



A Teachers' Guide for

Double Play!

MONKEYING AROUND WITH ADDITION

Written by Betsy Franco • Illustrated by Doug Cushman



A math book that's as welcome as recess!

In this picture book, monkey friends Jill and Jake take to the playground and provide readers with an action-filled introduction to the concept of doubling.

The fun hijinks on each spread are matched with an addition problem, reinforcing the adding of same numbers.



BETSY FRANCO has written more than 80 books for children and young adults, including other math titles, poetry, and novels. She says "I particularly love to show how exciting, sassy, and creative math can be." She lives in Palo Alto, California. Visit www.betsyfranco.com.

DOUG CUSHMAN has illustrated over 100 books for children, including his own Aunt Eater mystery series. He lives in Paris, France. Visit www.doug-cushman.com



Before reading

Show the cover of the book and ask children what they think the book is about. Say the title aloud, also saying the names of the author and illustrator. Show the book's endpapers (inside front and back covers), and ask again what the book is about.

Ask children to talk about their favorite activity during recess. Ask if they have ever learned something new while talking to a friend or while playing a game. Explain that this book will help them learn about math while reading a story about playing.

After reading

Reading comprehension questions:

- How does the story begin?
- Where does the story take place?
- Name three animals in the story besides monkeys.
- What gets counted in the story?
- The sums in each addition problem have something in common. What is it?

New vocabulary: Some words in the story may be unfamiliar to students. They may find clues to the correct meaning from the text or illustrations.

Doubling

Glow

Juicy

Zoom

Gallop

Grip

Rhythmic

Review these math terms:

addends

addition facts



Across the Curriculum


$$1+1=2$$

Math

Ask students to extend the story by finding examples of doubles for numbers 11–15 in their classroom.

For example: 11 pencils + 11 pencils = 22 pencils.

Have the child make a “Doubles Book.” To prepare, take sheets of 8 ½ x 11 inch paper, and fold them in half to form a book. On the left-hand side of each page, draw an object (for example, 1 person, 2 balls, 3 books, 4 trees, and 5 stars—up to 10 objects.) Ask the children to draw double the number of objects on the right-hand side of each page (for example, 2 people, 4 balls, 6 books, 8 trees, and 10 stars—up to 20 objects). Using a new sheet of paper, have the children draw a cover for their Doubles Book. Staple the book.

Create ladybug mobiles using construction paper and sticker dots. Have pre-cut paper circles on hand in red (large) and black (smaller), black sticker dots, and pipe cleaners. Use template if needed. Working in pairs, glue a large red circle (body) to a smaller black circle (head) and add pipe cleaner antennae. Draw a thick black line down the center of the red circle, beginning where the head and body join. Each half of the circle is a ladybug’s wing. Make 6 ladybugs. Next, taking turns, one child will write a number between 1–10 on one wing and apply that same number of sticker dots. His/her partner will write the same number on the other wing and apply the same number of dots. Write the total number of dots from both wings on the back of the ladybug. Alternate partners until six ladybugs have dots on the wings and totals on the back of the ladybug’s body. Attach ladybugs to string or yarn, tie the string or yarn to precut strips of wood, and hang the finished mobile around the classroom.

Name the different animals in the story and count how often each animal appears in an illustration. Make a bar graph of the results.

Language Arts

Read the book aloud again. Ask children about their favorite stanza and why they like it.

Make a list of all the rhyming words in the story. Write down words that rhyme with the new vocabulary words. To make it easier to rhyme, change some words like *doubling* and *juicy* into their shorter forms, *double* and *juice*.

Make a list of all the action words in the story. Ask the group to name other action words and add them to the list.

Have children write their own rhyming two-line stanzas about playing outside. Or write the first line and have children write the second, rhyming line.

Write a poem about numbers.



Health/Science

Initiate a discussion about the importance of exercise and being active as part of your day. You can draw parallels between strengthening your mind in the classroom and strengthening your body outdoors. Make a list of the ways you can be physically active after school as well as at recess.

Jill and Jake eat grapes at snack time and their mouse friend enjoys a banana. What are other healthy snacks?

What is the difference between a healthy snack and an unhealthy one?

Share this healthy Snack Mix recipe.

2 c mini pretzels

1 c raisins

1 c nuts

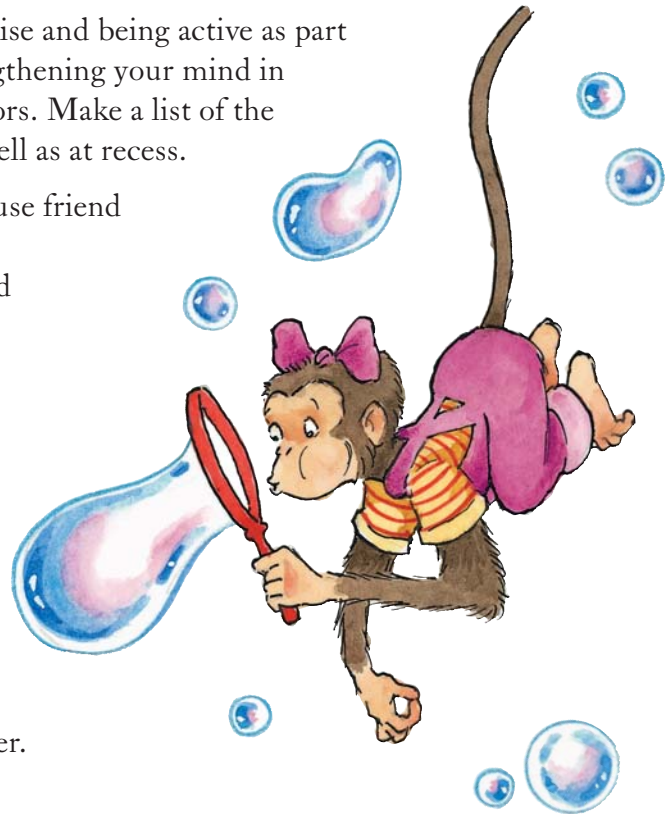
(or substitute pumpkin seeds if nuts are a problem)

$\frac{1}{2}$ c sunflower seeds

Mix ingredients together. Store in airtight container.

Makes 12 servings; $\frac{1}{4}$ cup per serving.

To tie in further to the book's content, ask children to double this recipe.



Art

Color and decorate monkey masks, using a template found online. Search “monkey masks template” or use this link—www.makinglearningfun.com/images/Activities/Monkeymask.pdf.

Related concepts

Near doubles: If you have two groups of 8 objects, you have double 8, or 16, objects. Adding doubles is usually easy to remember, and can be used to learn other addition facts.

For example:

$$8 + 8 = 16$$

$$9 \text{ is 1 more than } 8 \text{ (} 8 + 1 = 9 \text{)}$$

$$\text{So } 8 + 9 \text{ will be one more than } 16$$

$$(8 + 8 + 1 = 17)$$

$$6 + 6 = 12$$

Online Resources

National Council of Teachers of Mathematics

<http://www.nctm.org>

Math Practice Sheets/ Doubling

<http://www.dadsworksheets.com/v1/Worksheets/Addition.html#Doubling>

Interactive Math Site/ Tucson Unified School District

http://www.tusdl.org/resources/math/students_math.asp

Video of students singing a doubling song

<http://www.schooltube.com/video/7e45198c0e9aeef14951/Doubling-Numbers-is-Easy>

A short, fun video about monkeys

<http://video.kids.nationalgeographic.com/video/player/kids/animals-pets-kids/mammals-kids/chimp-baby-playing-kids.html>

$$7 + 7 = 14$$

Standards

The Mathematics standards used for this guide reference both content and process standards released by the National Council of Teachers of Mathematics (NCTM).

Content: Numbers and Operations (PreK–2)

- Develop fluency with basic number combinations for addition and subtraction.
- Connect number words and numerals to the quantities they represent, using various physical models and representations.
- Develop and use strategies for whole-number computations, with a focus on addition and subtraction.
- Understand the effects of adding and subtracting whole numbers.

Content: Algebra PreK–2

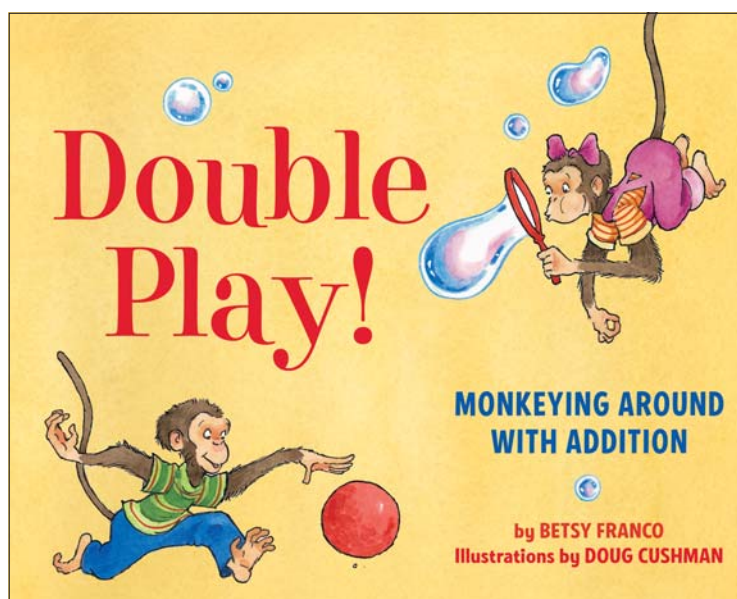
- Use concrete, pictorial, and verbal representations to develop an understanding of invented and conventional symbolic notations.
- Model situations that involve the addition and subtraction of whole numbers, using objects, pictures, and symbols.



Process: Problem Solving, Connections, Representation

The Language Arts standards used for this guide reference those jointly developed by the National Council of Teachers of English (NCTE) and the International Reading Association (IRA).

1. Students read a wide range of print and nonprint texts to build an understanding of texts, of themselves, and of the cultures of the United States and the world; to acquire new information; to respond to the needs and demands of society and the workplace; and for personal fulfillment. Among these texts are fiction and nonfiction, classic and contemporary works.
2. Students apply a wide range of strategies to comprehend, interpret, evaluate, and appreciate texts. They draw on their prior experience, their interactions with other readers and writers, their knowledge of word meaning and of other texts, their word identification strategies, and their understanding of textual features (e.g., sound-letter correspondence, sentence structure, context, graphics).
3. Students adjust their use of spoken, written, and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.
4. Students employ a wide range of strategies as they write and use different writing process elements appropriately to communicate with different audiences for a variety of purposes.
5. Students apply knowledge of language structure, language conventions (e.g., spelling and punctuation), media techniques, figurative language, and genre to create, critique, and discuss print and nonprint texts.



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