Fractions, Decimals and Percent:
A Squared Away Unit

About the author

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Optional Activities Three

Individual

or

Small group

or

Whole class

1. Worksheet to Reinforce Square Three Concepts (p. 81)

- Assign this worksheet as a homework assignment, a team assignment, or as a whole-class assignment. Correct in teams or as a whole class. Consider giving recognition to teams where all students completed the assignment on time.
- Allow teams to rewrite worksheet questions 1, 3, and 6, making new math questions to quiz one another
- Continue to spend time going over labels. Remind students that they can use percents to describe situations, but all percents are followed by the word "of" in the label. (Ex., 50% of the students were males, or 25% of the faculty taught math or science.)

Worksheet to Reinforce Square Three Concepts Answer Key

1. b, d, and f

2. 100

3. a. $\frac{25}{100}$ b. 0.25 c. 25%

4. a. $\frac{44}{100}$ b. 0.44 c. 44%

5.

3	÷	5	=	0.6	×	100	=	60%

6. a. 0.8, 80% b. 0.5, 50% c. 0.75, 75%
   d. 1.0, 100% e. $0.\overline{333}$, 33% f. 0, 0%

7. a. 0.33 b. 0.67

8.

20	×	25	%

9. a. 70 b.18 c. 60

10. a. 280 votes b. 72 boats c. 180 apples

Individual

or

Small group

or

Whole class

2. Journal writing is always an excellent way for students to reinforce their own learning. Below is a list of prompts you can give individual students, teams, or the whole class. Choose one or two for each instruction block, or give one prompt per team.

Allow students to write for at least three minutes. Direct them to first share what they wrote with their team. Ask for volunteers to share with the whole class. Look for common comments and strategies that students write.

- Objective 1 prompt: Explain the background meaning of the term "percent"
- Objective 2 prompt: Explain how to use a calculator to change a fraction into a percent. You may make a numbered list.
- Objective 3 prompt: What is a repeating decimal? Show why the decimal and percent for $\frac{1}{3}$ are repeating.
- Objective 4 prompt: If you wanted to find 20% of 60, describe which calculator keys you would push, and in what order
- Objective 5 prompt: Describe in detail your plan to learn the list of fractions, decimals, and percent that are on the index card. Include a time table.

3. Real-life situations

Individual

- For homework, ask students to search for percents in their life. All food labels include percent information. If a food provides 30% of the recommended daily allowance, then they have to eat more food to get the other 70% for the total % Daily Value. Advertizing often contains percents, such as "10% down" or "6% APY." Polls are reported in percents, too.
- Distribute newspapers to ask students to look for percents or situations that are or can be described in percent

Multi-Grain wheat crackers

Nutrition Facts

Serving Size 17 crackers (30g)
Servings Per Container About 9

Amount Per Serving

Calories 130 Calories from Fat 35

	% Daily Value*
Total Fat 4g	**6**%
Saturated Fat	**2**%
Polyunsaturated Fat 0g	
Monounsaturated Fat 0g	
Cholesterol 0mg	**0**%
Sodium 290 mg	**10**%
Total Carbohydrate 21g	**6**%
Dietary Fiber 2g	**8**%
Sugar 4g	
Protein 2g	

Vitamin A 0% • Vitamin C 0%
Calcium 4% • Iron 8%
Phosporous 15%

*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower, depending on your calorie needs.

	Calories: 2,000	2,500
Total Fat	Less than 65g	80g
Sat Fat	Less than 20g	25g
Cholesterol	Less than 300mg	300mg
Sodium	Less than 2400g	2400mg
Total Carbohydrate	300g	375g
Dietary Fiber	25g	30g

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

Worksheet to Reinforce Square Three Concepts

1. Which fractions and decimals describe a whole or all of a collection?

   a. 0.99 b. 1.00 c. 0.981 d. $\frac{4}{4}$ e. $\frac{997}{1000}$ f. $\frac{89}{89}$

2. Per CENT means per _____.

3. If 25 blocks of a 100-block square are shaded,

   a. What fraction is shaded?

   b. What decimal is shaded? _____

   c. What percent is shaded? _____

4. If 56 blocks of a 100-block square are shaded,

   a. What fraction is NOT shaded?

   b. What decimal is NOT shaded? _____

   c. What percent is NOT shaded? _____

5. What calculator keys do you push to change $\frac{3}{5}$ into a percent?

				0.6				60%

6. Change fractions into decimals and percent:

   a. $\frac{4}{5}$ _____ _____

   b. $\frac{14}{28}$ _____ _____

   c. $\frac{18}{24}$ _____ _____

   d. $\frac{40}{40}$ _____ _____

   e. $\frac{1}{3}$ _____ _____

   f. $\frac{0}{5}$ _____ _____

7. Round repeating decimals to hundredths:

   a. Round 33.3333% _____%

   b. Round 66.6666% _____%

8. What four keys do you press to find 25% of 20?

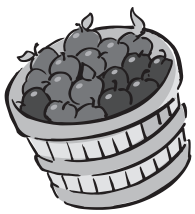
9. Use the percent key on your calculator:

   a. 35% of 200 is _____

   b. 20% of 90 is _____

   c. 75% of 80 is _____

4. Use your calculator to find the answers:



   a. 35% of 800 voters voted for Dan. How many votes did he get? _____

   b. 20% of 360 sailboats had no engines. How many sailboats were without engines? _____

   c. 75% of 240 apples were made into applesauce. How many apples were made into applesauce? _____