

Important Concepts . . .

Preview Review



Mathematics Grade 5 TEACHER KEY

W2 - Lesson 1: Division

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 W2 - Lesson 1 TEACHER KEY

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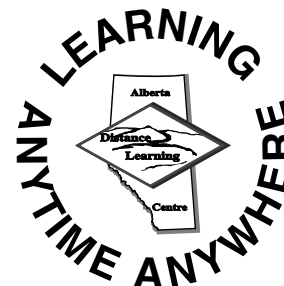
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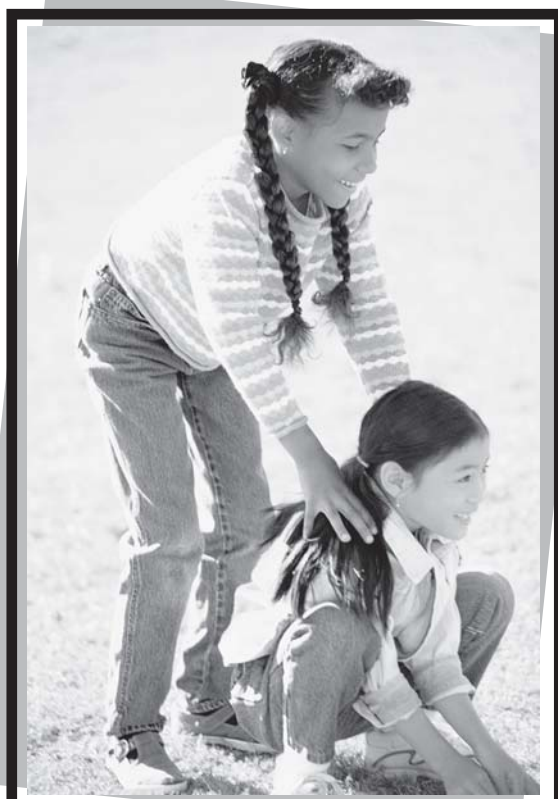
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Preview/Review Concepts for Grade Five Mathematics

TEACHER KEY



***W2 - Lesson 1:
Division***

OBJECTIVES

By the end of this lesson, you should

- understand divisor, dividend, and quotient
- divide 1-digit numbers into 3-digit numbers
- divide decimal numbers

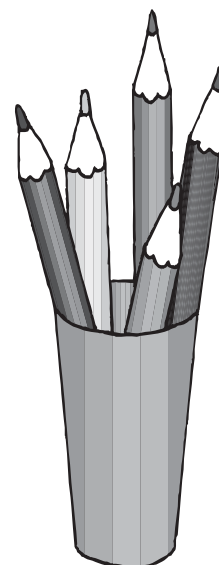
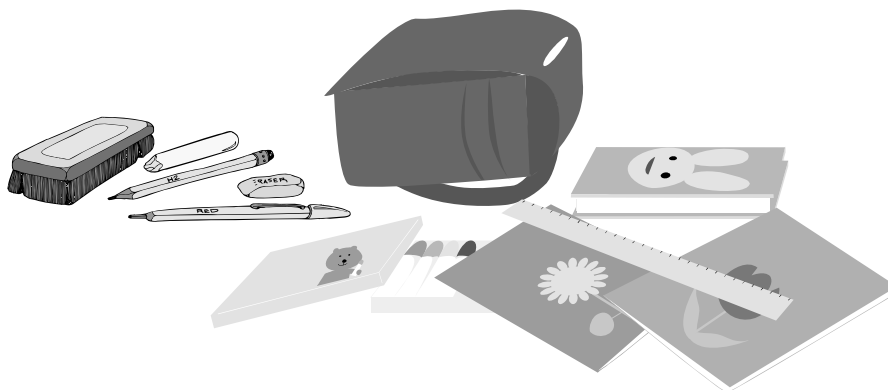



Glossary of Terms

Dividend: This is the number that is being divided.

Divisor: The number that tells you “how many pieces the number is divided into” is the divisor.

Quotient: The answer to the division question is the quotient.



Remainder: When a “dividend” can not be divided equally, the “left over” number is the remainder.

$$\begin{array}{r}
 86 \leftarrow \text{quotient} \\
 \text{divisor} \rightarrow 3 \overline{)260 \leftarrow \text{dividend}} \\
 \underline{24} \\
 20 \\
 \underline{18} \\
 2 \leftarrow \text{remainder}
 \end{array}$$

$$\begin{array}{ccccc}
 & 32 & \div & 4 & = & 8 \\
 \swarrow & & & \uparrow & & \nwarrow \\
 \text{dividend} & & & \text{divisor} & & \text{quotient} \\
 & & & & & \text{(answer)}
 \end{array}$$

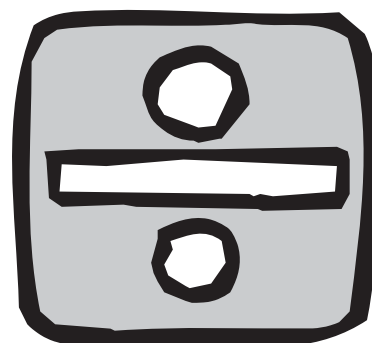
W2 - Lesson 1: Division

Concepts:

- Mental Math
- Estimated Quotient
- 3-Digit by 1-Digit Division
- Dividing Decimals

Mental Math

Complete as many as you can in **one minute**.
Do those you know first.



$6 \div 2 = \underline{3} \quad 28 \div 7 = \underline{4} \quad 18 \div 3 = \underline{6} \quad 30 \div 6 = \underline{5} \quad 3 \div 1 = \underline{3}$

$8 \div 8 = \underline{1} \quad 18 \div 2 = \underline{9} \quad 42 \div 6 = \underline{7} \quad 20 \div 4 = \underline{5} \quad 28 \div 4 = \underline{7}$

$32 \div 8 = \underline{4} \quad 21 \div 3 = \underline{7} \quad 27 \div 3 = \underline{9} \quad 36 \div 6 = \underline{6} \quad 48 \div 6 = \underline{8}$

$20 \div 5 = \underline{4} \quad 42 \div 7 = \underline{6} \quad 36 \div 4 = \underline{9} \quad 11 \div 1 = \underline{11} \quad 2 \div 2 = \underline{1}$

$14 \div 2 = \underline{7} \quad 9 \div 3 = \underline{3} \quad 18 \div 6 = \underline{3} \quad 40 \div 8 = \underline{5} \quad 8 \div 4 = \underline{2}$

Estimated Quotient

Round the **dividend** to find a number that can be divided easily.
Use your multiplication facts to help you.

$$\begin{array}{lcl}
 4\,725 \div 7 = & \longrightarrow & \text{Rounded equals } 4900 \div 7 \\
 & \longrightarrow & 49(00) \div 7 = 7(00) \\
 & \longrightarrow & 4900 \div 7 = 700
 \end{array}$$

Try the following by rounding the dividend to get a good estimate.

e.g., $6\,521 \div 8 = \underline{6\,400 \div 8 = 800}$

Answers may vary

1. $784 \div 8 = \underline{800 \div 8 = 100}$

2. $552 \div 6 = \underline{600 \div 6 = 100}$

3. $8\,069 \div 9 = \underline{8100 \div 9 = 900} \quad \underline{9000 \div 9 = 1000}$

4. $341 \div 4 = \underline{400 \div 4 = 100}$

5. $348 \div 5 = \underline{350 \div 5 = 70}$

6. $2\,531 \div 4 = \underline{2400 \div 4 = 600} \quad \underline{2800 \div 4 = 700}$

7. $4\,683 \div 6 = \underline{4800 \div 6 = 800} \quad \underline{4200 \div 6 = 700}$

8. $2\,601 \div 5 = \underline{2500 \div 5 = 500}$

3-Digit by 1-Digit Division

1. Estimate $8 \overline{)288}$

What number will 8 go into that is less than 28, but more than 20?

$8 \times 3 = 24$. 24 is less than 28, but more than 20.

Dividing whole Numbers

- Estimate
- Multiply
- Subtract
- Bring it down and repeat

2. Multiply $\begin{array}{r} 3 \\ 8 \overline{)288} \\ \underline{24} \end{array}$

Try your estimation number

$$8 \times 3 = 24$$

3. Subtract $\begin{array}{r} 3 \\ 8 \overline{)288} \\ \underline{-24} \\ 04 \end{array}$



4. Bring it down and repeat
Bring down the next digit in the dividend, and go to estimation again.

$$\begin{array}{r} 3 \\ 8 \overline{)288} \\ \underline{24\downarrow} \\ 48 \end{array}$$

5. Estimate

$? \times 8 =$ equal to or less than 48, but greater than 40

$$6 \times 8 = 48$$

6. Subtract
 $48 - 48 = 0$

$$\begin{array}{r} 36 \\ 8 \overline{)288} \\ \underline{-24} \downarrow \\ 48 \\ \underline{-48} \\ 0 \end{array}$$

7. Bring it down and repeat
Because no numbers are available to bring down, you're finished!
 $288 \div 8 = 36$

Try the Following!

$$\begin{array}{r}
 28 \\
 9 \overline{)252} \\
 \underline{-18} \\
 72 \\
 \underline{-72} \\
 0
 \end{array}$$

$$\begin{array}{r}
 81 \\
 4 \overline{)324} \\
 \underline{-32} \\
 04 \\
 \underline{-04} \\
 0
 \end{array}$$

$$\begin{array}{r}
 46 \\
 8 \overline{)368} \\
 \underline{-32} \\
 48 \\
 \underline{-48} \\
 0
 \end{array}$$

$$\begin{array}{r}
 62 \\
 5 \overline{)310} \\
 \underline{-30} \\
 10 \\
 \underline{-10} \\
 0
 \end{array}$$

$$\begin{array}{r}
 86 \\
 7 \overline{)602} \\
 \underline{-56} \\
 42 \\
 \underline{-42} \\
 0
 \end{array}$$

$$\begin{array}{r}
 19 \\
 9 \overline{)171} \\
 \underline{-9} \\
 81 \\
 \underline{-81} \\
 0
 \end{array}$$

$$\begin{array}{r}
 74 \\
 6 \overline{)444} \\
 \underline{-42} \\
 24 \\
 \underline{-24} \\
 0
 \end{array}$$

$$\begin{array}{r}
 88 \\
 3 \overline{)264} \\
 \underline{-24} \\
 24 \\
 \underline{-24} \\
 0
 \end{array}$$

$$\begin{array}{r}
 48 \\
 4 \overline{)192} \\
 \underline{-16} \\
 32 \\
 \underline{-32} \\
 0
 \end{array}$$

$$\begin{array}{r}
 94 \\
 6 \overline{)564} \\
 \underline{-54} \\
 24 \\
 \underline{-24} \\
 0
 \end{array}$$

Dividing Decimals

1. Divide as normal.
2. Move the decimal into the answer in the same way that you move numbers down.
3. Let's go through the first one together.

$$\begin{array}{r} 7. \\ 6 \overline{)42.9} \\ \underline{-42} \\ 0 \end{array}$$

$$\begin{array}{r} 7.15 \\ 6 \overline{)42.90} \\ \underline{-42} \downarrow \downarrow \\ 09 \downarrow \\ \underline{-6} \downarrow \\ 30 \downarrow \\ \underline{-30} \\ 0 \end{array}$$

If you still have a remainder, add another zero after the decimal and pull down until there is no remainder or you have a repeating decimal.

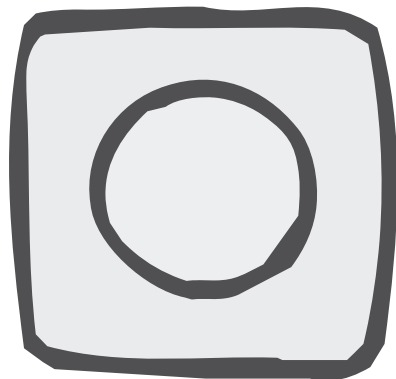


4. What to do with a repeating decimal. $34 \div 12$.

$$\begin{array}{r} 2.833 \\ 12 \overline{)34.000} \\ \underline{-24} \downarrow \downarrow \downarrow \\ 10 \downarrow \downarrow \\ \underline{-96} \downarrow \downarrow \\ 40 \downarrow \\ \underline{-36} \downarrow \\ 40 \downarrow \\ \underline{-36} \\ 4 \end{array}$$

3 will continue to repeat indefinitely. Put a dot over the first repeating digit to show that this is a repeating number.

Answer repeats



Complete the following.

$$\begin{array}{r} 1. \quad \begin{array}{r} \textbf{4.8} \\ 8 \overline{)38.4} \\ \underline{-32} \\ \textbf{6.4} \\ \underline{-6.4} \\ \textbf{0} \end{array} \end{array}$$

$$\begin{array}{r} 2. \quad \begin{array}{r} \textbf{4.23} \\ 3 \overline{)12.69} \\ \underline{-12} \\ \textbf{0.6} \\ \underline{-0.6} \\ \textbf{0.9} \\ \underline{-0.9} \\ \textbf{0} \end{array} \end{array}$$

$$\begin{array}{r} 3. \quad \begin{array}{r} \textbf{2.56} \\ 2 \overline{)5.12} \\ \underline{-4} \\ \textbf{11} \\ \underline{-10} \\ \textbf{12} \\ \underline{-12} \\ \textbf{0} \end{array} \end{array}$$

$$\begin{array}{r} 4. \quad \begin{array}{r} \textbf{4.6125} \\ 4 \overline{)18.4500} \\ \underline{-16} \\ \textbf{24} \\ \underline{-24} \\ \textbf{05} \\ \underline{-4} \\ \textbf{10} \\ \underline{-8} \\ \textbf{20} \\ \underline{-20} \\ \textbf{0} \end{array} \end{array}$$

$$\begin{array}{r}
 5. \quad \overline{11.7\dot{6}} \\
 6 \overline{)70.6} \\
 \underline{-6} \\
 10 \\
 \underline{-6} \\
 46 \\
 \underline{-42} \\
 40 \\
 \underline{-36} \\
 4 \text{ Repeats}
 \end{array}$$

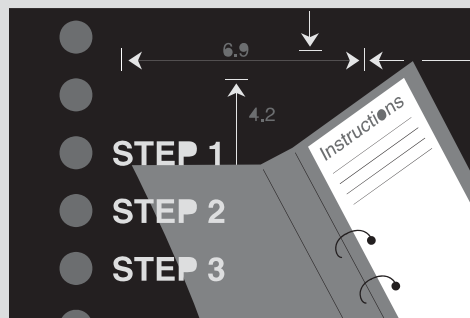
$$\begin{array}{r}
 6. \quad \overline{5.5} \\
 5 \overline{)27.5} \\
 \underline{-25} \\
 25 \\
 \underline{-25} \\
 0
 \end{array}$$

$$\begin{array}{r}
 7. \quad \overline{6.1} \\
 9 \overline{)54.9} \\
 \underline{-54} \\
 09 \\
 \underline{-09} \\
 0
 \end{array}$$

$$\begin{array}{r}
 8. \quad \overline{5.13\dot{3}} \\
 3 \overline{)15.40} \\
 \underline{-15} \\
 04 \\
 \underline{-3} \\
 10 \\
 \underline{-09} \\
 10 \\
 \underline{-09} \\
 1 \text{ Repeats}
 \end{array}$$

3-Step Problem-Solving Process

1. Write the problem in a number question.
2. Solve the problem. **Show your work.**
3. Write a sentence with the answer.



1. John went to *The CD Exchange* to buy some CDs. The sale sign said, “2 for \$14.98.” How much does each CD cost?

Step 1: $\$14.98 \div 2 =$

\$7.49

Step 2: $2 \overline{) \$14.98}$

$- 14$

09

$- 8$

18

$- 18$

0

Step 3: *Each CD cost \$7.49*

2. At *The CD Exchange*, you can bring in old CDs for credit in the store. For every 4 CDs you bring, you get one CD from the store. If Bob and his friends bring in 112 CDs, how many CDs can they choose from the store?

Step 1: $112 \text{ CDs} \div 4 \text{ CDs}$

Step 2:

28

$4 \overline{) 112}$

$- 8$

32

$- 32$

0

Step 3: *If Bob and his friends bring in 112 CDs, they can choose 28 CDs in the store*

3. Jessica has 234 CDs. She needs 6 shelves to store them. How many CDs are on each Shelf?

Step 1: $234 \div 6$

Step 2:

$$\begin{array}{r} 39 \\ 6 \overline{)234} \\ \underline{-18} \\ 54 \\ \underline{-54} \\ 0 \end{array}$$

Step 3: *Jessica can divide her CD collection so that 39 CDs are on each shelf.*

