

Chapter 5	Ratios and Rates	
Date:	5.2 Ratio Tables	
Essential Question	How can you find two ratios that describe the same relationship?	
Vocab	Word	Definition
	equivalent ratios	two ratios that describe the same relationship Ways to find <u>equivalent ratios</u> 1) <u>add or subtract the same amount to each part of the ratio</u> 2) <u>multiply or divide each amount in a ratio by the same number.</u>
	ratio table	a method to find and organize equivalent ratios

- 1) Find the missing values in the ratio table using addition. Then write the equivalent ratios.

		+1		+1	
Pens	1	→	2	→	3
Pencils	3	→	6	→	9
		+3		+3	

ratio of pens to pencils

$$1:3 = 2:6 = 3:9$$

$$1/3 = 2/6 = 3/9$$

$$\frac{1}{3} = \frac{2}{6} = \frac{3}{9}$$

Complete number 1 on your notes page.

- 1) Find the missing values in the ratio table.
Then write the equivalent ratios.

apples	7	14	21
oranges	4	8	12

+7 +7
+4 +4

ratio of apples to oranges

$$7:4 = 14:8 = 21:12$$

$$7/4 = 14/8 = 21/12$$

$$\frac{7}{4} = \frac{14}{8} = \frac{21}{12}$$

Complete number 2 in your composition book.

- 2) Find the missing values in the ratio table using multiplication. Then write the equivalent ratios.

		x2		x3	
Cats	4	→	8	→	24
Dogs	6	→	12	→	36
		x2		x3	

ratio of cats to dogs

$$4:6 = 8:12 = 24:36$$

$$4/6 = 8/12 = 24/36$$

$$\frac{4}{6} = \frac{8}{12} = \frac{24}{36}$$

Complete number 2 on your notes page.

- 2) Find the missing values in the ratio table using multiplication. Then write the equivalent ratios.

		x2		x4	
Euros	5	→	10	→	40
Dollars	4	→	8	→	32
		x2		x4	

ratio of Euros to Dollars

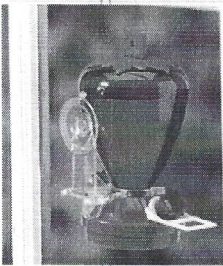
$$5:4 = 10:8 = 40:32$$

$$5/4 = 10/8 = 40/32$$

$$\frac{5}{4} = \frac{10}{8} = \frac{40}{32}$$

Complete number 3 in your composition book.

- 3) You are making sugar water for your hummingbird feeder. A website indicates to use 4 parts of water for every 1 part of sugar. Your feeder holds 20 cups of water. How much sugar do you need?



Method 1:
(addition)

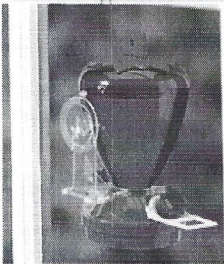
		+ 4	+ 4	+ 4	+ 4	
water (cups)	4	8	12	16	20	
sugar (cups)	1	2	3	4	5	
		+ 1	+ 1	+ 1	+ 1	

20:5 is equivalent to 4:1.

You need 5 cups of sugar for 20 cups of water.

Complete number 3 in your composition book.

- 3) You are making sugar water for your hummingbird feeder. A website indicates to use 4 parts of water for every 1 part of sugar. Your feeder holds 20 cups of water. How much sugar do you need?



Method 2:
(multiplication)

		x 5
water (cups)	4	20
sugar (cups)	1	5

x 5

20:5 is equivalent to 4:1.

You need 5 cups of sugar for 20 cups of water.

Complete number 3 on your notes page.

- 3) A caterer is preparing orange juice for a brunch. For every can of orange juice concentrate, the caterer will use 6 cups of water. How many cans of juice will the caterer need if she uses 30 cups of water?

Method 1: (addition)	juice (cans)	1	2	3	4	5
	water (cups)	6	12	18	24	30

+ 1 + 1 + 1 + 1

+ 6 + 6 + 6 + 6

5:30 is equivalent to 1:6.

You need 5 cans of juice for 30 cups of water.

Complete number 3 on your notes page.

- 3) A caterer is preparing orange juice for a brunch. For every can of orange juice concentrate, the caterer will use 6 cups of water. How many cans of juice will the caterer need if she uses 30 cups of water?

Method 2:
(multiplication)

juice (cans)	1	5
water (cups)	6	30

x 5

x 5

5:30 is equivalent to 1:6.

You need 5 cans of juice for 30 cups of water.

Complete number 4 on your notes page.

- 4) The nutrition facts label on a box of crackers shows that there are 240 milligrams of sodium in every 36 crackers.



You eat 15 crackers. How much sodium do you consume?

$$\div 2 \quad \div 6 \quad \times 5$$

sodium	240	120	20	100
crackers	36	18	3	15

$$\div 2 \quad \div 6 \quad \times 5$$

You would consume 100 mg of sodium if you ate 15 crackers.

Complete number 5 on your notes page.

- 5) You eat 21 crackers. How much sodium do you consume?

How can you use the table you already created to answer this question?



sodium	240	120	20	100
crackers	36	18	3	15

18 crackers + 3 crackers = 21 crackers

so

120 mg sodium + 20 mg sodium = 140 mg
sodium for 21 crackers

Complete number 4 in your composition book.

- 4) You mix 3 pints of yellow paint for every 4 pints of blue paint to make green paint. You use 10 pints of blue paint. How much green paint do you make?

$$\div 2 \quad \times 5$$

Yellow(pints)	3	$\frac{3}{2}$	$7\frac{1}{2}$
Blue (pints)	4	2	10

$$\div 2 \quad \times 5$$

$$7\frac{1}{2} + 10 = 17\frac{1}{2} \text{ pints of green paint}$$