

Unit Name/Theme: Operations and Algebraic Thinking/Hide-and-Seek Math

MATH

What are we doing?

Working with manipulatives, you will explore how many different combinations of numbers can be used to make the same number. Then you will use this information to play hide-and-seek games. The games will also introduce positional words and phrases.

Purpose/Why?

Children will learn that smaller numbers can be put together to make larger numbers, and larger numbers can be broken down into smaller numbers (composing and decomposing numbers.) The *Learning Pathways in Numeracy* identifies this as a foundational concept for children to understand before beginning kindergarten. Using positional words will help children gain understanding of spatial relationships, which is an important early geometry skill.

Materials provided: 10 rubber ducks, cat template

You will need to provide: A box or container and/or a table

Optional materials: felt, felt board

Books:

"Five Creatures" by Emily Jenkins
"Five Little Ducks" by Denise Fleming
"Stack the Cats" by Susan Ghahremani



Vocabulary Builder:

total, amount, add, subtract, more, less, equal, inside, outside, above, below, in front of, behind

ENGINEERING

TECHNOLOGY

SCIENCE

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Quick Start:

Give your child time to explore the ducks by counting, sorting, etc. Next, start with 5 rubber ducks. Count the ducks together. Together, divide the ducks into different combinations:

- 1 duck on one side, 4 on the other.
- 2 ducks on one side, 3 on the other.
- 3 ducks on one side, 2 on the other.
- 4 ducks on one side, 1 duck on the other.

This shows children that it doesn't matter which order the items are added together, and helps them see the number 5 broken down into smaller numbers.

ENGINEERING



Quick Start, continued:

Next, read "Five Little Ducks," by Denise Fleming. Watch the pictures closely to see how many different ways you can see "five" in the pictures. Now, play a game of hide-and-seek with the rubber ducks. Have children cover their eyes and hide a few of the ducks behind your back. Then, have them figure out how many ducks you hid by looking at the number of ducks that are still there. Repeat until the child starts to demonstrate understanding of the concepts. While you're playing, be sure to use positional words and phrases such as "behind" and "in front of". Also, introduce vocabulary words where appropriate.

TECHNOLOGY



Ask a Question:

How many ducks do I have in front of me? How many ducks are hiding behind my back? How do you know? I have 2 ducks in front of me, how many will I need to add to have 5 ducks total?

SCIENCE

Show Me; Show a Friend:

Ask your child to show you how many different ways they can make 5 with the ducks. Then, give them a chance to be the hider and they can ask you the questions while you figure out how many are hiding.

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Deeper Dive:

Once children have mastered 5, move on to 10 ducks. Repeat the same steps as above. When working with 10 ducks, you can also introduce the idea of equal. To add additional positional words and phrases to the activity, introduce a box or table to the game. You can now hide items "inside" the box and leave some "outside". If you use a table, you can have ducks "above" and "below". You can also work on positional words and phrases by hiding a duck somewhere in the room and playing 20 questions to find it. Children can ask questions such as, "Is it to my left? Is it underneath something? Is it below my knees? Is it behind the couch?"



Deeper Dive:

Use the felt cat template to cut out 10 cats in a variety of colors and sizes. Read the book, "Stack the Cats" and have your child follow along stacking the cats in the same way they are stacked in the book. Let your child play with the 5 felt cats stacking them in a variety of different ways. Talk about what combinations there are. Once they are comfortable with 5 you can do the same activity with 10 cats. You can also play the same hide-and-see games as you played with the rubber ducks. An alternate to making felt cats is to photo copy the template and then color and cut out cats to use for the activities.

Other Activities:

- Dump the rubber ducks into the sink or tub. Watch to see where they end up. How many are on each side? Try again and see if the results are different.
- Play *Simon Says* using lots of positional words.
 - "Simon Says...
 - ...hide your hands behind your back."
 - ...wave your hands above your head."
 - ...put one foot in front of the other."
- Play *Simon Says* with ducks or cats.
 - "Simon says...
 - ...balance your duck on top of your head."
 - ...hold your duck between your knees."
 - ...stack two cats on your left, and three cats on your right."

