READING BOOKS FOR

Math

PRIMARY

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INTRODUCTION

Mathematics has long been seen as a way of understanding the world around us. For young children, mathematical ideas arise from everyday life. Children can use mathematics to understand their world and solve problems that occur in it.

Many mathematical ideas are embedded in stories, a context that is interesting, meaningful, and usually familiar to children. You can use literature to introduce and teach mathematics since it contains situations for problem solving that are appealing to young children.

The activities in this guide focus on problem solving, while weaving in the use of mathematical concepts and skills in a broad range of content. Many of the activities in this guide involve the use of a variety of manipulatives by children as well as discussion and justification of the strategies for solving problems.
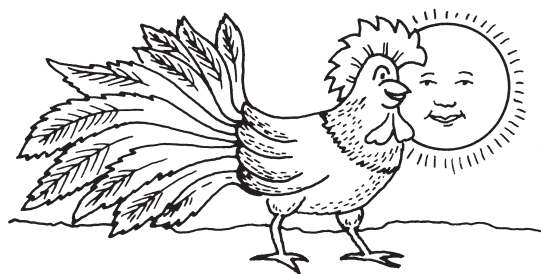
Using this Study Guide

This book focuses on ten specific children's books that have connections with mathematics. Each book is presented separately with a summary of the story, suggestions for previewing the book, reading and rereading the story, related math activities, and three reproducible Black-line Masters.

The scope and sequence on page two is a guide to the mathematical topics that can be found in the ten books. Problem solving is not listed as a separate heading since it is the central approach of all activities.

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ROOSTER'S OFF TO SEE THE WORLD

Summary

One morning a rooster sets off to see the world. In the course of his journey, the rooster comes across two cats, three frogs, four turtles, and five fish whom he invites to join him. As the day goes on, the animals begin to complain and by nightfall the animals decide to return home, one group at a time. Once he is alone again, the rooster decides that he, too, wants to go home, where he dreams of his journey.

Math Skills

- problem solving
- counting
- using ordinal numbers
- finding patterns
- adding
- subtracting
- graphing and interpreting a graph

Preview

Show children the book cover and read aloud the title. Ask the children what time of day they think it is. How can they tell? (The sun could be rising or setting, but Rooster looks as if he is crowing, so it is probably sunrise.) Ask the children what the rooster is going to do. Will he go off alone or with others? Who might go along with him?

Read and Reread

Read the book aloud to the class. At the end of each page of text, ask the children to predict what they think will happen next. Put children's guesses on experience chart paper. After you read the entire story, ask the children whether they think Rooster has learned any lessons. Why do you think all the animals changed their minds at nighttime?

Reread the book to the children. Using chart paper, recreate the picture graph shown in the book while you read about the ascending numbers 1 to 5. Then provide one student with a marker to cross off the appropriate pictures of the animals as the numbers descend from 5 to 1.

PUPPY FACES

Make copies of the puppy faces. Color them with crayon or
magic markers. Then cut them out to use as counters.
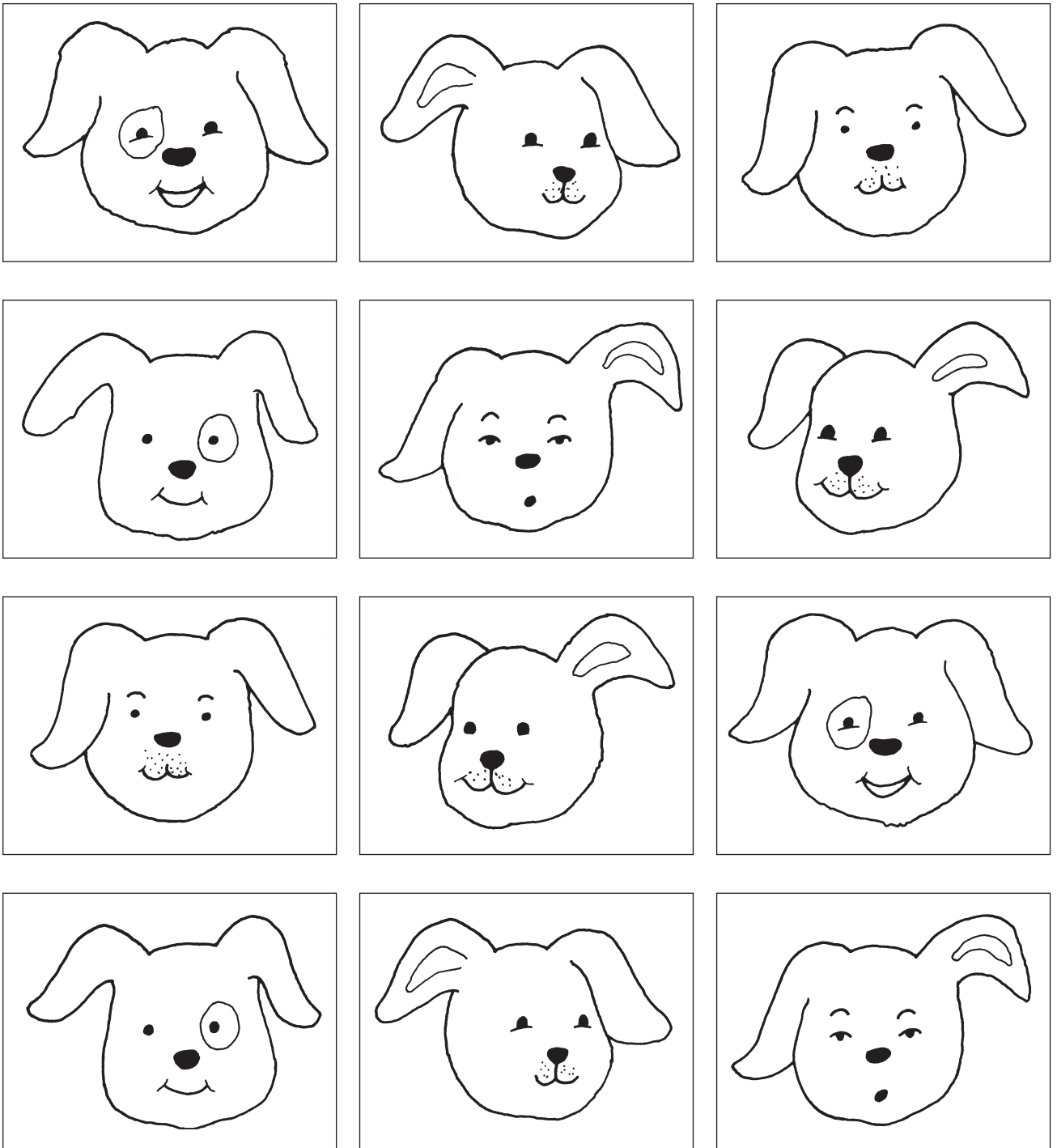
Activities

1. Children can dramatize the story as you read the book aloud again. Use an over-sized cardboard spear with a blunt point as a prop. Conduct the dramatization by having children take the parts of animals. The children who are taking the parts of the animals can pass the spear from one to another as their turns come.

2. Make a set of number cards 0–10 with the bottoms folded down so that they can be free-standing. Display them out of order. Have volunteers in the classroom place them in correct order. Then mix up the cards and place one number card on the chalkboard ledge. Ask a child to find and place the number card that comes before (or after) that number. Continue in this manner until all the cards are placed in correct order.

3. After reading the story, distribute 10 counters, cubes, or dried beans to each child. Ask children if they can think of all the ways to count to 10. List their responses on the chalkboard (by 1's, 2's, 5's). Continue the activity by having children think of ways to count to 20, 50, etc. Discuss children's strategies.

4. Recreate the action in the story by distributing bean bags or foam rubber balls to the children, one or two at a time. Each child can take a turn tossing the object into the air to see how high he or she can count before catching the object. Then repeat the activity, having the children count by 2's. Each child can keep a running record of the results to see who has the best performance, counting by 1's and then by 2's. [See Black-line Master #7, "Tally Ho."]

5. Help children find the ways number patterns can be made when counting by 1's, 3's, and 4's. Use Black-line Master #8, "Number Line Jump," to offer students practice in finding number patterns.

6. Children can have further practice developing number patterns, using Black-line Master #9, "Colorful Patterns." Provide each child with several copies of the number chart. First have the children follow the directions on the Black-line Master, counting by 2's. Then they can color several other charts, counting by 3's, 4's, or 5's.

USE THE CLUES

Use the picture and the clues. Write the name of each child.

_____   _____   _____   _____   _____

1. Miguel is behind the first child.

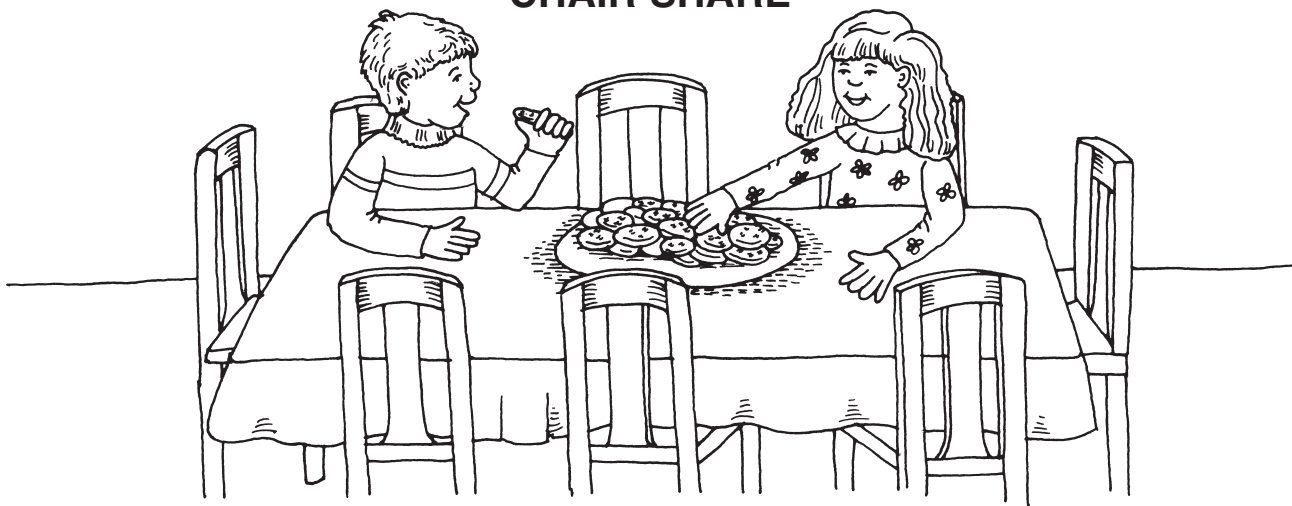2. Krystal is third in line.

3. Shakir is in front of Kei.

4. Kei is fifth in line.

5. Latoya is in front of Miguel.

6. Who is first in line? _____

CHAIR SHARE

Work Space

1. If Sam and Victoria have 2 friends visit, how many chairs will be used? How many will be empty?

2. If 6 friends visit, how many chairs will they use? How many will be empty?

3. If 8 friends visit, how many chairs will they use? How many will be empty?

4. If 10 friends visit, how many children will have to share chairs?

5. If 12 friends visit, how many children will have to share chairs?