cK12.org Flexbook Links to Support Curriculum 2.0 Two-year Algebra 2, Algebra 2, and Honors Algebra 2

This document outlines concepts in each Topic for the Unit. When corresponding resources are available in cK12.org, a hyperlink is provided for the Flexbook. The cK12.org Flexbooks provide a variety of examples, definitions, and extra practice problems related to some of the concepts in Curriculum 2.0 Two-year Algebra 2, Algebra 2, and Honors Algebra 2. The concepts will be developed in greater depth and with appropriate vocabulary in the classroom. The materials in the Flexbooks are intended to provide additional support to the classroom expectations. The vocabulary and methods in these examples may differ slightly from the classroom expectation; however, the overall intent is consistent with the content expectation.

Unit 1: Functions and Their Inverses

Topic 1: Inverse Relationships
- Explore the nature of inverse operations. (cK-12 Flexbook Unit 1 Topic 1 SLT 1)
- Given graphs of relations determine inverse relations using symmetry. (cK-12 Flexbook Unit 1 Topic 1 SLT 2)
- Determine connections among symbolic, graphic, and numeric representations of inverse relations.
- Given a function determine its inverse relation. (cK-12 Flexbook Unit 1 Topic 1 SLTs 4 & 5)

Topic 2: Radical Expressions and Equations
- Graph radical functions expressed symbolically and show key features of the graph. (cK-12 Flexbook Unit 1 Topic 2 SLT 6 & cK-12 Flexbook Unit 1 Topic 2 SLT 7)
- Use quadratic and radical functions to model and solve problems. (cK-12 Flexbook Unit 1 Topic 2 SLT 8)
- Calculate and interpret the average rate of change of a function over a specified interval. (cK-12 Flexbook Unit 1 Topic 2 SLT 9)
- Understand the relationship between rational exponents and radicals. (cK-12 Flexbook Unit 1 Topic 2 SLT 10)
- Solve simple radical equations. (cK-12 Flexbook Unit 1 Topic 2 SLT 11)
- Apply understandings of simple radical equations to solve problems.

Topic 3: Exponential & Logarithmic Expressions, Equations, & Functions
- Extend understanding of exponential functions to non-integer domain values.
- Graph exponential functions expressed symbolically and show key features of the graph. (cK-12 Flexbook Unit 1 Topic 3 SLT 14)
- Construct an exponential model given two points on an exponential graph. Produce an equivalent form of an exponential expression to reveal percent rate of change. (cK-12 Flexbook Unit 1 Topic 3 SLT 15 & cK-12 Flexbook Unit 1 Topic 3 SLT 16)
- Explore the effects of compounding on a percent rate of change. (cK-12 Flexbook Unit 1 Topic 3 SLT 17)
- Derive the number e and explore exponential functions that model continuous growth or decay. (cK-12 Flexbook Unit 1 Topic 3 SLT 18)
- Represent and solve exponential equations numerically and interpret the solutions. (cK-12 Flexbook Unit 1 Topic 3 SLT 19)
- Explore the inverse relationship between exponential and logarithmic functions.

- Use the relationship between exponential and logarithmic functions to evaluate expressions. (cK-12 Flexbook Unit 1 Topic 3 SLTs 21 & 22)
- Graph logarithmic functions expressed symbolically and show key features of the graph. (cK-12 Flexbook Unit 1 Topic 3 SLT 23)
- Calculate and interpret the average rate of change of a function over a specified interval.
- Identify the effect on exponential and logarithmic graphs by adding, subtracting, multiplying, or dividing the equation by some constant (both positive and negative). (cK-12 Flexbook Unit 1 Topic 3 SLT 25)
- Determine an equation for an exponential or logarithmic function from a table of values.
- Solve exponential equations in the form $ab^{ct}=d$, where a, c, and d are numbers by using logarithms. (cK-12 Flexbook Unit 1 Topic 3 SLT 29)
- Apply knowledge of exponential and logarithmic functions to a contextual situation.