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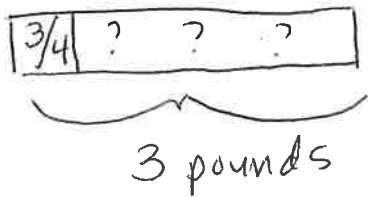
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Unit 4, Lesson 4: How Many Groups? (Part 1)

1. A shopper buys cat food in bags of 3 lbs. Her cat eats $\frac{3}{4}$ lb each week. How many weeks does one bag last?

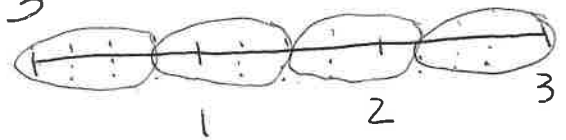
- a. Draw a diagram to represent the situation and label your diagram so it can be followed by others. Answer the question.



$$3 \div \frac{3}{4} = ?$$

$$\frac{3}{4} \times ? = 3$$

$$? = 4 \text{ weeks}$$



- b. Write a multiplication or division equation to represent the situation.

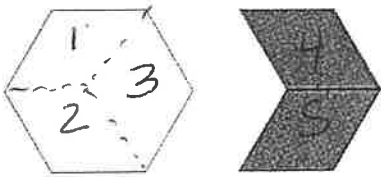
See above

- c. Multiply your answer in the first question (the number of weeks) by $\frac{3}{4}$. Did you get 3 as a result? If not, revise your previous work.

$$\frac{3}{4} \times \frac{4}{1} = \frac{12}{4} = 3 \text{ weeks}$$

1/3

2. Use the diagram to answer the question: How many $\frac{1}{3}$'s are in $1\frac{2}{3}$? The hexagon represents 1 whole. Explain or show your reasoning.



5 1/3's in 1 2/3

$$1 \times \frac{2}{3} = 3 \times 1 + 2 = 5$$

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3. Which question can be represented by the equation $? \cdot \frac{1}{8} = 3$?

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$$? \times \frac{1}{8} = 3 \rightarrow 3 \div \frac{1}{8} = ? \quad \text{or} \quad 3 \div ? = \frac{1}{8}$$

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A. How many 3s are in $\frac{1}{8}$?

B. What is 3 groups of $\frac{1}{8}$?

C. How many $\frac{1}{8}$ s are in 3?

D. What is $\frac{1}{8}$ of 3?

1

4. Write two division equations for each multiplication equation.

	one division equation	second division equation
a. $15 \cdot \frac{2}{5} = 6$	$6 \div \frac{2}{5} = 15$	$6 \div 15 = \frac{2}{5}$
b. $6 \cdot \frac{4}{3} = 8$	$8 \div \frac{4}{3} = 6$	$8 \div 6 = \frac{4}{3}$
c. $16 \cdot \frac{7}{8} = 14$	$14 \div \frac{7}{8} = 16$	$14 \div 16 = \frac{7}{8}$

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5. Noah and his friends are going to an amusement park. The total cost of admission for 8 students is \$100, and all students share the cost equally. Noah brought \$13 for his ticket. Did he bring enough money to get into the park? Explain your reasoning.

$$\frac{\$100}{8} = \$12\frac{4}{8} \text{ or } \$12.50, \text{ yes } \$13 \text{ is enough}$$

1

(from Unit 4, Lesson 2)

6. Write a division expression with a quotient that is: Think, what can I change?

a. greater than $8 \div 0.001$
make bigger or make smaller

b. less than $8 \div 0.001$
make smaller or make bigger

c. between $8 \div 0.001$ and $8 \div \frac{1}{10}$
 so $8 \div .01$ would be between $\frac{1}{1000}$ and $\frac{1}{100}$

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