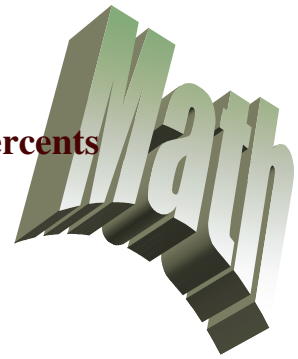
Algebra/Geometry Institute Summer 2005

Lesson Plan 2: Relating Fractions, Decimals, and Percents



Faculty Name: Delores Curtis
School: Myrtle Hall IV
Grade Level: 5th

1 Teaching objective(s)

The students will be able to convert among percents, decimals, and fractions

2 Instructional Activities

- The teacher will define the terms, fraction, percent, and decimal. The teacher will tell the students a fraction is a number that names part of a whole. The percent means parts per hundred. The decimal is a number with one or more digits to the right of a decimal point.
- The teacher will ask: If you have 100 pennies and you used 25 of them to buy a sucker, how could you write the 25 pennies as a fraction, percent, and a decimal.?

  Remember percent means "per 100." So 25 out of 100 = $\frac{25}{100}$ = 25 % = 0.25

  The teacher will model on the dry erase board how to express 25 out of 100.

  - As a fraction $\frac{25}{100}$
  - As a percent 25%
  - As a decimal 0.25

  Teacher says: Remember percent means "per 100." So 25 out of 100 = $\frac{25}{100}$ = 25% = 0.25

  Teacher will ask students to express 80 out of 100 as a fraction, a percent, and a decimal.

  - As a fraction $\frac{80}{100}$
  - As a percent $\frac{80}{100} = 80\%$

- As a decimal $\frac{80}{100} = 0.80$

The teacher and the students will practice writing an expression as a fraction, decimal, or percent.

1.) 3%

2.) $\frac{17}{100}$

3.) 4%

4.) $\frac{9}{100}$

5.) 33%

6.) $\frac{7}{10}$

7.) 0.6

8.) 51%

9.) 5%

10.) 0.64

- The teacher will model using a a grid on an overhead projector how to write a decimal, percent, and fraction. The teacher explains:

  Step 1- Count and write the number of shaded units on the grid. 40

  Step 2- Count and write the total number of units on the grid 100

  Step 3: So 40 out of 100 can be written as a fraction $\frac{40}{100}$

  a decimal 0.40, and

  a percent 40%

Therefore, $\frac{40}{100} = 0.40 = 40\%$

- Create grids to display fraction, percent, and decimal. For example, the teacher will have the students draw a 10x10 grid. Shade 58% of the squares. Tell what percent is not shaded. Write the answers as a percent, fraction and decimal. Make up more examples like these.

- A design has 100 tiles. 30% of the tiles are either blue or yellow. 70% are red. There are two more yellow tiles than blue tiles. How many blue tiles are there? Draw, and color grid. Write answer as a fraction, percent, and decimal.

3 Materials and Resources

Textbook: Silver Burdett Ginn Mathematics:
The Path to Math Success: Copyright 2001

Overhead projector
Color pencils
Transparencies
Pencils
Paper
10 by 10 grids

4 Assessment

- Teacher will call on different students to answer.
- Teacher will monitor and observe students completing questions
- The teacher will give students problems to complete and receive a grade (see attachment)

Answer the following questions

1.) Which does *not* show another way to write 32%?

A. $\frac{8}{25}$ B. 0.032

C. $\frac{16}{50}$ D. 0.32

2.) Which does *not* show another way to write 0.05?

A. $\frac{1}{20}$ B. 5%

C. $\frac{5}{100}$ D. 50%

3.) Suppose you shaded the first, fourth, and eight rows of a 10 by 10 grid. How much of the grid is shaded?

A. 0.03 B. 3%

C. 30% D. $\frac{3}{100}$

4.) Suppose you shaded 25 of a 10 by 10 grid. What percent of the grid is *not* shaded?

A. 24% B. 75%

C. 76% D. 94%

5.) A design for a quilt has 100 triangles. Forty percent of the triangles are solid colors. Of these triangles, 10 are blue.
What part of the triangles is *not* a solid color?

A. $\frac{2}{5}$ B. $\frac{3}{50}$

C. 0.4 D. 0.6