

Daily Lesson Co-Planning Sheet

Date: 12/8/15	Team Members:
Subject area/class: 7th Grade Math/Co-Taught/B Block	Kim Shea (General Ed)
Unit Title: Ratios & Proportions	Michelle Murphy (Special Ed)
Sub-Unit Name/Teaching Day #: Discovering Constant of Proportionality (Day 2 of 2)	

Model of Co-Teaching:

<input checked="" type="checkbox"/>	One Teach/One Observe	<input type="checkbox"/>	One Teach/One Assist
<input checked="" type="checkbox"/>	Station Teaching	<input type="checkbox"/>	Parallel Teaching
<input checked="" type="checkbox"/>	Team Teaching	<input type="checkbox"/>	Alternative Teaching
<input type="checkbox"/>	Other:		

Essential Questions:

- What is the connection between ratios, proportions and unit rates and how can I use unit rates to solve problems?
- How can we represent unit rates on a coordinate plane or a ratio table?

Standard(s) Addressed:

7.RP.1 Compute unit rates associated with ratios of fractions, including ratios of lengths, areas, and other quantities measured in like or different units. For example, if a person walks $\frac{1}{2}$ mile in each $\frac{1}{4}$ hour, compute the unit rate as the complex fraction $\frac{1/2}{1/4}$ miles per hour, equivalently 2 miles per hour.

7.RP.2 Recognize and represent proportional relationships between quantities.

Materials Needed:

- pencil
- math notebook
- math folder
- scrap paper
- stations activity
- “do now” (provided by Michelle)
- exit ticket (provided by Michelle)
- whiteboard
- Expo markers
- Smart Board
- calculators

Assessment:

- I. **Formative:** The formative assessment is the Do Now exercise. This will connect yesterday's lesson to today's.
- II. **Summative:** The exit ticket.

Vocabulary:

substitute: Exchange.

constant ratio: The constant of proportionality.

Part I: Opening (20% of instructional time - 6 minutes)

Person Responsible:

ONE TEACH/ONE OBSERVE	Kim	Michelle
Set stage for learning/make a link to previous lessons		X
Michelle will do the 'do now' and go over the agenda. The students will work independently		
TEAM TEACHING		
Discuss Essential Question	X	
Go over the Essential Question, pointing out how all of their activity packets are making the links between ratios, unit rates and the constant of proportionality.		
Communicate the expectations of the work/make clear what students will learn.	X	
Tell students that they will be working with their partner on an inquiry based stations activity. By the end of class, they will be able to complete half empty tables and graphs using their $y = kx$ equations. Talk about how this is a very efficient alternative to extending a table.		
Define and/or clarify vocabulary terms		X
Michelle will do the vocabulary.		

Part II: Work Period (60% of instructional time - 18 minutes)

Person Responsible:

STATION TEACHING	Kim	Michelle
Provide instruction by using differentiated instruction & best practice strategies	X	
Explain how they will not be moving; the stations will be coming to them. In order to get to the next station, they will need to have properly completed the one prior.		
Conferences and questions based on students' thinking		X
Take any questions they may have about the process.		
Prepare for sharing/allow for practice time	X	X
Have them get with their homework partners, and get started on station #1. They may use calculators		
Lead small group guidance/monitor and/or facilitate student work groups	X	X
Circulate through groups and ask leading questions. Point them in the direction of knowing that they already have the tools in their toolbox to find the constant of proportionality. Refer them back to their other activity packets.		
Provide specific feedback, written & oral, using vocabulary terms whenever possible	X	X
Bring them back to constant ratio. Don't let them skip any steps.		
Connect essential question/standard(s) addressed to work	X	
This will remind them of sequence; they need ratios in order to find unit rates. They need unit rates to determine if the table/graph is proportional. They need to write equations in order to fill in the blanks.		

Part III: Closing (20% of instructional time - 6 minutes)

Teacher Led	Student Led	Both
X		

Person Responsible:

TEAM TEACHING	Kim	Michelle
Summary/clarify learning goals/summarize the learning experience.	X	
Discuss how they are able to make good use of the $y = kx$ equation, rather than extending a table or graph.		
Identify misconceptions		X
Ask what operations they tried to use when filling out their tables/graph.		
Provide specific feedback for students to successfully meet the standards.	X	
Ask them to tell us the steps that need to be taken in order to write an equation and then use it. Also - tell them they have a quiz tomorrow, and that tonight's homework is a useful study guide, as well as all their class packets.		
Assess students' understanding/connect learning to the essential question and/or standard(s) addressed.	X	X
Exit ticket.		

List any and all necessary support, changes, and additions to today's lesson based on individual student needs. (Optional: list target students)

1. Support for regular instruction:

Check for understanding for all students by circulating the room

Give notes to ML, JC, JF, KY

Check Table of Contents for correctness

Double check notebooks for completeness

Have them use the vocab sheet from their notebooks

2. Adaptations/Modifications:

Allow students to use their notebooks

Allow students to use a calculator to check answers

Allow students to use small white boards

Spiral teaching of previously introduced vocabulary

Connect this vocab to new vocab words

3. Parallel: N/A

4. Alternative:N/A

5. Enrichment:

Provide positive reinforcement

Show how determining a constant and making an equation helps to solve more complicated problems

There is always a constant of proportionality when the ratios graph as a straight line

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For each table, write an equation in $y = kx$ format that expresses the proportional relationship.

1. Caisha buys a Porsche , and drives accordingly 😊. As she was outrunning the Paparazzi in LA, her speeds were recorded as follows:

Miles (y):	560	840	1120	1400
Hours (x):	2	3	4	5

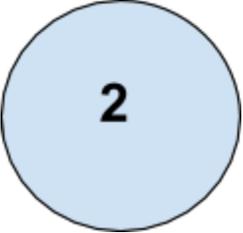
Write an equation that expresses how many miles per hour Caisha drives.

2. Patrick eats a bag of Doritos as often as possible. 

The following table shows his Doritos eating throughout a typical school day:

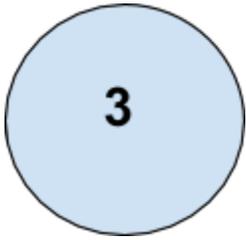
Bags of Doritos (y):	14	21	28	35
Classes (x):	2	3	4	5

Write an equation that expresses how many bags of Doritos per class Patrick eats.



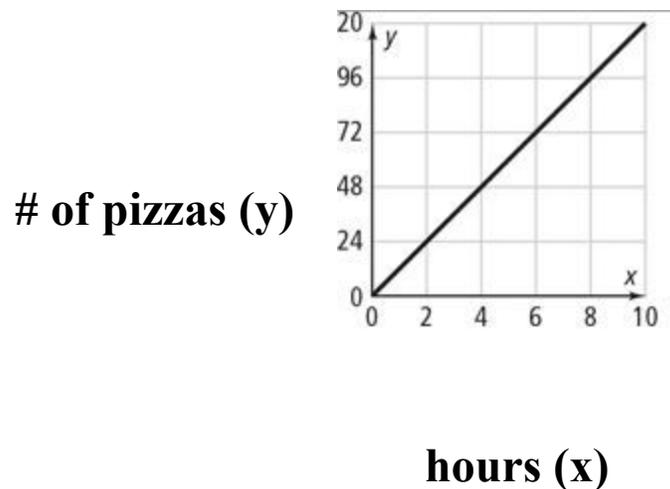
2

1. Rewrite the equation you got for worksheet# 1, problem #1:
2. Using that equation, calculate how many miles Caisha drives in 18 hours.
3. Rewrite the equation you got for worksheet #1, problem #2:
4. Using that equation, calculate how many bags of Doritos Patrick eats in 100 classes.



For each graph, write an equation in $y = kx$ format that expresses the proportional relationship.

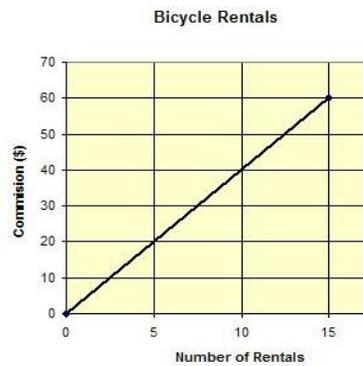
1. Jamal has decided that he wants to set the world record for pizza eating. He spent hours eating pizza, and his results are shown in the graph below:



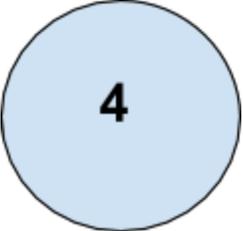
Write an equation that expresses how many pizzas per hour Jamal eats.



2. Kever has gone into the bike rental business in Seattle. The money he earns is shown in the graph below:



Write an equation that expresses how much money (commission) Kever makes per bike rental..



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1. Rewrite the equation you got for worksheet# 3, problem #1:
2. Using that equation, calculate how many pizzas Jamal could eat in 36 hours.
3. Rewrite the equation you got for worksheet #3, problem #2:
4. Using that equation, calculate how much money Kever would make if he rented 200 bicycles.