



IXL Skill Alignment

Algebra 1 alignment for Transition to Algebra



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www.ixl.com/math/skill-plans/transition-to-algebra-algebra-1

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Unit 1

Language of Algebra

Textbook section	IXL skills
Lesson 1: Exploring Number Tricks	
Lesson 2: Creating Number Tricks	1. Add and subtract integers: input/output tables <small>FLP</small>
Lesson 3: Balancing Mobile Puzzles	1. Which x satisfies an equation? <small>VG8</small> 2. Evaluate one-variable expressions <small>V77</small>
Lesson 4: Describing Tricks and Puzzles	1. Write variable expressions: one operation <small>PEZ</small> 2. Write variable expressions: two or three operations <small>6QT</small> 3. Write variable expressions from diagrams <small>FPF</small> 4. Write variable expressions: word problems <small>MEC</small>
Lesson 5: Logic of Tricks and Mobiles	1. Solve one-step addition and subtraction equations with whole numbers <small>JXM</small> 2. Solve one-step multiplication and division equations with whole numbers <small>JUA</small> 3. Solve one-step equations with whole numbers <small>WLR</small>

Unit 2

Geography of the Number Line

Textbook section	IXL skills
Lesson 1: Placing Integers	<ol style="list-style-type: none"> Understanding integers YBC Integers on number lines EZE Graph integers on horizontal and vertical number lines LFR Compare and order integers T2M
Lesson 2: Operations with Integers	<ol style="list-style-type: none"> Integer addition and subtraction rules YDA
Lesson 3: Checkers and Who Am I? Puzzles	<p>Models</p> <ol style="list-style-type: none"> Add integers using counters FTM Subtract integers using counters BGL <p>Add and subtract integers</p> <ol style="list-style-type: none"> Add integers QFU Subtract integers HEU Add and subtract three or more integers NB7 <p>Word problems</p> <ol style="list-style-type: none"> Add and subtract integers: word problems XP7
Lesson 4: Distance and Inequalities	<p>Solutions to inequalities</p> <ol style="list-style-type: none"> Identify solutions to inequalities 5UE <p>Graphing</p> <ol style="list-style-type: none"> Graph inequalities H68 Graph solutions to multi-step linear inequalities 5GC
Lesson 5: Geography of Addition and Subtraction	<ol style="list-style-type: none"> Compare temperatures above and below zero UVD
Lesson 6: Algebra on the Number Line	<ol style="list-style-type: none"> Integer addition and subtraction rules YDA Apply addition and subtraction rules GDU

Unit 3

Micro-Geography of the Number Line

Textbook section	IXL skills
Lesson 1: Placing Decimals	<ol style="list-style-type: none">1. Compare and order decimals ANM2. Decimal number lines BBX
Lesson 2: Operations with Decimals	<ol style="list-style-type: none">1. Estimate sums and differences of decimals SJ62. Multiply and divide decimals by powers of ten KNH3. Add and subtract decimals BP24. Add and subtract decimals: word problems RKZ5. Add and subtract positive and negative decimals WCZ
Lesson 3: Decimal Distance	<ol style="list-style-type: none">1. Maps with decimal distances WT7
Lesson 4: Placing Fractions	<ol style="list-style-type: none">1. Fractions on number lines ULL
Lesson 5: Equivalent Fractions	<ol style="list-style-type: none">1. Equivalent fractions KDL
Lesson 6: Ordering Fractions	<ol style="list-style-type: none">1. Compare and order fractions CEY2. Compare fractions: word problems ZLJ
Lesson 7: Fraction Distances	<ol style="list-style-type: none">1. Maps with fractional distances KXP

Unit 4

Area and Multiplication

Textbook section	IXL skills
Lesson 1: MysteryGrid Puzzles	
Lesson 2: Multiplication Patterns	<ol style="list-style-type: none"> Integer multiplication rules K7U Multiply integers DQT
Lesson 3: Measuring Area	<ol style="list-style-type: none"> Rectangles: relationship between perimeter and area VTX Area of rectangles and squares BE9
Lesson 4: Area Models	
Lesson 5: Area Models with Algebra	<ol style="list-style-type: none"> Factor variable expressions using the distributive property PGZ Multiply using the distributive property 2HH
Lesson 6: Signs and Terms	<p>Terms and coefficients</p> <ol style="list-style-type: none"> Identify terms and coefficients T8K <p>Like terms</p> <ol style="list-style-type: none"> Add and subtract like terms QP7 <p>Distributive property</p> <ol style="list-style-type: none"> Multiply using the distributive property U7T <p>Model polynomials</p> <ol style="list-style-type: none"> Model polynomials with algebra tiles TYV <p>Multiply polynomials</p> <ol style="list-style-type: none"> Multiply a polynomial by a monomial G2G Multiply two binomials using algebra tiles WR5
Lesson 7: Squares and Like Terms	<ol style="list-style-type: none"> Multiply two binomials M7Q Multiply two binomials: special cases 9JN Multiply polynomials 58A

Lesson 8: Equivalent Expressions

Add and subtract linear expressions

1. Add and subtract linear expressions QCY

Equivalent linear expressions

2. Identify equivalent linear expressions: word problems 7YG
 3. Identify equivalent linear expressions 62A
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Unit 5

Logic of Algebra

Textbook section	IXL skills
Lesson 1: Staying Balanced	<ol style="list-style-type: none"> Does x satisfy the equation? JPC Which x satisfies an equation? YTT
Lesson 2: Mobiles and Equations	<ol style="list-style-type: none"> Model and solve linear equations using algebra tiles GRH
Lesson 3: Keeping Track of Your Steps	<ol style="list-style-type: none"> Simplify linear expressions using properties HHR Simplify variable expressions involving like terms and the distributive property ZXX
Lesson 4: Arranging Instructions in Order	<ol style="list-style-type: none"> Write equivalent expressions using properties QFJ
Lesson 5: The Language and Logic of Expressions	<ol style="list-style-type: none"> Write variable expressions D7K
Lesson 6: Solving Equations One Chunk at a Time	<ol style="list-style-type: none"> Solve multi-step equations 55K Solve equations involving like terms Q2B Solve two-step equations JXD Solve one-step and two-step equations: word problems HCP Solve equations with variables on both sides ZYL Solve equations: mixed review HZZ Solve multi-step equations: complete the solution PGH
Lesson 7: Solving with Squares	<ol style="list-style-type: none"> Solve equations using square roots NNA
Lesson 8: Solving with Systems	<ol style="list-style-type: none"> Solve a system of equations using substitution J8X Is (x, y) a solution to the system of equations? LRL

Unit 6

Geography of the Coordinate Plane

Textbook section	IXL skills
Lesson 1: Plotting Data	<ol style="list-style-type: none"> Coordinate plane review H6E Follow directions on a coordinate plane 2HR
Lesson 2: Coordinating Data	<ol style="list-style-type: none"> Interpret graphs of proportional relationships Q96 Interpret points on the graph of a linear function 9E8
Lesson 3: Geometric Transformations	<p>Graph triangles and parallelograms</p> <ol style="list-style-type: none"> Graph triangles and quadrilaterals UDB <p>Translations</p> <ol style="list-style-type: none"> Translations: graph the image XUS Translations: find the coordinates RUP
Lesson 4: Transformations with Algebra	<p>Dilations</p> <ol style="list-style-type: none"> Dilations: graph the image 9T4 Dilations: find the coordinates UV9 <p>Reflections</p> <ol style="list-style-type: none"> Reflections over the x- and y-axes: graph the image 74Z Reflections over the x- and y-axes: find the coordinates 5UM Reflections: find the coordinates KUX
Lesson 5: Intuitive Graphing	
Lesson 6: Solutions and Point Testing	<ol style="list-style-type: none"> Is (x, y) a solution to the linear equation? 5BD Find values using function graphs QCG Evaluate a linear function LNV
Lesson 7: Graphing Relationships	<ol style="list-style-type: none"> Complete a table for a linear function D9B Complete a table and graph a linear function DC2

Unit 7

Thinking Things Through Thoroughly

Textbook section	IXL skills
Lesson 1: What Can You Say for Sure?	<ol style="list-style-type: none">1. Find the number of each type of coin ED62. Multi-step word problems EHX3. Word problems: mixed review Z7P4. Word problems with money FL6
Lesson 2: Asking Good Questions	
Lesson 3: Repeating and Generalizing	<ol style="list-style-type: none">1. Guess-and-check word problems CPR2. Consecutive integer problems HDF3. Weighted averages: word problems 2TQ4. Rate of travel: word problems 2C8
Lesson 4: Mapping it Out	<ol style="list-style-type: none">1. Maps with decimal distances WT72. Maps with fractional distances KXP
Lesson 5: Logic Games	<ol style="list-style-type: none">1. Use logical reasoning to find the order MGD
Lesson 6: Liars and Truth-tellers	

Unit 8

Logic of Fractions

Textbook section	IXL skills
Lesson 1: Rational Relationships	<p>Equivalent fractions</p> <ol style="list-style-type: none"> Equivalent fractions KDL <p>Add and subtract fractions</p> <ol style="list-style-type: none"> Add and subtract fractions NGL Add and subtract fractions: word problems ENL Add and subtract mixed numbers 9BE Add and subtract mixed numbers: word problems 6YT
Lesson 2: Multiplying with Fractions	<ol style="list-style-type: none"> Multiply fractions and whole numbers ZNQ Scaling whole numbers by fractions: justify your answer 9YZ
Lesson 3: Fractions and Area Models	<ol style="list-style-type: none"> Multiply two fractions using models LMX Multiply fractions PDK Multiply mixed numbers JNY
Lesson 4: Rewriting Rational Expressions	
Lesson 5: Scaling to Solve	<ol style="list-style-type: none"> Solve one-step multiplication and division equations with decimals and fractions T53
Lesson 6: Scaling to Add	<ol style="list-style-type: none"> Inequalities with addition and subtraction of fractions and mixed numbers B8C
Lesson 7: Proportional Reasoning	<p>Ratios</p> <ol style="list-style-type: none"> Understanding ratios X45 Identify equivalent ratios ZVD Write an equivalent ratio MQS Equivalent ratios: word problems RX2 <p>Proportions</p> <ol style="list-style-type: none"> Solve proportions: word problems 5XV Do the ratios form a proportion? QBJ

7. Do the ratios form a proportion: word problems JHP
8. Solve proportions BNY

Unit rates

9. Unit rates 59J

Constant of proportionality

1. Find the constant of proportionality from a table ZCK
2. Find the constant of proportionality from a graph YMH

Proportional relationships

3. Write equations for proportional relationships from graphs G7N
 4. Graph proportional relationships and find the slope MQD
 5. Interpret graphs of proportional relationships Q96
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Lesson 8: Fractions and Graphs (Rates of Change)

Unit 9

Points, Slopes, and Lines

Textbook section	IXL skills
Lesson 1: Comparing Points	1. Distance between two points RUZ
Lesson 2: Distance	1. Pythagorean theorem: find the length of the hypotenuse 7ZL 2. Distance between two points AYD 3. Estimate square roots AU2
Lesson 3: Slope	1. Find the constant of variation 9TD 2. Find the slope of a graph E7D
Lesson 4: Slopes and Lines	1. Find the slope of a graph E7D 2. Find the slope from two points MD5 3. Graph a line using slope FSV 4. Find the slope from a table GUP
Lesson 5: Collinearity	
Lesson 6: Generalizing the Equation of a Line	1. Find a missing coordinate using slope 5C7
Lesson 7: Linear Equations and Graphs	1. Write an equation from a graph using a table MXS

Unit 10

Area Model Factoring

Textbook section	IXL skills
Lesson 1: Division Undoes Multiplication	1. Factors of linear expressions EGA
Lesson 2: Area Model Inside Out	
Lesson 3: Factoring	1. GCF of monomials ZZU 2. Factor out a monomial JZL 3. Factor quadratics using algebra tiles Y6U
Lesson 4: Products, Sums, and Signs	1. Factor quadratics with leading coefficient 1 S9P
Lesson 5: Zero Product Property	1. Solve a quadratic equation using the zero product property TNM
Lesson 6: Solve by Factoring	1. Solve a quadratic equation by factoring CSS

Unit 11

Exponents

Textbook section	IXL skills
Lesson 1: Multiplication World	
Lesson 2: Exponents	<ol style="list-style-type: none"> 1. Understanding exponents VFV 2. Evaluate powers EYR
Lesson 3: Extending Exponents	<ol style="list-style-type: none"> 1. Understanding negative exponents YBB 2. Evaluate powers with negative exponents WGS
Lesson 4: Equivalent Expressions	<ol style="list-style-type: none"> 1. Multiplication rule for exponents HQD 2. Division rule for exponents 9SS
Lesson 5: Area Models	<ol style="list-style-type: none"> 1. Multiply a polynomial by a monomial G2G 2. Multiply two binomials using algebra tiles WR5 3. Multiply two binomials M7Q
Lesson 6: Simplifying Expressions	<p>Simplify fractions</p> <ol style="list-style-type: none"> 1. Write fractions in lowest terms TZ6 <p>Monomials</p> <ol style="list-style-type: none"> 2. Simplify exponential expressions using the multiplication rule 52N 3. Simplify exponential expressions using the division rule B48 4. Simplify exponential expressions using the multiplication and division rules 48P
Lesson 7: Fractions in Exponents	<ol style="list-style-type: none"> 1. Evaluate integers raised to rational exponents PQH

Unit 12

Algebraic Habits of Mind

Textbook section	IXL skills
Lesson 1: Language and Logic of Algebra	<ol style="list-style-type: none"> 1. Write variable expressions: one operation PEZ 2. Write variable expressions: two or three operations 6QT 3. Write variable expressions: word problems MEC
Lesson 2: Reasoning about Points on a Line	<p>Fractions</p> <ol style="list-style-type: none"> 1. Fractions on number lines ULL 2. Compare and order fractions CEY <p>Decimals</p> <ol style="list-style-type: none"> 3. Decimal number lines BBX 4. Compare and order decimals ANM
Lesson 3: Multiplying and Un-multiplying	<p>Multiply polynomials</p> <ol style="list-style-type: none"> 1. Multiply a polynomial by a monomial G2G 2. Multiply two binomials using algebra tiles WR5 3. Multiply two binomials M7Q <p>Factoring</p> <ol style="list-style-type: none"> 4. Factor out a monomial JZL 5. Factor quadratics with leading coefficient 1 S9P
Lesson 4: Reasoning about Points and Lines on a Plane	<ol style="list-style-type: none"> 1. Find the distance between two points ZBP 2. Complete a table and graph a linear function DC2 3. Graph a line using slope FSV
Lesson 5: Solving Strategically	<ol style="list-style-type: none"> 1. Solve a quadratic equation using the zero product property TNM 2. Identify equivalent equations XNQ 3. Solve linear equations: mixed review DN6