

The UbD Template, Version 2.0

Time Frame: 20 days	Unit 3: Linear Relationships	Course Name: Grade 8 Illustrative Math
Stage 1 - Desired Results		
<p>Established Goals What content standards will this unit address?</p> <p>8.EE.B.5: Graph proportional relationships, interpreting the unit rate as the slope of the graph.</p> <p>8.EE.B.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.</p> <p>8.F.B.4: Construct a function to model a linear relationship between two quantities.</p>	Transfer	
	Students will have an understanding of linear relationships, including concepts such as slope, y-intercept, and the equation of a line. They will explore real-life situations and apply their knowledge to solve problems.	
	Meaning	
	<p>UNDERSTANDINGS:</p> <ul style="list-style-type: none"> • Students will understand the concept of slope as a measure of the rate of change between two variables. • Students will understand how to interpret the y-intercept of a linear equation in a real-life context. • Students will understand the relationship between the equation of a line and its graphical representation. • Students will understand how to use linear equations to make predictions and solve real-life problems. 	<p>ESSENTIAL QUESTIONS:</p> <p>How can we use linear relationships to model and solve real-life problems? What does the slope of a line represent, and how is it calculated? How does the y-intercept of a linear equation relate to its graphical representation? How can we use linear equations to make predictions and analyze patterns in data?</p>
	Acquisition	
<p>Students will know how to graph linear equations, interpret their meaning in context, and make predictions based on observed patterns.</p> <p>The definition and characteristics of linear relationships. How to graph linear equations on a coordinate plane.</p>	<p>Students will be skilled at...</p> <p>Students will be able to interpret the meaning of the y-intercept Students will develop the ability to write linear equations</p>	

	<p>The meaning of slope as a rate of change and its interpretation in real-life contexts. The significance of the y-intercept in a linear equation and its relationship to the initial value. The standard form of a linear equation ($y = mx + b$) and its components. The connection between linear relationships and proportional relationships.</p> <p>Vocabulary:</p> <ul style="list-style-type: none">Linear equation: $y = mx + b$SlopeRate of changePositive slopeNegative slopeZero slopeUndefined slopey-interceptDomainRangeCoordinate planeDependent variableIndependent variable	<p>Students will be able to accurately plot points and draw lines on a coordinate plane to represent linear relationships.</p> <p>Students will understand how to calculate the slope between two points and interpret it as a rate of change.</p> <p>Students will develop the ability to write linear equations in the form $y = mx + b$</p> <p>Students will be skilled at using Desmos or computer software to assist in graphing linear equations, calculating slopes, and solving equations.</p>
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