

100 or ONE**Purpose**

Students will interpret percent as a part of a hundred and find decimal and percent equivalents for common fractions.

Materials

For the teacher: overhead projector, overhead markers, 2 or more grids with 100 squares to use on the overhead

For each student: 2 sheets of graph paper, pencils or markers

Activity**A. Pre-Activity Discussion**

1. Using one of the overhead sheets of 100 squares, tell students that they will be dividing ONE into 100 parts and that they are going to talk about some of those parts in different ways. Tell students that each piece is 0.01 or $\frac{1}{100}$ or 1%.
2. Color in 10 of the 100 squares on the overhead. Discuss how much of the grid has been colored. [$\frac{10}{100}$, $\frac{1}{10}$, 0.1, and 10%]
3. Ask how to color in 36% on another block of 100 squares. After students have directed you in coloring in 36%, ask students to write 36% as a decimal and as a fraction. [0.36 and $\frac{36}{100}$, which could be reduced to $\frac{9}{25}$]
4. Say: "We use 100 parts to find percents because per cent means per hundred. Thirty is 30% of 100."

B. Student Activity

1. Hand out graph paper to students.
2. Have them draw a box around 100 squares, this box can be 10×10 , 4×25 , 5×20 , 2×50 , or even 1×100 .
3. Ask students to color in half of the squares.
4. Write the number of squares they colored in as a fraction, as a decimal, and as a percent.
5. Repeat steps 2 through 4 using the following numbers: 0.25, $\frac{3}{10}$, 75%, 0.8, $\frac{11}{20}$, 15%, 33%.

EXTENDING
THE**ACTIVITY**

Have students work with the fraction $\frac{1}{3}$. Tell students that because 3 does not divide into 100 without a remainder, one of the blocks in the 100 would have to be cut (into thirds) and then $33\frac{1}{3}$ could be colored. Explain that to change to a decimal, 1 divided by 3 would keep giving 3s, so it would not have a decimal that stops. Therefore, explain that one way to write it would be $33\frac{1}{3}$ and to write it as a percent would be $33\frac{1}{3}\%$.

INCORPORATING

**TECHNOLOGY**







Have students use a calculator to change the fractions to decimals to check the work, and then see how to write these decimals as percents.

Standards Links
5.1.3, 5.1.5

Questions for Review

Basic Concepts and Processes

During the activity, discuss the following questions with your students:

-  Why did we draw blocks around 100 squares?
 -  Does it matter if the block is 10×10 or 4×25 ?
 -  When you figured out how many squares to color in for a fraction, how did you start?
 -  Change the denominator to 100 and figure out what fraction is equivalent to the starting fraction.
 -  How did you think to color in percents?
 -  Because percent means parts of 100, how would you explain how to write a percent as a fraction?
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