



IXL Skill Alignment

8th grade alignment for STEMscopes Math Tennessee



Use IXL's interactive skill plan to get up-to-date skill alignments, assign skills to your students, and track progress.

www.ixl.com/math/skill-plans/stemscopes-math-tennessee-grade-8

This document includes the IXL® skill alignments to Accelerate Learning's **STEMscopes Math Tennessee** curriculum. IXL provides skill alignments as a service to teachers, students, and parents. The skill alignments are provided by IXL and are not affiliated with, sponsored by, reviewed, approved or endorsed by Accelerate Learning or any other third party. IXL® and IXL Learning® are registered trademarks of IXL Learning, Inc. All other intellectual property rights (e.g., unregistered and registered trademarks and copyrights) are the property of their respective owners.

Scope 1

Integer Exponents

Textbook section	IXL skills
Explore 1: Properties of Integer Exponents	1. Powers with negative bases ZQC 2. Evaluate powers with negative exponents WGS 3. Evaluate powers with negative or zero exponents 5MA <i>Also consider</i> • Evaluate powers EYR • Understanding negative exponents YBB
Explore 2: Multiplying with Exponents	1. Multiply powers: integer bases EQY
Explore 3: Dividing with Exponents	1. Divide powers: integer bases M2C <i>Also consider</i> • Multiply and divide powers: integer bases L2J
Explore 4: Exponential Powers	1. Power of a power: integer bases AEQ 2. Identify equivalent expressions involving exponents I VLM 3. Identify equivalent expressions involving exponents II QDM <i>Also consider</i> • Evaluate expressions using properties of exponents UTY
Checkpoint opportunity	1. Checkpoint: Properties of exponents GEJ



Scope 2

Square Roots and Cube Roots

Textbook section	IXL skills
Explore 1: Square Roots and Perfect Squares	1. Square roots of perfect squares 9RS 2. Positive and negative square roots 8TF 3. Relationship between squares and square roots 8W2 4. Solve equations using square roots NNA <i>Also consider</i> Identify rational and irrational square roots UGE
Explore 2: Cube Roots and Perfect Cubes	1. Cube roots of positive perfect cubes RYG 2. Cube roots of positive and negative perfect cubes J7K 3. Solve equations using cube roots TQ5
Checkpoint opportunity	1. Checkpoint: Square and cube roots UF5

Scope 3

Irrational Numbers

Textbook section	IXL skills
Explore 1: Irrational Numbers vs. Rational Numbers	1. Identify rational and irrational numbers NV6 2. Classify numbers VR7
Explore 2: Decimal Expansion	1. Convert between decimals and fractions or mixed numbers 2RC 2. Convert between repeating decimals and fractions WD6
Explore 3: Locate and Compare Irrational Numbers on a Number Line	1. Estimate positive square roots XWJ 2. Irrational numbers on number lines 83E
Explore 4: Estimate and Compare Irrational Number Expressions	1. Compare and order rational and irrational numbers EED 2. Estimate positive and negative square roots 96T
Checkpoint opportunity	1. Checkpoint: Rational and irrational numbers SNE 2. Checkpoint: Approximate irrational numbers JHR



Scope 4

Scientific Notation

Textbook section	IXL skills
Explore 1: Writing in Scientific Notation	1. Convert between standard and scientific notation H8A
Explore 2: Estimating Numbers and Scientific Notation	
Explore 3: Comparing Numbers in Scientific Notation	1. Compare numbers written in scientific notation RHT
Checkpoint opportunity	1. Checkpoint: Scientific notation ZKY

Scope 5

Operations with Scientific Notation

Textbook section	IXL skills
Explore 1: Adding and Subtracting with Scientific Notation	1. Add and subtract numbers written in scientific notation HUR
Explore 2: Multiplying with Scientific Notation	1. Multiply numbers written in scientific notation YZU
Explore 3: Dividing with Scientific Notation	1. Divide numbers written in scientific notation SGT <i>Also consider</i> Scientific notation on calculators 62V
Checkpoint opportunity	1. Checkpoint: Scientific notation D2U

Scope 6

Solving Linear Equations

Textbook section	IXL skills
Explore 1: Solve Equations with Variables on Both Sides	- Which x satisfies an equation? BVQ - Solve equations with variables on both sides ZYL - Solve equations with variables on both sides: word problems BRX
Explore 2: One-Variable Equations	- Find the number of solutions XDE <i>Also consider</i> - Create equations with no solutions or infinitely many solutions 7TY
Explore 3: Solving Equations with Rational Coefficients	Solve equations with variables on both sides: fractional coefficients UEM
Explore 4: Distributive Property	- Solve equations using the distributive property 8RP - Solve multi-step equations 55K - Solve multi-step equations with fractional coefficients 2AZ <i>Also consider</i> - Solve equations: mixed review HZZ - Solve multi-step equations: complete the solution PGH
Checkpoint opportunity	Checkpoint: Solve linear equations BBZ

Scope 7

Proportional Relationships

Textbook section	IXL skills
Explore 1: Graph Proportional Relationships	- Find the constant of proportionality from a graph YMH - Write and solve equations for proportional relationships HPM - Proportional relationships: complete a table and make a graph 27Q
Explore 2: Compare Proportional Relationships	- Graph proportional relationships and find the slope MQD - Compare proportional relationships represented in different ways LLL <i>Also consider</i> - Interpret graphs of proportional relationships Q96
Explore 3: Similar Triangles	Find the slope from two points ZAC
Explore 4: Slope	- Slope-intercept form: find the slope and y-intercept U55 - Write a linear equation from a slope and y-intercept WHP - Write a linear equation from a graph WHM <i>Also consider</i> - Graph a line using slope FSV
Checkpoint opportunity	- Checkpoint: Proportional relationships 58H - Checkpoint: Slope and linear equations S7V

Scope 8

Solving Pairs of Linear Equations

Textbook section	IXL skills
Explore 1: Graph Pairs of Linear Equations	1. Is (x, y) a solution to the system of equations? N46 2. Solve a system of equations by graphing WV5 3. Find the number of solutions to a system of equations by graphing AGZ
Explore 2: Analyzing Systems of Linear Equations	1. Solve a system of equations by graphing: word problems W9J 2. Find the number of solutions to a system of equations UYM
Explore 3: Solving with Substitution	1. Solve a system of equations using substitution J8X <i>Also consider</i> • Solve a system of equations using substitution: word problems 9M8
Explore 4: Solving with Elimination	1. Solve a system of equations using elimination ZQV <i>Also consider</i> • Solve a system of equations using elimination: word problems Z97
Checkpoint opportunity	1. Checkpoint: Systems of equations MFL



Scope 9

Functions

Textbook section	IXL skills
Explore 1: Understand Functions on a Graph	1. Identify functions ELJ 2. Identify functions: graphs AEB
Explore 2: Understand Functions on a Table	1. Identify functions: tables ACC <i>Also consider</i> Input/output tables: find the rule 72L



Scope 10

Compare Functions

Textbook section	IXL skills
Explore 1: Compare Functions in the Same Form	1. Find the slope from a table GSB
Explore 2: Compare Functions in Different Forms	1. Compare linear functions: graphs and equations BQQ 2. Compare linear functions: tables, graphs, and equations N7D
Explore 3: Linear vs. Nonlinear Functions	1. Identify linear and nonlinear functions: graphs and equations XB8 2. Identify linear and nonlinear functions: tables VGS
Checkpoint opportunity	1. Checkpoint: Compare linear functions XQJ 2. Checkpoint: Linear and nonlinear functions JKA

Scope 11

Rate of Change

Textbook section	IXL skills
Explore 1: Determine the y-Intercept	1. Identify independent and dependent variables in tables and graphs ZJK <i>Also consider</i> • Identify independent and dependent variables FSF
Explore 2: Determine the Rate of Change	1. Find the slope from a graph D7M 2. Rate of change of a linear function: graphs ZPF
Explore 3: Interpret the Rate of Change and y-Intercept	1. Write linear functions: word problems YK6 2. Interpret the slope and y-intercept of a linear function H5B



Scope 12

Model Function Relationships

Textbook section	IXL skills
Explore 1: Analyzing Graphs	1. Rate of change: graphs 66M
Explore 2: Sketching Graphs	1. Identify graphs: word problems HWC
Checkpoint opportunity	1. Checkpoint: Sketch and describe graphs K7A

Scope 13

Transformations

Textbook section	IXL skills
Explore 1: Identifying Transformations	1. Identify reflections, rotations, and translations UYL
Explore 2: Rotations, Reflections, and Translations	1. Congruence statements and corresponding parts LPP 2. Describe a sequence of transformations XPK <i>Also consider</i> • Translations: graph the image XUS • Reflections over the x- and y-axes: graph the image 74Z • Reflections: graph the image NBM • Rotations: graph the image AC9
Explore 3: Dilations	1. Identify similar rectangles MVM 2. Dilations: graph the image 9T4 3. Dilations: find the scale factor 8NK
Explore 4: Multiple Transformations	1. Describe transformations VAY 2. Sequences of congruence transformations: choose the sequence WBS



Scope 14

Congruence and Similarity

Textbook section	IXL skills
Explore 1: Congruence	1. Sequences of congruence transformations: graph the image C53 2. Identify congruent figures 96U 3. Determine if two figures are congruent: justify your answer HJU <i>Also consider</i> • Translations: find the coordinates RUP • Reflections: find the coordinates KUX • Rotations: find the coordinates HHS
Explore 2: Similarity	1. Identify similar triangles 6PD <i>Also consider</i> • Dilations: find the coordinates UV9
Checkpoint opportunity	1. Checkpoint: Congruence transformations CCR

Scope 15

Angles

Textbook section	IXL skills
Explore 1: Interior Angles of Triangles	- Find missing angles in triangles JFJ - Triangle Angle-Sum Theorem 6Q6
Explore 2: Exterior Angles of Triangles	Exterior Angle Theorem FMP
Explore 3: Transversals	- Identify alternate interior and alternate exterior angles 8EM - Transversals of parallel lines: name angle pairs ZLF - Transversals of parallel lines: find angle measures V99 - Transversals of parallel lines: solve for x MWL
Explore 4: Angle-Angle Similarity	Angle-angle criterion for similar triangles TYZ
Checkpoint opportunity	Checkpoint: Triangles and transversals EPV

Scope 16

Pythagorean Theorem

Textbook section	IXL skills
Explore 1: Modeling the Pythagorean Theorem and the Converse of the Pythagorean Theorem	1. Converse of the Pythagorean theorem: is it a right triangle? EQZ
Explore 2: Finding an Unknown Side Length in Right Triangles	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 <i>Also consider</i> • Pythagorean theorem: find the perimeter VGE • Pythagorean theorem: word problems 87U
Explore 3: The Pythagorean Theorem in Rectangular Prisms	
Explore 4: The Pythagorean Theorem on a Coordinate Grid	1. Find the distance between two points ZBP
Checkpoint opportunity	1. Checkpoint: Pythagorean theorem and its converse 6GQ 2. Checkpoint: Applications of the Pythagorean theorem QWT

Scope 17

Volume

Textbook section	IXL skills
Explore 1: Cylinders	- Volume of cylinders 8MB <i>Also consider</i> - Volume of cylinders: find the missing dimension XDD
Explore 2: Cones	- Volume of cones RAU <i>Also consider</i> - Volume of cones: find the missing dimension AFV
Explore 3: Spheres	Volume of spheres QX7
Checkpoint opportunity	Checkpoint: Volume 9GB

Scope 18

Patterns in Bivariate Data

Textbook section	IXL skills
Explore 1: Bivariate Data	1. Predictions and trends in scatter plots GZE 2. Outliers in scatter plots RP8 3. Create scatter plots AVL
Explore 2: Lines of Fit	1. Identify lines of best fit BG7
Explore 3: Linear Equations	1. Write equations for lines of best fit ZQ6 2. Interpret lines of best fit: word problems 9DW
Explore 4: Interpret Data	1. Find probabilities using two-way frequency tables CRV 2. Create and interpret two-way frequency tables HSY
Checkpoint opportunity	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