Important Concepts . . .

Preview Review

Mathematics Grade 5 TEACHER KEY

W1 - Lesson 3: Exploring Decimals

V5-07

Important Concepts of Grade 5 Mathematics

W1 - Lesson 1 .....Number Sense Numbers 0 to 100 000
W1 - Lesson 2 ..... Exploring Proper Fractions
W1 - Lesson 3 ..... Exploring Decimals
W1 - Lesson 4 .....Numbers With Up to 2 Decimal Places
W1 - Lesson 5 ..... Multiplication
W1 - Quiz
W2 - Lesson 1 ..... Division
W2 - Lesson 2 ..... Collecting Data and Analyzing Patterns
W2 - Lesson 3 .....Estimating and Taking Measurements
W2 - Lesson 4 ..... Perimeter and Area Measurements
W2 - Lesson 5 ..... Metric Measurements
W2 - Quiz
W3 - Lesson 1 ..... Volume, Capacity, Mass, and Time
W3 - Lesson 2 ..... 2-D Shapes and 3-D Objects
W3 - Lesson 3 .....Transformations
W3 - Lesson 4 ..... Statistics and Probability
W3 - Lesson 5 .....Chance and Probability
W3 - Quiz

Materials Required

Protractor
Ruler
Calculator

A textbook is not needed.

This is a stand-alone course.

Mathematics Grade 5
Version 5
Preview/Review W1 - Lesson 3 TEACHER KEY

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Preview/Review Concepts for Grade Five Mathematics

TEACHER KEY

W1 - Lesson 3: Exploring Decimals

OBJECTIVES

By the end of this lesson, you should

- understand that a decimal shows part of a whole
- read decimals correctly
- compare decimal numbers
- write fractions as decimal numbers

Glossary of Terms

Decimal: A decimal is a way of showing parts or fractions of a whole number.

Example: If you have $0.50, you also have $\frac{1}{2}$ a dollar.

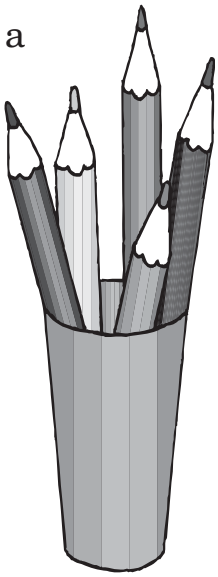
Denominator: The denominator is the number on the bottom of a fraction. $\frac{3}{4}$ ← Denominator

Expanded Form: The number is written to show the place value of each digit.

Example: 21.32 means 20 + 1+ 0.3 + 0.02
or
2 tens + 1 one + 3 tenths + 2 hundredths

Numerator: The numerator is the number on top in a fraction. $\frac{4}{5}$ ← Numerator

Place Value: Each digit of a number has a place. The place of the number tells the value of the number.



Word Form: The number is written in word format.

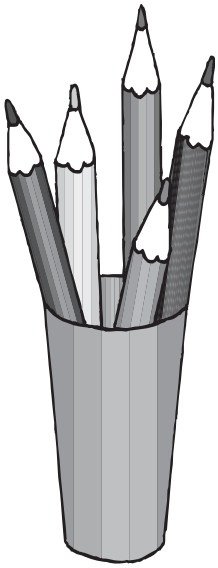
Example: 21.32 = twenty-one and thirty-two hundredths **or** twenty-one decimal three two.

Thousands	Hundreds	Tens	Ones		Tenths	Hundredths
8	5	2	1	●	3	2

This should read as eight thousand, five hundred twenty-one decimal three two

or

eight thousand, five hundred twenty-one and thirty-two hundredths.



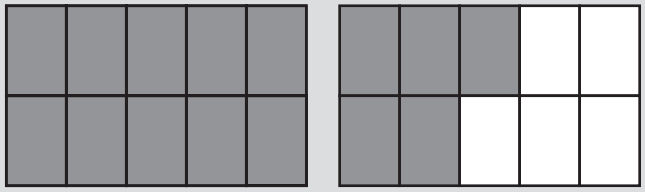
W1 - Lesson 3: Exploring Decimals

Concepts:

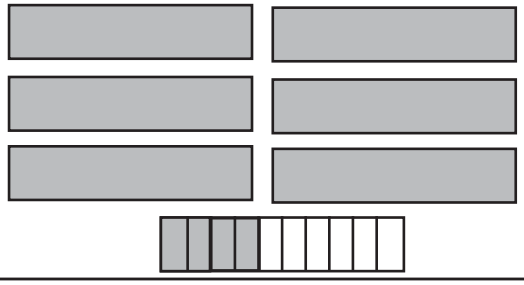
- Representing Decimals in Pictures
- Writing Decimal Numbers in Word Form
- Comparing Decimal Numbers on a Number Line
- Comparing Decimal Numbers: Which is Greater?
- Fractions to Decimals

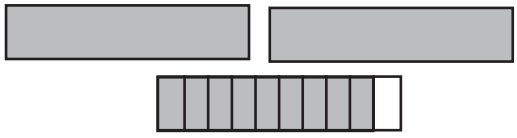
Representing Decimals in Pictures

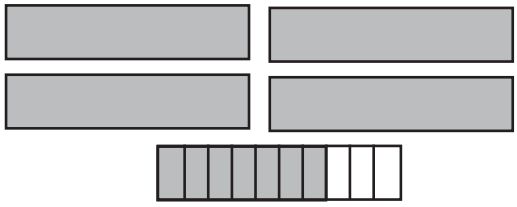
One and five tenths can be pictured like this:

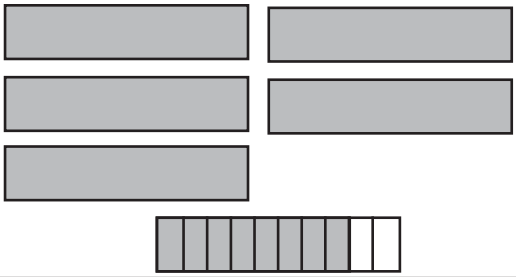
1.5 = 

Draw a picture for the following decimals. Use sets of ten for each question. The first one has been done for you.

6.4 

2.9 

4.7 

5.8 

Fill in the following base ten chart.

	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones		Tenths	Hundredths
654.21				**6**	**5**	**4**	●	**2**	**1**
984 853.40	**9**	**8**	**4**	**8**	**5**	**3**	●	**4**	**0**
3 544.09			**3**	**5**	**4**	**4**	●	**0**	**9**

Writing Decimal Numbers in Word Form

There are three ways to write decimals in **word form**: the *and* way, the *decimal* way, and the *money* way.

And: You can use the word *and* for the decimal. When using the word *and* in place of the decimal, you need to use the **place value** terms in your description.

Example: 3.4 = Three **and** four ten**ths**
3.42 = Three **and** forty-two hundred**ths**

Decimal: You can use the word *decimal* for the decimal. When using the word *decimal*, you need to list the numbers after the decimal.

Example: 3.4 = Three **decimal** four
3.42 = Three **decimal** four two
3.42 = Three **decimal** forty-two

Money: Money requires the use of the words *dollars* and *cents* in the description.

Example: $3.42 = Three **dollars** and forty-two **cents**.

Write the following decimals in word form. Use the format listed in brackets.

3.95 (and) ***three and ninety-five hundredths***

$5.69 (money) ***five dollars and sixty-nine cents***

6.2 (decimal) ***six decimal two***

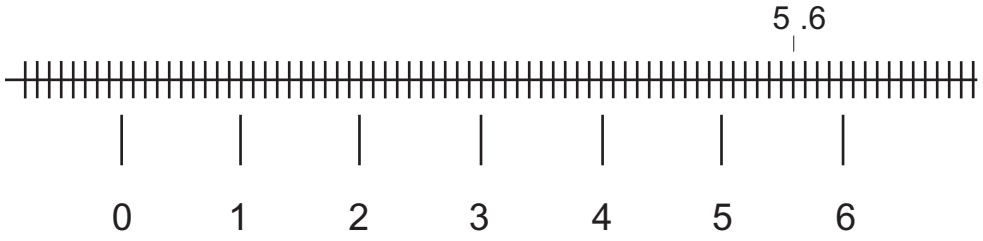
7.14 (and) ***seven and fourteen hundredths***

$8.09 (money) ***eight dollars and nine cents***

82.675 (decimal) ***eighty-two decimal six seven five***

Comparing Decimal Numbers on a Number Line

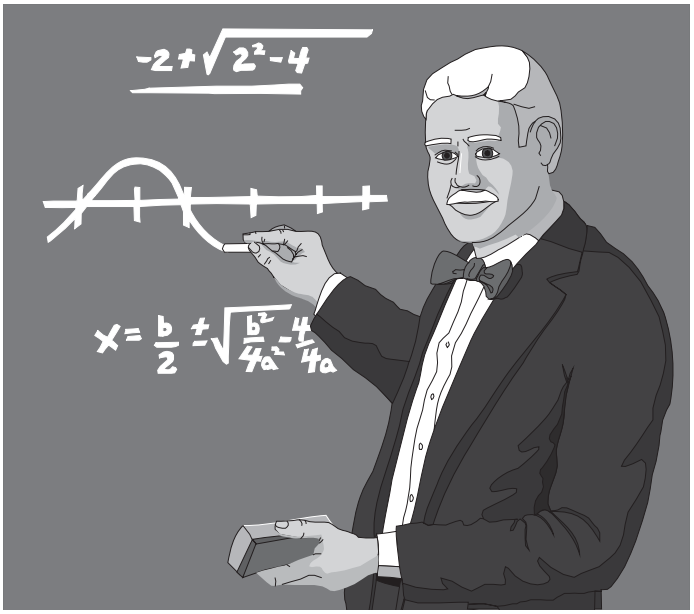
Number lines help show numbers in order. On the number line below, each number is divided into ten sections. These sections show part of the number. Each part can be written in decimal form.



Note: To *mark the decimal* you need to use a dot or a line on the number line and write the decimal above the number line.

Example: see where 5.6 is placed on the number line.

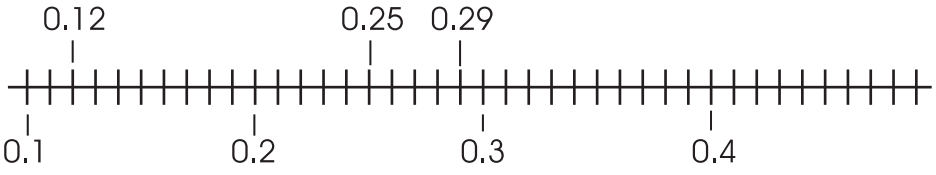
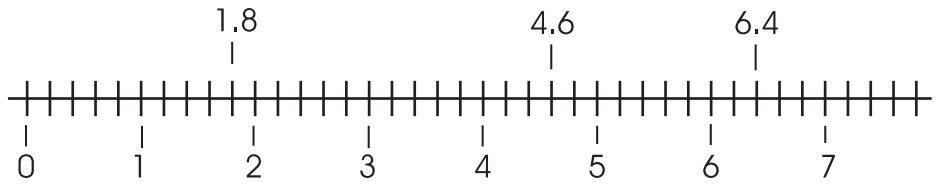
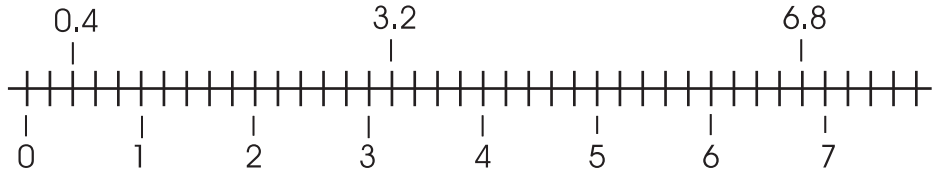
Where would you find the decimal 1.4 on the number line? Mark the decimal 1.4 on the number line.

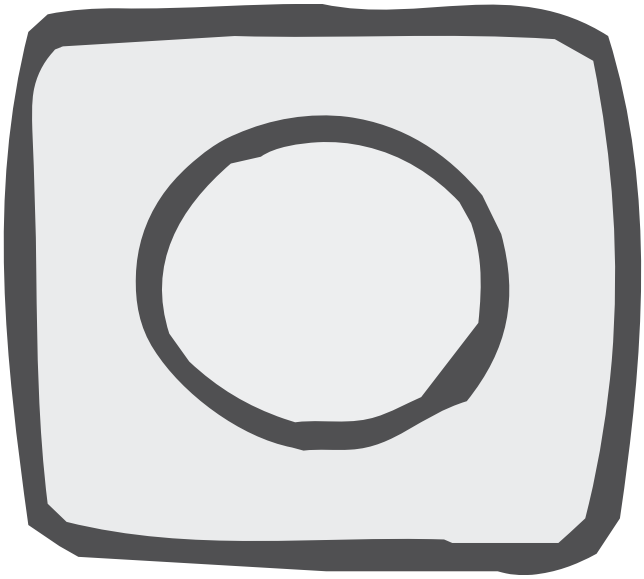


For each question below,

1. Complete the number lines with the numbers given.

2. Place the decimals on the number line.

Divide into: 1 through 4 Decimals: 1.7, 2.4, 3.5	
Divide into: 0.1, 0.2, 0.3 Decimals: 0.25,0.29, 0.12	
Divide into: 0 through 7 Decimals: 6.4, 1.8, 4.6	
Divide into: 0 through 7 Decimals: 0.4, 6.8, 3.2	

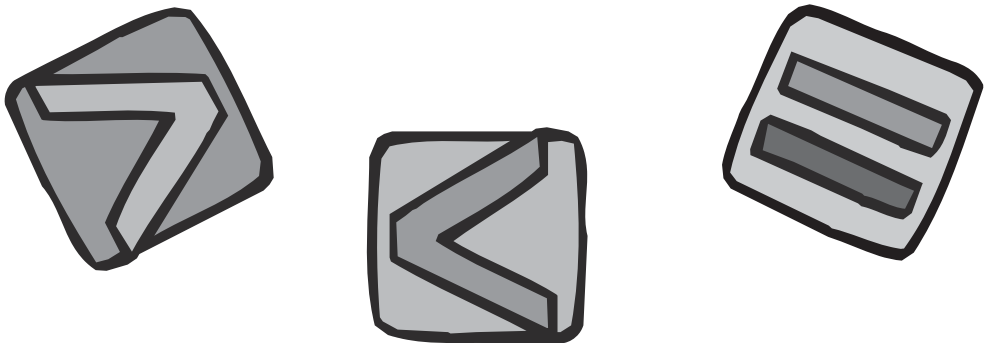


Comparing Decimal Numbers: Which is Greater?

You can find out which decimal is the largest in three ways.

1. Draw pictures to represent the decimal.
2. Put the decimal on a number line.
3. Compare numbers.

To compare numbers, you must look at the numbers **before** the decimal, then **after** the decimal. Which is greater: 32.3 or 32.2? Because both numbers before the decimal are the same, you must look at the numbers after the decimal. Three is larger than two; therefore, 32.3 is larger than 32.2.



For each question below, use the symbols >, <, or = to complete each question.

1.	5.2	<	6.7	6.43	<	6.44	25.7	>	24.7
2.	62.43	>	62.4	8.741	=	8.741	5.21	=	5.21
3.	11.49	<	12.48	6.25	<	6.26	72.53	>	72.43

Putting Decimal Numbers in Increasing or Decreasing Order

Put the following decimals numbers in order from **largest to smallest**.

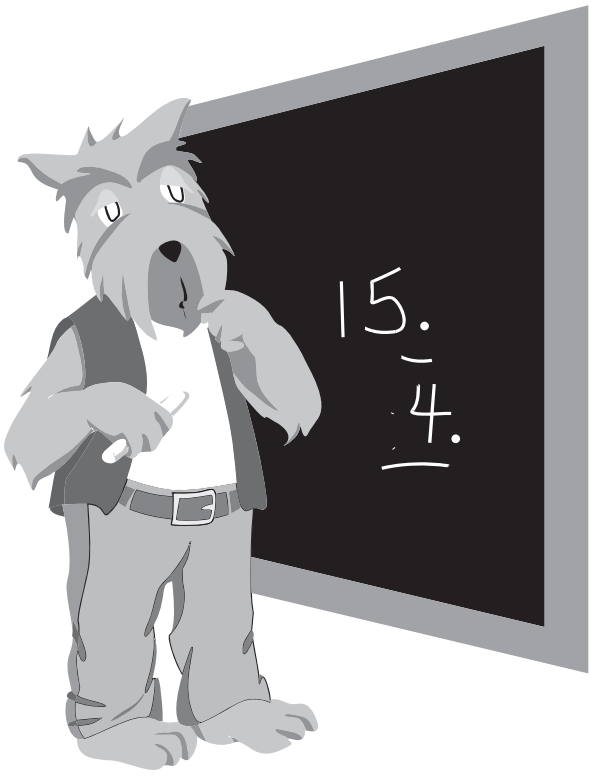
a. 44.7, 44.9, 44.3, 44.8 ***44.9, 44.8, 44.7, 44.3***

b. 23.6, 23.8, 22.9, 23.9 ***23.9, 23.8, 23.6, 22.9***

Put the following decimals numbers in order from **smallest to largest**.

c. 3.54, 6.78, 2.56, 3.64 ***2.56, 3.54, 3.64, 6.78***

d. 5.42, 5.41, 5.89, 5.76 ***5.41, 5.42, 5.76, 5.89***



Fractions to Decimals

To change a number from a fraction to a decimal, you need to divide the **numerator** by the **denominator**. $\frac{8}{10}$ $8 \div 10 = 0.80$

Trick method! Find the pattern. $\frac{7}{10}$ becomes $7 \div 10 = 0.7$

1. Start with the denominator. Change the 1 in ten to a "0."
2. Use the numerator to make the number after the decimal, (in this case 7).

1. Change the following fractions into decimals.

a. $\frac{2}{10}$ = **0.2**	b. $\frac{9}{10}$ = **0.9**
c. $\frac{32}{100}$ = **0.32**	d. $\frac{5}{10}$ = **0.5**
e. $\frac{1}{10}$ = **0.1**	f. $\frac{22}{100}$ = **0.22**
g. $\frac{60}{100}$ = **0.6**	h. $\frac{9}{100}$ = **0.09**
i. $\frac{97}{100}$ = **0.97**	j. $\frac{68}{100}$ = **0.68**

2. See if you can change the following decimals into fractions!

a. 0.3 = $\frac{3}{10}$ b. 0.25 = $\frac{25}{100} = \frac{1}{4}$ c. 0.6 $\frac{6}{10} = \frac{3}{5}$ d. 0.77 = $\frac{77}{100}$

Problem Solving

1. Sue, Mark, and Trevor were in a swim competition. Sue's time was 37.4 seconds, Mark's time was 36.8 seconds, and Trevor's time was 37.9 seconds. Who had the fastest time?

   Mark had the fastest time at 36.8 seconds.

2. The following is a list of scores students received at the track meet for high jump. From the highest jump to the lowest jump, what order did everyone finish in?

		Order
Tom	1.02 m	**3rd**
Sara	0.74 m	**5th**
Jeff	1 m	**4th**
Greg	1.14 m	**1st**
Christine	1.06 m	**2nd**

3. Mr. Friesen wrote a cheque for $57.39 to pay his power bill. On the cheque, Mr. Friesen needed to write $57.39 in word form. Fill in the cheque by writing $57.39 on the blank line.

Mr. Friesen
Anyplace, Canada

No. 155

April 14, 20 **03**

PAY **EPCOR** $ **57.39**

Fifty-seven dollars **39 /100**

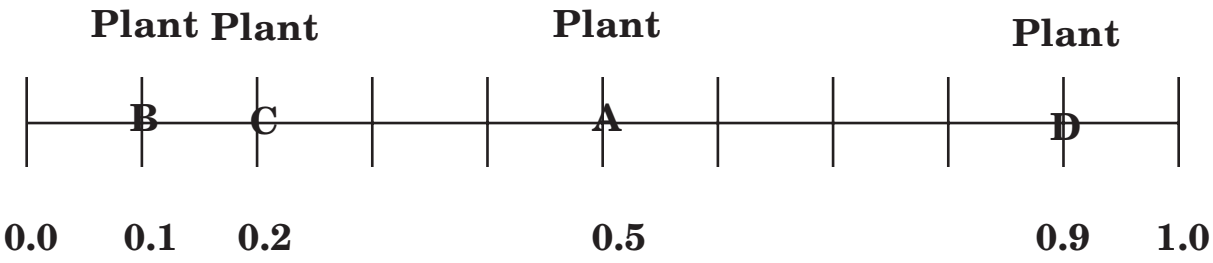
THE BIG BANK
ANYPLACE, CANADA

4. Lara uses a line graph to compare the height of her plants.

Plant A is Plant B is Plant C is and Plant D is

$\frac{5}{10}$ = **0.5** $\frac{1}{10}$ = **0.1** $\frac{2}{10}$ = **0.2** $\frac{9}{10}$ = **0.9**

Use the above information to draw a number line of plant growth for Lara.



Height in metres