

Illustrative Mathematics: Geometry Pacing Guide

Total of 130 days of instruction including the optional lessons

Unit 1 – Constructions & Rigid Transformations (25 days)

Date	Lesson		Standards
__/__/__	Pre-Unit Assessment (Complete on the 1st day of school)		
__/__/__	Constructions	L1: Build It	HSG-CO.A.1, HSG-CO.D.12, HSG-CO.D.13, HSG-MG.A.1, HSG-MG.A.3, HSN-Q.A.1
__/__/__		L2: Constructing Patterns	HSG-CO.A.1, HSG-CO.D.12, HSG-CO.D.13
__/__/__		L3: Construction Techniques 1: Perpendicular Bisectors	HSG-CO.A.1, HSG-CO.A.4, HSG-CO.C.9, HSG-CO.D.12
__/__/__		L4: Construction Techniques 2: Equilateral Triangles	HSG-CO.A.3, HSG-CO.C, HSG-CO.D.12, HSG-CO.D.13
__/__/__		L5: Construction Techniques 3: Perpendicular Lines & Angle Bisectors	HSG-CO.C.9, HSG-CO.D.12, HSG-CO.D.13
__/__/__		L6: Constructions Techniques 4: Parallel & Perpendicular Lines	HSG-CO.A.1, HSG-CO.A.2, HSG-CO.A.4, HSG-CO.D.12
__/__/__		L7: Construction Techniques 5: Squares	HSG-CO.A.3, HSG-CO.D.13
__/__/__		L8: Using Technology for Constructions *Optional Lesson*	HSG-CO.A.1, HSG-CO.D.12, HSG-CO.D.13
__/__/__		L9: Speedy Delivery	HSG-CO.D.12, HSG-MG.A.3, HSN-Q.A.1, HSN-Q.A.2, HSN-Q.A.3
__/__/__	Mid-Unit Assessment		
__/__/__	Rigid Transformations	L10: Rigid Transformations	HSG-CO.A.2, HSG-CO.A.5
__/__/__		L11: Defining Reflections	HSG-CO.A.2, HSG-CO.A.4, HSG-CO.C.10, HSG-CO.C.9
__/__/__		L12: Defining Translations	HSG-CO.A.4, HSG-CO.C
__/__/__		L13: Incorporating Rotations	HSG-CO.A.1, HSG-CO.A.2, HSG-CO.A.5, HSG-CO.B.6, HSN-Q.A.3
__/__/__		L14: Defining Rotations	HSG-CO.A.4, HSN-Q.A.3
__/__/__		L15: Symmetry	HSG-CO.A.2, HSG-CO.A.3
__/__/__		L16: More Symmetry	HSG-CO.A.3

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//_		L17: Working with Rigid Transformations	HSG-CO.A.2, HSG-CO.A.5
//_		L18: Practicing Point by Point Transformations *Optional Lesson*	HSG-CO.A.2, HSG-CO.A.5
//_	Evidence & Proof	L19: Evidence, Angles, and Proof	HSG-CO.C.9
//_		L20: Transformations, Transversals, & Proof	HSG-CO.A.1, HSG-CO.A.2, HSG-CO.C.10, HSG-CO.C.9
//_		L21: One Hundred & Eighty	HSG-CO.A.2, HSG-CO.C.10, HSG-CO.C.9
//_	Designs	L22: Now What Can You Build? *Optional Lesson*	HSG-CO.D.12, HSG-CO.D.13
//_	End-Unit Assessment		

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Unit 2 – Congruence (16 days)

Date		Lesson	Standards
___/___/___	Pre-Unit Assessment (Complete this after the Unit 1 End of Unit Assessment)		
___/___/___	Congruent Triangles	L1: Congruent Parts, Part 1	HSG-CO.A.5, HSG-CO.B.6, HSG-CO.B.7, HSG-CO.C.11
___/___/___		L2: Congruent Parts, Part 2	HSG-CO.B.6, HSG-CO.B.7, HSG-CO.B.8
___/___/___		L3: Congruent Triangles, Part 1	HSG-CO.B.7, HSG-CO.B.8
___/___/___		L4: Congruent Triangles, Part 2	HSG-CO.A.1, HSG-CO.B.8, HSG-CO.C.10, HSG-CO.C.11, HSG-SRT.A.3, HSN-Q.A.3
___/___/___		L5: Points, Segments, & Zigzags	HSG-CO.B.6
___/___/___		L6: Side-Angle-Side Triangle Congruence	HSG-CO.B.8, HSG-CO.C.10, HSG-CO.C.11, HSG-CO.C.9
___/___/___		L7: Angle-Side-Angle Triangle Congruence	HSG-CO.B.8, HSG-CO.C.10, HSG-CO.C.11
___/___/___		L8: The Perpendicular Bisector Theorem	HSG-CO.A.3, HSG-CO.B.8, HSG-CO.C.9
___/___/___		L9: Side-Side-Side Triangle Congruence	HSG-CO.B.8, HSG-CO.C.10, HSG-CO.C.11, HSG-CO.C.9
___/___/___		L10: Practicing Proofs	HSG-CO.C.11, HSG-MG.A.3
___/___/___		L11: Side-Side-Angle (Sometimes) Congruence *Optional Lesson*	
___/___/___	Proofs about Quadrilaterals	L12: Proofs & Quadrilaterals	HSG-CO.C.11
___/___/___		L13: Proofs about Parallelograms	HSG-CO.C.11
___/___/___		L14: Bisect It	HSG-CO.C.9
___/___/___	Putting It All Together	L15: Congruence for Quadrilaterals *Optional Lesson*	HSG-CO.C.11
___/___/___	End-Unit Assessment		

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Unit 3 – Similarity (15 days)

Date		Lesson	Standards
___/___/___	Pre-Unit Assessment (Complete this after the Unit 2 End of Unit Assessment)		
___/___/___	Properties of Dilations	L1: Scale Drawings	HSG-CO.A.2, HSG-GMD.A.3, HSG-MG.A.1, HSG-SRT.A.1, HSG-SRT.A.1.a, HSG-SRT.A.1.b, HSG-SRT.A.2, HSN-Q.A.1, HSN-Q.A.2, HSN-Q.A.3
___/___/___		L2: Scale of the Solar System *Optional Lesson*	HSG-MG.A.3, HSG-SRT.A.2, HSN-Q.A.1
___/___/___		L3: Measuring Dilations	HSG-CO.A.2, HSG-SRT.A.1, HSG-SRT.A.1.b, HSG-SRT.A.2
___/___/___		L4: Dilating Lines & Angles	HSG-SRT.A.1, HSG-SRT.A.1.a, HSG-SRT.A.2, HSG-SRT.A.3
___/___/___		L5: Splitting Triangle Sides with Dilation, Part 1	HSG-CO.C.10, HSG-SRT.B.4
___/___/___	Similarity Transformations & Proportional Relationships	L6: Connecting Similarity & Transformations	HSG-SRT.A.1.b, HSG-SRT.A.2, HSG-SRT.B.5
___/___/___		L7: Reasoning about Similarity with Transformations	HSG-SRT.A.2, HSG-SRT.A.3
___/___/___		L8: Are They All Similar?	HSG-C.A.1, HSG-SRT.A.2, HSG-SRT.C.6
___/___/___		L9: Conditions for Triangle Similarity	HSG-SRT.A.3
___/___/___		L10: Other Conditions for Triangle Similarity *Optional Lesson*	
___/___/___		L11: Splitting Triangle Sides with Dilation, Part 2	HSG-SRT.B.4, HSG-SRT.B.5
___/___/___		L12: Practice with Proportional Relationships *Optional Lesson*	HSG-SRT.B.5, HSN-Q.A.1
___/___/___	Similarity in Right Triangles	L13: Using the Pythagorean Theorem & Similarity	HSG-SRT.B.4, HSG-SRT.B.5
___/___/___		L14: Proving the Pythagorean Theorem	HSA-CED.A.4, HSG-SRT.B.4
___/___/___		L15: Finding All the Unknown Values in Triangles	HSG-SRT.B.5, HSG-SRT.C.8
___/___/___	Putting it All Together	L16: Bank Shot *Optional Lesson*	HSG-SRT.B.5, HSN-Q.A.3
___/___/___	End-Unit Assessment		

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Unit 4 – Right Triangle Trigonometry (11 days)

Date	Lesson		Standards
__/__/__	Pre-Unit Assessment (Complete this after the Unit 3 End of Unit Assessment)		
__/__/__	Angles & Steepness	L1: Angles & Steepness	HSG-MG.A.3, HSG-SRT.B.5, HSG-SRT.C.6, HSG-SRT.C.8, HSN-Q.A.2
__/__/__		L2: Half a Square *Optional Lesson*	HSG-SRT.B.5, HSG-SRT.C.6, HSN-Q.A.3
__/__/__		L3: Half an Equilateral Triangle *Optional Lesson*	HSG-SRT.B.5, HSG-SRT.C.6
__/__/__		L4: Ratios in Right Triangles	HSG-SRT.C.6, HSG-SRT.C.7, HSG-SRT.C.8, HSN-Q.A.3
__/__/__		L5: Working with Ratios in Right Triangles	HSG-SRT.C.6
__/__/__	Defining Trigonometric Ratios	L6: Working with Trigonometric Ratios	HSG-SRT.C.6
__/__/__		L7: Applying Ratios in Right Triangles	HSG-SRT.C, HSG-SRT.C.8, HSN-Q.A.2
__/__/__		L8: Sine & Cosine in the Same Right Triangle	HSG-SRT.C.7
__/__/__		L9: Using Trigonometric Ratios to Find Angles	HSG-MG.A.1, HSG-MG.A.3, HSG-SRT.C.6, HSG-SRT.C.8
__/__/__		L10: Solving Problems with Trigonometry	HSG-GMD.A.1, HSG-SRT.C, HSG-SRT.C.8, HSN-Q.A.2
__/__/__		L11: Approximating Pi	HSG-GMD.A.1, HSG-SRT.C, HSN-Q.A.2
__/__/__	End-Unit Assessment		

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Unit 5 – Solid Geometry (20 days)

Date		Lesson	Standards
___/___/___	Pre-Unit Assessment (Complete this after the Unit 4 End of Unit Assessment)		
___/___/___	Cross Sections, Scaling, & Area	L1: Solids of Rotation	HSG-GMD.B.4
___/___/___		L2: Slicing Solids	HSG-GMD.A.1, HSG-GMD.B.4
___/___/___		L3: Creating Cross Sections by Dilating	HSG-GMD.A.1, HSG-GMD.B.4
___/___/___		L4: Scaling & Area	HSA-SSE.A.1.a, HSF-IF.C.7.b, HSG-GMD, HSG-GMD.A.1
___/___/___		L5: Scaling & Unscaling	HSA-CED.A.2, HSF-IF.C.7.b, HSG-GMD, HSG-GMD.A.1
___/___/___	Scaling Solids	L6: Scaling Solids	HSA-SSE.A.1.a, HSF-IF.C.7.b, HSG-GMD, HSG-GMD.A.1, HSN-Q.A.1
___/___/___		L7: The Root of the Problem	HSA-CED.A.2, HSF-IF.C.7.b, HSG-GMD, HSG-MG.A.3, HSN-Q.A.1
___/___/___		L8: Speaking of Scaling	HSG-GMD, HSG-GMD.A.1, HSG-GMD.B.4, HSG-MG.A.1, HSG-MG.A.3, HSN-Q.A.1
___/___/___	Prism & Cylinder Volumes	L9: Cylinder Volumes	HSA-SSE.A.1.b, HSG-GMD.A.1, HSG-GMD.A.3, HSG-GMD.B.4
___/___/___		L10: Cross Sections & Volume	HSG-GMD.A.1, HSG-GMD.B.4, HSG-MG.A.1
___/___/___		L11: Prisms Practice	HSG-GMD.A.3, HSG-GMD.B.4, HSG-SRT.C.8
___/___/___	Similarity in Right Triangles	L12: Prisms & Pyramids	HSG-GMD.A.1
___/___/___		L13: Building a Volume Formula for a Pyramid	HSG-GMD.A.1
___/___/___		L14: Working with Pyramids	HSG-GMD.A.3, HSG-MG.A.3

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//_		L15: Putting All the Solids Together	HSG-GMD.A.3, HSG-GMD.B.4
//_	Putting It All Together	L16: Surface Area & Volume	HSG-GMD.A.3, HSG-MG.A.1, HSG-MG.A.3
//_		L17: Volume & Density	HSG-MG.A.2, HSN-Q.A.1
//_		L18: Volume & Graphing	HSF-IF.C.7.b, HSG-MG.A.1, HSG-MG.A.3
//_	End-Unit Assessment		

Unit 6 – Coordinate Geometry (18 days)

Date		Lesson	Standards
//_	Pre-Unit Assessment <u>(Complete this after the Unit 5 End of Unit Assessment)</u>		

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//_	Transformations in the Plane	L1: Rigid Transformations in the Plane	HSG-CO.A.2, HSG-CO.A.5, HSG-CO.B
//_		L2: Transformations as Functions	HSG-CO.A.2, HSG-CO.A.5
//_		L3: Types of Transformations	HSG-CO.A.2, HSG-CO.A.5, HSG-GPE.B.7, HSG-SRT.B.5
//_	Distances, Circles, & Parabolas	L4: Distances & Circles	HSG-CO.A.1, HSG-GPE.A.1, HSG-GPE.B.4
//_		L5: Squares & Circles	HSA-SSE.A.2, HSA-SSE.B.3, HSG-GPE.A.1
//_		L6: Completing the Square	HSA-SSE.B.3, HSG-GPE.A.1
//_		L7: Distance & Parabolas	HSG-GPE.A.2, HSG-GPE.B.4
//_		L8: Equations & Graphs	HSA-SSE.A, HSA-SSE.B.3, HSG-GPE.A.2
//_	Mid-Unit Assessment		
//_	Proving Geometric Theorems Algebraically	L9: Equations of Lines	HSA-SSE.A, HSA-SSE.A.1.a, HSG-GPE.B.5
//_		L10: Parallel Lines in the Plane	HSG-GPE.B.4, HSG-GPE.B.5, HSN-Q.A.1
//_		L11: Perpendicular Lines in the Plane	HSG-CO.A.2, HSG-GPE.B.5, HSN-Q.A.1
//_		L12: It's All on the Line	HSA-CED.A.2, HSA-CED.A.4, HSG-GPE.B.5
//_		L13: Intersection Points	HSA-REI.C.7, HSG-GPE.B.5
//_		L14: Coordinate Proof	HSG-C.A.2, HSG-GPE.B.4, HSG-GPE.B.5, HSG-GPE.B.7
//_		L15: Weighted Averages	HSA-SSE.A.1.a, HSG-CO.A.2, HSG-GPE.B.6
//_		L16: Weighted Averages in a Triangle	HSG-CO.C.10, HSG-GPE.B.4, HSG-GPE.B.6, HSN-Q.A.1
//_	Putting it All Together	L17: Lines in Triangles *Optional Lesson*	HSG-CO.C.10, HSG-GPE.B.4, HSG-GPE.B.5
//_	End-Unit Assessment		

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Unit 7 – Circles (14 days)

Date	Lesson		Standards
___/___/___	Pre-Unit Assessment (Complete this after the Unit 6 End of Unit Assessment)		
___/___/___	Lines, Angles, & Circles	L1: Lines, Angles, & Curves	HSG-C.A.2, HSG-SRT.B.5
___/___/___		L2: Inscribed Angles	HSG-C.A.2, HSG-SRT.B.5
___/___/___		L3: Tangent Lines	HSG-C.A.2
___/___/___	Polygons & Circles	L4: Quadrilaterals in Circles	HSG-C.A.3
___/___/___		L5: Triangles in Circles*	HSG-C.A.3, HSG-CO.C.10
___/___/___		L6: A Special Point	HSG-C.A.3, HSG-CO.C.10, HSG-CO.C.9, HSG-SRT.B.5
___/___/___		L7: Circles in Triangles	HSG-C.A.3, HSG-CO.C.10
___/___/___	Measuring Circles	L8: Arcs & Sectors	HSA-SSE.A.1.b, HSG-C.B, HSG-C.B.5, HSG-GMD.A.1
___/___/___		L9: Part to Whole	HSG-C.B, HSG-C.B.5
___/___/___		L10: Angles, Arcs, & Radii	HSG-C.B.5, HSG-GMD.A.1
___/___/___		L11: A New Way to Measure Angles	HSA-SSE.A.1.b, HSG-C.B.5
___/___/___		L12: Radian Sense	HSG-C.B.5
___/___/___		L13: Using Radians	HSA-CED.A.2, HSA-SSE.A.1, HSG-C.B.5
___/___/___	Putting It All Together	L14: Putting It All Together* Optional Lesson*	HSG-C.A.2, HSG-C.A.3, HSG-C.B, HSG-MG.A.3, HSG-SRT.C.8
___/___/___	End-Unit Assessment		

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Unit 8 – Conditional Probability (11 days)

Date	Lesson		Standards
__/__/__	Pre-Unit Assessment (Complete this after the Unit 7 End of Unit Assessment)		
__/__/__	Up to Chance	L1: Up to Chance *Optional Lesson*	HSS-CP.A.1
__/__/__		L2: Playing with Probability	HSS-CP.A.1
__/__/__		L3: Sample Spaces	HSS-CP.A.1, HSS-CP.A.2
__/__/__		L4: Tables of Relative Frequencies	HSS-CP.A.4, HSS-ID.B.5
__/__/__	Combining Events	L5: Combining Events	HSS-CP.A.1, HSS-CP.A.2
__/__/__		L6: The Addition Rule	HSS-CP.A.1, HSS-CP.B.7
__/__/__	Related Events	L7: Related Events	HSS-CP.A.2, HSS-CP.A.4, HSS-CP.A.5
__/__/__		L8: Conditional Probability	HSS-CP.A.3, HSS-CP.B.6
__/__/__		L9: Using Tables for Conditional Probability	HSS-CP.A.4
__/__/__		L10: Using Probability to Determine Whether Events Are Independent	HSS-CP.A.2, HSS-CP.A.3, HSS-CP.A.4, HSS-CP.A.5
__/__/__	Conditional Probability	L11: Probabilities in Games *Optional Lesson*	HSS-CP.A.2, HSS-CP.A.3, HSS-CP.A.5, HSS-CP.B.6
__/__/__	End-Unit Assessment		

Modeling Prompts

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MODELING PROMPT 1

Modeling Prompt 0

Use after Unit 1, Lesson 1

MODELING PROMPT 2

The Garden Wall

Use after Unit 1, Lesson 1

- 7.G.B.6
- HSG-MG.A.1
- HSG-MG.A.3
- HSN-Q.A.1

MODELING PROMPT 3

2,000 Calories

Use after Unit 1, Lesson 9

- HSG-CO.D.12
- HSG-MG.A.3
- HSN-Q.A.1
- HSN-Q.A.2
- HSN-Q.A.3

MODELING PROMPT 4

How Much Water?

Use after Unit 3, Lesson 1

- 7.G.B.6
- HSG-GMD.A.3
- HSG-MG.A.1
- HSN-Q.A.1
- HSN-Q.A.2
- HSN-Q.A.3