

Name: _____

Date: _____

eMath Instruction & Khan Academy Algebra Correlations Common Core Algebra I

eMath Instruction	Khan Academy
Chapter 1 – The Building Blocks of Algebra	
Lesson 1 – Rates, Patterns & Problem Solving	https://www.khanacademy.org/math/pre-algebra/pre-algebra-rates-rates/pre-algebra-rates/v/introduction-to-rates
Lesson 2 – Variables & Expressions	https://www.khanacademy.org/math/algebra/introduction-to-algebra/alg1-intro-to-variables/v/what-is-a-variable
Lesson 3 – The Commutative & Associative Properties	https://www.khanacademy.org/search?page_search_query=commutative%20and%20associative%20property
Lesson 4 – The Distributive Property	https://www.khanacademy.org/math/pre-algebra/pre-algebra-arith-prop#pre-algebra-distributive-property
Lesson 5 – Equivalent Expressions	https://www.khanacademy.org/math/algebra/introduction-to-algebra#alg1-equivalent-expressions
Lesson 6 – Seeing Structure in Expressions	
Lesson 7 – Exponents as Repeated Multiplication	https://www.khanacademy.org/math/pre-algebra/pre-algebra-exponents-radicals/pre-algebra-exponents/v/introduction-to-exponents
Lesson 8 – More Complex Equivalency	
Lesson 9 – More Structure Work	
Lesson 10 – Translating English to Algebra	https://www.khanacademy.org/math/algebra/introduction-to-algebra/alg1-writing-expressions/v/writing-expressions-1

Lesson 11 – Algebraic Puzzles	
Chapter 2 – Linear Expressions, Equations & Inequalities https://www.khanacademy.org/math/algebra/one-variable-linear-equations	
Lesson 1 – Equations & Their Solutions	https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-intro-equations/v/variables-expressions-and-equations
Lesson 2 – Seeing Structure to Solve Equations	https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-solving-equations/v/why-we-do-the-same-thing-to-both-sides-simple-equations
Lesson 3 – A Linear Equation Solving Review	https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-one-step-add-sub-equations/v/adding-and-subtracting-the-same-thing-from-both-sides https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-one-step-mult-div-equations/v/simple-equations https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-two-step-equations-intro/v/why-we-do-the-same-thing-to-both-sides-two-step-equations
Lesson 4 – Justifying Steps in Solving an Equation	
Lesson 5 – Linear Word Problems	https://www.khanacademy.org/math/algebra/one-variable-linear-equations/alg1-linear-equ-word-probs/v/basic-linear-equation-word-problem
Lesson 6 – Consecutive Integer Games	
Lesson 7 – Transforming Formulas	https://www.khanacademy.org/math/algebra/one-variable-linear-equations/linear-equations-with-unknown-coefficients/v/linear-equations-with-unknown-coefficients
Lesson 8 – Inequalities	https://www.khanacademy.org/math/algebra/one-variable-linear-inequalities/alg1-inequalities/v/testing-solutions-to-inequalities
Lesson 9 – Solving Linear Inequalities	https://www.khanacademy.org/math/algebra/one-variable-linear-inequalities/alg1-one-step-inequalities/v/inequalities-using-multiplication-and-division
Lesson 10 – Compound Inequalities	https://www.khanacademy.org/math/algebra/one-variable-linear-inequalities/multi-step-inequalities/v/multi-step-inequalities-3

Lesson 11 – More Work with Compound Inequalities	https://www.khanacademy.org/math/algebra/one-variable-linear-inequalities/multi-step-inequalities/v/multi-step-inequalities-3
Lesson 12 – Interval Notation	
Chapter 3 – Functions	
https://www.khanacademy.org/math/algebra/algebra-functions	
Lesson 1 – Introduction to Functions	https://www.khanacademy.org/math/algebra/algebra-functions/evaluating-functions/v/what-is-a-function
Lesson 2 – Function Notation	https://www.khanacademy.org/math/algebra/algebra-functions/evaluating-functions/v/what-is-a-function https://www.khanacademy.org/math/algebra/algebra-functions/interpreting-function-notation/v/interpreting-function-notation-example-1 https://www.khanacademy.org/math/algebra/algebra-functions/function-inputs-and-outputs/v/finding-input-given-function-output-formula
Lesson 3 – Graphs of Functions	
Lesson 4 – Graphical Features	https://www.khanacademy.org/math/algebra/algebra-functions/interpreting-features-of-graphs/v/interpreting-function-graphs-word-problems \ https://www.khanacademy.org/math/algebra/algebra-functions/maximum-and-minimum-points/v/relative-minima-maxima
Lesson 5 – Exploring Functions using their Graphing Calculator	
Lesson 6 – Introduction to Average Rate of Change	https://www.khanacademy.org/math/algebra/algebra-functions/functions-average-rate-of-change/v/introduction-to-average-rate-of-change
Lesson 7 – Average Rate of Change	https://www.khanacademy.org/math/algebra/algebra-functions#average-rate-of-change-word-problems

Lesson 8 – Domain & Range	https://www.khanacademy.org/math/algebra/algebra-functions/domain-and-range/v/introduction-to-interval-notation https://www.khanacademy.org/math/algebra/algebra-functions/determining-the-domain-of-a-function/v/domain-of-a-radical-function
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Chapter 4 – Linear Functions & Proportional Relationships	
Lesson 1 – Proportional Relationships	https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates#pre-algebra-constant-of-proportionality
Lesson 2 – Unit Conversion	https://www.khanacademy.org/math/algebra/units-in-modeling
Lesson 3 – Nonproportional Relationships	
Lesson 4 – More Work Graphing Linear Functions	https://www.khanacademy.org/math/algebra/two-var-linear-equations
Lesson 5 – Writing Equations in Slope-Intercept Form	https://www.khanacademy.org/math/algebra/two-var-linear-equations/x-and-y-intercepts/v/introduction-to-intercepts https://www.khanacademy.org/math/algebra/two-var-linear-equations/slope/v/introduction-to-slope https://www.khanacademy.org/math/algebra/two-var-linear-equations/slope-intercept-form/v/slope-intercept-form
Lesson 6 – Modeling with Linear Equations	https://www.khanacademy.org/math/algebra/two-var-linear-equations/writing-slope-intercept-equations/v/graphs-using-slope-intercept-form
Lesson 7 – More Linear Modeling	
Lesson 8 – Strange Lines –	https://www.khanacademy.org/math/algebra/two-var-linear-equations#hor-and-ver-lines-1

Horizontals & Verticals	
Lesson 9 – Absolute Values & Step Functions	https://www.khanacademy.org/math/algebra/absolute-value-equations-functions
Lesson 10 – The Truth About Graphs	
Lesson 11 – Graphs of Linear Inequalities	https://www.khanacademy.org/math/algebra/two-variable-linear-inequalities
Lesson 12 – Introduction to Sequences	https://www.khanacademy.org/math/algebra/sequences
Lesson 13 – Arithmetic Sequences	https://www.khanacademy.org/math/algebra/sequences
Chapter 5 – Systems of Linear Equations & Inequalities	
https://www.khanacademy.org/math/algebra/systems-of-linear-equations	
Lesson 1 – Solutions to Systems & Solving by Graphing	https://www.khanacademy.org/math/algebra/systems-of-linear-equations/introduction-to-systems-of-linear-equations/v/trolls-tolls-and-systems-of-equations
Lesson 2 – Solving Systems by Substitution	https://www.khanacademy.org/math/algebra/systems-of-linear-equations/solving-systems-of-equations-with-substitution/v/solving-systems-with-substitution
Lesson 3 – Properties of Systems & Their Solutions	
Lesson 4 – The Elimination Method	https://www.khanacademy.org/math/algebra/systems-of-linear-equations/equivalent-systems-of-equations/v/king-s-cupcakes-solving-systems-by-elimination
Lesson 5 – Modeling with Systems of Equations	https://www.khanacademy.org/math/algebra/systems-of-linear-equations/systems-of-linear-equations-word-problems/v/ex-2-age-word-problem
Lesson 6 – Solving Equations Graphically	https://www.khanacademy.org/math/algebra/systems-of-linear-equations/modal/e/graphing_systems_of_equations
Lesson 7 – Solving	https://www.khanacademy.org/math/algebra/two-variable-linear-inequalities/graphing-inequalities/v/graphical-system-of-inequalities

Systems of Inequalities	
Lesson 8 – Modeling with Systems of Inequalities	https://www.khanacademy.org/math/algebra/two-variable-linear-inequalities/graphing-inequalities/v/graphical-system-of-inequalities https://www.khanacademy.org/math/algebra/two-variable-linear-inequalities/modeling-with-linear-inequalities/v/constructing-two-variable-linear-inequality-word-problem

Chapter 6 – Exponents, Exponents & More Exponents https://www.khanacademy.org/math/algebra/rational-exponents-and-radicals	
Lesson 1 – Simplifying Expressions using Exponents	https://www.khanacademy.org/math/algebra/rational-exponents-and-radicals#alg1-exp-prop-review https://www.khanacademy.org/math/algebra/rational-exponents-and-radicals#rational-exponents-and-the-properties-of-exponents
Lesson 2 – Zero & Negative Exponents	https://www.khanacademy.org/math/pre-algebra/pre-algebra-exponents-radicals/pre-algebra-negative-exponents/v/negative-exponents
Lesson 3 – Exponential Growth	https://www.khanacademy.org/math/algebra/introduction-to-exponential-functions/exponential-vs-linear-growth/v/exponential-growth-functions
Lesson 4 – Introduction to Exponential Functions	https://www.khanacademy.org/math/algebra/introduction-to-exponential-functions/exponential-vs-linear-growth/v/exponential-growth-functions
Lesson 5 – Percent Review	https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates#pre-algebra-percent-word-problems
Lesson 6 – Percent Increase & Decrease	https://www.khanacademy.org/math/pre-algebra/pre-algebra-ratios-rates#pre-algebra-percent-word-problems
Lesson 7 – Exponential Models based on Percent Growth	https://www.khanacademy.org/math/algebra/introduction-to-exponential-functions#graphs-of-exponential-growth

Lesson 8 – Linear versus Exponential	https://www.khanacademy.org/math/algebra/introduction-to-exponential-functions#exponential-vs-linear-growth-over-time
Lesson 9 – Geometric Sequences	https://www.khanacademy.org/math/algebra/sequences/introduction-to-geometric-sequences/v/geometric-sequences-introduction

Chapter 7 – Polynomials	
Lesson 1 – Introduction to Polynomials	https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions#introduction-to-polynomials
Lesson 2 – Multiplying Polynomials	https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions#multiplying-monomials https://www.khanacademy.org/math/algebra/introduction-to-polynomial-expressions#multiplying-polynomials-by-monomials
Lesson 3 – Factoring Polynomials	https://www.khanacademy.org/math/algebra/polynomial-factorization
Lesson 4 – Factoring based on Conjugate Pairs	https://www.khanacademy.org/math/algebra/polynomial-factorization
Lesson 5 – Factoring Trinomials	https://www.khanacademy.org/math/algebra/polynomial-factorization
Lesson 6 – Factoring Completely	https://www.khanacademy.org/math/algebra/polynomial-factorization

Chapter 8 – Quadratic Functions & Their Algebra

<https://www.khanacademy.org/math/algebra/quadratics>

Lesson 1 – Introduction to Quadratic Functions	https://www.khanacademy.org/math/algebra/quadratics/parabolas-intro-alg1/v/parabolas-intro
Lesson 2 – More Work with Parabolas	
Lesson 3 – The Shifted Form of a Parabola	https://www.khanacademy.org/math/algebra/quadratics#transforming-quadratic-functions
Lesson 4 – Completing the Square	https://www.khanacademy.org/math/algebra/quadratics#solving-quadratics-by-completing-the-square
Lesson 5 – Stretching Parabolas	https://www.khanacademy.org/math/algebra/quadratics#transforming-quadratic-functions
Lesson 6 – The Zeroes of a Quadratic	https://www.khanacademy.org/math/algebra/quadratics/factored-form-alg1/v/zero-product-property
Lesson 7 – More Work with Zero Product Law	https://www.khanacademy.org/math/algebra/quadratics/factored-form-alg1/v/zero-product-property
Lesson 8 – Quadratic Word Problems	

Chapter 9 – Roots & Irrational Numbers

Lesson 1 – Square Roots	https://www.khanacademy.org/math/algebra/rational-exponents-and-radicals#alg1-radicals
Lesson 2 – Irrational Numbers	https://www.khanacademy.org/math/algebra/rational-and-irrational-numbers
Lesson 3 – Square Root Functions & Shifting	https://www.khanacademy.org/math/algebra2/radical-equations-and-functions/graphs-of-radical-functions/v/flipping-shifting-radical-functions
Lesson 4 – Solving Quadratics using Inverse Operations	https://www.khanacademy.org/math/algebra/quadratics/quadratics-square-root/v/simplifying-quadratic-equation
Lesson 5 – Finding Zeroes by Completing the Square	https://www.khanacademy.org/math/algebra/quadratics/solving-quadratics-by-completing-the-square/v/ex1-completing-the-square
Lesson 6 – The Quadratic Formula	https://www.khanacademy.org/math/algebra/quadratics/solving-quadratics-using-the-quadratic-formula/v/using-the-quadratic-formula
Lesson 7 – Final Work with Quadratic Equations	
Lesson 8 – Cube Roots	https://www.khanacademy.org/math/algebra/rational-exponents-and-radicals/alg1-radicals/v/introduction-to-cube-roots

Chapter 10 – Statistics

<https://www.khanacademy.org/math/statistics-probability>

Lesson 1 – Graphical Displays of Data	https://www.khanacademy.org/math/statistics-probability#analyzing-categorical-data
Lesson 2 – Quartiles & Box Plots	https://www.khanacademy.org/math/on-grade-engageny/engageny-alg-1/alg1-2#alg1-2-a-dot-plots https://www.khanacademy.org/math/statistics-probability/summarizing-quantitative-data https://www.khanacademy.org/math/statistics-probability/summarizing-quantitative-data#interquartile-range-iqr https://www.khanacademy.org/math/statistics-probability/summarizing-quantitative-data#box-whisker-plots
Lesson 3 – Measures of Central Tendency	https://www.khanacademy.org/math/on-grade-engageny/engageny-alg-1/alg1-2#alg1-2-a-center
Lesson 4 – Variation within a Data Set	https://www.khanacademy.org/math/on-grade-engageny/engageny-alg-1/alg1-2#alg1-2-b-deviations
Lesson 5 – Two Way Frequency Tables	https://www.khanacademy.org/math/ap-statistics/analyzing-categorical-ap/stats-two-way-tables/v/two-way-relative-frequency-tables
Lesson 6 – Bivariate Data Analysis	https://www.khanacademy.org/math/on-grade-engageny/engageny-alg-1/alg1-2#alg1-2-c-bivariate-categorical
Lesson 7 – Linear Regression on the Calculator	https://www.khanacademy.org/math/on-grade-engageny/engageny-alg-1/alg1-2#alg1-2-d-relationships-two-numerical-variables https://www.khanacademy.org/math/on-grade-engageny/engageny-alg-1/alg1-2#alg1-2-d-modeling-relationships-line
Lesson 8 – Other Types of Regression	
Lesson 9 – Quantifying Predictability	

Chapter 11 – A Final Look at Functions & Modeling

Lesson 1 – Function Transformations	https://www.khanacademy.org/math/algebra/quadratics#transforming-quadratic-functions
Lesson 2 – Horizontal Stretching of Functions	https://www.khanacademy.org/math/algebra2/manipulating-functions/stretching-functions/v/compressing-functions-example https://www.khanacademy.org/math/statistics-probability/random-variables-stats-library/random-variables-discrete/v/discrete-and-continuous-random-variables
Lesson 3 – Discrete Functions	
Lesson 4 – Another Look at Linears & Exponentials	
Lesson 5 – Step Functions Revisited	https://www.khanacademy.org/math/algebra/absolute-value-equations-functions/piecewise-functions/e/evaluate-step-functions-from-their-graph
Lesson 6 – Piecewise Linear Functions	https://www.khanacademy.org/math/algebra/absolute-value-equations-functions/piecewise-functions/v/piecewise-function-example
Lesson 7 – Quadratic Models	https://www.khanacademy.org/math/algebra#quadratics