



IXL Skill Alignment

Geo alignment for HMH Texas

This document includes the IXL skill alignments to Houghton Mifflin Harcourt's **HMH Texas**. IXL provides skill alignments as a service to teachers, students, and parents. The following skill alignments are not affiliated with, sponsored by, or endorsed by the publisher of the referenced textbook. IXL and IXL Learning are registered trademarks of IXL Learning, Inc. All other trademarks and registered trademarks are the property of their respective owners.

Module 1

Tools of Geometry

Textbook section	IXL skills
1.1: Segment Length and Midpoints	B.1 Lines, line segments, and rays >> B.3 Additive property of length >> B.7 Midpoint formula - find the midpoint >> B.9 Distance formula >>
1.2: Angle Measures and Angle Bisectors	C.1 Angle vocabulary >> C.2 Angle measures >> C.5 Angle bisectors >>
1.3: Representing and Describing Transformations	L.1 Classify congruence transformations >>
1.4: Reasoning and Proof	I.1 Identify hypotheses and conclusions >> I.2 Counterexamples >> I.3 Conditionals >>
1.5: Related Conditionals	I.5 Converses, inverses, and contrapositives >> I.6 Biconditionals >>

Module 2

Transformations and Symmetry

Textbook section	IXL skills
2.1: Translations	L.2 Translations: graph the image >>
	L.3 Translations: find the coordinates >>
	L.4 Translations: write the rule >>
2.2: Reflections	L.5 Reflections: graph the image >>
	L.6 Reflections: find the coordinates >>
2.3: Rotations	L.8 Rotations: graph the image >>
	L.9 Rotations: find the coordinates >>
2.4: Investigating Symmetry	O.1 Line symmetry >>
	O.2 Rotational symmetry >>
	O.3 Draw lines of symmetry >>
	O.4 Count lines of symmetry >>

Module 3

Congruent Figures

Textbook section	IXL skills
3.1: Sequences and Transformations	L.10 Compositions of congruence transformations: graph the image >>
	L.12 Congruence transformations: mixed review >>
<hr/>	
3.2: Proving Figures Are Congruent Using Rigid Motions	
<hr/>	
3.3: Corresponding Parts of Congruent Figures Are Congruent	J.1 Congruence statements and corresponding parts >>
	J.2 Solve problems involving corresponding parts >>

Module 4

Lines and Angles

Textbook section	IXL skills
4.1: Angles Formed by Intersecting Lines	C.3 Identify complementary, supplementary, vertical, adjacent, and congruent angles >>
	C.4 Find measures of complementary, supplementary, vertical, and adjacent angles >>
4.2: Transversals and Parallel Lines	D.3 Transversals: name angle pairs >>
	D.4 Transversals of parallel lines: find angle measures >>
4.3: Proving Lines Are Parallel	D.6 Proofs involving parallel lines I >>
4.4: Perpendicular Lines	C.8 Proofs involving angles >>
	D.2 Construct a perpendicular line >>
4.5: Equations of Parallel and perpendicular Lines	E.2 Slopes of lines >>
	E.5 Slopes of parallel and perpendicular lines >>
	E.6 Equations of parallel and perpendicular lines >>

Module 5

Triangle Congruence Criteria

Textbook section	IXL skills
5.1: Exploring What Makes Triangles Congruent	
5.2: ASA Triangle Congruence	
5.3: SAS Triangle Congruence	
5.4: SSS Triangle Congruence	K.1 SSS and SAS Theorems >> K.2 Proving triangles congruent by SSS and SAS >>

Module 6

Applications of Triangle Congruence

Textbook section	IXL skills
6.1: Justifying Constructions	
6.2: AAS Triangle Congruence	K.3 ASA and AAS Theorems >> K.4 Proving triangles congruent by ASA and AAS >> K.5 SSS, SAS, ASA, and AAS Theorems >> K.7 Proving triangles congruent by SSS, SAS, ASA, and AAS >>
6.3: HL Triangle Congruence	K.11 Hypotenuse-Leg Theorem >>

Module 7

Properties of Triangles

Textbook section	IXL skills
7.1: Interior and Exterior Angles	F.2 Triangle Angle-Sum Theorem >> F.3 Exterior Angle Theorem >> G.2 Interior angles of polygons >>
7.2: Isosceles and Equilateral Triangles	K.9 Congruency in isosceles and equilateral triangles >> K.10 Proofs involving isosceles triangles >>
7.3: Triangle Inequalities	M.4 Angle-side relationships in triangles >> M.5 Triangle Inequality Theorem >>

Module 8

Special Segments in Triangles

Textbook section	IXL skills
8.1: Perpendicular Bisectors of Triangles	M.2 Triangles and bisectors >>
8.2: Angle Bisectors of Triangles	C.5 Angle bisectors >> M.6 Construct the circumcenter or incenter of a triangle >>
8.3: Medians and Altitudes of Triangles	M.3 Identify medians, altitudes, angle bisectors, and perpendicular bisectors >> M.7 Construct the centroid or orthocenter of a triangle >>
8.4: Midsegments of Triangles	M.1 Midsegments of triangles >>

Module 9

Properties of Quadrilaterals

Textbook section	IXL skills
9.1: Properties of Parallelograms	N.4 Properties of parallelograms >>
9.2: Conditions for Parallelograms	N.5 Proving a quadrilateral is a parallelogram >>
9.3: Properties of Rectangles, Rhombuses, and Squares	N.6 Properties of rhombuses >> N.7 Properties of squares and rectangles >>
9.4: Conditions for Rectangles, Rhombuses and Squares	
9.5: Properties and Conditions for Kites and Trapezoids	N.8 Properties of trapezoids >> N.9 Properties of kites >> N.10 Review: properties of quadrilaterals >> N.11 Proofs involving quadrilaterals I >> N.12 Proofs involving quadrilaterals II >>

Module 10

Coordinate Proof Using Slope and Distance

Textbook section	IXL skills	
10.1: Slope and Parallel Lines		
10.2: Slope and Perpendicular Lines		
10.3: Coordinate Proof Using Distance with Segments and Triangles	K.6	SSS Theorem in the coordinate plane >>
10.4: Coordinate Proof Using Distance with Quadrilaterals		
10.5: Perimeter and Area on the Coordinate Plane	S.5	Area and perimeter in the coordinate plane I >>
	S.6	Area and perimeter in the coordinate plane II >>

Module 11

Similarity and Transformations

Textbook section	IXL skills
11.1: Dilations	L.13 Dilations: graph the image >> L.15 Dilations: scale factor and classification >>
11.2: Proving Figures Are Similar Using Transformations	L.14 Dilations: find the coordinates >> P.8 Similar triangles and similarity transformations >> P.9 Similarity of circles >>
11.3: Corresponding Parts of Similar Figures	P.1 Similarity ratios >> P.2 Similarity statements >> P.4 Side lengths and angle measures in similar figures >>
11.4: AA Similarity of Triangles	P.7 Similarity rules for triangles >>

Module 12

Using Similar Triangles

Textbook section	IXL skills
12.1: Triangle Proportionality Theorem	P.10 Triangle Proportionality Theorem >> P.13 Prove proportions or angle congruences using similarity >>
12.2: Subdividing a Segment in a Given Ratio	
12.3: Using Proportional Relationships	P.5 Similar triangles and indirect measurement >>
12.4: Similarity in Right Triangles	P.12 Prove similarity statements >> P.14 Proofs involving similarity in right triangles >> P.15 Prove the Pythagorean theorem >>

Module 13

Trigonometry with Right Triangles

Textbook section	IXL skills
13.1: Tangent Ratio	
13.2: Sine and Cosine Ratios	R.1 Trigonometric ratios: sin, cos, and tan >>
13.3: Special Right Triangles	Q.4 Special right triangles >>
	R.8 Trigonometric ratios: find a side length >>
	R.9 Trigonometric ratios: find an angle measure >>
13.4: Problem Solving with Trigonometry	R.10 Solve a right triangle >>

Module 14

Angles and Segments in Circles

Textbook section	IXL skills
14.1: Central Angles and Inscribed Angles	U.1 Parts of a circle >> U.2 Central angles >> U.9 Inscribed angles >>
14.2: Angles in Inscribed Quadrilaterals	U.11 Angles in inscribed quadrilaterals I >> U.12 Angles in inscribed quadrilaterals II >>
14.3: Tangents and Circumscribed Angles	U.7 Tangent lines >> U.13 Construct a tangent line to a circle >>
14.4: Segment Relationships in Circles	U.6 Arcs and chords >>
14.5: Angle Relationships in Circles	

Module 15

Arc Length and Sector Area

Textbook section	IXL skills
15.1: Justifying Circumference and Area of a Circle	S.7 Area and circumference of circles >>
15.2: Arc Length and Radian Measure	U.3 Arc measure and arc length >>
15.3: Sector Area	U.4 Area of sectors >>
15.4: Equation of a Circle	V.1 Find the center of a circle >> V.2 Find the radius or diameter of a circle >> V.3 Write equations of circles in standard form from graphs >> V.4 Write equations of circles in standard form using properties >> V.5 Convert equations of circles from general to standard form >> V.6 Find properties of circles from equations in general form >> V.7 Graph circles from equations in standard form >>

Module 16

Volume Formulas

Textbook section	IXL skills
16.1: Volume of Prisms and Cylinders	T.4 Volume of prisms and cylinders >>
16.2: Volume of Pyramids	
16.3: Volume of Cones	T.5 Volume of pyramids and cones >>
16.4: Volume of Spheres	

Module 17

Visualizing Solids

Textbook section	IXL skills
17.1: Cross-Sections and Solids of Rotation	H.4 Cross-sections of three-dimensional figures >> H.5 Solids of revolution >>
17.2: Surface Area of Prisms and Cylinders	H.3 Nets and drawings of three-dimensional figures >> T.2 Surface area of prisms and cylinders >>
17.3: Surface Area of Pyramids and Cones	T.3 Surface area of pyramids and cones >>
17.4: Surface Area of Spheres	T.6 Surface area and volume of spheres >>

Module 18

Modeling and Problem Solving

Textbook section	IXL skills
18.1: Perimeter and Area in Problem Solving	S.8 Area of compound figures >> S.9 Area between two shapes >>
18.2: Geometric Probability	X.7 Geometric probability >>
18.3: Scale Factor	S.10 Area and perimeter of similar figures >> T.8 Surface area and volume of similar solids >>
18.4: Regular Polygons	
18.5: Modeling Geometry on a Sphere	

Module 19

Introduction to Probability

Textbook section	IXL skills
19.1: Probability and Set Theory	
19.2: Permutations and Probability	X.4 Counting principle >> X.5 Permutations >>
19.3: Combinations and Probability	X.6 Permutation and combination notation >>
19.4: Mutually Exclusive and Overlapping Events	X.1 Theoretical and experimental probability >>

Module 20

Conditional Probability and Independence of Events

Textbook section	IXL skills
20.1: Conditional Probability	
20.2: Independent Events	
20.3: Dependent Events	X.3 Independent and dependent events >>