

Dear Family,

During the next few weeks, our math class will relate both fractions and money to place value and will learn how to rename fractions as decimals. We will also add fractional parts of 10 and 100 and compare decimals through hundredths.

You can expect to see homework that provides practice with naming decimals in different ways, including renaming as fractions.

Here is a sample of how your child will be taught to write a decimal as a fraction.



MODEL Write Hundredths as a Fraction

This is how we will use place value to help write a decimal as a fraction.

| Ones | . | Tenths | Hundredths |
|------|---|--------|------------|
| 0 | . | 6 | 4 |

↑
decimal point

Think: 0.64 is the same as 6 tenths and 4 hundredths, or 64 hundredths.

So, $0.64 = \frac{64}{100}$.

Vocabulary

decimal A number with one or more digits to the right of the decimal point

decimal point A symbol used to separate dollars from cents in money amounts and to separate the ones and tenths places in a decimal

equivalent decimals Two or more decimals that name the same amount

hundredth One of one hundred equal parts

tenth One of ten equal parts

Tips

A place-value chart can be used to help visually organize numbers in relation to the decimal place. The chart can be used to pair the numbers with words, and may enable a smooth transition between standard form, word form, and the decimal or fraction.

Activity

Use the relationship between dollars and cents and work together to express the value of a penny, nickel, dime, and quarter as a decimal and as a fraction of a dollar. Then make small groups of coins and help your child write the value of each group as a decimal and as a fraction.

Carta para la casa

Querida familia,

Durante las próximas semanas, en la clase de matemáticas relacionaremos tanto las fracciones como el dinero con el valor posicional y aprenderemos a convertir fracciones en decimales. También sumaremos partes fraccionales de 10 y de 100 y compararemos decimales hasta los centésimos.

Llevaré a la casa tareas para practicar la expresión de decimales de diferentes maneras, incluso la conversión en fracciones.

Este es un ejemplo de la manera como aprenderemos a escribir un decimal como una fracción.

Vocabulario

decimal Un número con uno o más dígitos a la derecha del punto decimal

punto decimal Un símbolo usado para separar dólares de centavos en cantidades de dinero y para separar el lugar de las unidades y los décimos en decimales

decimales equivalentes Dos o más decimales que nombran la misma cantidad

centésimo Una de cien partes iguales

décimo Una de diez partes iguales

MODELO Escribir centésimos como una fracción

Así es como usaremos el valor posicional para escribir un decimal como una fracción

| Unidades | . | Décimos | Centésimos |
|----------|---|---------|------------|
| 0 | . | 6 | 4 |

↑
punto decimal

Piensa: 0.64 es lo mismo que 6 décimos y cuatro centésimos, o 64 centésimos.

Por tanto, $0.64 = \frac{64}{100}$.

Pistas

Una tabla de valor posicional se puede usar para ayudar a organizar visualmente números en relación con el lugar decimal. La tabla puede usarse para emparejar números con palabras y para facilitar la transición del uso de la forma normal a la forma en palabras y a la fracción decimal.

Actividad

Usen la relación entre dólares y centavos y trabajen juntos para expresar el valor de una moneda de uno, de cinco, de diez y de veinticinco centavos en forma decimal y como una fracción de dólar. Luego hagan pequeños grupos de monedas y ayude a su hijo/a a escribir el valor de cada grupo en forma decimal y como fracción.

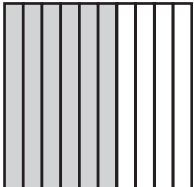
Name _____

Relate Tenths and Decimals

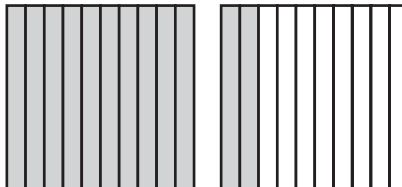


COMMON CORE STANDARD—4.NF.6
Understand decimal notation for fractions, and compare decimal fractions.

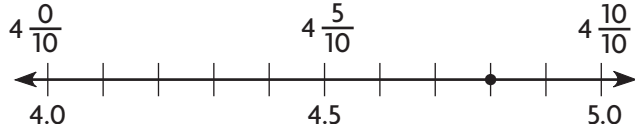
Write the fraction or mixed number and the decimal shown by the model.

1.  Think: The model is divided into 10 equal parts. Each part represents one tenth.

$\frac{6}{10}$; 0.6

2. 

3. 

4. 

Write the fraction or mixed number as a decimal.

5. $\frac{4}{10}$

6. $3\frac{1}{10}$

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

8. $6\frac{5}{10}$

9. $\frac{9}{10}$

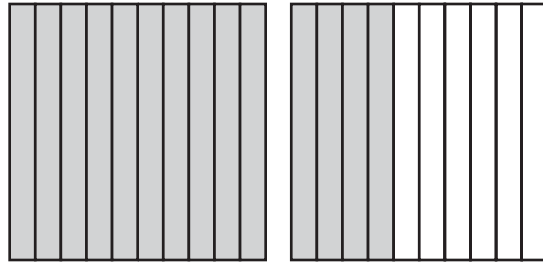
Problem Solving 

10. There are 10 sports balls in the equipment closet. Three are kickballs. Write the portion of the balls that are kickballs as a fraction, as a decimal, and in word form.

11. Peyton has 2 pizzas. Each pizza is cut into 10 equal slices. She and her friends eat 14 slices. What part of the pizzas did they eat? Write your answer as a decimal.

Lesson Check (4.NF.6)

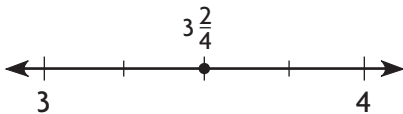
1. Valerie has 10 CDs in her music case. Seven of the CDs are pop music CDs. What is this amount written as a decimal?
2. What decimal amount is modeled below?



Spiral Review (4.OA.4, 4.NF.1, 4.NF.3b)

3. Write one number that is a factor of 13.
4. An art gallery has 18 paintings and 4 photographs displayed in equal rows on a wall, with the same number of each type of art in each row. What could be the number of rows?

5. How do you write the mixed number shown as a fraction greater than 1?
6. What fraction of this model, in simplest form, is shaded?



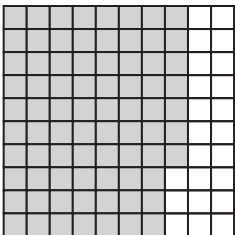
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Relate Hundredths and Decimals

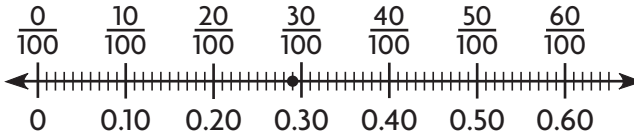


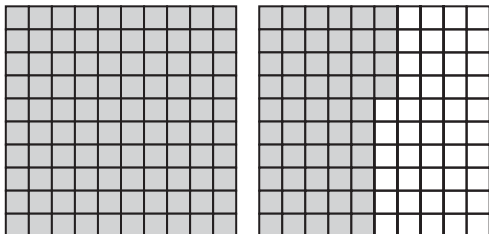
COMMON CORE STANDARD—4.NF.6
Understand decimal notation for fractions, and compare decimal fractions.

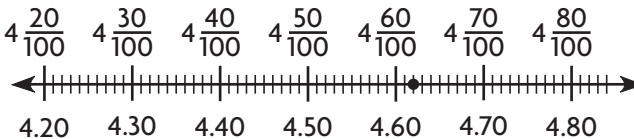
Write the fraction or mixed number and the decimal shown by the model.

1.  Think: The whole is divided into one hundred equal parts, so each part is one hundredth.

$\frac{77}{100}; 0.77$

2. 

3. 

4. 

Write the fraction or mixed number as a decimal.

5. $\frac{37}{100}$

6. $8\frac{11}{100}$

7. $\frac{98}{100}$

8. $25\frac{50}{100}$

9. $\frac{6}{100}$

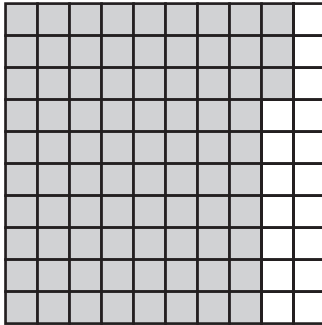
Problem Solving

10. There are 100 pennies in a dollar. What fraction of a dollar is 61 pennies? Write it as a fraction, as a decimal, and in word form.

11. Kylee has collected 100 souvenir thimbles from different places she has visited with her family. Twenty of the thimbles are carved from wood. Write the fraction of thimbles that are wooden as a decimal.

Lesson Check (4.NF.6)

1. What decimal represents the shaded section of the model below?

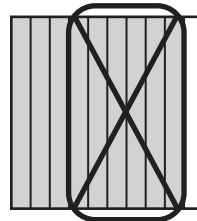


2. There were 100 questions on the unit test. Alondra answered 97 of the questions correctly. What decimal represents the fraction of questions Alondra answered correctly?

Spiral Review (4.OA.5, 4.NF.3b, 4.NF.3d, 4.NF.4c)

3. Write an expression that is equivalent to $\frac{7}{8}$.

4. What is $\frac{9}{10} - \frac{6}{10}$?



5. Misha used $\frac{1}{4}$ of a carton of 12 eggs to make an omelet. How many eggs did she use?

6. Kurt used the rule *add 4, subtract 1* to generate a pattern. The first term in his pattern is 5. Write a number that could be in Kurt's pattern.

Name _____

Equivalent Fractions and Decimals**COMMON CORE STANDARD—4.NF.5**
*Understand decimal notation for fractions,
and compare decimal fractions.***Write the number as hundredths in fraction form and decimal form.**

1. $\frac{5}{10}$

$$\frac{5}{10} = \frac{5 \times 10}{10 \times 10} = \frac{50}{100}$$

Think: 5 tenths is the same as 50 hundredths and 0 tenths. Write 0.50.

$$\frac{50}{100}; 0.50$$

2. $\frac{9}{10}$

3. 0.2

4. 0.8

Write the number as tenths in fraction form and decimal form.

5. $\frac{40}{100}$

6. $\frac{10}{100}$

7. 0.60

Problem Solving

8. Billy walks $\frac{6}{10}$ mile to school each day. Write $\frac{6}{10}$ as hundredths in fraction form and in decimal form.

9. Four states have names that begin with the letter A. This represents 0.08 of all the states. Write 0.08 as a fraction.

Lesson Check (4.NF.5)

1. The fourth-grade students at Harvest School make up 0.3 of all students at the school. What fraction is equivalent to 0.3?
2. Kyle and his brother have a marble set. Of the marbles, 12 are blue. This represents $\frac{50}{100}$ of all the marbles. What decimal is equivalent to $\frac{50}{100}$?

Spiral Review (4.OA.5, 4.NF.1, 4.NF.4c, 4.NF.6)

3. Jesse won his race by $3\frac{45}{100}$ seconds. What is this number written as a decimal?
4. Marge cut 16 pieces of tape for mounting pictures on poster board. Each piece of tape was $\frac{3}{8}$ inch long. How much tape did Marge use?
5. Of Katie's pattern blocks, $\frac{9}{12}$ are triangles. What is $\frac{9}{12}$ in simplest form?
6. A number pattern has 75 as its first term. The rule for the pattern is *subtract 6*. What is the sixth term?

Name _____

Relate Fractions, Decimals, and Money



COMMON CORE STANDARD—4.NF.6
Understand decimal notation for fractions, and compare decimal fractions.

Write the total money amount. Then write the amount as a fraction or a mixed number and as a decimal in terms of dollars.

1.



$\$0.18$; $\frac{18}{100}$; 0.18

2.



Write as a money amount and as a decimal in terms of dollars.

3. $\frac{25}{100}$

4. $\frac{79}{100}$

5. $\frac{31}{100}$

6. $\frac{8}{100}$

7. $\frac{42}{100}$

Write the money amount as a fraction in terms of dollars.

8. \$0.87

9. \$0.03

10. \$0.66

11. \$0.95

12. \$1.00

Write the total money amount. Then write the amount as a fraction and as a decimal in terms of dollars.

13. 2 quarters 2 dimes

14. 3 dimes 4 pennies

15. 8 nickels 12 pennies

Problem Solving



16. Kate has 1 dime, 4 nickels, and 8 pennies. Write Kate's total amount as a fraction in terms of a dollar.

17. Nolan says he has $\frac{75}{100}$ of a dollar. If he only has 3 coins, what are the coins?

Lesson Check (4.NF.6)

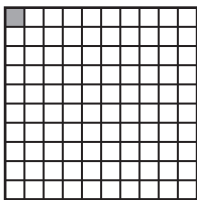
1. Write the total amount of money shown as a fraction in terms of a dollar.
2. Crystal has $\frac{81}{100}$ of a dollar. What could be the coins Crystal has?



Spiral Review (4.NF.1, 4.NF.6)

3. Joel gives $\frac{1}{3}$ of his baseball cards to his sister. Write a fraction that is equivalent to $\frac{1}{3}$.
4. Penelope bakes pretzels. She salts $\frac{3}{8}$ of the pretzels. Write a fraction that is equivalent to $\frac{3}{8}$.

5. What decimal is shown by the shaded area in the model?



6. Mr. Guzman has 100 cows on his dairy farm. Of the cows, 57 are Holstein. What decimal represents the portion of cows that are Holstein?

Name _____

Problem Solving • Money



COMMON CORE STANDARD—4.MD.2
Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

Use the *act it out* strategy to solve.

- Carl wants to buy a bicycle bell that costs \$4.50. Carl has saved \$2.75 so far. How much more money does he need to buy the bell?

Use 4 \$1 bills and 2 quarters to model \$4.50.
Remove bills and coins that have a value of \$2.75.
First, remove 2 \$1 bills and 2 quarters.



Next, exchange one \$1 bill for 4 quarters and remove 1 quarter.



Count the amount that is left.
So, Carl needs to save \$1.75 more.

\$1.75

- Together, Xavier, Yolanda, and Zachary have \$4.44. If each person has the same amount, how much money does each person have?

- Marcus, Nan, and Olive each have \$1.65 in their pockets. They decide to combine the money. How much money do they have altogether?

- Jessie saves \$6 each week. In how many weeks will she have saved at least \$50?

- Becca has \$12 more than Cece. Dave has \$3 less than Cece. Cece has \$10. How much money do they have altogether?

Lesson Check (4.MD.2)

1. Four friends earned \$5.20 for washing a car. They shared the money equally. How much did each friend get?
2. Write a decimal that represents the value of one \$1 bill and 5 quarters.

Spiral Review (4.OA.4, 4.NF.1, 4.NF.2, 4.NF.6)

3. Bethany has 9 pennies. What fraction of a dollar is this?
4. Michael made $\frac{9}{12}$ of his free throws at practice. What is $\frac{9}{12}$ in simplest form?

5. I am a prime number between 30 and 40. What number could I be?
6. Fill in the blank with a symbol that makes this statement true:

$$\frac{2}{5} \bigcirc \frac{1}{2}$$

Name _____

Add Fractional Parts of 10 and 100**COMMON CORE STANDARD—4.NF.5**
*Understand decimal notation for fractions,
and compare decimal fractions.***Find the sum.**

1. $\frac{2}{10} + \frac{43}{100}$

$$\frac{20}{100} + \frac{43}{100} = \frac{63}{100}$$

$$\frac{63}{100}$$

Think: Write $\frac{2}{10}$ as a fraction with a denominator of 100:

$$\frac{2 \times 10}{10 \times 10} \times \frac{20}{100}$$

2. $\frac{17}{100} + \frac{6}{10}$

3. $\frac{9}{100} + \frac{9}{10}$

4. $\frac{7}{10} + \frac{23}{100}$

5. $\$0.48 + \0.30

6. $\$0.25 + \0.34

7. $\$0.66 + \0.06

Problem Solving

8. Ned's frog jumped
- $\frac{38}{100}$
- meter. Then his frog jumped
- $\frac{4}{10}$
- meter. How far did Ned's frog jump?

9. Keiko walks
- $\frac{5}{10}$
- kilometer from school to the park. Then she walks
- $\frac{19}{100}$
- kilometer from the park to her home. How far does Keiko walk?

Lesson Check (4.NF.5)

1. In a fish tank, $\frac{2}{10}$ of the fish were orange and $\frac{5}{100}$ of the fish were striped. What fraction of the fish were orange or striped?
2. Greg spends \$0.45 on an eraser and \$0.30 on a pen. How much money does Greg spend?

Spiral Review (4.NF.1, 4.NF.3d, 4.MD.2)

3. Phillip saves \$8 each month. How many months will it take him to save at least \$60?
4. Ursula and Yi share a submarine sandwich. Ursula eats $\frac{2}{8}$ of the sandwich. Yi eats $\frac{3}{8}$ of the sandwich. How much of the sandwich do the two friends eat?
5. A carpenter has a board that is 8 feet long. He cuts off two pieces. One piece is $3\frac{1}{2}$ feet long and the other is $2\frac{1}{3}$ feet long. How much of the board is left?
6. Jeff drinks $\frac{2}{3}$ of a glass of juice. Write a fraction that is equivalent to $\frac{2}{3}$.

Name _____

Compare Decimals



COMMON CORE STANDARDS—4.NF.7
Understand decimal notation for fractions,
and compare decimal fractions.

Compare. Write $<$, $>$, or $=$.

1. $0.35 < 0.53$

2. $0.6 \bigcirc 0.60$

3. $0.24 \bigcirc 0.31$

Think: 3 tenths is less
than 5 tenths.

So, $0.35 < 0.53$

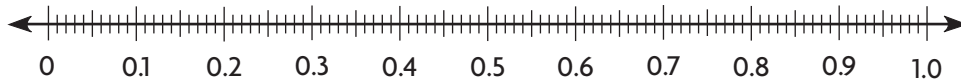
4. $0.94 \bigcirc 0.9$

5. $0.3 \bigcirc 0.32$

6. $0.45 \bigcirc 0.28$

7. $0.39 \bigcirc 0.93$

Use the number line to compare. Write *true* or *false*.



8. $0.8 > 0.78$

9. $0.4 > 0.84$

10. $0.7 < 0.70$

11. $0.4 > 0.04$

Compare. Write *true* or *false*.

12. $0.09 > 0.1$

13. $0.24 = 0.42$

14. $0.17 < 0.32$

15. $0.85 > 0.82$

Problem Solving



16. Kelly walks 0.7 mile to school. Mary walks 0.49 mile to school. Write an inequality using $<$, $>$, or $=$ to compare the distances they walk to school.

17. Tyrone shades two decimal grids. He shades 0.03 of the squares on one grid blue. He shades 0.3 of another grid red. Which grid has the greater part shaded?

Lesson Check (4.NF.7)

1. Bob, Cal, and Pete each made a stack of baseball cards. Bob's stack was 0.2 meter high. Cal's stack was 0.24 meter high. Pete's stack was 0.18 meter high. Write a number sentence that compares Cal's stack of cards to Pete's stack of cards.
2. Three classmates spent money at the school supplies store. Mark spent 0.5 dollar, Andre spent 0.45 dollar, and Raquel spent 0.52 dollar. Write a number sentence that compares the money Andre spent to the money that Mark spent.

Spiral Review (4.NF.3c, 4.NF.4c, 4.NF.5)

3. Pedro has \$0.35 in his pocket. Alice has \$0.40 in her pocket. How much money do Pedro and Alice have altogether?
4. The measure 62 centimeters is equivalent to $\frac{62}{100}$ meter. What is this measure written as a decimal?
5. Joel has 24 sports trophies. Of the trophies, $\frac{1}{8}$ are soccer trophies. How many soccer trophies does Joel have?
6. Molly's jump rope is $6\frac{1}{3}$ feet long. Gail's jump rope is $4\frac{2}{3}$ feet long. How much longer is Molly's jump rope?