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Introduction

Preschool Math is packed with hands-on activities that introduce young children to math. Children are born with a huge appetite for learning and exploring. The preschool age is a terrific time for exposing children to basic math concepts and getting them excited about math.

This book is divided into seven sections, each covering a particular area of math. Concepts range from numbers and counting to patterns and graphing. At the beginning of each section, there is an explanation of how preschool math activities fit into a child's overall development. Literature resources are also provided to help you enhance children's learning.

Preschool children learn best by doing, and this book offers a wide variety of activities that let children explore math by experimenting and "playing." Action songs, art projects, games, puzzles, and cooking activities are all incorporated to help make math experiences meaningful and stimulating.

Opportunities to teach math are all around you. That's because almost everything preschoolers do can be turned into a learning experience. *Preschool Math* has been designed to help you make the most of the work you already do with preschoolers and to help you incorporate math naturally and playfully into the lives of children.

Numbers and counting are important parts of a child's everyday world. *How many blocks are there? Is there enough? How old are you?* All of these questions require an understanding of numbers. Many children begin learning numbers by saying them in sequence (e.g., *one, two, three*), as if they were words to a song. Later, children start learning that numbers are symbols that stand for something. Counting objects is a way for them to experience that *one* stands for "one thing" while *two* stands for "two things." When counting objects in a set, children learn that the last word in the counting sequence names the quantity for that set. For young children, an understanding of numbers and counting marks the beginning of mathematical reasoning.

Learning Concepts

- 👉 Number names
- 👉 Rote counting by ones
- 👉 One-to-one correspondence
- 👉 Relating number to quantity
- 👉 Counting sets of objects

Numbers and Counting

Books to Share

Counting Rhymes, edited by Shona McKellar (DK PUBLISHING) 📖 This collection of counting rhymes introduces children to numbers and poetry. The full-color photographs and catchy rhymes will delight young learners.

Five Little Ducks by Pamela Paparone (NORTH-SOUTH BOOKS) 📖 In this adaptation of a traditional counting rhyme, five little ducks disappear one by one while their mother is busy with her chores. Later, everyone celebrates when all five ducks return home.

Mouse Count by Ellen Stoll Walsh (HARCOURT) 📖 A hungry snake finds ten mice and counts them into a jar for dinner—"One, two, three . . ." But the mice outsmart the snake and "uncount" themselves out of the jar—"Ten, nine, eight . . ."

One Duck, Another Duck by Charlotte Pomerantz (GREENWILLOW BOOKS) 📖 A young owl named Danny goes to a pond with his grandmother. They see a mother duck with her babies following right behind her. Danny practices counting as each duck swims by.

Over in the Grasslands by Anna Wilson (LITTLE, BROWN AND COMPANY) 📖 This colorful counting book features African animals and their babies. Young readers count their way from 1 to 10 as they meet rhinos munching, hippos swimming, lions playing, and more.

When One Cat Woke Up: A Cat Counting Book by Judy Astley (DIAL BOOKS) 📖 A cat wakes up and gets into mischief. She steals two fish, fights three teddy bears, crumples four shirts, and so on. After leaving ten muddy paw prints on the floor, she goes back to sleep.

Let's Recite

Skills: saying number names, rote counting by ones

Try these simple activities to help children practice saying number names and counting by ones:

- Have the children clap as they count aloud by ones to 5 or more. Let them practice counting backward as well.
- Have children sit on the floor and start counting. As each number is said, point to a child to stand. Stop at 10. Then have the children who are standing sit down. Repeat the activity, choosing ten other children to stand.
- With the class, begin counting aloud from 1 to 5. Clap as you say each number, and have the children follow your actions. Without skipping a beat, continue counting from 6 to 10, but change your actions. For example, instead of clapping, slap your thighs or tap your elbows. Continue counting, changing your actions every five numbers.



Materials

- none

When I Count

Skill: saying number names

Teach the children this action rhyme to give them practice with number names:

*When I count one,
I run and run. (running in place)*

*When I count two,
I tap my shoe. (lightly tapping shoes on the floor)*

*When I count three,
I bend my knee. (bending knees and
squatting)*

*When I count four,
I touch the floor. (with knees still bent,
touching the floor with both hands)*

*When I count five,
I jump up high! (jumping up)*



Materials

- none

One, Two, Buckle My Shoe

Skill: saying number names

Materials

- none

Have the children recite the following counting rhyme with you. As they say each line, have them perform the appropriate action:

One, two, buckle my shoe, (bending over and touching toes)

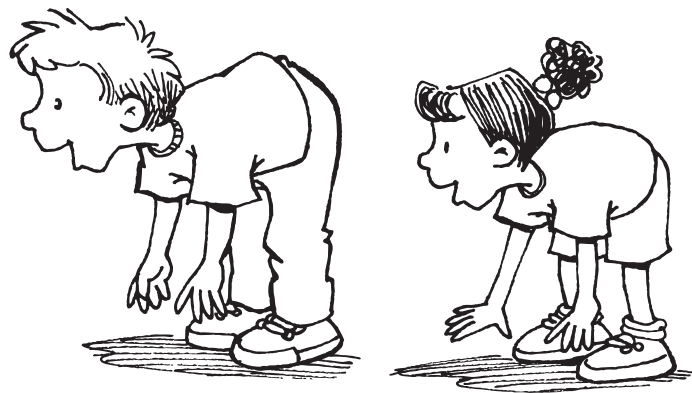
Three, four, shut the door, (pretending to shut a door)

Five, six, pick up sticks, (pretending to pick up sticks)

Seven, eight, lay them straight, (pretending to lay down sticks)

Nine, ten, a big fat hen! (flapping arms at sides like a bird)

Variation: Have the children sit on the floor or in chairs. As they say the rhyme, have a child stand when each number is called.



Scramble!

Skill: recognizing number names

Materials

- 4-inch (10 cm) squares of construction paper (1 per child)
- marker
- hole punch
- yarn

Label each square with a number between 1 and 5. Punch a hole at the top of each square, and thread yarn through the hole to make a “necklace.” Make one necklace for each child.

Hang a square around each child’s neck. Then seat the children in chairs that have been arranged in a circle facing one another. Call out *Two!* All the children who are wearing the number 2 must get up and switch places. Repeat the activity with another number. Keep playing, but every so often, call out *Scramble!* At that point, the whole class gets up and switches places.



Ten in a Bed

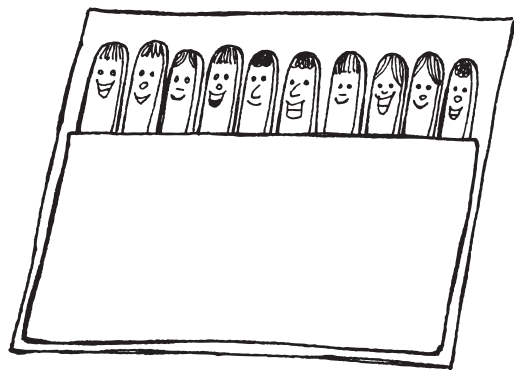
Skills: saying number names, using one-to-one correspondence

Make a “bed” for each child by lining up the bottom and sides of the smaller piece of paper on top of the square and then taping those sides together. Give each child ten craft sticks, and let the children use markers to draw facial features on each stick. Have children line up their sticks in the beds. Then teach the class the song “Ten in a Bed”:

*There were ten in a bed, and the little one said,
“Roll over! Roll over!”
So they all rolled over, and one fell out.*

*There were nine in a bed, and the little one said,
“Roll over! Roll over!”
So they all rolled over, and one fell out . . .*

*. . . There was one in the bed, and the little one said,
“Good night!”*



As the children say each verse, have them take out one stick from the bed. At the end of the song, there will be only one stick left in the bed. Later, ask the children to count their “stick children” as they return them to the bed.

Materials

- 3½" x 6" (9 x 15 cm) pieces of construction paper in contrasting colors
- 6-inch (15 cm) construction paper squares
- clear tape
- craft sticks (10 per child)
- fine-point markers

Finger Fun

Skill: rote counting by ones

Invite children to use their fingers to show the numbers as they say the following nursery rhyme:

*One, two, three, four, five,
Once I caught a fish alive.
Six, seven, eight, nine, ten,
Then I let him go again!*

At the end of the rhyme, children should have their hands held outstretched in front of them.



Materials

- none

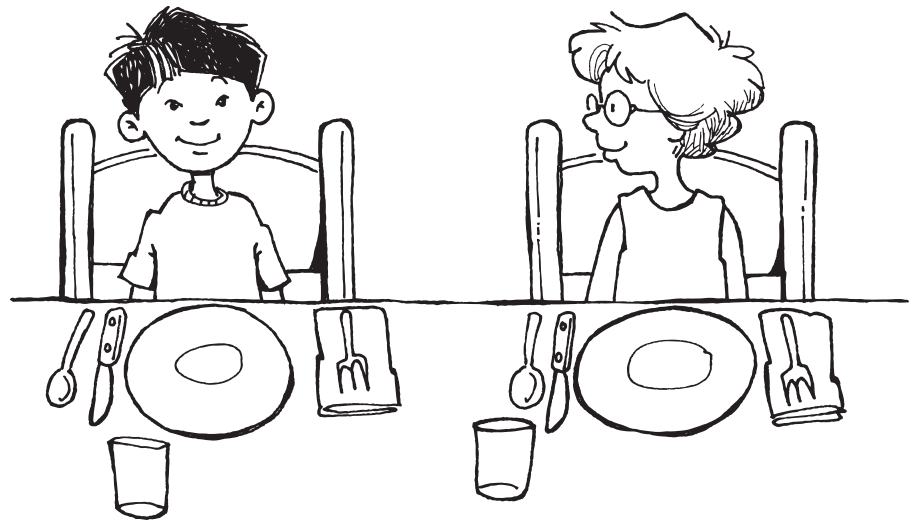
Set the Table

Skill: arranging sets of objects in one-to-one correspondence

Materials

- plastic dishes and utensils
- napkins
- plastic food (optional)

Work with four or five children at a time. Have the children sit with you around a table. Tell the children that you would like them to help you set the table for “dinner.” Then put three plates on the table. Ask if there are too many plates or not enough plates. Ask *How many plates do we need?* Then have a child arrange the correct number of plates around the table. Continue the activity using the rest of the dinnerware and the napkins. Afterward, you can serve plastic food and enjoy a “meal” with the children.



Sticker Cover-up

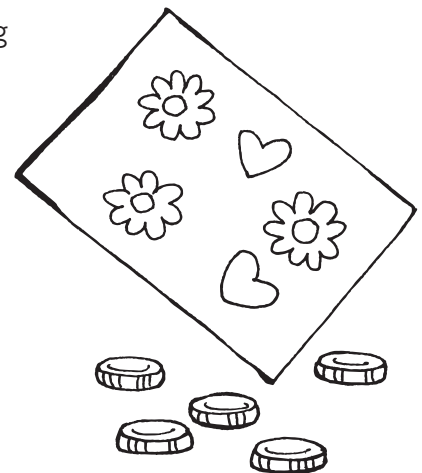
Skill: matching pairs of objects in one-to-one correspondence

Materials

- small stickers
- 4" x 6" (10 x 15 cm) index cards
- counters

Attach one sticker to a card, two stickers to another card, three stickers to another card, and so on. Then place the cards along with some counters at a center where a small group of children can work together.

Have the children take turns choosing a card. The children must then pick up the same number of counters as the number of stickers they see on their card. To check that the numbers match, they must place a counter on top of each sticker. If there are not enough counters or there are counters left over, the child will know that he or she made an error and should try again.

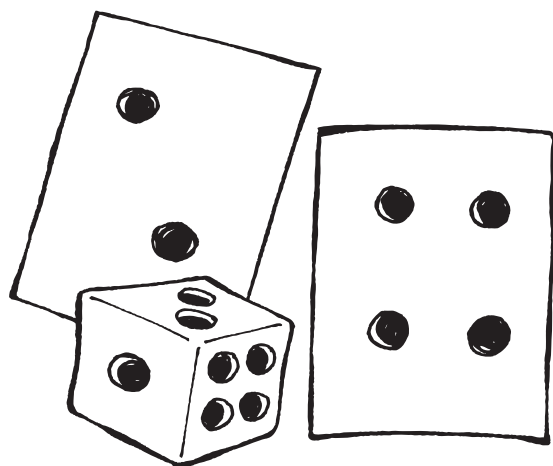


Match the Dots

Skill: using one-to-one correspondence to match sets

Draw dots on the cards to match the dots on a die. Make three identical sets of cards.

Invite three or four children at a time to play this game. Have them place the cards facedown in a pile. Each player then picks up a card, and one player rolls the die. If the dots on a player's card match the roll of the



die, he or she gets to keep the card. A player whose card does not match the die must return the card to the bottom of the pile. Each player picks up a new card, and a different player rolls the die. The game continues until all the cards have been collected or played. The child with the most cards wins the game.

Materials

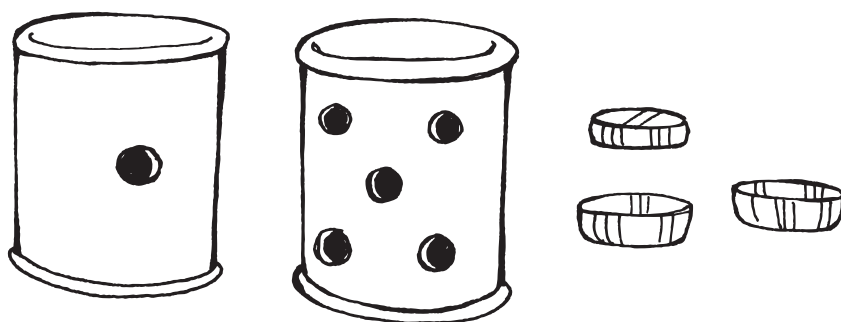
- 18 index cards
- felt-tip marker
- die

Toss the Caps

Skill: using one-to-one correspondence to match sets

Cover the sides of coffee cans with construction paper, and secure the paper with glue or tape. Next, draw one to six dots on the coffee cans. Leave the cans and the plastic caps at a center where a small group of children can play.

Have the children set the cans on the floor or on a table, and instruct them to stand a few feet away. Then invite them to take turns tossing the caps into the cans. The goal is to toss as many caps into a can as there are dots.



Materials

- 6 large coffee cans
- construction paper
- glue or tape
- marker
- 21 plastic caps from milk jugs

Ladybug Matching Game

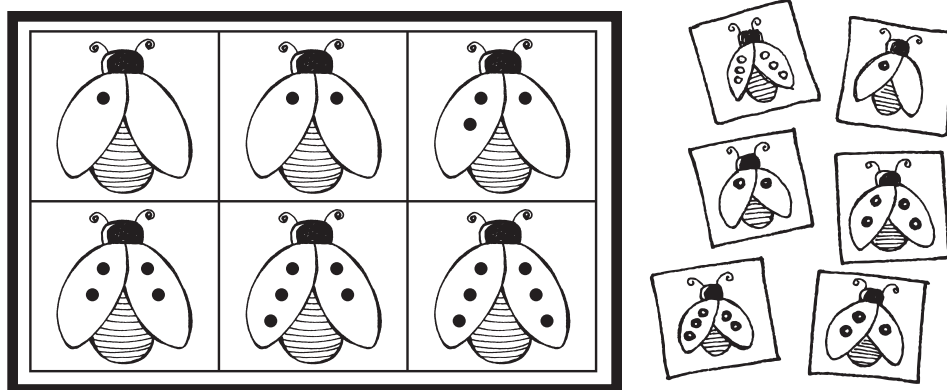
Skill: using one-to-one correspondence to match sets

Materials

- Ladybug Matching Game reproducible (page 11)
- card stock
- scissors
- die

Make four copies on card stock of the game board and game pieces on page 11. Cut apart the game board and game pieces, and invite four children at a time to play the game.

The first player begins by rolling the die and seeing how many dots face up. That player finds the ladybug game piece that has the matching number of dots and places it on his or her game board. Then the other players take turns rolling the die and finding the matching ladybugs. If a player rolls the die and finds that the matching ladybug on his or her game board is already covered, then he or she passes the die to the next player. The first player to cover all six ladybugs on a game board is the winner.



Sticker Count

Skill: using one-to-one correspondence to count and order sets

Materials

- 55 stickers of one theme (e.g., flowers, bugs)
- 10 index cards

Attach stickers to the index cards so there is one on the first card, two on the second card, three on the third card, and so on. Then encourage children to pick up the cards and touch the stickers as they count how many are on each card. Afterward, have them arrange the cards in order from 1 to 10.

