Standards Correlations

Each lesson in this *Georgia Standards of Excellence Geometry Program* was developed specifically to address the GSE and its Geometry Curriculum Map and Comprehensive Course Overview. Each lesson lists the standards covered in all the sub-lessons, and each sub-lesson lists the standards addressed in that particular section. In this section, you'll find a comprehensive list mapping the sub-lessons to the GSE.

Guide to Georgia Standards of Excellence Annotation

As you use this program, you will come across symbols included with the standards for some of the lessons and activities. These symbols are explained below.

Symbol: ⋆

Denotes: Modeling Standards

Modeling is best interpreted not as a collection of isolated topics but rather in relation to other standards. Making mathematical models is a Standard for Mathematical Practice, and specific modeling standards appear throughout the high school standards indicated by a star symbol (⋆).

From http://www.walch.com/CCSS/00003

Symbol: (+)

Denotes: College and Career Readiness Standards

Advanced mathematics standards that are required in higher-level courses such as advanced statistics may also be included in lower-level courses. These additional standards are denoted by (+). According to the Common Core State Standards Initiative, "the evidence concerning college and career readiness shows clearly that the knowledge, skills, and practices important for readiness include a great deal of mathematics prior to the boundary defined by (+) symbols in these standards. Indeed, some of the highest priority content for college and career readiness comes from Grades 6–8."

From http://www.walch.com/CCSS/00004

GSE GEOMETRY STANDARDS CORRELATIONS

Unit 1: Transformations in the Coordinate Plane			
Lesson	**Sub-lesson number**	**Title**	**Standard(s)**
Lesson 1	**Introducing Transformations**		
	1.1.1	Defining Terms	MGSE9–12.G.CO.1
	1.1.2	Transformations As Functions	MGSE9–12.G.CO.2
	1.1.3	Applying Lines of Symmetry	MGSE9–12.G.CO.3
Lesson 2	**Rotations, Reflections, and Translations**		
	1.2.1	Defining Rotations, Reflections, and Translations	MGSE9–12.G.CO.4
	1.2.2	Applying Rotations, Reflections, and Translations	MGSE9–12.G.CO.5

GSE GEOMETRY STANDARDS CORRELATIONS

Unit 2: Similarity, Congruence, and Proof			
Lesson	**Sub-lesson number**	**Title**	**Standard(s)**
Lesson 1	**Investigating Properties of Dilations**		
	2.1.1	Investigating Properties of Parallelism and the Center	MGSE9–12.G.SRT.1a
	2.1.2	Investigating Scale Factors	MGSE9–12.G.SRT.1b
Lesson 2	**Defining and Applying Similarity**		
	2.2.1	Defining Similarity	MGSE9–12.G.SRT.2
	2.2.2	Applying Similarity Using the Angle-Angle (AA) Criterion	MGSE9–12.G.SRT.3
Lesson 3	**Proving Similarity**		
	2.3.1	Proving Triangle Similarity Using Side-Angle-Side (SAS) and Side-Side-Side (SSS) Similarity	MGSE9–12.G.SRT.4
	2.3.2	Working with Ratio Segments	MGSE9–12.G.SRT.4
	2.3.3	Proving the Pythagorean Theorem Using Similarity	MGSE9–12.G.SRT.4
	2.3.4	Solving Problems Using Similarity and Congruence	MGSE9–12.G.SRT.5
Lesson 4	**Exploring Congruence**		
	2.4.1	Describing Rigid Motions and Predicting the Effects	MGSE9–12.G.CO.6
	2.4.2	Defining Congruence in Terms of Rigid Motions	MGSE9–12.G.CO.6
Lesson 5	**Congruent Triangles**		
	2.5.1	Triangle Congruency	MGSE9–12.G.CO.7
	2.5.2	Triangle Congruence Criteria	MGSE9–12.G.CO.8
Lesson 6	**Proving Theorems About Lines and Angles**		
	2.6.1	Proving the Vertical Angles Theorem	MGSE9–12.G.CO.9
	2.6.2	Proving Theorems About Angles in Parallel Lines Cut by a Transversal	MGSE9–12.G.CO.9

Lesson	Sub-lesson number	Title	Standard(s)
Lesson 7	**Proving Theorems About Triangles**		
	2.7.1	Proving the Interior Angle Sum Theorem	MGSE9–12.G.CO.10
	2.7.2	Proving Theorems About Isosceles Triangles	MGSE9–12.G.CO.10
	2.7.3	Proving the Midsegment of a Triangle	MGSE9–12.G.CO.10
	2.7.4	Proving Centers of Triangles	MGSE9–12.G.CO.10
Lesson 8	**Proving Theorems About Parallelograms**		
	2.8.1	Proving Properties of Parallelograms	MGSE9–12.G.CO.11
	2.8.2	Proving Properties of Special Quadrilaterals	MGSE9–12.G.CO.11
Lesson 9	**Constructing Lines, Segments, and Angles**		
	2.9.1	Copying Segments and Angles	MGSE9–12.G.CO.12
	2.9.2	Bisecting Segments and Angles	MGSE9–12.G.CO.12
	2.9.3	Constructing Perpendicular and Parallel Lines	MGSE9–12.G.CO.12
Lesson 10	**Constructing Polygons**		
	2.10.1	Constructing Equilateral Triangles Inscribed in Circles	MGSE9–12.G.CO.13
	2.10.2	Constructing Squares Inscribed in Circles	MGSE9–12.G.CO.13
	2.10.3	Constructing Regular Hexagons Inscribed in Circles	MGSE9–12.G.CO.13

GSE GEOMETRY STANDARDS CORRELATIONS

Unit 3: Right Triangle Trigonometry			
Lesson	**Sub-lesson number**	**Title**	**Standard(s)**
Lesson 1	**Exploring Trigonometric Ratios**		
	3.1.1	Defining Trigonometric Ratios	MGSE9–12.G.SRT.6
	3.1.2	Exploring Sine and Cosine As Complements	MGSE9–12.G.SRT.7
Lesson 2	**Applying Trigonometric Ratios**		
	3.2.1	Calculating Sine, Cosine, and Tangent	MGSE9–12.G.SRT.8
	3.2.2	Calculating Cosecant, Secant, and Cotangent	MGSE9–12.G.SRT.8
	3.2.3	Problem Solving with the Pythagorean Theorem and Trigonometry	MGSE9–12.G.SRT.8

GSE GEOMETRY STANDARDS CORRELATIONS

Unit 4: Circles and Volume			
Lesson	**Sub-lesson number**	**Title**	**Standard(s)**
Lesson 1	**Introducing Circles**		
	4.1.1	Similar Circles and Central and Inscribed Angles	MGSE9–12.G.C.1 MGSE9–12.G.C.2
	4.1.2	Chord Central Angles Conjecture	MGSE9–12.G.C.2
	4.1.3	Properties of Tangents of a Circle	MGSE9–12.G.C.2
Lesson 2	**Inscribed Polygons and Circumscribed Triangles**		
	4.2.1	Constructing Inscribed Circles	MGSE9–12.G.C.3
	4.2.2	Constructing Circumscribed Circles	MGSE9–12.G.C.3
	4.2.3	Proving Properties of Inscribed Quadrilaterals	MGSE9–12.G.C.3
Lesson 3	**Constructing Tangent Lines**		
	4.3.1	Constructing Tangent Lines	MGSE9–12.G.C.4
Lesson 4	**Finding Arc Lengths and Areas of Sectors**		
	4.4.1	Defining Radians	MGSE9–12.G.C.5
	4.4.2	Deriving the Formula for the Area of a Sector	MGSE9–12.G.C.5
Lesson 5	**Explaining and Applying Area and Volume Formulas**		
	4.5.1	Circumference and Area of a Circle	MGSE9–12.G.GMD.1a
	4.5.2	Volumes of Cylinders, Pyramids, Cones, and Spheres	MGSE9–12.G.GMD.1b MGSE9–12.G.GMD.2 MGSE9–12.G.GMD.3★
Lesson 6	**Relationships Between Two- and Three-Dimensional Objects**		
	4.6.1	Cross Sections and Rotated Shapes	MGSE9–12.G.GMD.4

GSE GEOMETRY STANDARDS CORRELATIONS

Unit 5: Geometric and Algebraic Connections			
Lesson	**Sub-lesson number**	**Title**	**Standard(s)**
Lesson 1	**The Equation of a Circle**		
	5.1.1	Deriving the Equation of a Circle	MGSE9–12.G.GPE.1
	5.1.2	Using Coordinates to Prove Geometric Theorems About Circles	MGSE9–12.G.GPE.4
Lesson 2	**Slope and Distance**		
	5.2.1	Using Coordinates to Prove Geometric Theorems with Slope and Distance	MGSE9–12.G.GPE.4 MGSE9–12.G.GPE.5
	5.2.2	Working with Parallel and Perpendicular Lines	MGSE9–12.G.GPE.5
Lesson 3	**Lines and Line Segments**		
	5.3.1	Calculating Perimeter and Area	MGSE9–12.G.GPE.7★
	5.3.2	Midpoints and Other Points on Line Segments	MGSE9–12.G.GPE.6
Lesson 4	**Geometric Modeling**		
	5.4.1	Density	MGSE9–12.G.MG.2★
	5.4.2	Design	MGSE9–12.G.MG.1★ MGSE9–12.G.MG.3★

GSE GEOMETRY STANDARDS CORRELATIONS

Unit 6: Applications of Probability			
Lesson	**Sub-lesson number**	**Title**	**Standard(s)**
Lesson 1	**Events**		
	6.1.1	Describing Events	MGSE9–12.S-CP.1★
	6.1.2	The Addition Rule	MGSE9–12.S-CP.7★
	6.1.3	Understanding Independent Events	MGSE9–12.S-CP.2★
Lesson 2	**Conditional Probability**		
	6.2.1	Introducing Conditional Probability	MGSE9–12.S-CP.3★ MGSE9–12.S-CP.5★ MGSE9–12.S-CP.6★
	6.2.2	Using Two-Way Frequency Tables	MGSE9–12.S-CP.4★ MGSE9–12.S-CP.5★ MGSE9–12.S-CP.6★