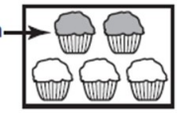
Opening 9/10/18

Scenario: Two out of every five muffins are blueberry in one muffin variety pack. You may use any sort of reasoning to answer the questions below (tables, equations, etc).



1. How many muffins are blueberry muffins if there are a total of 25 muffins?

2. How many muffins are blueberry muffins if there are a total of 35 muffins?

3. How many total muffins are there if 8 muffins are blueberry?

4. How many blueberry muffins if there 27 non blueberry muffins?

Practice

Practice: Create a ratio to describe the following:

a. There are 2 basketballs for every soccer ball. 2:1

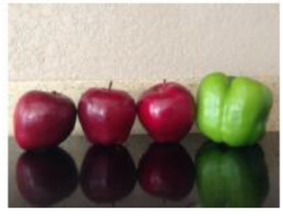
b. There are 3 blueberry muffins in a 6 pack of muffins. 3:6 or 1:2

c. Each bagel costs $0.45. 1:45¢

d. For every 3 boys at soccer camp, there are 2 girls. 3:2

e. Billy wanted to write a ratio of the number of apples to the number of peppers in his refrigerator. He wrote 1:3. Did Billy write the ratio correctly?

No it should be 3:1



Rates Vs. Ratios

A **rate** is a ratio that compares two quantities that are measured in different units. If the rate is expressed as per 1 unit, it is considered a **unit rate**. When two ratios or rates are equivalent to each other, you can write them as a proportion. A **proportion** is an equation that states two ratios are equal.

Ratio	Rate	Unit Rate	Proportion
2 red rose: 5 white roses $\frac{2 \text{ red roses}}{5 \text{ white roses}}$	90 miles: 2 hours $\frac{90 \text{ miles}}{2 \text{ hours}}$	45 miles: 1 hour $\frac{45 \text{ miles}}{1 \text{ hour}}$	$\frac{90 \text{ miles}}{2 \text{ hours}} = \frac{45 \text{ miles}}{1 \text{ hour}}$

Determine if the following can best be described as a ratio, rate, or unit rate:

a. 8 sugar cookies to 3 chocolate chip cookies

Ratio 8:3

b. 45 feet per second

unit rate

c. 6 inches for every 3 years

Rate

d. 6 boys for every 4 girls

Ratio

Scaling Up or Down

When we want to create equivalent ratios, we can use the same method as creating equivalent fractions. This is called scaling up or scaling down. Use the scaling up or scaling down method to determine the unknown quantity.

a. $\frac{12 \text{ in.}}{1 \text{ ft}} = \frac{48 \text{ in.}}{?}$ x 4 in

$\frac{12x}{12} = \frac{48}{12}$

b. $\frac{3 \text{ ft}}{1 \text{ yd}} = \frac{?}{4 \text{ yd}}$ 12

1x = 12 ft

c. $\frac{360 \text{ min}}{6 \text{ hrs}} = \frac{?}{1 \text{ hr}}$ 60 min

360 x 1

360 ÷ 6 = 60

d. $\frac{300 \text{ cm}}{3 \text{ m}} = \frac{100 \text{ cm}}{?}$

$\frac{300x}{300} = \frac{300}{300}$

x = 1 cm

e. $\frac{64 \text{ fl oz}}{8 \text{ cups}} = \frac{?}{1 \text{ cup}}$ 8 R 02

8 fl oz

f. $\frac{16 \text{ c}}{8 \text{ pt}} = \frac{?}{1 \text{ pt}}$ 2 c

① $\frac{12\text{in}}{1\text{ft}} = \frac{60\text{in}}{?}$

② $\frac{360\text{min}}{6\text{hr}} = \frac{420\text{ min}}{x\text{ hr}}$

③ $\frac{3\text{ft}}{1\text{yrd}} = \frac{x}{12\text{yrd}}$

④ $\frac{100\text{cm}}{1\text{m}} = \frac{150\text{cm}}{x}$

Tables - I do

We can also use tables to determine equivalent ratios. Using the table below, show two calculations for the ratio of 150 lbs on Earth to 25 lbs on the moon.

Weight on Earth (lbs)	60	30	90	120	150
Weight on the moon (lbs)	10	5	15	20	25

Table Practice a. - You do!

Each table represents a series of equivalent ratios. Complete each table showing how you calculated each number.

a.

Yellow paint (oz)	1	2	10	
Red paint (oz)		6		60

Table Practice b. - You do!

b.

Yellow daffodils	32			16
White daffodils		48	6	12

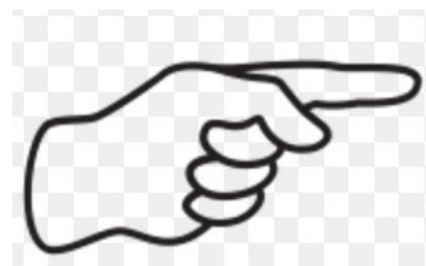
Table Practice c. - You do!

c.

Children	3	6		18	
Toys	5		15		45

Class Work/ HW 9/11/19

Complete Day 1 Equivalent Ratios Practice # 1- 8 with your table partner. (15 mins)



Day 1: Equivalent Ratios

1. Write two equivalent ratios for the following statement: *For every 6 cups of flour, there are 2 cups of milk.*

2. For the following part to part ratios, create two part to whole ratios:

a. 5:7 b. 3:2 c. 4:5 d. 2:5

3. Create a part to part and part to whole ratio with the following statement: *There are 15 male teachers in the school. There are 35 female teachers in the school.*

4. Using the following scenario, answer the following questions about the South Cobb boys' sports:
Of the 80 boys at South Cobb *who play a spring sport, 35 run track, 20 play baseball, and 25 play lacrosse.*
Create a ratio for the following:

a. track to baseball b. track to total number of boy athletes c. baseball to track

5. Analyze each statement and determine if they represent a part to part or part to whole relationship:

a. Four out of every 9 student play in the band.

b. There are 5 girls for every 4 boys in 9^{th} grade.

c. Of the 75 track runners, 30 of them are girls.

d. There are 10 shot-putters on the 30 member girls' track team.

e. There will be 1 teacher for every 25 students in 9^{th} grade.

6. Scale up or down to find the missing quantity:

a. $\frac{32\ oz}{2\ lb} = \frac{16\ oz}{?}$

b. $\frac{12\ hours}{720\ miles} = \frac{4\ hours}{?}$

c. $\frac{3\ tickets}{?} = \frac{1\ ticket}{\$9.00}$

7. Complete the following equivalent ratio tables and show how you arrived missing value (using arrows):

a.

1		6	10
5	20		

b.

5		15	
6	12		24

Closing: Student-Led 9/11/19 (Last 5)

8. Leia is planting flowers in her garden. Each variety pack of bulbs contains 4 lilies and 6 dahlias. How many dahlias will Leia plant if she plants 12 lilies?

Lilies	4	8	12
Dahlias	6		