



# IXL Skill Alignment

Alg 1 alignment for HMH California

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# Module 1

## Quantitative Reasoning

Textbook section	IXL skills
<b>1.1:</b> Solving Equations	<b>J.3</b> Solve one-step linear equations >>
	<b>J.4</b> Solve two-step linear equations >>
<b>1.2:</b> Modeling Quantities	<b>C.7</b> Scale drawings: word problems >>
	<b>E.1</b> Convert rates and measurements: customary units >>
<b>1.3:</b> Reporting with Precision and Accuracy	<b>E.4</b> Precision >>

# Module 2

## Algebraic Models

Textbook section	IXL skills
<b>2.1:</b> Modeling with Expressions	<b>I.1</b> Write variable expressions >>
	<b>I.3</b> Identify equivalent linear expressions >>
<b>2.2:</b> Creating and Solving Equations	<b>I.4</b> Write variable equations >>
	<b>J.5</b> Solve advanced linear equations >>
	<b>J.6</b> Solve equations with variables on both sides >>
	<b>J.10</b> Solve linear equations: word problems >>
<b>2.3:</b> Solving for a Variable	<b>I.8</b> Rearrange multi-variable equations >>
<b>2.4:</b> Creating and Solving Inequalities	<b>K.8</b> Solve two-step linear inequalities >>
	<b>K.10</b> Solve advanced linear inequalities >>
<b>2.5:</b> Creating and Solving Compound Inequalities	<b>K.12</b> Graph compound inequalities >>
	<b>K.13</b> Write compound inequalities from graphs >>
	<b>K.14</b> Solve compound inequalities >>
	<b>K.15</b> Graph solutions to compound inequalities >>

# Module 3

## Functions and Models

Textbook section	IXL skills
<b>3.1:</b> Graphing Relationships	
<b>3.2:</b> Understanding Relations and Functions	<b>Q.1</b> Relations: convert between tables, graphs, mappings, and lists of points >> <b>Q.2</b> Domain and range of relations >> <b>Q.4</b> Identify functions >> <b>Q.5</b> Identify functions: vertical line test >>
<b>3.3:</b> Modeling with Functions	<b>Q.3</b> Identify independent and dependent variables >>
<b>3.4:</b> Graphing Functions	<b>Q.7</b> Evaluate a function >> <b>Q.9</b> Complete a function table from a graph >> <b>Q.10</b> Complete a function table from an equation >>

# Module 4

## Patterns and Sequences

Textbook section	IXL skills
<b>4.1:</b> Identifying and Graphing Sequences	<b>P.4</b> Evaluate variable expressions for number sequences >>
<b>4.2:</b> Constructing Arithmetic Sequences	<b>P.2</b> Arithmetic sequences >>
	<b>P.5</b> Write variable expressions for arithmetic sequences >>
<b>4.3:</b> Modeling with Arithmetic Sequences	

# Module 5

## Linear Functions

Textbook section	IXL skills
<b>5.1:</b> Understanding Linear Functions	<b>S.13</b> Complete a table and graph a linear function >>
	<b>S.17</b> Standard form: graph an equation >>
<b>5.2:</b> Using Intercepts	<b>S.16</b> Standard form: find x- and y-intercepts >>
<b>5.3:</b> Interpreting Rate of Change and Slope	<b>S.2</b> Find the slope of a graph >>
	<b>S.3</b> Find the slope from two points >>

# Module 6

## Forms of Linear Functions

Textbook section	IXL skills
<b>6.1:</b> Slope-Intercept Form	<b>S.5</b> Slope-intercept form: find the slope and y-intercept >>
	<b>S.6</b> Slope-intercept form: graph an equation >>
	<b>S.8</b> Slope-intercept form: write an equation >>
	<b>S.10</b> Slope-intercept form: write an equation from a word problem >>
<b>6.2:</b> Point-Slope Form	<b>S.21</b> Point-slope form: write an equation >>
	<b>S.22</b> Point-slope form: write an equation from a graph >>
<b>6.3:</b> Standard Form	<b>S.15</b> Write equations in standard form >>
<b>6.4:</b> Transforming Linear Functions	<b>S.25</b> Transformations of linear functions >>
<b>6.5:</b> Comparing Properties of Linear Functions	<b>S.14</b> Compare linear functions: graphs, tables, and equations >>

# Module 7

## Linear Equations and Inequalities

Textbook section	IXL skills
<b>7.1:</b> Modeling Linear Relationships	<b>S.12</b> Write linear functions to solve word problems >>
<b>7.2:</b> Using Functions to Solve One-Variable Equations	
<b>7.3:</b> Linear Inequalities in Two Variables	<b>T.1</b> Does $(x, y)$ satisfy the inequality? >> <b>T.2</b> Linear inequalities: solve for $y$ >> <b>T.3</b> Graph a two-variable linear inequality >> <b>T.4</b> Linear inequalities: word problems >>



# Module 8

## Multi-Variable Categorical Data

Textbook section	IXL skills
<b>8.1:</b> Two-Way Frequency Tables	
<b>8.2:</b> Relative Frequency	

# Module 9

## One-Variable Data Distributions

Textbook section	IXL skills
<b>9.1:</b> Measures of Center and Spread	<b>KK.2</b> Mean, median, mode, and range >> <b>KK.3</b> Quartiles >>
<b>9.2:</b> Data Distributions and Outliers	<b>KK.4</b> Identify an outlier >> <b>KK.5</b> Identify an outlier and describe the effect of removing it >>
<b>9.3:</b> Histograms and Box Plots	<b>N.5</b> Interpret box-and-whisker plots >>
<b>9.4:</b> Normal Distributions	

# Module 10

## Linear Modeling and Regression

Textbook section	IXL skills
<b>10.1:</b> Scatter Plots and Trend Lines	<b>KK.8</b> Interpret a scatter plot >>
	<b>KK.10</b> Match correlation coefficients to scatter plots >>
	<b>KK.12</b> Scatter plots: line of best fit >>
<b>10.2:</b> Fitting a Linear Model to Data	<b>KK.13</b> Find the equation of a regression line >>
	<b>KK.14</b> Interpret regression lines >>
	<b>KK.15</b> Analyze a regression line of a data set >>

# Module 11

## Solving Systems of Linear Equations

Textbook section	IXL skills
<b>11.1:</b> Solving Linear Systems by Graphing	<b>U.2</b> Solve a system of equations by graphing >>
	<b>U.3</b> Solve a system of equations by graphing: word problems >>
	<b>U.4</b> Find the number of solutions to a system of equations by graphing >>
	<b>U.6</b> Classify a system of equations by graphing >>
<b>11.2:</b> Solving Linear Systems by Substitution	<b>U.8</b> Solve a system of equations using substitution >>
	<b>U.9</b> Solve a system of equations using substitution: word problems >>
<b>11.3:</b> Solving Linear Systems by Adding or Subtracting	
<b>11.4:</b> Solving Linear Systems by Multiplying First	<b>U.10</b> Solve a system of equations using elimination >>
	<b>U.11</b> Solve a system of equations using elimination: word problems >>

# Module 12

## Modeling with Linear Systems

Textbook section	IXL skills
<b>12.1:</b> Creating Systems of Linear Equations	
<b>12.2:</b> Graphing Systems of Linear Inequalities	<b>T.5</b> Is $(x, y)$ a solution to the system of inequalities? >> <b>T.6</b> Solve systems of linear inequalities by graphing >>
<b>12.3:</b> Modeling with Linear Systems	<b>U.15</b> Solve a system of equations using any method: word problems >>

# Module 13

## Piecewise-Defined Functions

Textbook section	IXL skills
<b>13.1:</b> Understanding Piecewise-Defined Functions	
<b>13.2:</b> Absolute Value Functions and Transformations	<b>DD.1</b> Complete a function table: absolute value functions >> <b>DD.2</b> Graph an absolute value function >> <b>DD.3</b> Domain and range of absolute value functions: graphs >> <b>DD.4</b> Domain and range of absolute value functions: equations >> <b>DD.5</b> Transformations of absolute value functions >>
<b>13.3:</b> Solving Absolute Value Equations	<b>L.1</b> Solve absolute value equations >> <b>L.2</b> Graph solutions to absolute value equations >>
<b>13.4:</b> Solving Absolute Value Inequalities	<b>L.3</b> Solve absolute value inequalities >> <b>L.4</b> Graph solutions to absolute value inequalities >>

# Module 14

## Rational Exponents and Radicals

Textbook section	IXL skills
<b>14.1:</b> Understanding Rational Exponents and Radicals	<b>V.10</b> Evaluate integers raised to rational exponents >>
<b>14.2:</b> Simplifying Expressions with Rational Exponents and Radicals	<b>EE.1</b> Simplify radical expressions >> <b>EE.2</b> Simplify radical expressions with variables >>

# Module 15

## Geometric Sequences and Exponential Functions

Textbook section	IXL skills
<b>15.1:</b> Understanding Geometric Sequences	<b>P.3</b> <a href="#">Geometric sequences &gt;&gt;</a>
<b>15.2:</b> Constructing Geometric Sequences	<b>P.6</b> <a href="#">Write variable expressions for geometric sequences &gt;&gt;</a>
<b>15.3:</b> Constructing Exponential Functions	<b>X.1</b> <a href="#">Evaluate an exponential function &gt;&gt;</a>
<b>15.4:</b> Graphing Exponential Functions	
<b>15.5:</b> Transforming Exponential Functions	<b>X.2</b> <a href="#">Match exponential functions and graphs &gt;&gt;</a>
	<b>X.3</b> <a href="#">Domain and range of exponential functions: graphs &gt;&gt;</a>



# Module 16

## Exponential Equations and Models

Textbook section	IXL skills
<b>16.1:</b> Using Graphs and Properties to Solve Equations with Exponents	
<b>16.2:</b> Modeling Exponential Growth and Decay	<b>X.5</b> Exponential growth and decay: word problems >>
<b>16.3:</b> Using Exponential Regression Models	
<b>16.4:</b> Comparing Linear and Exponential Models	

# Module 17

## Adding and Subtracting Polynomials

Textbook section	IXL skills
<b>17.1:</b> Understanding Polynomial Expressions	<b>Y.1</b> Identify monomials >> <b>Z.1</b> Polynomial vocabulary >>
<b>17.2:</b> Adding Polynomial Expressions	
<b>17.3:</b> Subtracting Polynomial Expressions	<b>Z.3</b> Add and subtract polynomials using algebra tiles >> <b>Z.4</b> Add and subtract polynomials >>

# Module 18

## Multiplying Polynomials

Textbook section	IXL skills
<b>18.1:</b> Multiplying Polynomial Expressions by Monomials	<b>Z.6</b> Multiply a polynomial by a monomial >>
<b>18.2:</b> Multiplying Polynomial Expressions	<b>Z.7</b> Multiply two polynomials using algebra tiles >>
	<b>Z.8</b> Multiply two binomials >>
<b>18.3:</b> Special Products of Binomials	<b>Z.9</b> Multiply two binomials: special cases >>
	<b>Z.10</b> Multiply polynomials >>

# Module 19

## Graphing Quadratic Functions

Textbook section	IXL skills
<b>19.1:</b> Understanding Quadratic Functions	
<b>19.2:</b> Transforming Quadratic Functions	<b>BB.3</b> Transformations of quadratic functions >> <b>BB.4</b> Graph quadratic functions in vertex form >>
<b>19.3:</b> Interpreting Vertex Form and Standard Form	<b>BB.1</b> Characteristics of quadratic functions >>

# Module 20

## Connecting Intercepts, Zeros, and Factors

Textbook section	IXL skills
<b>20.1:</b> Connecting Intercepts and Zeros	
<b>20.2:</b> Connecting Intercepts and Linear Factors	
<b>20.3:</b> Applying the Zero Product Property to Solve Equations	<b>BB.6</b> Solve a quadratic equation using the zero product property >>

# Module 21

## Using Factors to Solve Quadratic Equations

Textbook section	IXL skills
<b>21.1:</b> Solving Equations by Factoring $x^2 + bx + c$	<b>AA.4</b> Factor quadratics with leading coefficient 1 >>
<b>21.2:</b> Solving Equations by Factoring $ax^2 + bx + c$	<b>AA.3</b> Factor quadratics using algebra tiles >> <b>AA.5</b> Factor quadratics with other leading coefficients >>
<b>21.3:</b> Using Special Factors to Solve Equations	<b>AA.6</b> Factor quadratics: special cases >> <b>BB.7</b> Solve a quadratic equation by factoring >>

## Module 22

### Using Square Roots to Solve Quadratic Equations

Textbook section	IXL skills
<b>22.1:</b> Solving Equations by Taking Square Roots	<b>BB.5</b> Solve a quadratic equation using square roots >>
<b>22.2:</b> Solving Equations by Completing the Square	<b>BB.8</b> Complete the square >> <b>BB.9</b> Solve a quadratic equation by completing the square >>
<b>22.3:</b> Using the Quadratic Formula to Solve Equations	<b>BB.10</b> Solve a quadratic equation using the quadratic formula >>
<b>22.4:</b> Choosing a Method for Solving Quadratic Equations	
<b>22.5:</b> Solving Nonlinear Systems	<b>BB.13</b> Systems of linear and quadratic equations >>

# Module 23

## Linear, Exponential, and Quadratic Models

Textbook section	IXL skills
<b>23.1:</b> Modeling with Quadratic Functions	
<b>23.2:</b> Comparing Linear, Exponential, and Quadratic Models	<b>CC.1</b> Identify linear, quadratic, and exponential functions from graphs >> <b>CC.2</b> Identify linear, quadratic, and exponential functions from tables >>



# Module 24

## Functions and Inverses

Textbook section	IXL skills
<b>24.1:</b> Graphing Polynomial Functions	
<b>24.2:</b> Understanding Inverse Functions	
<b>24.3:</b> Graphing Square Root Functions	
<b>24.4:</b> Graphing Cube Root Functions	