LESSON MAKER PRO

Decimal Fraction Detectives

Use models and place value to connect decimals and fractions.

GRADE 5 · 5.NS.1.b

5.NS.1.b "Use concrete and pictorial models to represent decimals in their equivalent fraction form (thirds, eighths, and factors of 100).*"

NAME _____ DATE _____

SEE THE EQUAL PARTS

A fraction bar shows equal parts of one whole. For a decimal that ends, write it as a fraction using its place value, then simplify. A repeating decimal can also name a fraction, such as a fraction with thirds.

WORKED EXAMPLE

Use the model to show why 0.75 = 3/4.



1. The model shows 3 shaded parts out of 4 equal parts, or 3/4.
2. Write 0.75 as 75/100 because it has two decimal places.
3. Divide 75 and 100 by 25: 75/100 = 3/4.

Answer: 0.75 = 75/100 = 3/4

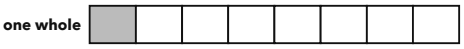
PRACTICE 6 problems

1 Use the model. Write the shaded part as a decimal and as a fraction in simplest form.



ANSWER _____

2 Use the model. Write the shaded part as a decimal and as a fraction in simplest form.



ANSWER _____

3 Write 0.625 as a fraction in simplest form.

ANSWER _____

4 Write 0.40 as a fraction with a denominator of 100. Then simplify the fraction.

ANSWER _____

5 Write 0.09 as a fraction in simplest form.

ANSWER _____

6 Write 0.875 as a fraction in simplest form.

ANSWER _____

APPLY IT Show your work

1 In a school talent show poll, 0.45 of 100 students chose dancing as their favorite act. What fraction of the students chose dancing, in simplest form? How many students chose dancing?

WORK SPACE

ANSWER _____

2 A game has 48 levels. A progress bar shows that 0.375 of the game is complete. What fraction of the game is complete in simplest form? How many levels are complete?

WORK SPACE

ANSWER _____

CHALLENGE One step up

A music app shows that 0.875 of a playlist has downloaded. Kai writes 875/1000. Sam writes 7/8. Are both fractions correct? Explain how the fractions are equivalent.

WORK SPACE AND ANSWER

ANSWER KEY

Decimal Fraction Detectives

GRADE 5 · 5.NS.1.b

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Use the model. Write the shaded part as a decimal and as a fraction in simplest form.	**0.666..., 2/3**
2	Use the model. Write the shaded part as a decimal and as a fraction in simplest form.	**0.125, 1/8**
3	Write 0.625 as a fraction in simplest form.	**5/8**
4	Write 0.40 as a fraction with a denominator of 100. Then simplify the fraction.	**40/100 = 2/5**
5	Write 0.09 as a fraction in simplest form.	**9/100**
6	Write 0.875 as a fraction in simplest form.	**7/8**

PART 2 · APPLY IT

1. **9/20; 45 students** Write 0.45 as 45/100 and simplify by dividing both numbers by 5 to get 9/20. Since there are 100 students, 0.45 of 100 is 45 students.
2. **3/8; 18 levels** Write 0.375 as 375/1000 and simplify to 3/8. Find 3/8 of 48 by dividing 48 by 8, then multiplying by 3.

CHALLENGE

Yes. 875/1000 = 7/8 because dividing both the numerator and denominator by 125 gives 7/8.

Accept equivalent fractions when the problem does not require simplest form. For repeating thirds, accept 0.666... as the decimal form of 2/3.