



## *Classroom Observer*

*Name:* \_\_\_\_\_

Make 10 statements comparing objects, events, or people in the classroom using ratio language. For example: There are 3 pencils for every 2 students in the classroom. On the back, write a persuasive paragraph to improve a need you see in the classroom. For example, you may observe that we need more pencils per student in our classroom. Write a paragraph persuading your classmates to bring in more pencils of us to use or another solution you create (4-5 sentences).

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.



## Classroom Observer

Name: Key

Make 10 statements comparing objects, events, or people in the classroom using ratio language. For example: There are 3 pencils for every 2 students in the classroom. On the back, write a persuasive paragraph to improve a need you see in the classroom. For example, you may observe that we need more pencils per student in our classroom. Write a paragraph persuading your classmates to bring in more pencils of us to use or another solution you create (4-5 sentences).

Answers will vary. Help students see that they may be able to "reduce" their ratio to simplest form.

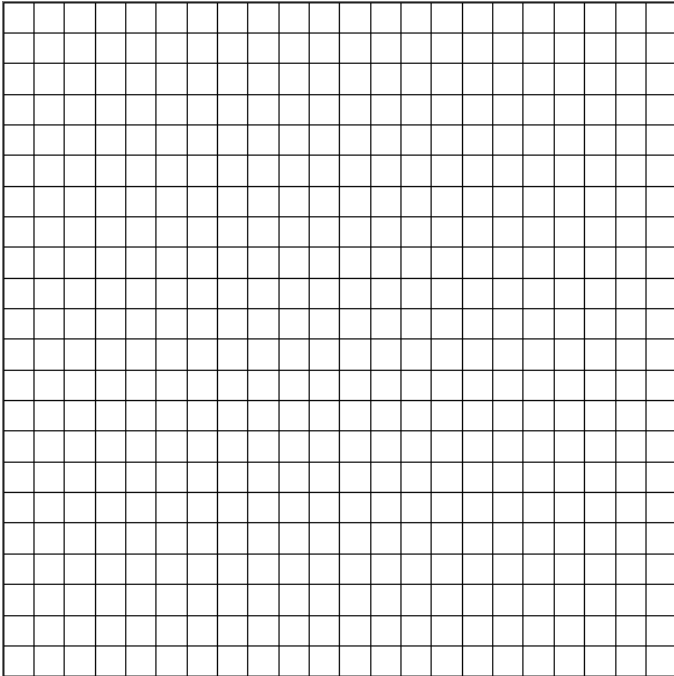
1. There are 4 Expo markers for every 1 whiteboard.  
4:1
2. There are 2 windows for every 4 walls.  
2:4 (1:2)
3. There are 20 books for every 1 shelf.  
20:1
4. There is 1 rug for every 12 students.  
1:12
5. There are 10 ceiling tiles for every 2 desks.  
10:2 (5:1)
6. There is 1 teacher for every 32 students.  
1:32
7. There are 8 students with glasses for every 24 without.  
8:24 (1:3)
8. There are 10 pencils for every 1 group.  
10:1
9. There are 2 shoes for every 1 student.  
2:1
10. There is 1 floor for every 1 classroom.  
1:1



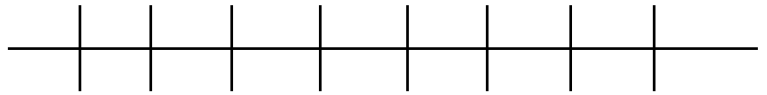
# Vacation Savings Plan

Name: \_\_\_\_\_

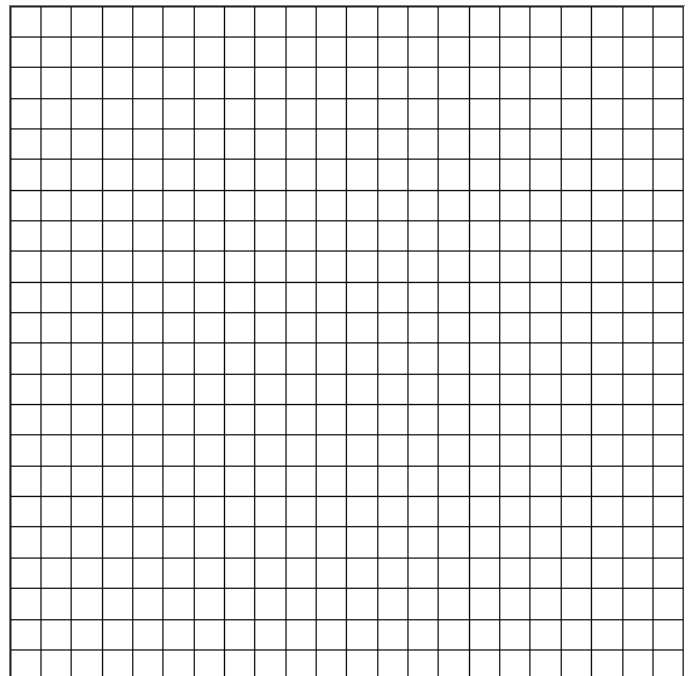
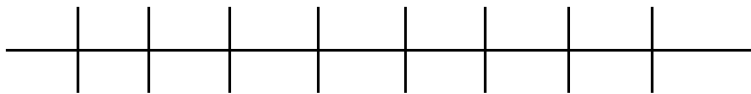
You and your family are taking a road trip across the United States this summer. You want to make sure you have money saved up to spend along the way. Graph the following savings plan to decide which will work best for you. On the back, write a paragraph to justify which work you would rather do and why (4-5 sentences).



You mow 2 lawns per week. Each customer pays you \$10 per lawn. If you save all of your money and you mow lawns for 7 weeks, how much money will you have saved by the time you go on your trip? What if you started earlier and mowed lawns for 11 weeks?



You walk your neighbors' two dogs three times a week. Each time, they pay you \$5 per dog. You will save all of your money. How much money will you have saved after 9 weeks for your trip? How many weeks of dog-walking will it take you to earn the same amount as you would mowing lawns for 6 weeks?

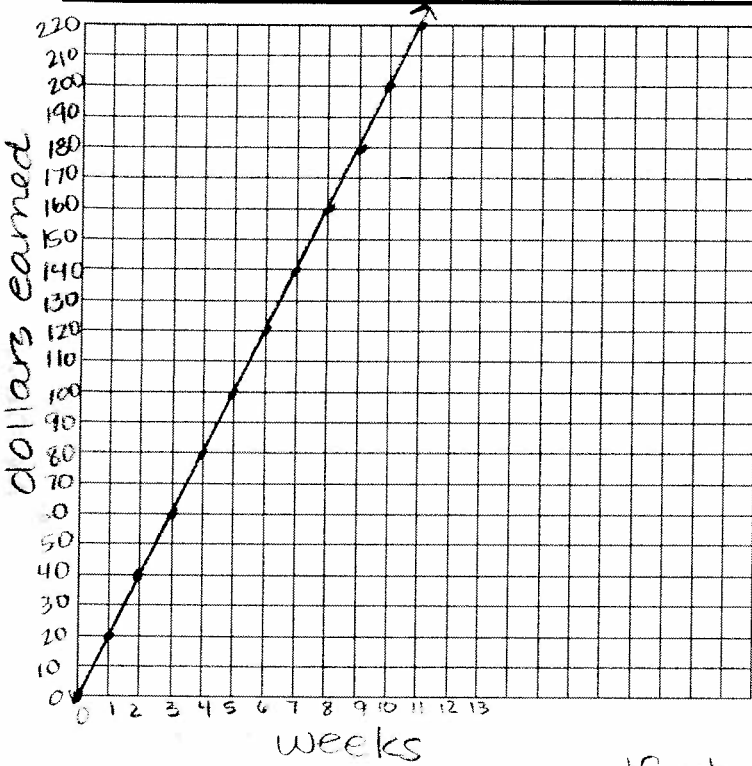




\* Make sure students label their tables and graphs.  
**Vacation Savings Plan**

Name: Key

You and your family are taking a road trip across the United States this summer. You want to make sure you have money saved up to spend along the way. Graph the following savings plan to decide which will work best for you. On the back, write a paragraph to justify which work you would rather do and why (4-5 sentences).



You mow 2 lawns per week. Each customer pays you \$10 per lawn. If you save all of your money and you mow lawns for 7 weeks, how much money will you have saved by the time you go on your trip? What if you started earlier and mowed lawns for 11 weeks?

Weeks (A)

#	1	2	3	4	5	6	7	8	9	10	11
\$	20	40	60	80	100	120	140	160	180	200	220

(B)

	1	2	3	4	7	11
\$	20	40	60	80	140	220

(C) OR

	1	7	11
\$	20	140	220

$2 \times 10 = 20$

If students use methods B or C, they will see that they may need a bit more data in order to graph.

You walk your neighbors' two dogs three times a week. Each time, they pay you \$5 per dog. You will save all of your money. How much money will you have saved after 9 weeks for your trip? How many weeks of dog-walking will it take you to earn the same amount as you would mowing lawns for 7 weeks?

Weeks (A)

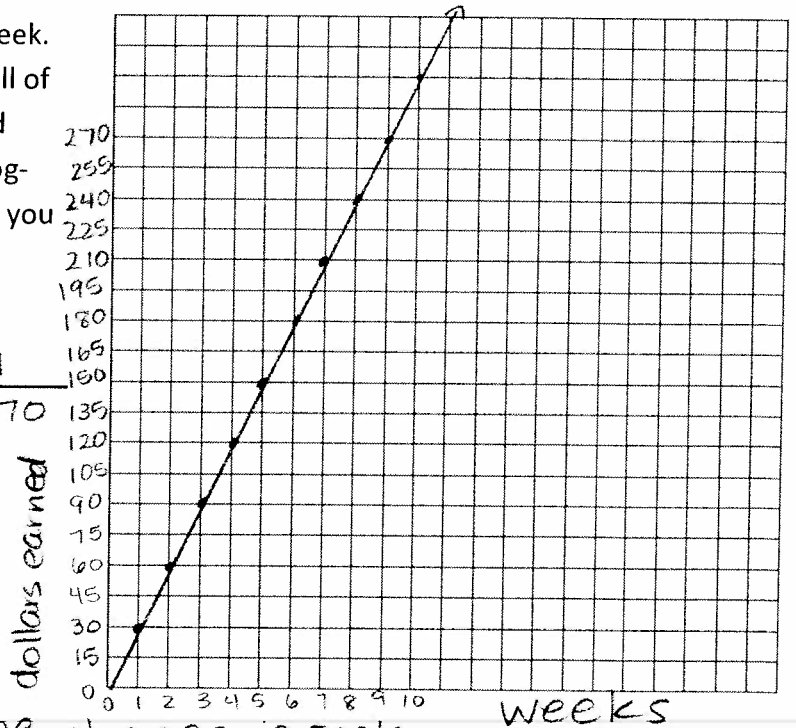
Weeks	1	2	3	4	5	6	7	8	9
Dollars	30	60	90	120	150	180	210	240	270

(B) OR

	1	2	3	4	5	9
\$	30	60	90	120	150	270

(C) OR

	1	9
\$	30	270



$2 \times 5 = 10$      $3 \times 10 = 30$

\* Note the change in scale makes these graphs look the "same". Ask a challenge question of "why?" if this happens.



## Map Reader

Name: \_\_\_\_\_

Use the US: Western Region map to determine the distance from Boise to each of the state capitals, excluding Juneau and Honolulu. Pretend that you are able to fly in a direct (straight) line from Boise to each capital city. Note that the map key shows that  $1 \frac{1}{8}$  inches is equal to 250 miles. **We will round to the nearest  $\frac{1}{4}$  inch and use 1 inch equals 250 miles for this assignment.** Create a table to organize your data, including capital city, distance in inches, distance in miles. You may need to create a ratio table separately. On the back, write a paragraph about which capital city you would most like to visit and why (4-5 sentences).

# US: Western Region





Use the US: Western Region map to determine the distance from Boise to each of the state capitals, excluding Juneau and Honolulu. Pretend that you are able to fly in a direct (straight) line from Boise to each capital city. Note that the map key shows that 1 inch is equal to 250 miles, round to the nearest  $\frac{1}{4}$  inch. Create a table to organize your data. On the back, write a paragraph about which capital city you would most like to visit and why (4-5 sentences).

	Inches	Miles
Olympia	$1\frac{1}{2}$ in.	375 mi.
Salem	$1\frac{1}{4}$ in.	312.5 mi.
Sacramento	$1\frac{1}{2}$ in.	375 mi.
Carson City	$1\frac{1}{4}$ in.	312.5 mi.
Phoenix	$2\frac{1}{2}$ in.	625 mi.
Denver	$2\frac{1}{4}$ in.	562.5 mi.
Santa Fe	$2\frac{3}{4}$ in.	687.5 mi.
Salt Lake City	1 in.	250 miles
Cheyenne	2 in.	500 mi.
Helena	1 in.	250 miles

Inches	1	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{3}{4}$	2
miles	250	125	62.5	187.5	500

Name Key

Date \_\_\_\_\_

# US: Western Region







## Food Scientist

Name: \_\_\_\_\_

You are making 3 observations about each of the following recipes (total of 9 observations). Compare the ingredients using ratio language. For example, for every 2 cups of peanuts, there is 1 cup of raisins. On the back, write your own recipe showing the ratios of ingredients you would prefer for each of the three recipes. Feel free to add to or delete ingredients which are in the original recipe.

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### Trail Mix

3 cups peanuts

2 cups yogurt-covered raisins

2  $\frac{1}{2}$  cups M&Ms

1  $\frac{1}{2}$  cup almonds

1  $\frac{3}{4}$  cup cashews

3 cups dried banana chips

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### Fruit Salad

6 cups watermelon

3 cups cantaloupe

4 cups honeydew

3  $\frac{1}{2}$  cups grapes

5 cups strawberries

1 cup kiwi

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### Green Salad

8 cups romaine lettuce

2 cups chopped tomatoes

2  $\frac{1}{2}$  cups chopped yellow bell pepper

1  $\frac{1}{2}$  cup shredded carrots

1  $\frac{3}{4}$  cup sliced cucumber

$\frac{1}{2}$  cup sliced almonds



\* Press students to simplify their ratios to a unit rate if possible.  
**Food Scientist**

Name: Key

You are making 3 observations about each of the following recipes (total of 9 observations). Compare the ingredients using ratio language. For example, for every 2 cups of peanuts, there is 1 cup of raisins. On the back, write your own recipe showing the ratios of ingredients you would prefer for each of the three recipes. Feel free to add to or delete ingredients which are in the original recipe.

**Trail Mix**

- 3 cups peanuts
- 2 cups yogurt-covered raisins
- 2 ½ cups M&Ms
- 1 ½ cup almonds
- 1 ¾ cup cashews
- 3 cups dried banana chips

1. There are  $1\frac{1}{2}$  c. almonds for every 3c. of peanuts.  $1.5:3$  or  $1:2$   

$$\begin{array}{r|l|l} 1.5 & 0.5 & 1 \\ \hline 3 & 1 & 2 \end{array}$$
2. There are 2 c. raisins for every 3c. banana chips.  $2:3$  or  $1:\frac{3}{2}$  or  $1:1\frac{1}{2}$   

$$\begin{array}{r|l|l} 2 & 1 & 1 \\ \hline 3 & \frac{3}{2} & 1\frac{1}{2} \end{array}$$
3. There are 3c. peanuts for every 3c. banana chips.  $3:3$  or  $1:1$   

$$\begin{array}{r|l} 3 & 1 \\ \hline 3 & 1 \end{array}$$

**Fruit Salad**

- 6 cups watermelon
- 3 cups cantaloupe
- 4 cups honeydew
- 3 ½ cups grapes
- 5 cups strawberries
- 1 cup kiwi

1. For every 4 c. honeydew, there are 6c. watermelon  $4:6$  or  $2:3$  or  $1:\frac{3}{2}$  or  $1:1\frac{1}{2}$   

$$\begin{array}{r|l|l|l} 4 & 2 & 1 & 1 \\ \hline 6 & 3 & \frac{3}{2} & 1\frac{1}{2} \end{array}$$
2. For every 5 c. strawberries, there are 3c. cantaloupe.  $5:3$  or  $1:\frac{3}{5}$   

$$\begin{array}{r|l} 5 & 1 \\ \hline 3 & \frac{3}{5} \end{array}$$
3. For every 1 c. kiwi, there are  $3\frac{1}{2}$  c. grapes.  
 $1:3\frac{1}{2}$

**Green Salad**

- 8 cups romaine lettuce
- 2 cups chopped tomatoes
- 2 ½ cups chopped yellow bell pepper
- 1 ½ cup shredded carrots
- 1 ¾ cup sliced cucumber
- ½ cup sliced almonds

1. There are  $1\frac{1}{2}$  c. carrots for every 2c. tomatoes.  $1.5:2$  or  $1:\frac{2}{1.5}$  or  $1:1\frac{1}{3}$   

$$\begin{array}{r|l|l|l} 1.5 & 0.5 & 2 & 1 \\ \hline 2 & \frac{2}{3} & 2\frac{2}{3} & 1\frac{1}{3} \end{array}$$
2. There are  $2\frac{1}{2}$  c. bell pepper for every 8 cups lettuce.  $2.5:8$  or  $1:3\frac{2}{10}$  or  $1:3\frac{1}{5}$   

$$\begin{array}{r|l|l|l|l} 2.5 & 5 & 0.5 & 1 & 1 \\ \hline 8 & 16 & \frac{8}{5} & \frac{16}{5} & 3\frac{1}{5} \end{array}$$
3. There are  $\frac{1}{2}$  c. almonds for every  $1\frac{1}{2}$  c. carrots.  $\frac{1}{2}:1\frac{1}{2}$   $1:3$   

$$\begin{array}{r|l} 0.5 & 1 \\ \hline 1.5 & 3 \end{array}$$