

8th Grade UNIT 9 OVERVIEW: *Identifying Functions*

Unit Outcomes	Key Vocabulary	
At the end of this unit, your student should be able to:	Terms to deepen the student's understanding	
<ul style="list-style-type: none"> ✓ Sketch a graph that shows change over time ✓ Interpret graphs that depict real world situations ✓ Identify relations and functions by graphs, tables/ordered pairs, and equations ✓ Evaluate and graph functions ✓ Use "per" appropriately ✓ Determine constant rate of change given graph, table or equation ✓ Compare the constant rate of change in two functions represented in different ways 	<ul style="list-style-type: none"> ✓ Function ✓ Function Rule ✓ Function Table ✓ Initial Value ✓ Input ✓ Linear Function ✓ Linear Relationship 	<ul style="list-style-type: none"> ✓ Non-Linear Function ✓ Output ✓ Rate of Change ✓ Relation ✓ Vertical Line Test ✓ x-value ✓ y-value
Key Standards Addressed	Where This Unit Fits	
Connections to Common Core/NC Essential Standards	Connections to prior and future learning	
<p>8.F.1 - Understand that a function is a rule that assigns to each input exactly one output. The graph of a function is the set of ordered pairs consisting of an input and the corresponding output.</p> <p>8.F.2 - Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).</p> <p>8.F.5 - Describe qualitatively the functional relationship between two quantities by analyzing a graph (e.g., where the function is increasing or decreasing, linear or nonlinear). Sketch a graph that exhibits the qualitative features of a function that has been described verbally.</p>	<p>Coming into this unit, students should have a strong foundation in:</p> <ul style="list-style-type: none"> ✓ Computing unit rates ✓ Recognizing and representing proportional relationships between quantities ✓ Identifying the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships ✓ Representing proportional relationships with equations <p>This unit builds to the following future skills and concepts:</p> <ul style="list-style-type: none"> ✓ Equations of lines ✓ Understanding what slope is and how changes in slope affect the graph of an equation ✓ Interpreting the equation $y=mx+b$ as defining a linear function, whose graph is a straight line ✓ Systems of Equations 	
Additional Resources	"Learning Checks"	
Materials to support understanding and enrichment	Questions Parents Can Use to Assess Understanding	
<ul style="list-style-type: none"> ✓ Teaching videos made by Wake County teachers ✓ WCPSS YouTube Channel – Math Playlist ✓ Relations and Functions Overview ✓ Relations and Functions Video ✓ Relations and Functions Practice ✓ Rate of Change Video ✓ Rate of Change Practice ✓ Rate of Change Practice 2 	<ul style="list-style-type: none"> ✓ How do I solve real world problems involving change over time? ✓ How do I represent and solve real world problems using graphs, stories, and/or maps? ✓ What is the difference between a relation and a function? ✓ How do you know if a graph is a function? ✓ How do you determine the rate of change of a line? ✓ How do you compare the rate of change for different functions? 	