



Reviewing Fractions, Decimals, and Percents Jeopardy Game

Rationale

✚ The intent of this lesson is to review fractions, decimals, and percents. **NO CALCULATORS** permitted.

Goals

- ✚ To have students understand that fractions, decimals, and percents can have equivalent values.
- ✚ To have students add, subtract, multiply and divide fractions and decimals. To have students solve percent problems.
- ✚ To have students use previously learned skills in a game format.

Standards

- ✚ **7.NS.A** Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers.*
- ✚ **MP.2** Reason abstractly and quantitatively
- ✚ **MP.4** Model with mathematics.

*Note: Skills and concepts developed in previous grades are often used in application-style problem solving at higher grades.

Objectives

- ✚ Students will be able to convert a fraction to a decimal or and vice versa.
- ✚ Students will be able to compute sums, differences, products, and quotients of fractions and decimals.
- ✚ Students will be able to solve percent problems.
- ✚ Students will be able to answer questions in the Jeopardy game to earn money.

Materials

- ✚ 2 inch painter's blue tape
- ✚ Blank index cards (5×8)
- ✚ Colored Markers
- ✚ Elmer's Tack
- ✚ Bell or Buzzer
- ✚ Questions for *Jeopardy* game
- ✚ Sample Game Board
- ✚ Score Sheet

Procedure

✚ In the game *Jeopardy*, the “questions” are phrased as a statement. The “answers” are phrased as a question. Example:

Question: “The decimal equivalent to $\frac{1}{2}$.”

Answer: “What is 0.5 (five-tenths)?”

It seems backwards, but that is how *Jeopardy* is played. Be sure when students are verbalizing a decimal that they say it correctly: 0.5 is verbalized as “five-tenths”, not “zero point five”.

- ✚ **The bolded print indicates procedures that must be completed BEFORE the lesson.**
 - **Make *Jeopardy* board on white board or chalk board by using 2 inch blue painter’s tape. Tape off 4 columns, one for each category. Tape off 6 rows under each category.**
 - **Fill in the category headings on the game board: Converting fractions and percents, Operations of fractions, Operations of decimals, Percents.**
 - **(Make the game board up in advance.)**
 - **Make the index cards with questions. Color code \$ amounts. (All \$100 questions will be red, \$200 questions are blue, \$300 questions are orange, and \$400 questions are purple. All bonus questions should have an extra card under the dollar amount that reads *Daily Double*; these will be worth double the amount.)**
- ✚ A practice worksheet is provided for the students to warm up. **NO CALCULATOR.**
- ✚ Place the index cards with the questions under the correct category. Use Elmer’s Tack to adhere the question to the board. Arrange the questions according to the sample game board.
- ✚ Divide the class in half. There will be two teams. The first player on each team comes to the front of the room and sits in desks set up in front of the jeopardy board. Flip a coin to determine which team will select the first question by identifying the category and the amount of money. For example, “Converting fractions and percents for \$100.” Have a buzzer or bell for students to ring before they provide their answer. The first student who hits the buzzer has an opportunity to answer the question. If he/she gets it correct, they earn that amount of money for the team, and they go again. If they get the incorrect answer, the other player has an opportunity to answer the question or pass. If they answer the question correctly, they earn the amount of money indicated on the card. If they don’t get the correct answer or pass, the question remains on the board for another student to answer and the next player on the first team is up. The game continues in this manner until all questions on the board have been answered.

Teacher & Teachers’ Aide Observations during the Group Activity

- ✚ Teachers should note which students are having trouble answering questions.
- ✚ What specific skills are students having difficulty with?

Assessment

- ✚ Earning money in the *Jeopardy* game demonstrates understanding of skills in the previous lesson.

Practice Worksheet

Convert the values to complete the chart.

Percent	Fraction	Decimal
36%		
	$\frac{1}{8}$	
		$\overline{0.06}$
		5.45

Solve. Write three equivalent answers.

$$\frac{1}{8} + \frac{8}{9} =$$

$$\frac{2}{5} - \frac{1}{35} =$$

$$\frac{2}{3} \div \frac{8}{10} =$$

$$\frac{7}{9} \times \frac{6}{10} =$$

$$\frac{3}{4} \div \frac{2}{7} =$$

$$\frac{6}{10} - \frac{9}{2} =$$

$$\frac{8}{9} + \frac{1}{12} =$$

$$\frac{9}{2} \times \frac{9}{7} =$$

Questions for *Jeopardy* Game

Converting Fractions and decimals

- For \$100 The decimal equivalent to $\frac{3}{6}$
- For \$200 The simplified fraction equivalent to 0.16
- For \$300 The decimal equivalent to $\frac{3}{15}$
- For \$400 The simplified fraction equivalent to 4.075

Operations of fractions

- For \$100 The sum of $\frac{3}{8}$ and $2\frac{1}{16}$
- For \$200 **Daily Double** The quotient for $4\frac{1}{2} \div \frac{3}{4}$
- For \$300 The product of $8\frac{1}{4}$ and 12
- For \$400 The difference of 6 and $4\frac{7}{8}$

Operations of decimals

- For \$100 The sum of 0.52 and 9.68
- For \$200 The product of 0.3 and 0.075
- For \$300 The difference between 34.02 and 0.052?
- For \$400 **Daily Double** The quotient of 59.7 divided by 0.54

Percents

- For \$100 **Daily Double** This percent of 126 is 22
- For \$200 This percent of 137.4 is 96
- For \$300 30% of 117 is this value.
- For \$400 56% of this value is 81

Sample Board Game

Converting fractions and decimals	Operations of fractions	Operations of decimals	Percents
<i>\$100</i>	<i>\$100</i>	<i>\$100</i>	<i>\$100</i>
<i>\$200</i>	<i>\$200</i>	<i>\$200</i>	<i>\$200</i>
<i>\$300</i>	<i>\$300</i>	<i>\$300</i>	<i>\$300</i>
<i>\$400</i>	<i>\$400</i>	<i>\$400</i>	<i>\$400</i>

