



Dear Eighth Grade Families,

In Unit 6, students will work on the following eighth grade Common Core standards in the Expressions and Equations (EE) domains.

8.EE.5	Graph proportional relationships, interpreting the unit rate as the slope of the graph. Compare different proportional relationships, represented in different ways. For example, compare a distance-time graph to a distance-time equation to determine which of the two moving objects has greater speed.
8.EE.6	Use similar triangles to explain why the slope $m$ is the same between any two distinct points on a non-vertical line in the coordinate plane; derive the equation $y=mx$ for a line through the origin and the equation $y=mx + b$ for a line intercepting the vertical axis at $b$ .

### Unit 6 Concepts:

- Compare proportional relationships
- Linear Equations
- Unit Rate as Slope
- Similar triangles with slope
- Slope-Intercept Form

### Slope-Intercept Form:

$$y = mx + b$$

where  $m = \text{slope}$  and  $b = \text{y-intercept}$

Slope Formula: 
$$\frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$$

### Unit 6 Vocabulary:

- Extremes
- Means
- Constant of Proportionality
- Unit Factor Method
- Unit Rate
- y-Intercept
- Slope
- Distributive Property
- Similar Triangles
- Proportional Relationship
- Slope formula
- Slope-Intercept Form

Ask questions like these to help your child as a productive mathematical thinker:

- Name some every-day tools that show proportional relationships between 2 different units of measure.
- How can you use graphs to demonstrate proportionality?
- What does the slope tell you? Why could that be useful?
- How can you tell if a relationship is not proportional?
- What is meant by "similar triangles?" How could this help you solve other, real-world problems?
- What tools do you use when modeling proportional relationships?

Need a review? Check out our lesson videos online!

[swunmath.com/student-videos](http://swunmath.com/student-videos)

If you don't know the class's special name, ask your child's teacher.

We encourage you to talk with your child daily about what was learned in math class.  
Thank you for your support!