

## Grade 4 Mathematics

### Number and Number Relations: Lesson 10

Read aloud to the students the material that is printed in **boldface type** inside the boxes. Information in regular type inside the boxes and all information outside the boxes should **not** be read to students. Possible student responses are included in parentheses after the questions.

NOTE: The directions read to students may depend on the available materials. Read only those parts of the lesson that apply to the materials you are using.

Any directions that ask you to do something, such as to turn to a page or to hand out materials to students, will have an arrow symbol ( $\Rightarrow$ ) by them.

#### *Purpose of Lesson 10:*

- In this lesson, the tutor and the students will
  - ✓ recognize decimal equivalents to fractions (tenths, hundredths);
  - ✓ read and write decimals to hundredths;
  - ✓ recognize money equivalents; and
  - ✓ add and subtract with money.

#### *Equipment/Materials Needed:*

- Copies of Student Sheets 31 – 34
- A few dimes, pennies, and dollars—real or play money

#### *Preparations before beginning Lesson 10:*

- Run off 1 copy of Student Sheets 31 – 34 for each student.
- Have paper and pencils available.
- Have a few coins available.

## Lesson 10: Number and Number Relations

Say:

**Remember that in the last lesson, we looked at fractions. Fractions give a way to show parts of numbers. Today, we will look at decimals. Decimals also give us a way to show parts of numbers. Decimals are fractions that have *denominators*, or bottom numbers, of 10, 100, 1000, and so on. When we say a decimal, it sounds just like a fraction; but when we write a decimal, it is written differently.**

⇒ Write  $\frac{1}{10}$  on a sheet of paper.

Say:

**Read the fraction. (one-tenth) To write this fraction as a decimal, we write .1 or 0.1. The period is a “decimal point.” It is better to write the 0 in front of the decimal point to show that there is no whole number part.**

⇒ Give Student Sheet 31 to the students.

Say:

**Describe the shaded part of each figure. Write a fraction, say the fraction word, and write a decimal.**

Answers:

1)  $\frac{3}{10}$ ; 0.3

2)  $\frac{4}{10}$ ; 0.4

3)  $\frac{2}{10}$ ; 0.2

4)  $\frac{1}{10}$ ; 0.1

**You can say that  $\frac{1}{10}$  and 0.1 are equivalent. *Equivalent* means they name the same amount.**

Say:

**Sometimes we divide figures into 100 parts. This division shows hundredths.**

⇒ Write  $\frac{18}{100}$  on a sheet of paper.

Say:

**Tell me the fraction in words. As a decimal, 18/100 would be written as 0.18.**

⇒ Give the students Student sheet 32.

Say:

**Describe the shaded part of each figure. Write a fraction, say the fraction word, and write a decimal.**

Answers:

1)  $\frac{15}{100}$ ; 0.15      2)  $\frac{73}{100}$ ; 0.73      3)  $\frac{45}{100}$ ; 0.45      8)  $\frac{2}{100}$ ; 0.02

**These fractions and decimals are equivalent: for example,  $\frac{2}{100}$  and 0.02 are equivalent.**

⇒ Give this problem to the students:

Say:

**At the swim meet, Keko scored a 9.35. How would you read this decimal? Decimals use place value just as whole numbers do. The numbers to the left of the decimal point are the whole numbers; the numbers to the right of the decimal point are the parts of the whole numbers or the fractional parts.**

⇒ Draw a chart like this example on your paper. Place the number 9.35 in the chart.

Ones		Tenths	Hundredths
9	.	3	5

Say:

**To read the decimal: 1) Read the whole number part if there is one. 2) Read the decimal point as “and.” 3) Read the numbers to the right as though they were a whole number. 4) Say the place value of the last digit. So 9.35 would be read as nine and thirty-five hundredths.**

⇒ Write a the following decimals in the chart. Have the students read the decimal numbers. 2.46; 1.08; 5.23; 1.01

⇒ Give Student Sheet 33 to the students. Answers:

- 1) fifteen hundredths      2) one hundredth      3) ten hundredths  
4) one tenth      5) one and two tenths      6) two and one tenth  
7) one and twenty hundredths  
8) two and ten hundredths      9) 0.4  
10) 0.23      11) 3.4      12) 2.02

Say:

**Decimals are used when we write about money. Let's review some ideas about money.**

**How many pennies are in 1 dime? (10) We could say 1 dime = 10 pennies.**

**How many pennies are in 2 dimes? (20) We could say 2 dimes = 20 pennies.**

**How many pennies equals 8 dimes? (80) We could say 8 dimes = 80 pennies.**

**How many dimes equals 40 pennies? (4) 40 pennies = 4 dimes**

**How many dimes equals 90 pennies? (9) 90 pennies = 9 dimes**

**How many dimes equals 100 pennies? (10) 100 pennies = 10 dimes**

**How many pennies are in \$1? (100) 100 pennies = \$1**

**How many pennies are in \$5? (500) 500 pennies = \$5**

**How many pennies are in \$8? (800) 800 pennies = \$8**

**How many dollars equals 200 pennies? (200) \$2 = 200 pennies**

**How many dimes are in a dollar? (10) 10 dimes = \$1**

**How many dimes equals \$5? (50) 50 dimes = \$5**

**How many dollars equals 80 dimes? (8) 80 dimes = \$8**

Say:

**We can show money using decimals. We write 1 dime as 0.1 because it is 1/10 of a dollar. We write 1 penny or 1 cent as 0.01 because it is one-hundredth of a dollar. How would you write 23¢ as decimal? (0.23)**

**How would you write 2 dimes and 3 pennies as a decimal? (0.23)**

⇒ Use money to show different amounts. Ask the students to write the decimal name for the money.

⇒ Give Student Sheet 34, but work these problems in small groups. Make sure you ask the students how they got their answers.

Answers:

1) \$3.55

2) \$6.30

3) \$45.00

4) \$2.60

5) \$4.17

6) \$2.70

7) Hot dog and french fries

8) Soda and cake

9) \$1.92

⇒ Have one student summarize today's lesson.

**Student Sheet 31 (Number: Lesson 10)**

**What amount is shaded? Write a fraction and a decimal for each amount.**

1.



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**Fraction**

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**Decimal**

2.



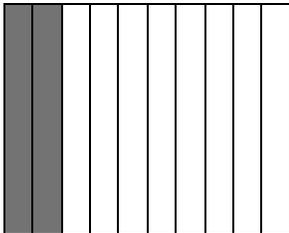
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**Fraction**

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**Decimal**

3.



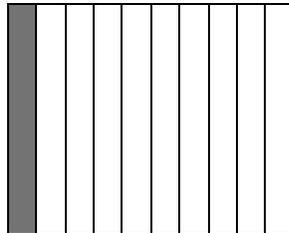
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**Fraction**

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**Decimal**

4.



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**Fraction**

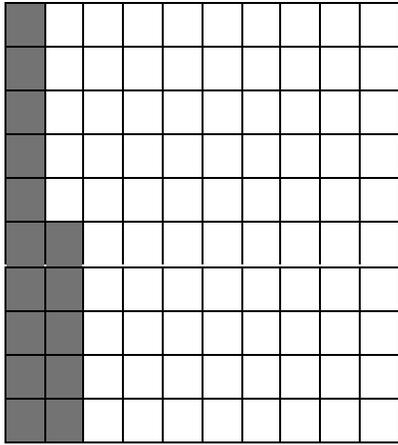
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**Decimal**

**Student Sheet 32 (Number: Lesson 10)**

**Write a fraction, say the fraction, and write a decimal for each amount.**

1.



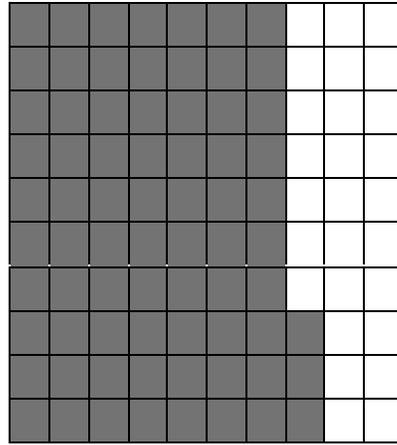
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**Fraction**

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**Decimal**

2.



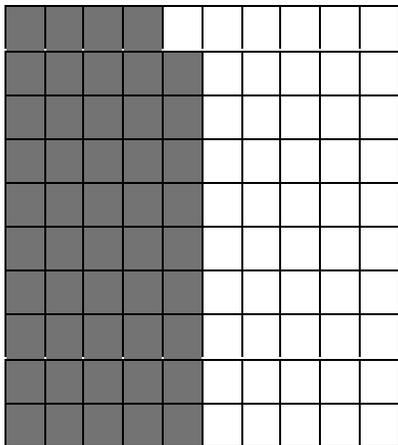
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**Fraction**

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**Decimal**

3.



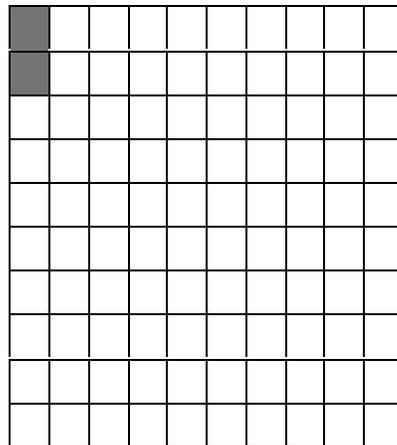
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**Fraction**

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**Decimal**

4.



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**Fraction**

---

**Decimal**

**Student Sheet 33 (Number: Lesson 10)**

**Write or say the number words for each of the following decimal numbers.**

1. 0.15 \_\_\_\_\_

2. 0.01 \_\_\_\_\_

3. 0.10 \_\_\_\_\_

4. 0.1 \_\_\_\_\_

5. 1.2 \_\_\_\_\_

6. 2.1 \_\_\_\_\_

7. 1.20 \_\_\_\_\_

8. 2.10 \_\_\_\_\_

**Write the decimal for each of the following number words.**

9. Four-tenths \_\_\_\_\_

10. Twenty-three hundredths \_\_\_\_\_

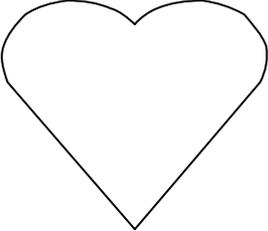
11. Three and four-tenths \_\_\_\_\_

12. Two and two hundredths \_\_\_\_\_

### Student Sheet 34 (Number: Lesson 10)

1. Lisa spent \$2.25 for a slice of pizza and \$1.30 for a soda. How much did she spend in all? \_\_\_\_\_
2. Jenny bought 3 slices of pizza at \$2.10 apiece. How much did she spend in all? \_\_\_\_\_
3. Larry bought 2 PlayStation games. He spent \$22.50 for each game. How much did he spend in all? \_\_\_\_\_
4. Julie had \$8.95 in her wallet when she left home in the morning. When she got home, she had \$6.35. How much did she spend during the day?  
\_\_\_\_\_

Use the menu to answer questions 5 – 9.

	Orange Juice	\$1.25	
	Soda	\$1.67	
	Cake	\$1.45	
	Hot Dog	\$2.50	
	Hamburger	\$2.95	
	French Fries	\$1.10	

5. Jay bought a hot dog and one soda. How much did he spend? \_\_\_\_\_
6. Christine bought one orange juice and a piece of cake. How much did she spend? \_\_\_\_\_
7. Nicole spent \$3.60. What 2 items did she buy? \_\_\_\_\_
8. Scott spent \$3.12. What 2 items did he buy? \_\_\_\_\_
9. Rosalind wanted an extra cup of ice and was told she would have to pay 25¢ for it. How much would the soda and the extra cup of ice cost?