



IXL Skill Alignment

Grade 8 alignment for enVision Mathematics Common Core



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Topic 1

Real Numbers

Textbook section	IXL skills
Lesson 1-1: Rational Numbers as Decimals	1. Write a repeating decimal as a fraction WD6 <i>Also consider</i> <ul style="list-style-type: none"> Convert between decimals and fractions or mixed numbers 2RC
Lesson 1-2: Understand Irrational Numbers	1. Identify rational and irrational numbers NV6
Lesson 1-3: Compare and Order Real Numbers	1. Estimate positive square roots XWJ <ul style="list-style-type: none"> <i>Coming soon:</i> Irrational numbers: approximate location on number lines <i>Coming soon:</i> Compare and order real numbers
Lesson 1-4: Evaluate Square Roots and Cube Roots	1. Square roots of perfect squares 9RS 2. Cube roots of positive perfect cubes RYG <i>Also consider</i> <ul style="list-style-type: none"> Relationship between squares and square roots 8W2
Lesson 1-5: Solve Equations Using Square Roots and Cube Roots	1. Solve equations using square roots NNA 2. Solve equations using cube roots TQ5 <i>Also consider</i> <ul style="list-style-type: none"> Positive and negative square roots 8TF Cube roots of positive and negative perfect cubes J7K
Lesson 1-6: Use Properties of Integer Exponents	1. Multiplication with exponents EQY 2. Division with exponents J8J 3. Power rule BVZ
Lesson 1-7: More Properties of Integer Exponents	1. Understanding negative exponents YBB 2. Evaluate negative and zero exponents 5MA 3. Evaluate expressions using properties of exponents UTY

Also consider

- Identify equivalent expressions involving exponents I VLM
- Identify equivalent expressions involving exponents II QDM

Lesson 1-8: Use Powers of 10 to Estimate Quantities

- *Coming soon:* Estimate very large or very small quantities

Lesson 1-9: Understand Scientific Notation

1. Convert between standard and scientific notation H8A
2. Scientific notation on calculators 62V

Also consider

- Compare numbers written in scientific notation RHT

Lesson 1-10: Operations with Numbers in Scientific Notation

1. Add and subtract numbers written in scientific notation HUR
2. Multiply numbers written in scientific notation YZU
3. Divide numbers written in scientific notation SGT

Checkpoint opportunity

1. Checkpoint: Rational and irrational numbers SNE
2. Checkpoint: Approximate irrational numbers JHR
3. Checkpoint: Integer exponents GEJ
4. Checkpoint: Square and cube roots UF5
5. Checkpoint: Scientific notation D2U

Topic 2

Analyze and Solve Linear Equations

Textbook section	IXL skills
Lesson 2-1: Combine Like Terms to Solve Equations	<ol style="list-style-type: none"> Solve equations involving like terms Q2B
Lesson 2-2: Solve Equations with Variables on Both Sides	<ol style="list-style-type: none"> Solve equations with variables on both sides ZYL <ul style="list-style-type: none"> <i>Coming soon:</i> Solve equations with variables on both sides: fractional coefficients <i>Coming soon:</i> Solving equations with variables on both sides: word problems
Lesson 2-3: Solve Multistep Equations	<ol style="list-style-type: none"> Solve equations with the distributive property 8RP Solve multi-step equations 55K <ul style="list-style-type: none"> <i>Coming soon:</i> Solve multi-step equations with fractional coefficients <p><i>Also consider</i></p> <ul style="list-style-type: none"> Solve equations: mixed review HZZ Solve equations: complete the solution PGH
Lesson 2-4: Equations with No Solutions or Infinitely Many Solutions	<ol style="list-style-type: none"> Find the number of solutions XDE Create equations with no solutions or infinitely many solutions 7TY
Lesson 2-5: Compare Proportional Relationships	<ul style="list-style-type: none"> <i>Coming soon:</i> Compare proportional relationships represented in different ways <p><i>Also consider</i></p> <ul style="list-style-type: none"> Unit rates 59J Find the constant of proportionality from tables and graphs G9B Interpret graphs of proportional relationships Q96

Lesson 2-6: Connect Proportional Relationships and Slope

1. Graph proportional relationships and find the slope MQD

Also consider

- Find the slope from two points ZAC
- Find a missing coordinate using slope R5P

Lesson 2-7: Analyze Linear Equations: $y = mx$

1. Write equations for proportional relationships from graphs BSV
2. Graph proportional relationships from equations C6X

Also consider

- Write equations for proportional relationships from tables S69
- Write and solve equations for proportional relationships HPM

Lesson 2-8: Understand the y -Intercept of a Line

- *Coming soon:* Interpret the slope and y -intercept of a linear function

Lesson 2-9: Analyze Linear Equations: $y = mx + b$

1. Write a linear equation from a scenario Q79
2. Graph a line from an equation in slope-intercept form W5E
3. Write a linear equation from a graph WHM

Also consider

- Find the slope of a graph D7M
- Graph a line using slope FSV

Checkpoint opportunity

1. Checkpoint: Solve linear equations BBZ
2. Checkpoint: Proportional relationships 58H

Topic 3

Use Functions to Model Relationships

Textbook section	IXL skills
Lesson 3-1: Understand Relations and Functions	<ol style="list-style-type: none"> 1. Identify functions from ordered pairs, arrow diagrams, and tables GCT
Lesson 3-2: Connect Representations of Functions	<ol style="list-style-type: none"> 1. Identify functions: graphs AEB 2. Complete a table for a linear function D9B 3. Complete a table and graph a linear function DC2 <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Find values using function graphs 7N2 • Complete a table for a function graph 7EK • Does (x, y) satisfy the linear function? 5BD • Does (x, y) satisfy the nonlinear function? ZG9
Lesson 3-3: Compare Linear and Nonlinear Functions	<ol style="list-style-type: none"> 1. Compare linear functions: tables, graphs, and equations N7D 2. Identify linear and nonlinear functions 5J5 <ul style="list-style-type: none"> • <i>Coming soon:</i> Compare linear functions: word problems <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Evaluate a linear function LNV • Constant rate of change ZPF
Lesson 3-4: Construct Functions to Model Linear Relationships	<ol style="list-style-type: none"> 1. Write a linear equation from two points 2R9 2. Write a linear function from a table UYY 3. Write linear functions: word problems YK6 <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Write a linear equation from a slope and a point VKP • Interpret points on the graph of a linear function 9E8
Lesson 3-5: Intervals of Increase and Decrease	<ul style="list-style-type: none"> • <i>Coming soon:</i> Determine where a function is increasing, decreasing, or constant

Lesson 3-6: Sketch Functions from Verbal Descriptions

- *Coming soon:* Sketch a graph given a description of a function

Checkpoint opportunity

1. Checkpoint: Understand functions 6NP
2. Checkpoint: Compare functions XQJ
3. Checkpoint: Linear and nonlinear functions JKA
4. Checkpoint: Construct and interpret linear functions 3K7
5. Checkpoint: Sketch and describe graphs K7A

Topic 4

Investigate Bivariate Data

Textbook section	IXL skills
Lesson 4-1: Construct and Interpret Scatter Plots	<ol style="list-style-type: none"> 1. Create scatter plots AVL 2. Identify trends with scatter plots GZE 3. Outliers in scatter plots RP8
Lesson 4-2: Analyze Linear Associations	<ul style="list-style-type: none"> • <i>Coming soon:</i> Describe patterns in scatter plots • <i>Coming soon:</i> Identify lines of best fit
Lesson 4-3: Use Linear Models to Make Predictions	<ol style="list-style-type: none"> 1. Make predictions with scatter plots CM7 2. Scatter plots: line of best fit ZQ6
Lesson 4-4: Interpret Two-Way Frequency Tables	<ul style="list-style-type: none"> • <i>Coming soon:</i> Create and interpret two-way frequency tables <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Find probabilities using two-way frequency tables CRV
Lesson 4-5: Interpret Two-Way Relative Frequency Tables	<ul style="list-style-type: none"> • <i>Coming soon:</i> Associations in bivariate data
Checkpoint opportunity	<ol style="list-style-type: none"> 1. Checkpoint: Scatter plots DDR 2. Checkpoint: Lines of best fit DEH 3. Checkpoint: Linear models: interpret and solve 9YQ 4. Checkpoint: Two-way frequency tables HJG

Topic 5

Analyze and Solve Systems of Linear Equations

Textbook section	IXL skills
Lesson 5-1: Estimate Solutions by Inspection	<ol style="list-style-type: none">1. Find the number of solutions to a system of equations UYM <p><i>Also consider</i></p> <ul style="list-style-type: none">• Is (x, y) a solution to the system of equations? N46
Lesson 5-2: Solve Systems by Graphing	<ol style="list-style-type: none">1. Solve a system of equations by graphing WV52. Solve a system of equations by graphing: word problems W9J3. Find the number of solutions to a system of equations by graphing AGZ
Lesson 5-3: Solve Systems by Substitution	<ol style="list-style-type: none">1. Solve a system of equations using substitution J8X2. Solve a system of equations using substitution: word problems 9M8
Lesson 5-4: Solve Systems by Elimination	<ol style="list-style-type: none">1. Solve a system of equations using elimination ZQV2. Solve a system of equations using elimination: word problems Z97 <p><i>Also consider</i></p> <ul style="list-style-type: none">• Solve a system of equations using any method AM5• Solve a system of equations using any method: word problems VHE
Checkpoint opportunity	<ol style="list-style-type: none">1. Checkpoint: Systems of equations MFL

Topic 6

Congruence and Similarity

Textbook section	IXL skills
Lesson 6-1: Analyze Translations	1. Translations: graph the image XUS 2. Translations: find the coordinates RUP <i>Also consider</i> <ul style="list-style-type: none"> Translations: write the rule 6XB
Lesson 6-2: Analyze Reflections	1. Reflections: graph the image QLJ 2. Reflections: find the coordinates AQ8
Lesson 6-3: Analyze Rotations	1. Rotations: graph the image AC9 2. Rotations: find the coordinates HHS <i>Also consider</i> <ul style="list-style-type: none"> Identify reflections, rotations, and translations UYL
Lesson 6-4: Compose Transformations	1. Describe a sequence of transformations XPK <i>Also consider</i> <ul style="list-style-type: none"> Sequences of congruence transformations: graph the image C53
Lesson 6-5: Understand Congruent Figures	<ul style="list-style-type: none"> <i>Coming soon:</i> Identify congruent figures using transformations
Lesson 6-6: Describe Dilations	1. Dilations: graph the image 9T4 2. Dilations: find the coordinates UV9 3. Dilations: scale factor and classification 8NK
Lesson 6-7: Understand Similar Figures	1. Similar figures PWN <ul style="list-style-type: none"> <i>Coming soon:</i> Identify similar figures using transformations
Lesson 6-8: Angles, Lines, and Transversals	1. Transversals of parallel lines: name angle pairs U48

2. Transversals of parallel lines: find angle measures V99

Lesson 6-9: Interior and Exterior Angles of Triangles

1. Find missing angles in triangles JFJ
2. Triangle Angle-Sum Theorem 6Q6
3. Exterior Angle Theorem FMP

Lesson 6-10: Angle-Angle Triangle Similarity

- *Coming soon:* Angle-angle criterion for similarity of triangles

Also consider

- Side lengths and angle measures of similar triangles XED

Checkpoint opportunity**Topic 6**

1. Checkpoint: Triangles and transversals EPV
2. Checkpoint: Congruence transformations CCR
3. Checkpoint: Similarity transformations DYW
4. Checkpoint: Transformations on the coordinate plane WPB

Topics 2-6

5. Checkpoint: Slope and linear equations S7V
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Topic 7

Understand and Apply the Pythagorean Theorem

Textbook section	IXL skills
Lesson 7-1: Understand the Pythagorean Theorem	<ol style="list-style-type: none"> 1. Pythagorean theorem: find the length of the hypotenuse 7ZL 2. Pythagorean theorem: find the missing leg length Y9C 3. Pythagorean theorem: find the missing leg or hypotenuse length MTM
Lesson 7-2: Understand the Converse of the Pythagorean Theorem	<ol style="list-style-type: none"> 1. Converse of the Pythagorean theorem: is it a right triangle? EQZ
Lesson 7-3: Apply the Pythagorean Theorem to Solve Problems	<ol style="list-style-type: none"> 1. Pythagorean theorem: word problems 87U
Lesson 7-4: Find Distance in the Coordinate Plane	<ol style="list-style-type: none"> 1. Find the distance between two points ZBP <p><i>Also consider</i></p> <ul style="list-style-type: none"> • Pythagorean theorem: find the perimeter VGE
Checkpoint opportunity	<ol style="list-style-type: none"> 1. Checkpoint: Pythagorean theorem and its converse 6GQ 2. Checkpoint: Applications of the Pythagorean theorem QWT

Topic 8

Solve Problems Involving Surface Area and Volume

Textbook section	IXL skills
Lesson 8-1: Find Surface Area of Three-Dimensional Figures	<ol style="list-style-type: none">1. Surface area of cylinders UY62. Surface area of cones QSE3. Surface area of spheres NJW
Lesson 8-2: Find Volume of Cylinders	<ol style="list-style-type: none">1. Volume of cylinders 9F3
Lesson 8-3: Find Volume of Cones	<ol style="list-style-type: none">1. Volume of cones YJR
Lesson 8-4: Find Volume of Spheres	<ol style="list-style-type: none">1. Volume of spheres S5M
Checkpoint opportunity	<ol style="list-style-type: none">1. Checkpoint: Volume 9GB