Any standard highlighted in yellow has been determined by our WCSD teachers, district and state experts as essential for students to master.

Strand 10.F.IF.4-6, 7-9: I can interpret quadratic functions that arise in applications in terms of a context (Standards F.IF.4-6). I can analyze functions using different representations (Standards F.IF.7-9).

Standard 10.F.IF.4: I can interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.

Learning Targets	Academic Vocabulary & Notation	Question Stems	Possible Assessments
• I can identify a function that models a relationship between two quantities. • I can interpret key features of graphs and tables in terms of the quantities. • I can sketch graphs showing key features given a verbal description of the relationship	• intercepts, intervals, increasing, decreasing, positive, negative, relative maximums, relative minimums, symmetries, end behavior, graph, table	• A _____ shows this best because _____? • What changes did you have to make to solve the problem?	• District CFAs

Standard 10.F.IF.5: I can relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.

Learning Targets	Academic Vocabulary & Notation	Question Stems	Possible Assessments
• I can focus on quadratic functions. • I can compare quadratic functions with linear functions. • I can compare quadratic functions with exponential functions. (Note: If the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function). •	• domain, function, graph, quantitative relationship, quadratic functions, linear function, exponential function, positive integer	• Justify your answer • What would happen if _____?	• District CFAs

Standard 10.F.IF.6: I can calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. I can estimate the rate of change from a graph.

Learning Targets	Academic Vocabulary & Notation	Question Stems	Possible Assessments
• I can calculate and interpret the average rate of change of a function symbolically. • I can calculate and interpret the average rate of change of a function using a table. • I can look at a graph and estimate the rate of change.	• calculate, interpret, rate of change, function, symbolical, table, estimate	• Justify your answer • What would happen if _____?	• District CFAs

Standard 10.F.IF.7: I can graph functions expressed symbolically and show key features of the graph.

Learning Targets	Academic Vocabulary & Notation	Question Stems	Possible Assessments
• I can graph linear and quadratic functions showing intercepts, maxima, and minima • I can graph piecewise-defined functions and absolute value functions. • I can compare and contrast absolute value and piecewise-defined functions with linear, quadratic, and exponential functions. • I can highlight issues of domain, range, and usefulness when examining piecewise-defined functions.	• graph, linear, quadratic functions, intercepts, maxima, minima, absolute value, compare, contrast, piecewise-defined, range, domain	• What questions arose as you worked? • What changes did you have to make to solve the problem?	• District CFAs

Standard 10.F.IF.8: I can write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.

Learning Targets	Academic Vocabulary & Notation	Question Stems	Possible Assessments
• I can use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph. • I can interpret these in terms of a context. • I can use the properties of exponents to interpret expressions for exponential functions.	• factoring, complete the square, extreme values, quadratic function, symmetry, context, properties of exponents, exponential functions	• What was the most challenging part of the task? Why? • The most important thing I learned is _____.	• District CFAs

Standard 10.F.IF.9: I can compare properties of two functions, each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). I can extend work with quadratics to include the relationship between coefficients and roots.

Learning Targets	Academic Vocabulary & Notation	Question Stems	Possible Assessments
• I can extend my work with quadratics to include the relationship between coefficients and roots and, that once roots are known, a quadratic equation can be factored. • I can use a given graph of one quadratic function and algebraic expression for another and say which has the larger maximum.	• properties, functions, algebraically, graphically, numerically, tables, verbal description, quadratics, relationship, coefficient, roots, maximum	• Justify your answer • Show another way you could solve this.	• District CFAs