

AIM: 1-10 How do we divide whole numbers and represent the remainder as a decimal?

Name _____

Date _____

Ms. Piccolo

Math 6 - Period _____

Warm-up: Divide and write the quotient as a fraction.

$412 \div 5$

$$\begin{array}{r} 82 \\ 5 \overline{)412} \\ \underline{-40} \\ 12 \\ \underline{-10} \\ 2 \end{array}$$

$82 \frac{2}{5}$



Let's Investigate: Dividing Whole Numbers with Decimal Remainders

STEPS FOR DIVIDING WITH DECIMAL PLACES

- 1) Divide, multiply, subtract, bring down, repeat. (DMSBR)
- 2) When you have reached the end of the whole numbers, add a decimal point and a zero to the dividend.
- 3) Bring the decimal point up to the quotient. ↑
- 4) Follow the steps for division.
- 5) Keep adding a zero to the dividend until you get a terminating or repeating decimal.

Divide and write your answer as a DECIMAL	Now, write the quotient as a FRACTION , in simplest form!
$\begin{array}{r} 764 \div 40 \\ \times 19.1 \\ 40 \overline{)764.0} \\ \underline{-40} \\ 364 \\ \underline{-360} \\ 40 \\ \underline{-40} \\ 0 \end{array}$	$19 \frac{4}{40} \div 4$ <div style="border: 1px solid black; border-radius: 50%; padding: 20px; text-align: center; margin: 10px auto; width: 80px;"> $19 \frac{1}{10}$ </div>

New Vocabulary:

- **Terminating Decimal** - A decimal that terminates, or ends.
(Example: 0.25, 3.567, 24.0098)
- **Repeating Decimal** - A decimal where the digits repeat with no end.
(Example: 0.333..., 5.6565..., 4. $\bar{7}$)



Now You Try! Partner Practice

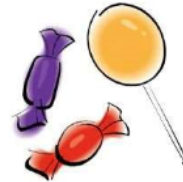
0. $\bar{3}$ 5. $\bar{65}$ 9.777...

Represent each quotient as a decimal. Show your work!

<p>1) $52 \div 8$</p> <p style="text-align: right;">$\boxed{6.5}$</p>	<p>2) $325 \div 4$</p> <p style="text-align: right;">$\boxed{81.25}$</p>
<p>3) $248 \div 6$</p> <p style="text-align: right;">$\boxed{41.\bar{3}}$</p>	<p>4) $402 \div 22$</p> <p style="text-align: right;">$\boxed{18.\bar{27}}$</p>

- 5) Liam scooped out 44 pieces of hard candy to buy at the store. He wants to divide the candy evenly among his sixteen friends.
- a) How many pieces will each of his sixteen friends get? Show your work and write your answer in a complete sentence.

$$\begin{array}{r}
 \times 2.75 \\
 16 \overline{) 44.00} \\
 \underline{- 32} \\
 12 \\
 \underline{- 112} \\
 80 \\
 \underline{- 80} \\
 0
 \end{array}$$



$$2 \frac{12}{16} \div 4 = 2 \frac{3}{4}$$

Each of his friends will get 2 pieces.

- a) What number is the remainder and what does it represent in the story?

The remainder is 12, which represents the number of
candy left over. (12 out of 16 pieces)

- b) Write the quotient as a decimal number: 2.75

- c) Write the quotient as a fraction, in simplest form: $2 \frac{3}{4}$

Additional Problems: Show your work!

6) $4 \div 5$

$$\begin{array}{r} 0.8 \\ 5 \overline{) 4.0} \\ \underline{40} \\ 0 \end{array}$$

7) $12 \div 5$

8) $9 \div 12$

9) $436 \div 5$

10) $435 \div 25$

11) $4279 \div 44$

12) $273 \div 84$

13) $60 \div 48$

14) $286 \div 55$

ANSWERS: 6) 0.8 7) 2.4 8) 0.75 9) 87.2 10) 17.4 11) 97.25 12) 3.25 13) 1.25 14) 5.2