and group things by number.**
- **Find the sum when joining two sets of up to five objects.**
- **Identify by sight how many are in a small group of objects, up to four.**

Support Dual Language Learners

- Count in children's home languages.
- Use gestures, movement, and pictures.

Individualize

- Use large manipulatives.
- Provide additional opportunities.
- Allow more time.

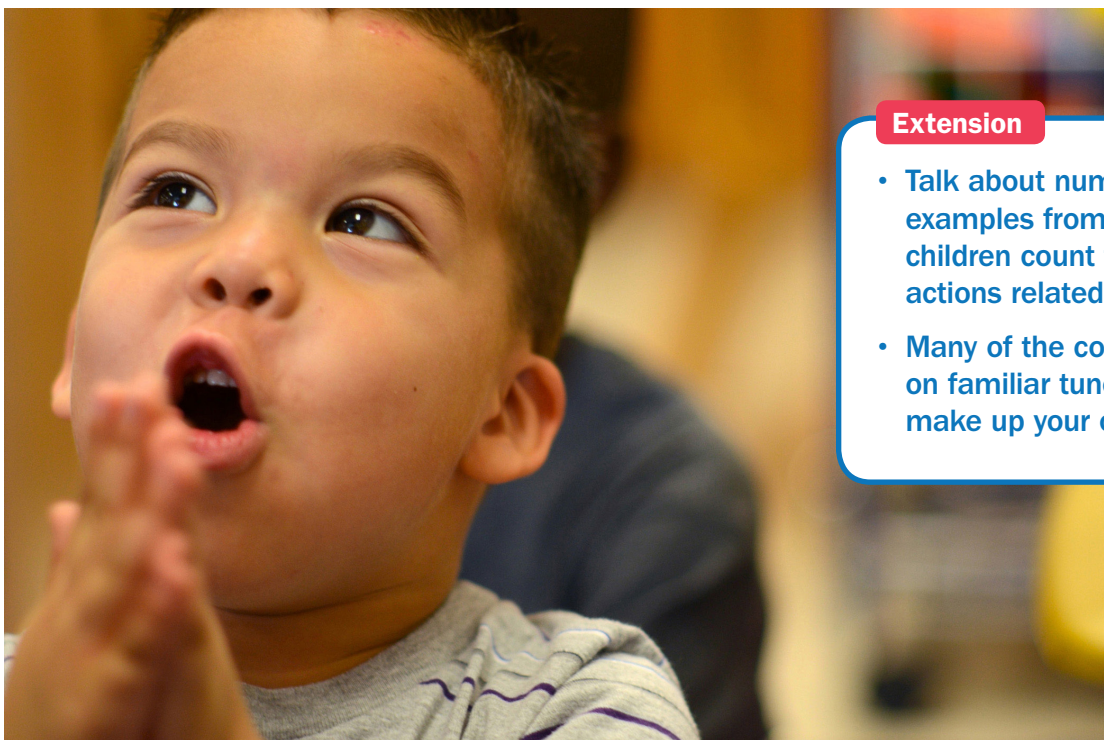


Counting Songs

Songs are helpful tools for educators to reinforce children's learning. Young children often know the words to a song before they can read the words in a book. Educators can use the counting card songs during transitions or movement activities throughout the day.

Activities

- Use the counting song cards throughout the day to help children make smooth transitions between activities.
- Sing songs together at group time. Have children clap or jump as they sing each number in the song. Prepare props (e.g., toy animals, picture cards, musical instruments) related to the song for children to manipulate and count. You don't have to use the props. You can do what you want be creative!



Extension

- Talk about number concepts using examples from the songs. Have children count the props or enact actions related to the song.
- Many of the counting songs are based on familiar tunes. Be innovative and make up your own verses!

Developing Math Skills

Here is a suggestions for number concepts that are addressed when using counting songs. You can use these to create learning goals:

Counting sequence: Counting songs have repetitive verses with patterns that help children remember the counting sequence. There are opportunities to count up and count down.

Mathematizing Teaching Moves

- Ask families to share favorite counting songs, especially songs in children's home languages. Encourage children to count and sing along in their home languages.
- Use gestures as you sing the song.
- Have children add their own verses to songs or make up their own.

Inflatable Dice

These large inflatable dice are high interest and provide a variety of activities you can offer to practice number concepts.



Extension

Make your own dice! Check out the Circle Time Magazine episode for a quick tutorial and a dice template at the end of this magazine.

Developing Math Skills

Here are some suggestions for number concepts that are addressed when using dice. You can use these to create learning goals:

Subitizing: Recognize small quantities (1 to 3 items) instantly, without counting.

One-to-one correspondence: Say only one number word for each dot.

Counting sequence: Count the dots using number words.

Cardinality: Answer the question, “How many?”

Combining and separating: Add the two numbers on each dice.



Activities

Infants will love these large attractive dice. Talk with infants about what they see and do with the dice. Use number words and count aloud as you point to the dots.

Toddlers will be very interested in playing with these large dice. Help toddlers roll the dice and count the dots. Invite children to use gestures, movement, and manipulatives. Children can use their fingers to count, touch each dot with a *counting wand*, place a block on each dot, or jump for each dot as they count.

Preschool children take turns rolling the dice. Help children identify the number of dots on the top face of the dice. Two children can roll two dice, identify the number of dots on each die, then add the two numbers. Keep a clipboard with a piece of paper handy. Draw a line down the middle to form two columns and let the children keep score themselves.



The dice are waterproof and easy to clean. Take them outside to play a game!

Mathematizing Teaching Moves

- Don't worry if a toddler does not count accurately. You can support toddlers by modeling the counting sequence and providing lots of opportunities to practice.
- Use reminder prompts, like, "Remember to say only one number for each dot."
- Model counting and cardinality by counting objects and saying, "I counted and I see that there are four objects here."
- Provide visual cues: Hold up fingers or use number cards to help children identify *how many*.

Talk About It

- "You rolled the die. I see two dots!"
- "Let's count the dots."
- "How many dots do you see?"
- "Which die has more dots?"

Counting Collections

Counting collections are a terrific way to learn about numbers.

You can use many different objects for a collection as long as the individual items are safe and interesting for the children. Use the choking hazard measuring tube to make sure objects do not fit through the tube. Here are some examples:



Developing Math Skills

Here are some suggestions for number concepts that are addressed when using counting collections. You can use these to create learning goals:

Subitizing: Recognize small quantities (1 to 3 items) instantly without counting.

One-to-one correspondence: Count out loud and point to the puff balls one at a time.

Counting sequence: Practice counting the puff balls using number words. This skill develops over time, preschoolers may do this while toddlers may use number words out of order, which can be developmentally appropriate.

Cardinality: Answer the question, "How many?"

Mathematizing Teaching Moves

- Toddlers and preschoolers get excited about their age. Depending on ability provide children with puff balls or have children select the number of puff balls that matches their age.
- Use gestures or make sounds (clap your hands, ring a bell, or use a drum) to help children count using one-to-one correspondence as they drop objects in a container.
- Provide visual cues: Hold up fingers, or use number cards to help children identify *how many*.

Activities

Count aloud as **infants** explore the puff balls. Model placing balls into the container. Start with small numbers. Offer them 1, 2, or 3 puffballs. Help infants ask for “more” with the sign language for “more” or responding when they reach for more of an object by saying, “It looks like you want more of...”

Help **toddlers** sort puff balls, by color or amount, into different containers. Count aloud together as the children drop balls into the containers. Use number words and compare amounts in different containers.

Invite **preschool** children to count the puff balls as they place them in a container. Ask them to tell you how many balls are in a container. Have them compare amounts in different containers and determine which has more, less, or an equal number of balls.



Let children collect their own materials, bring them from home, or collect them on a nature walk.



Use a counting card or egg carton as a platform for placing each item so that children practice one-to-one correspondence.

Extension

Increase the number of counting collections you have! Add more collections to containers with a specific number of items so children practice counting to that number. Use a counting collections key to keep track of how many items are in each container. Label your counting collections.

- As preschoolers become fluent with counting, encourage them to collect even more items so that they can count beyond 10, 20, and beyond!
- Help preschoolers record amounts. They can draw and color a picture to show the number and colors of items in a container.

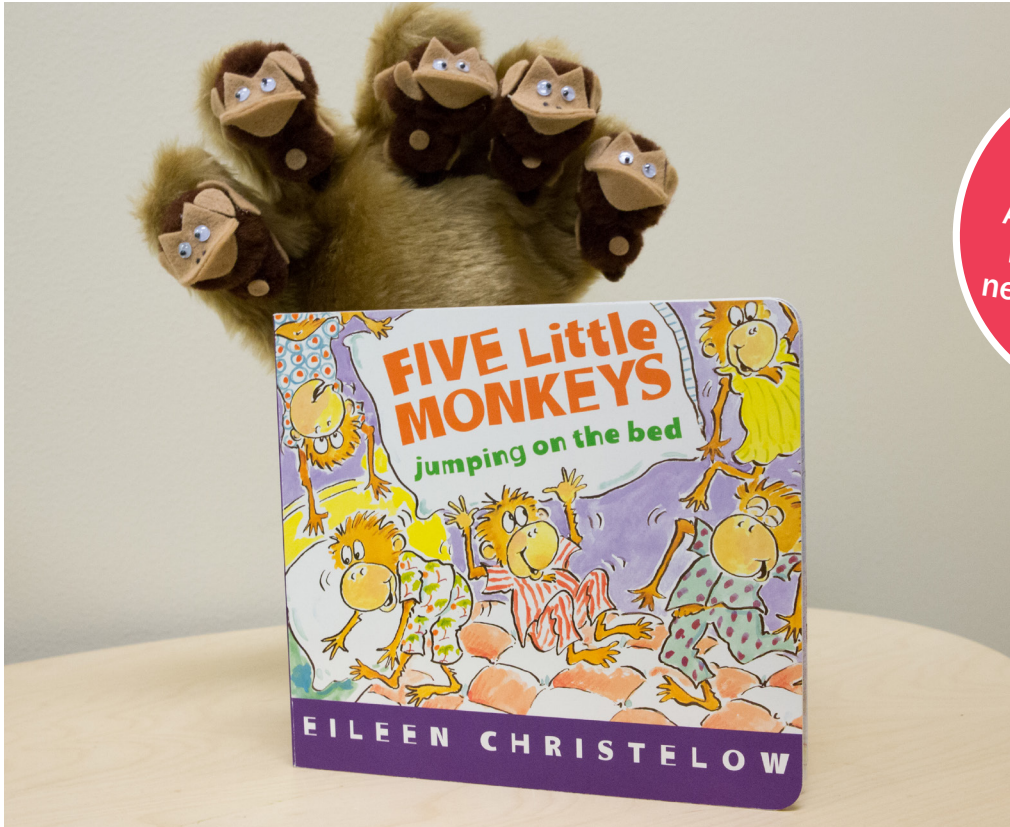
Talk About It

- “You put one yellow ball in the container.”
- “How many puff balls are in your container?”
- “Which has more?,” and, “How do you know?”
- “What if you add one more?”
- “What if you take one away?”



Five Little Monkeys and the Monkey Mitt

Practice number concepts by using counting books, especially those with a recognizable number pattern. Using the monkey mitt that goes along with the book helps make number concepts more concrete.



Put two monkeys on the mitt. Ask children how many more you need to get to four monkeys.

Take monkeys off the mitt and have children say how many are left by looking and not counting.

Developing Math Skills

Here are some suggestions for number concepts that are addressed when using the book & monkey mitt. You can use these to create learning goals:

Subitizing: Recognize and talk about the small quantities (0 to 5 items) of monkeys on the mitt instantly without counting.

One-to-one correspondence: Say only one word for each monkey as they take off and put back the monkeys on the mitt.

Cardinality: Ask the question, “How many monkeys?”

Combining and separating: Identify and discuss how many monkeys need to be added to reach a certain number.

Great counting books:

- *Romeo and Juliet*
- *1, 2, 3, Go!*
- *We all went on Safari*
- *What comes in 2's, 3's, and 4's*
- *Fish Eyes*
- *Prairie Dog Goes to School*
- *The Real Princess: A Mathematical Tale*
- *One Hundred Hungry Ants*

Activities

Read the book and use the puppet to help you count down the monkeys falling out of the bed along the way. While reading the book, pause, make comments, and ask questions to help children keep track of how many monkeys are left on the bed or have fallen off.

Encourage **infants** to explore the book and monkey puppet. Label pictures and count the monkeys. Let infants touch and hold the soft monkey mitt and puppets, engaging their sense of touch and comfort.

Help **toddlers** place monkeys on the mitt and remove them. Count the monkeys together. Encourage children to use fingers to touch each monkey as they count.

With **preschoolers**, play a Mr. Mix-Up Game using the monkey mitt while you are reading the book. The “monkey” will have to make a mistake in counting. For example, on the page when there are three monkeys left in the bed, there could be one monkey left on the mitt. This will give the children the opportunity to correct the mistake and count the monkeys accurately.

Extension

Mathematize a book!

- Find the number sense in a non-counting book by looking for things to count in the book.
- Look for counting books in languages other than English.

Mathematizing Teaching Moves

- Provide choices: “Are there three monkeys left on the bed or only one?”
- Use visual cues (i.e., fingers, number cards) to help children identify how many.
- Put children in groups that correspond to the number of monkeys left on the bed. Have children count how many are in the group.
- Have children join or move out of the group. Talk about how the numbers changed.

Talk About It

- “I see two monkeys, one, two.”
- “Let’s count the monkeys!”
- “How many monkeys are left?”
- “How many monkeys stay on the bed if one more falls off?”
- “What would happen if one got back on?”
- “Are there more monkeys on or off the bed?,” and, “How can we find out?”

Whiteboard and Markers

Use a mini whiteboard during transitions between activities to help **preschoolers** practice counting.

Activities

- While children are waiting in line, take a tally of how many are wearing a certain color.
- Count the children in line by making a tally mark on the whiteboard as you go down the line.
- Write an addition or subtraction problem on the whiteboard and have the children show you the answer with only their fingers while their mouths stay quiet.



Developing Math Skills

Here are some suggestions for number concepts that are addressed when using the whiteboard. You can use these to create learning goals:

Counting sequence: Observe the numbers or tally marks counted in order.

Combining and separating: Add and subtract numbers.

Extension

The “special helper of the day” can be in charge of the whiteboard and decide what to count and how it is recorded.



Mathematizing Teaching Moves

Here are some suggestions for helping children practice counting and cardinality during transitions:

- **Provide reminders:** “Remember say only one number for each tally.”
- **Explain cardinality:** “The last number you said tells us how many.”
- **Provide visual cues:** Hold up fingers, or use number cards to help children identify how many.
- **Provide choices:** “Do we have five children wearing green or only three?”

Talk About It

- “How many children are wearing red today?,” and “How do you know?”
- “Which color do we have the most of?”
- “What if we put together children wearing red and children wearing blue?”
- “How many children do we have if all the children wearing blue leave the line?”