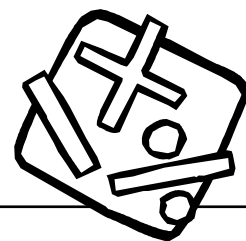


# Bake Sale



Help three friends figure out how to divide cookies onto plates for a bake sale.

## What you need

Pretend cookies (or pictures of cookies)

Plates

Paper and pencils

## What to do

Three friends are baking cookies for their school's bake sale. Use the cookies and plates (or the paper and pencil) to help the friends get ready for the bake sale.

1. Figure out how many plates the friends will have to buy for the bake sale if they plan:
  - 2 dozen cookies with 3 cookies on each plate.
  - 5 dozen cookies with 4 cookies on each plate.
  - 8 dozen cookies with 5 cookies on each plate.
2. Figure out how many batches of cookies the three friends would need to bake for the bake sale. (Note: each batch makes 2 dozen cookies.)
  - 12 plates with 2 cookies on each plate.
  - 10 plates with 4 cookies on each plate.
  - 21 plates with 5 cookies on each plate.
  - 50 plates with 3 cookies on each plate.

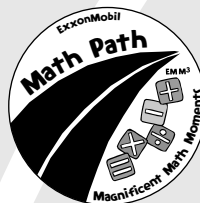
## What to ask

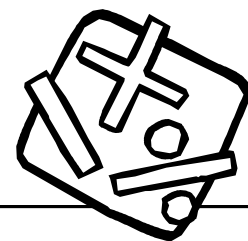
- Are there any cookies left over for snacks?
- Can you draw a model of how the cookies would be divided?
- Talk about the strategies used to figure out each question.
- Why does that one work best?
- Could you do it another way?
- If each cookie cost a quarter, how many plates of cookies would you need to sell to make \$20.00?
- Is there a number of cookies per plate that will ALWAYS guarantee cookies leftover to eat?



## Did you know?

Division is one of the least understood operations by children. Often they learn their division facts and the process of long division without understanding what it actually means to divide. Having them do division in real life situations helps provide them with a foundation of the meaning behind what they are doing.





## What's next?

- Talk about other situations where you would want to use division.
- Write a number sentence for each part of the activity.
- Look at number sentences to find an equation that would work no matter how many cookies and plates you had.
- Figure out how many batches each friend would have to bake using these rules:
  - Each friend has to make the same number of batches.
  - Each plate must have 5 cookies on it.
  - They have to use all of the cookies. (No eating extra cookies!)
  - There are 3 friends.
  - Each batch makes 2 dozen cookies.

## To learn more

### ***A Remainder of One***

*by Elinor J. Pinczes*

When the queen of the bugs demands that her army march in even lines, Private Joe divides the marchers into more and more lines so that he will not be left out of the parade. Joe problem solves until he gets them in five rows of five with no remainder.

### ***The Doorbell Rang***

*by Pat Hutchins*

In this story grandma bakes some cookies to be shared by the two children. Then the doorbell rings and two more friends visit. More and more friends come and each time the cookies have to be re-divided.

## How it helps with school

### **Texas Essential Knowledge and Skills (TEKS) Standards**

Numbers, Operations, and Quantitative Reasoning: 3.4C; 4.4B, 4.4D; 5.3C

Patterns, Relationships, and Algebraic Thinking: 3.6C; 4.6B; 5.6

Underlying Processes and Mathematical Tools: 3.15, 3.17B; 3.14, 4.16B; 5.14, 5.16B

### **National Council of Teachers of Mathematics (NCTM) Standards**

Number and Operations, Algebra, Problem Solving, Representation

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