

Problem Solvers Activity 3: Just Like Mine

CHILDREN ARE LEARNING TO...¹

- Recognize the number of small objects in groups without counting (referred to as "subitizing").
- Say or sign some number words in sequence (1, 2, 3...), starting with one.
- Understand that counting words are separate words, such as "one," "two," "three" versus "onetwothree".
- Understand that the last number named represents how many objects are in a group (cardinality).

MATERIALS NEEDED:

10 4" x 6" index cards

Round dot stickers, all one color

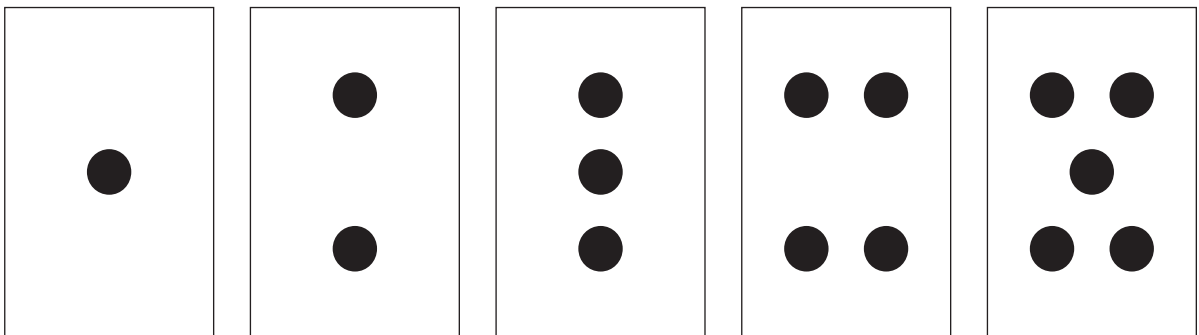
Collection of manipulatives (dried beans or pasta, dominoes, plastic bear counters, etc.) to use as counters. Plan on 10 per child, or 40 total.

4 small baskets

Colored paper, one piece per child

PREPARATION:

- Create two sets of five index cards, each with dot stickers that represent the quantities 1 through 5. That is, put 1 sticker on a card; 2 stickers on the next card, and so on until you have five cards. The cards should display quantities as on a pair of dice:



- Place 10 counters in each of the 4 baskets.
- Prepare copies of the parent handout for distribution.
- If you plan on implementing the optional book activity, refer to the preparation instructions in that section.

¹ Head Start Early Learning Outcomes Framework: Ages Birth to Five. <https://eclkc.ohs.acf.hhs.gov/interactive-head-start-early-learning-outcomes-framework-ages-birth-five>

Activity Instructions

ENGAGE

Gather a group of 4 children at a table or in a circle on the floor. Give each child a basket of counters and a blank piece of paper.

Show children the card with two dots on it.

ASK: What do you see on this card? What does it look like to you?

Elicit children's responses and opinions about what the two dots might be. Their observations don't have to be math-related—for example, they might see two eyes or two cookies. Children may use math language at some point as they share their thoughts. If they do, you can agree: Yes, there are two dots.

Give each child a basket of counters.

SAY: This card has two dots. These dots can be anything—[give examples from your discussion]. Now let's play a matching game with our dot cards.

EXPAND

Position the "2" card where all children can see. If you prefer, lay down both "2" cards so all children can easily see the quantity. Place a piece of colored paper in front of each child to create a defined space for each of them to work.

ASK: Can you use your counters to make a set that is *just like my card*?

Give children time to complete their sets.

SAY: Let's check. How many dots are on my card?

OBSERVE: Children may show they are subitizing (recognizing the quantity without counting) when they reply.

SAY: I'm going to count the dots on my card: 1, 2 (*point as you count*). Two dots! Now it's your turn.

Work with each child individually to give them a chance to compare their set to your card.

If children have correctly created a matching set, say: I have two dots on my card, and you have two counters. Our sets are the same. They are equal.

If children have included too many or too few dots, place your card next to their set so it's easier to see one-to-one correspondence.

ASK: Hmmm, do our sets look the same or different? How does your set compare to my set—is it the same or is it different? What makes it different? What do you see? Do you have more than my card? Do you have less than my card?

Listen to the child's thinking about comparing the sets.

Say: Let's figure it out!

With the child, point and count the dots on your card: I have 2 dots. Can you put a counter on each of the dots on my card? Yes, now you have two counters: 1, 2. You made a matching set.

EXPLORE

Repeat the group activity. Continue playing the game as a group. Stack the cards and give each child a chance to draw a card for other children to match using counters.

Try Just Like Mine as a partner activity—for children aged 3.5 and up. Form pairs of children. Ask one child in the pair to choose a set of counters and put them on their paper. The other child needs to place counters on *their* page to make a matching set. Move among the children, observing the matches and prompting for problem-solving if children are struggling. Prompt children to switch roles so each child has several turns to both create sets and make matches.

If this proves too difficult, you can give each pair of children a set of cards and they can play the game using the smaller sets shown on the cards.

OBSERVE: As children explore in groups, teachers may ask reflective questions like:

- What did you do to figure out how many counters you needed?
- I'd like to hear how you worked to make your matching set.
- Tell me about what you did to find out how many counters you needed.

REFLECT

To close the activity, bring the children back together. Use a reflective question/s - like those below - to prompt children's thinking about counting and quantity.

- When your partner laid out their counters, what did you do to make a set of counters just like theirs?
- Tell me about how your team made matching sets. How did you figure out how many counters you needed?
- Did your partner help you make a matching set? What did they do?

Individualizing the Activity

MAKE IT MORE CHALLENGING:

- Once students can reproduce a set with two or three dots, you can increase the difficulty by showing your card for a brief time (2-3 seconds), and then hiding it. (Because subitizing involves recognizing a small number of items without counting, children learn from experience, rather than being specifically taught.)
- Make additional cards featuring larger sets of 6 - 10 dots.

MAKE IT LESS CHALLENGING:

- Use the cards showing 1-3 dots.
- Have students place the card on their paper and use it as a model. This allows children to match sets using their knowledge of one-to-one correspondence and subitizing (recognizing/comparing small quantities without counting).

Note: Teachers can support children's growing understanding of cardinality by asking "how many" after children count out their set. This helps the teacher determine if children understand the total number in the set..

MAKING CONNECTIONS ACROSS THE DAY:

- Show crackers on a plate and ask students to create a matching set by putting the same number of crackers on their plates.
- While outside, assemble a set of three or four pebbles or pine cones and ask children to make a set that matches yours.
- Inside during free play or centers, encourage children to match the number of blocks you have or the number of forks in the dramatic play area.
- Use pretend play items to make matching sets, for example 3 eggs and 3 pans, or 3 horse figurines and 3 "riders."
- Place three hula hoops on the playground and ask students to make a matching set by putting a ball in each.

Song: *Making Sets*

Verse 1: Let's make some sets; it's lots of fun.
Let's start by making sets of ONE.
I have ONE, is yours the same?
Let's count together...ONE – hooray!

Verse 2: My next set is a set of TWO;
Make your set match; yes, please do!
I have TWO, is yours the same?
Let's count together...ONE TWO – hooray!

Verse 3: Now I have a set of THREE;
I'm happy making sets, YIPPEE!
I have THREE, is yours the same?
Let's count together...ONE TWO THREE – hooray

Verse 4: I bet you guessed my next set, FOUR!
Each time my set has just one more!
I have FOUR, is yours the same?
Let's count together...ONE TWO THREE FOUR – hooray!

Verse 5: My last set today is FIVE
Just like my fingers wiggle and jive!
I have FIVE, is yours the same?
Let's count together...ONE TWO THREE FOUR FIVE – hooray!

BUILD ON THE SONG:

Gather 5 counters for the teacher and each child. Provide each child with five counters and a blank piece of colored paper that they can use as workspace.

As the song plays, the teacher can create the sets as prompted by the song by placing the correct number of counters on their paper. Encourage the children to play along and create sets with the song too.

An alternative activity (requiring no materials) is for the teacher to prompt children to hold up the correct number of fingers (1-5) according to the prompts in the song.

Making Literacy Connections

Share the following book with children as an opportunity to deepen their understanding of counting and quantity. The literacy extension activity below suggests another play-based experience to invite counting.

Suggested Book: *Ten Black Dots* by Donald Crews

AS YOU READ:

Count the dots with children on each page. Point to each dot as you count it.

Repeat the total number of dots when done counting to model knowledge of “how many” (cardinality):
*1, 2, 3, 4. There are **four** dots on this page.*

BUILD ON THE BOOK:

Materials: Black dot stickers—10 per child; blank paper—1 piece per child; crayons

1. Say, “Now we are going to create our own dot pictures!”
2. Using dot stickers, ask each child: “How many dot stickers would you like?”
3. If they are unsure, ask differently: “Would you like 1 sticker, 2, 3, 4, 5, 6, 7, 8, 9 or 10 stickers?” (Stop at 5 for 2 ½ year-olds.)
4. With the child, as you take out the stickers, point to each and count aloud until you get to their chosen number. Give them the set of stickers, a piece of paper, and crayons.
5. Give children time to create their dot picture.
6. If time allows, ask each child to show you their picture, tell you about it, and count the dots one more time.

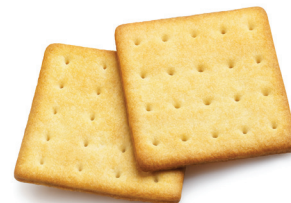


Counting Fun During Everyday Moments

This week, look for ways to practice making sets of 2, 3, or 4 objects. If your child can easily do this, try making larger sets of 5-10 objects.

Here are some ideas to try:

- At mealtime, put two, three, or four snacks—like carrots, crackers, or apple slices—on a plate. Then ask your child to make a plate that looks like yours. Count together.
- Use clean-up time to practice making sets. Pick up two blocks and show them to your child. Say, “I have a set of two red blocks. Can you find a set of two red blocks?”
- When at the grocery store, ask your child to help you count out items you are choosing—3 apples, 2 loaves of bread, and more. You can also count on the bus or subway (how many doors or passengers), or even at the park (how many swings or garbage cans).





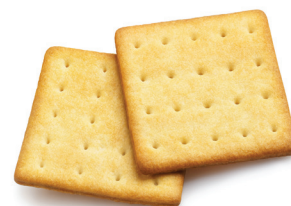
Solo para familias

Contar durante los momentos cotidianos es divertido

Esta semana, busque formas de practicar la creación de conjuntos de 2, 3 o 4 objetos. Si su hijo puede hacer esto fácilmente, intente hacer conjuntos grandes de 5 a 10 objetos.

Aquí hay algunas ideas para probar:

- A la hora de comer, coloque dos, tres o cuatro bocadillos, como zanahorias, galletas saladas o rodajas de manzana, en un plato. Luego pídale a su hijo que haga un plato que se parezca al suyo. Cuenten juntos.
- Utilice el tiempo de limpieza para practicar cómo hacer conjuntos. Recoja dos bloques y enséñele a su hijo.
Diga: "Tengo un conjunto de dos bloques rojos."
¿Puedes encontrar un conjunto de dos bloques rojos? "



Cuando esté en el supermercado, pídale a su hijo que le ayude a contar los artículos que está eligiendo: 3 manzanas, 2 barras de pan y más. También puede contar en el autobús o en el metro (cuántas puertas o pasajeros), o incluso en el parque (cuántos columpios o botes de basura).

