

MATH 8TH GRADE SECOND NINE WEEKS



What will my child be learning during the second nine weeks of school?

- Graph proportional relationships, interpreting the unit rate of change
- Use data to determine the rate of change in situations
- Represent linear proportional and non-proportional situations ($y = kx$; $y = mx + b$)
- Write an equation in the form of $y = mx + b$ to model a linear relationship
- Distinguish between proportional and non-proportional situations
- Identify the values that simultaneously satisfy two linear equations (x and y intercept)
- Identify examples of proportional and non-proportional functions
- Solve problems that involve direct variation
- Use UPS✓ to solve real-world problems



Academic Vocabulary

- | | |
|-------------------------------------|------------------------------------|
| ■ Dependent/Independent variable | ■ Simultaneous graphs |
| ■ Unit rate | ■ Solution |
| ■ Slope/Slope-intercept/y-intercept | ■ Ordered pair |
| ■ Rate of change | ■ Direct Variation/Varies Directly |
| ■ Steepness | ■ Origin |
| ■ Delta | ■ Proportional/Proportionality |
| ■ Constant rate | ■ Nonproportional |
| ■ Linear | |



Developing Mathematical Fluency

- Use a pencil or arms to demonstrate how slope changes (increase, decrease, positive, negative).
- Develop linear equations for estimating income over time or computing mileage rates.
- Start a bake sale, considering your start up costs, determine the point you can predict a profit.
- Consider two cars, which gets the better gas mileage?



Conversation Starters

- How does comparing two quantities allow you to see the relationship between them?
- What happens to the graph when the slope is increased/decreased/positive/negative?
- What happens to the slope as the line moves up and down?
- What does rate of change mean?
- Where can you find examples of linear equations in the real world?
- What information is needed to represent a linear relationship?
- Given the slope and y-intercept, how do you graph the line?
- What is a proportional relationship?
- How are proportional and nonproportional relationships similar and different?



