GEOMETRY HONORS SYLLABUS

2017-2018 Academic School-Year

1st Marking Period

Chapter 1: Essentials of Geometry (Test 1.1-1.7)

1.1 Identify Points, Lines, and Planes *(NJSLS-G-CO.A.1)*
2.4 Use Postulates and Diagrams *(NJSLS-G-CO.A.1; NJSLS-G-CO.C.9)*
1.2 Use Segments and Congruence *(NJSLS-G-CO.A.1; NJSLS-G-CO.B.7; NJSLS-A-CED.A.1)*
1.3 Use Midpoint and Distance Formulas *(NJSLS-G-GPE.B.7)*
1.4 Measure and Classify Angles *(NJSLS-G-CO.A.1; NJSLS-G-CO.B.7; NJSLS- G-CO.D.12)*
***Complete Extension: Copy and Bisect Segments and Angles**
1.5 Describe Angle Pair Relationships *(NJSLS-G-CO.A.1)*
1.6 Classify Polygons *(NJSLS-G-MG.A.1)*

Chapter 2: Reasoning and Proof (Test 2.2, 2.3, 2.5-2.7)

2.2 Analyze Conditional Statements *(NJSLS-G-CO.C.9; NJSLS-G-CO.C.10; NJSLS-G-CO.C.11)*
2.3 Apply Deductive Reasoning *(NJSLS-G-CO.C.9; NJSLS-G-CO.C.10; NJSLS-G-CO.C.11)*
2.5 Reason Using Properties from Algebra *(NJSLS-A-REI.A.1; NJSLS-G-CO.C.9; NJSLS-G-CO.C.10; NJSLS-G-CO.C.11)*
2.6 Prove Statements about Segments and Angles *(NJSLS-G-CO.A.1; NJSLS-G-CO.C.9; NJSLS-G-CO.C.10; NJSLS-G-CO.C.11)*
2.7 Prove Angle Pair Relationships
* Prove Vertical Angles Congruence Theorem *(NJSLS-G-CO.C.9)*

Chapter 3: Parallel and Perpendicular Lines (Test 3.1-3.6)

3.1 Identify Pairs of Lines and Angles *(NJSLS-G-CO.A.1; NJSLS- G-CO.C.9; NJSLS-G-CO.D.12)*
*Prove Alternate Interior Angles are Congruent
*Prove Corresponding Angles are Congruent
3.2 Use Parallel Lines and Transversals *(NJSLS-G-CO.C.9)*
3.3 Prove Lines are Parallel *(NJSLS-G-CO.C.9)*
Review 3.4 Find and Use Slopes of Lines *(NJSLS-F-IF.B.5, NJSLS-F-IF.B.6)*
Review 3.5 Write and Graph Equations of Lines *(NJSLS-F-IF.B.5, NJSLS-F-IF.B.6)*
***Complete 3.6 Extension: Parallel and Perpendicular Lines**

2nd Marking Period

Chapter 4: Congruent Triangles (Test 4.1-4.7)

4.1 Apply Triangle Sum Properties *(NJSLS-G-CO.C.10)*
    *Prove Interior Angles of a Triangle Sum to 180º
4.2 Apply Congruence and Triangles *(NJSLS-G-CO.A.2; NJSLS-G-CO.B.6; NJSLS-G-CO.B.7)*
4.3 Prove Triangles Congruent by SSS *(NJSLS-G-GPE.B.4; NJSLS-G-CO.B.7; NJSLS-G-CO.B.8)*
4.4 Prove Triangles Congruent by SAS and HL *(NJSLS-G-CO.B.7; NJSLS-G-CO.B.8)*
4.5 Prove Triangles Congruent by ASA and AAS *(NJSLS-G-CO.B.7; NJSLS-G-CO.B.8)*
4.6 Use Congruent Triangles *(NJSLS-G-CO.D.12)*
4.7 Use Isosceles and Equilateral Triangles *(NJSLS-G-CO.C.10)*
    *Prove Base Angles of Isosceles Triangles are Congruent

Chapter 5: Relationships within Triangles (Test 5.1-5.5)

5.1 Midsegment Theorem and Coordinate Proof *(NJSLS-G-CO.C.10; NJSLS-G-GPE.B.4)*
    *Prove The Segment Joining Midpoints of Two Sides of a Triangle is Parallel to the Third Side and Half the Length
5.2 Use Perpendicular Bisectors *(NJSLS-G-CO.C.9; NJSLS-G-CO.D.12; NJSLS-G-C.A.3)*
    *Prove The Points on The Perpendicular Bisector of a Line Segment are Exactly those Equidistant from the Segment's Endpoints
    ***Include constructing the circle circumscribed about the triangle**
5.3 Use Angle Bisectors of Triangles *(NJSLS-G-C.A.3)*
    ***Include constructing the circle inscribed within the triangle**
5.4 Use Medians and Altitudes *(NJSLS-G-CO.C.10; NJSLS-G-CO.D.12)*
    *Prove The Medians of a Triangle Meet at a Point
5.5 Use Inequalities in a Triangle *(NJSLS-G-CO.B.7)*

Chapter 6: Similarity (Test 6.1-6.5)

6.1 Ratios, Proportions, and the Geometric Mean *(NJSLS-7.RP.A.2.c)*
6.2 Use Proportions to Solve Geometry Problems *(NJSLS-7.RP.A.2.c)*
6.3 Use Similar Polygons *(NJSLS-G-SRT.B.5)*
6.4 Prove Triangles Similar by AA *(NJSLS-G-SRT.A.3)*
6.5 Prove Triangles Similar by SSS and SAS *(NJSLS-G-SRT.A.4)*

Chapter 7: Right Triangles and Trigonometry (Quiz on 7.1-7.3)

    **Complete Page 423 – Solve Quadratic Equations and Simplify Radicals
7.1 Apply the Pythagorean Theorem *(NJSLS-8.G.B.6; NJSLS-8.G.B.7; NJSLS-G-GPE.B.7)*
7.2 Use the Converse of the Pythagorean Theorem *(NJSLS-8.G.B.6; NJSLS-8.G.B.7; NJSLS-G-GPE.B.7)*
7.3 Use Similar Right Triangles *(NJSLS-G-SRT.B.4; NJSLS-G-SRT.B.5)*
    *Prove Pythagorean Theorem using Triangle Similarity #32, Page 455

3rd Marking Period

Chapter 7: Right Triangles and Trigonometry (Test 7.1-7.7)

7.4 Special Right Triangles *(NJSLS-G-SRT.C.6)*

7.5 Apply the Tangent Ratio *(NJSLS-G-SRT.C.6; NJSLS-G-SRT.C.8)*

7.6 Apply the Sine and Cosine Ratios *(NJSLS-G-SRT.C.6; NJSLS-G-SRT.C.8; NJSLS-G-SRT.D.9)*

7.7 Solve Right Triangles *(NJSLS-G-SRT.C.8)*

***Prove Law of Sine and Law of Cosine Extension, Page 490-491 (Advanced and Honors only)** *(NJSLS-G-SRT.D.10; NJSLS-G-SRT.D.11)*

Chapter 8: Quadrilaterals (Test 8.1-8.6)

8.1 Find Angle Measures in Polygons *(NJSLS-8.G.A.5; NJSLS-G-CO.C.11)*

8.2 Use Properties of Parallelograms *(NJSLS-G-CO.C.11)*

*Prove Opposite Sides are Congruent

*Prove Opposite Angles are Congruent

*Prove Diagonals of a Parallelogram Bisect Each Other (and Converse)

8.3 Show that a Quadrilateral is a Parallelogram *(NJSLS-G-CO.C.11; NJSLS-G-SRT.B.5)*

8.4 Properties of Rhombuses, Rectangles, and Squares *(NJSLS-G-CO.C.11; NJSLS-G-SRT.B.5; NJSLS-G-GPE.B.7)*

*Prove Rectangles are Parallelograms with Congruent Diagonals

8.5 Use Properties of Trapezoids and Kites *(NJSLS-G-SRT.B.5; NJSLS-G-GPE.B.7)*

8.6 Identify Special Quadrilaterals *(NJSLS-G-CO.C.11)*

Chapter 9: Properties of Transformations (Test 9.1-9.7)

9.1 Translate figures and Use Vectors *(NJSLS-G-CO.A.2, NJSLS-G-CO.A.4, NJSLS-G-CO.A.5, NJSLS-N-VM.A.1)*

*Include section 4.8 Perform Congruence Transformations

9.2 Use Properties of Matrices *(NJSLS-N-VM.C.7, NJSLS-N-VM.C.8)*

9.3 Perform Reflections *(NJSLS-G-CO.A.2, NJSLS-G-CO.A.4, NJSLS-G-CO.A.5)*

*Include section 4.8 Perform Congruence Transformations

9.4 Perform Rotations *(NJSLS-G-CO.A.2, NJSLS-G-CO.A.4, NJSLS-G-CO.A.5)*

*Include section 4.8 Perform Congruence Transformations

9.5 Apply Compositions of Transformations *(NJSLS-G-CO.A.2, NJSLS-G-CO.A.4, NJSLS-G-CO.A.5)*

9.6 Identify Symmetry *(NJSLS-G-CO.A.5)*

9.7 Identify and Perform Dilations *(NJSLS-G-SRT.A.1.a, NJSLS-G-SRT.A.1.b, NJSLS-G-SRT.A.2)*

*Include section 6.7 Perform Similar Transformations

4th Marking Period

Chapter 10: Properties of Circles (Test 10.1-10.7)

10.1 Use Properties of Tangents *(NJSLS-G-C.A.4, NJSLS-G-CO.A.1, NJSLS-G-CO.D.12)*

***Include constructing a tangent line from a point outside a given circle to the circle**

10.2 Find Arc Measures *(NJSLS-G-CO.A.1, NJSLS-G-C.A.2)*

10.3 Apply Properties of Chords *(NJSLS-G-CO.A.1, NJSLS-G-C.A.2)*

10.4 Use Inscribed Angles and Polygons *(NJSLS-G-CO.A.1, NJSLS-G-C.A.2, NJSLS-G-C.A.3)*

***Include construction of equilateral triangle, square, and a regular hexagon inscribed in a circle**

10.5 Apply Other Angle Relationships in Circles *(NJSLS-G-CO.A.1, NJSLS-G-C.A.2)*

10.6 Find Segment Lengths in Circles *(NJSLS-G-CO.A.1, NJSLS-G-C.A.2)*

10.7 Write and Graph Equations of Circles *(NJSLS-G-GPE.A.1)*

Chapter 11: Measuring Length and Area (Test 11.1-11.7)

11.1 Areas of Triangles and Parallelograms *(NJSLS-G-SRT.C.8, NJSLS-G-MG.A.2, NJSLS-G-MG.A.3)*

11.2 Areas of Trapezoids, Rhombuses, and Kites *(NJSLS-G-SRT.C.8, NJSLS-G-MG.A.2, NJSLS-G-MG.A.3)*

11.3 Perimeter and Area of Similar Figures *(NJSLS-G-SRT.C.8, NJSLS-G-MG.A.2, NJSLS-G-MG.A.3)*

11.4 Circumference and Arc Length *(NJSLS-G-GMD.A.1, NJSLS-G-C.B.5, NJSLS-G-MG.A.2, NJSLS-G-MG.A.3)*

11.5 Areas of Circles and Sectors *(NJSLS-G-GMD.A.1, NJSLS-G-C.B.5, NJSLS-G-MG.A.2, NJSLS-G-MG.A.3)*

11.6 Areas of Regular Polygons *(NJSLS-G-CO.D.13, NJSLS-G-SRT.C.8, NJSLS-G-MG.A.2, NJSLS-G-MG.A.3)*

11.7 Use Geometric Probability *(NJSLS-S-CP.A.1)*

Chapter 12: Surface Area and Volume of Solids (Test 12.1-12.7)

12.1 Explore Solids *(NJSLS-G-GMD.B.4)*

12.2 Surface Area of Prisms and Cylinders *(NJSLS-G-GMD.B.4, NJSLS-G-MG.A.2, NJSLS-G-MG.A.3)*

12.3 Surface Area of Pyramids and Cones *(NJSLS-G-GMD.B.4, NJSLS-G-MG.A.2, NJSLS-G-MG.A.3)*

12.4 Volume of Prisms and Cylinders *(NJSLS-G-GMD.B.4, NJSLS-G-GMD.A.1, NJSLS-G-GMD.A.3, NJSLS-G-MG.A.2, NJSLS-G-MG.A.3)*

12.5 Volume of Pyramids and Cones *(NJSLS-G-GMD.B.4, NJSLS-G-GMD.A.1, NJSLS-G-GMD.A.3, NJSLS-G-MG.A.2, NJSLS-G-MG.A.3)*

12.6 Surface Area and Volume of Spheres *(NJSLS-G-GMD.B.4, NJSLS-G-GMD.A.1, NJSLS-G-GMD.A.3, NJSLS-G-MG.A.2, NJSLS-G-MG.A.3)*

12.7 Explore Similar Solids *(NJSLS-G-GMD.A.3)*

End of Year Project: Surface Area and Volume

Course Expectations and Skills

- Students are required to have proficiency in all topics for Algebra 1. Those who do not demonstrate proficiency will be required to seek additional help after school to close their achievement gap in order to be successful in this course.
- Students are required to take notes in Cornell Notes format and maintain those notes in a neat and organized notebook.
- Students are required to have a scientific calculator.
- Students are required to participate in both small and large group discussions and activities, as directed.
- Students are required to complete a project each marking period, including those which require the use of technology.

Resources

Text Book: *Geometry*, Holt McDougal

Supplemental Materials: Geometry Practice Workbook
Boardworks
Geometer's Sketchpad

Assessment Information

Department of Mathematics – Geometry (2017-2018)

Marking Period 1	Marking Period 2	Marking Period 3	Marking Period 4
Major (MAJ): Summative: 30%	Major (MAJ): Summative: 30%	Major (MAJ): Summative: 30%	Major (MAJ): Summative: 30%
Benchmark (BMK): 20%	Benchmark (BMK): 20%	Benchmark (BMK): 20%	Benchmark (BMK): 20%
Project (PRJ): 10%	Project (PRJ): 10%	Project (PRJ): 10%	Project (PRJ): 10%
Minor (MIN): Formative: 25%	Minor (MIN): Formative: 25%	Minor (MIN): Formative: 25%	Minor (MIN): Formative: 25%
Class Participation (CP): 5%	Class Participation (CP): 5%	Class Participation (CP): 5%	Class Participation (CP): 5%
Homework (HW): 10%	Homework (HW): 10%	Homework (HW): 10%	Homework (HW): 10%

Black Horse Pike Regional School District Curriculum Template

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

PART I: UNIT RATIONALE

WHY ARE STUDENTS LEARNING THIS CONTENT AND THESE SKILLS?

Course/Unit Title: Geometry/Essentials of Geometry **Grade Level(s):** **9-12**	**Unit Summary**: In this unit, students will become familiar with the basic elements of geometry, such as points, lines, angles and polygons. They will also review perimeter and area of simple geometric figures.
Essential Question(s): • **How do you name geometric figures?** • **What are congruent segments?** • **How do you find the distance and the midpoint between two points in the coordinate plane?** • **How do you identify whether an angle is acute, right, obtuse, or straight?** • **How do you identify complementary and supplementary angles?** • **How do you classify polygons?** • **How do you find the area and perimeter of a figure?**	**Enduring Understanding(s):** Students will be able to: • Name and sketch geometric figures. • Use segment postulates to identify congruent segments. • Find lengths of segments in the coordinate plane. • Name, measure, and classify angles. • Use special angle relationships to find angle measures. • Classify polygons. • Find dimensions of a polygon.

PART II: INSTRUCTIONAL STRATEGIES AND RESOURCES

DESCRIBE THE LEARNING TARGETS.

After each target, identify the New Jersey Student Learning Standards that are applicable

Learning Target	**NJSLS**
1. Describing Geometric Figures **G-CO.A.1** *[Standard] - Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.* **G-CO.B.7** *[Standard] - Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.*	**1. NJSLS-G-CO.A.1** **NJSLS-G-CO.B.7** **NJSLS-G-MG.A.1**

G-MG.A.1 *[Standard] - Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.).*	
2. Measuring Geometric Figures **G-GPE.B.7** *[Standard] - Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.* **G-GCO.D.12** *[Standard] - Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.).*	**2. NJSLS-G-GPE.B.7** **NJSLS-G-GCO.D.12**
3. Understanding Equality and Congruence **G-CO.B.7** *[Standard] - Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.* **A-CED.A.1** *[Standard] – Create equations and inequalities in one variable and use them to solve problems*	**3. NJSLS-G-CO.B.7** **NJSLS-A-CED.A.1**

Inter-Disciplinary Connections:

Real-World problem solving examples:
Apply the segment addition postulate using maps (p 10), Measurement using a ruler in science and Finding distance using a model airplane's flight (p 13), Finding segment lengths using a skateboard design (p 15), Identifying congruent angles formed by ropes in a trapeze apparatus (p 27), The frame of a ball return net forms a pair of supplementary angles; find angle measures (p 36), Find side lengths of a hexagonal table (p 44), Find the area of a rectangular skating rink using an ice resurfacing machine (p 51).

Inter-Disciplinary problem solving examples:
Surveying (p 7), Perspective Drawing (p 8), Windmill, Archaeology; Water Polo Game (p 21), Sculpture; Maps; Construction (p 31), Geography (p 32), Architecture (p 40), Architecture (p 46), Water Lilies; Land(p 54), Astronomy (p 55)

Students will engage with the following text:

Larson Geometry 2007, 2011 by Houghton Mifflin Harcourt Publishing Group

Students will write:

Writing/Open Ended questions:
Compare collinear points and coplanar points (p 5), Short Response – Segment Addition Postulate (p 12),

Explain what it means to bisect a segment; Vocabulary (p 19), Short Response – Find the coordinates given midpoint and endpoint; Distance (p 23), Explain how to find the measure of an angle; Vocabulary (p 28), Vocabulary; Writing about supplementary angles (p 38), Vocabulary; Explaining if a polygon is concave(p 44), Vocabulary; Describe a real world situation in which you would need to find perimeter and area (p 52), Classify convex and concave polygons; Short Response – Supplementary Angles and Finding Perimeter and Area (p 58)

PART III: TRANSFER OF KNOWLEDGE AND SKILLS

DESCRIBE THE LEARNING EXPERIENCE.

How will students uncover content and build skills.

Students will uncover and build skills through various classroom learning activities. Investigating geometry activities, modeling examples, using real-life application, using note-taking strategies, and using Smart Board technologies will all be explored as a blend of learning strategies to promote critical thinking, problem solving and performance skills of all learners. Other learning experiences could include alternative lesson openers, math and history applications, problem-solving workshops, interdisciplinary applications and projects.

Suggested warm-up activities, instructional strategies/activities, and assignments:

Section 1.1:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Warm-Up: TE p. 2 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 3	Warm-Up: TE p. 2 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 3	Warm-Up: TE p. 2 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 3
Teach Teaching Options	Essential Question: TE p. 2 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 5 Examples 1–4: PE pp. 3-5 Extra Examples 1–4 with Key Questions: TE pp. 3-5 Real Life Application: Chapter Resource Book p. 15 Note taking Guide pp.1-4	Essential Question: TE p. 2 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 5 Examples 1–4: PE pp. 3-5 Extra Examples 1–4 with Key Questions: TE pp. 3-5 Real Life Application: Chapter Resource Book p. 15 Note taking Guide pp.1-4	Essential Question: TE p. 2 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 5 Examples 1–4: PE pp. 3-5 Extra Examples 1–4 with Key Questions: TE pp. 3-5 Real Life Application: Chapter Resource Book p. 15 Note taking Guide pp.1-4
Checking for Understanding	Closing the Lesson: TE p. 5 Guided Practice Exercises: PE pp. 3-5	Closing the Lesson: TE p. 5 Guided Practice Exercises: PE pp. 3-5	Closing the Lesson: TE p. 5 Guided Practice Exercises: PE pp. 3-5
Practice and Apply Assigning Homework	Basic: Day 1: pp. SRH p. 876 Exs. 1-6; pp. 5-8 Exs. 1-16, 17-27 odd, 40-44, 47, 50, 53, 56	Average: Day 1: pp. 5-8 Exs. 1, 2, 3-11, 12-16, 20-26, 27-37 odd, 40-45, 48, 51, 54, 57	Advanced: Day 1: pp. 5-8 Exs. 1, 5-7, 10, 11, 13-16, 20-38 even, 39-46*, 49, 52, 55, 58
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 12-13 Tutorial Software Challenge: Chapter Resource Book p. 16	Study Guide: Chapter Resource Book pp. 12-13 Tutorial Software Challenge: Chapter Resource Book p. 16	Study Guide: Chapter Resource Book pp. 12-13 Tutorial Software Challenge: Chapter Resource Book p. 16

Section 1.2:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (1.1): TE p. 6 Answer Transparencies Daily Homework Quiz (1.1): TE p. 8 Warm-Up: TE p. 9 or Transparencies	Homework Check (1.1): TE p. 6 Answer Transparencies Daily Homework Quiz (1.1): TE p. 8 Warm-Up: TE p. 9 or Transparencies	Homework Check (1.1): TE p. 6 Answer Transparencies Daily Homework Quiz (1.1): TE p. 8 Warm-Up: TE p. 9 or Transparencies

	Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 10	Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 10	Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 10
Teach **Teaching Options**	Essential Question: TE p. 9 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 19 Examples 1–4: PE pp. 9–11 Extra Examples 1–4 with Key Questions: TE pp. 10–11 Math and History Application: Chapter Resource Book p. 29 Note taking Guide pp. 5–7	Essential Question: TE p. 9 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 19 Examples 1–4: PE pp. 9–11 Extra Examples 1–4 with Key Questions: TE pp. 10–11 Math and History Application: Chapter Resource Book p. 29 Note taking Guide pp. 5–7	Essential Question: TE p. 9 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 19 Examples 1–4: PE pp. 9–11 Extra Examples 1–4 with Key Questions: TE pp. 10–11 Math and History Application: Chapter Resource Book p. 29 Note taking Guide pp. 5–7
Checking for Understanding	Closing the Lesson: TE p. 11 Guided Practice Exercises: PE pp. 10–11	Closing the Lesson: TE p. 11 Guided Practice Exercises: PE pp. 10–11	Closing the Lesson: TE p. 11 Guided Practice Exercises: PE pp. 10–11
Practice and Apply Assigning Homework	Basic: Day 1: pp. SRH p. 878 Exs. 7–12; pp. 12–14 Exs. 1–8, 12–23, 32–34, 37–45	Average: Day 1: pp. 12–14 Exs. 1–5, 7–10, 12–20 even, 21–30, 32–35, 37–45 odd	Advanced: Day 1: pp. 12–14 Exs. 1–5, 9–11, 15–19 odd, 20–36*, 39, 42, 44
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 26–27 Tutorial Software Challenge: Chapter Resource Book p. 30	Study Guide: Chapter Resource Book pp. 26–27 Tutorial Software Challenge: Chapter Resource Book p. 30	Study Guide: Chapter Resource Book pp. 26–27 Tutorial Software Challenge: Chapter Resource Book p. 30

Section 1.3:

	Regular	**Accelerated**	**Honors**
Focus and Motivate Starting Options	Homework Check (1.2): TE p. 12; Answer Transparencies Daily Homework Quiz (1.2): TE p. 14 Warm-Up: TE p. 15 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 16	Homework Check (1.2): TE p. 12; Answer Transparencies Daily Homework Quiz (1.2): TE p. 14 Warm-Up: TE p. 15 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 16	Homework Check (1.2): TE p. 12; Answer Transparencies Daily Homework Quiz (1.2): TE p. 14 Warm-Up: TE p. 15 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 16
Teach **Teaching Options**	Essential Question: TE p. 15 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 33–34 Examples 1–4: PE pp. 15–18 Extra Examples 1–4 with Key Questions: TE pp. 16–18 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 44–45 Note taking Guide pp. 8–11	Essential Question: TE p. 15 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 33–34 Examples 1–4: PE pp. 15–18 Extra Examples 1–4 with Key Questions: TE pp. 16–18 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 44–45 Note taking Guide pp. 8–11	Essential Question: TE p. 15 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 33–34 Examples 1–4: PE pp. 15–18 Extra Examples 1–4 with Key Questions: TE pp. 16–18 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 44–45 Note taking Guide pp. 8–11
Checking for Understanding	Closing the Lesson: TE p. 18 Guided Practice Exercises: PE pp. 16–18	Closing the Lesson: TE p. 18 Guided Practice Exercises: PE pp. 16–18	Closing the Lesson: TE p. 18 Guided Practice Exercises: PE pp. 16–18
Practice and Apply Assigning Homework	Basic: Day 1: SRH p. 870 Exs. 13–20; pp. 19–22 Exs. 1–16,48, 55, 56, 60–64; Day 2: pp. 19–22 Exs. 17–27, 31–37, 41, 42, 49–52, 57, 59	Average: Day 1: pp. 19–22 Exs. 1–6, 9, 10, 12–15, 35–40, 48, 60–64; Day 2: pp. 19–22 Exs. 19–24, 28–34, 41–46, 49–53, 55–59	Advanced: Day 1: pp. 19–22 Exs. 1, 5–10, 14–16, 35–40, 47*, 48, 60–64; Day 2: pp. 19–22 Exs. 20–23, 27–34, 41–46, 49–59*
Assess and Reteach Differentiating	Study Guide: Chapter Resource Book pp. 41–42 Tutorial Software	Study Guide: Chapter Resource Book pp. 41–42 Tutorial Software	Study Guide: Chapter Resource Book pp. 41–42 Tutorial Software

Instruction	Challenge: Chapter Resource Book p. 46	Challenge: Chapter Resource Book p. 46	Challenge: Chapter Resource Book p. 46

Section 1.4:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (1.3): TE p. 19; Answer Transparencies Daily Homework Quiz (1.3): TE p. 22 Warm-Up: TE p. 24 or Transparencies Starting the Lesson Questions: Teaching Guide	Homework Check (1.3): TE p. 19; Answer Transparencies Daily Homework Quiz (1.3): TE p. 22 Warm-Up: TE p. 24 or Transparencies Starting the Lesson Questions: Teaching Guide	Homework Check (1.3): TE p. 19; Answer Transparencies Daily Homework Quiz (1.3): TE p. 22 Warm-Up: TE p. 24 or Transparencies Starting the Lesson Questions: Teaching Guide
Teach Teaching Options	Essential Question: TE p. 24 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 49 Examples 1–5: PE pp. 24–28 Extra Examples 1–5 with Key Questions: TE pp. 25–28 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 59 Note taking Guide pp. 12–15	Essential Question: TE p. 24 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 49 Examples 1–5: PE pp. 24–28 Extra Examples 1–5 with Key Questions: TE pp. 25–28 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 59 Note taking Guide pp. 12–15	Essential Question: TE p. 24 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 49 Examples 1–5: PE pp. 24–28 Extra Examples 1–5 with Key Questions: TE pp. 25–28 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 59 Note taking Guide pp. 12–15
Checking for Understanding	Closing the Lesson: TE p. 28 Guided Practice Exercises: PE pp. 25–58	Closing the Lesson: TE p. 28 Guided Practice Exercises: PE pp. 25–58	Closing the Lesson: TE p. 28 Guided Practice Exercises: PE pp. 25–58
Practice and Apply Assigning Homework	Basic Day 1: pp. 28–32 Exs. 1–21, 65–73; Day 2: pp. 28–32 Exs. 22–39, 51–58,64	Average Day 1: pp. 28–32 Exs. 1, 2, 4–6, 9–18, 21, 44–48, 65–73 odd; Day 2: pp. 28–32 Exs. 22–32, 33–43 odd, 51–62, 64	Advanced Day 1: pp. 28–32 Exs. 1, 2, 4–6, 8–10, 12–14, 18–21, 44–48, 66–72 even; Day 2: pp. 28–32 Exs. 24, 26–28, 30–32, 32–42 even, 43, 49–64*
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp 56–57 Tutorial Software Challenge: Chapter Resource Book p. 60	Study Guide: Chapter Resource Book pp 56–57 Tutorial Software Challenge: Chapter Resource Book p. 60	Study Guide: Chapter Resource Book pp 56–57 Tutorial Software Challenge: Chapter Resource Book p. 60

Section 1.5:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework check (1.4): TE p. 29 Answer Transparencies Daily Homework Quiz (1. 4): TE p. 32 Warm-Up: TE p. 35 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 36	Homework check (1.4): TE p. 29 Answer Transparencies Daily Homework Quiz (1. 4): TE p. 32 Warm-Up: TE p. 35 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 36	Homework check (1.4): TE p. 29 Answer Transparencies Daily Homework Quiz (1. 4): TE p. 32 Warm-Up: TE p. 35 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 36
Teach Teaching Options	Essential Question: TE p. 35 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 35–37 Extra Examples 1–5 with Key Questions: TE pp. 36–37 Interdisciplinary Application: Chapter Resource Book p. 72 Note taking Guide pp. 16–20	Essential Question: TE p. 35 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 35–37 Extra Examples 1–5 with Key Questions: TE pp. 36–37 Interdisciplinary Application: Chapter Resource Book p. 72 Note taking Guide pp. 16–20	Essential Question: TE p. 35 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 35–37 Extra Examples 1–5 with Key Questions: TE pp. 36–37 Interdisciplinary Application: Chapter Resource Book p. 72 Note taking Guide pp. 16–20
Checking for Understanding	Closing the Lesson: TE p. 37 Guided Practice Exercises: PE pp. 35–37	Closing the Lesson: TE p. 37 Guided Practice Exercises: PE pp. 35–37	Closing the Lesson: TE p. 37 Guided Practice Exercises: PE pp. 35–37

Practice and Apply Assigning Homework	Basic: Day 1: pp. 38–41 Exs. 1–7, 9–15 odd, 16, 17–27 odd, 28–35, 46–54, 57, 61	Average: Day 1: pp. 38–41 Exs. 1, 2, 4–7, 8–28 even, 29, 30–44 even 46–55, 59, 62	Advanced: Day 1: pp. 38–41 Exs. 1, 2, 5, 7, 11, 15, 16, 19, 25–30, 33–45* odd, 48–56*,60,63
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 69–70 Tutorial Software Challenge: Chapter Resource Book p. 73	Study Guide: Chapter Resource Book pp. 69–70 Tutorial Software Challenge: Chapter Resource Book p. 73	Study Guide: Chapter Resource Book pp. 69–70 Tutorial Software Challenge: Chapter Resource Book p. 73

Section 1.6:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (1.5)TE p. 38;Answer Transparencies Daily Homework Quiz (1.5):TEp. 41 Warm-Up: TEp.42 or Transparencies Motivating the Lesson: TEp.43	Homework Check (1.5)TE p. 38;Answer Transparencies Daily Homework Quiz (1.5):TEp. 41 Warm-Up: TEp.42 or Transparencies Motivating the Lesson: TEp.43	Homework Check (1.5)TE p. 38;Answer Transparencies Daily Homework Quiz (1.5):TEp. 41 Warm-Up: TEp.42 or Transparencies Motivating the Lesson: TEp.43
Teach Teaching Options	Essential Question: TE p. 42 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 76–77 Examples 1–3: PE pp. 42–44 Interdisciplinary Application: Chapter Resource Book p. 87 Note taking Guide pp.21–23	Essential Question: TE p. 42 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 76–77 Examples 1–3: PE pp. 42–44 Interdisciplinary Application: Chapter Resource Book p. 87 Note taking Guide pp.21–23	Essential Question: TE p. 42 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 76–77 Examples 1–3: PE pp. 42–44 Interdisciplinary Application: Chapter Resource Book p. 87 Note taking Guide pp.21–23
Checking for Understanding	Closing the Lesson: TE p. 44 Guided Practice Exercises: PE pp. 43–44	Closing the Lesson: TE p. 44 Guided Practice Exercises: PE pp. 43–44	Closing the Lesson: TE p. 44 Guided Practice Exercises: PE pp. 43–44
Practice and Apply Assigning Homework	Basic: Day 1: pp. 44–47 Exs. 1–10, 14–21, 24, 25, 32–40, 43–53 odd	Average: Day 1: pp. 44–47 Exs. 1, 2, 4–7, 9–11, 14–17, 21–30, 32–41, 44, 50, 52	Advanced: Day 1: pp. 44–47 Exs. 1, 2, 5–7, 12, 13, 15–17, 22–32*, 35–42*, 45,48,54
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 84–85 Tutorial Software Challenge: Chapter Resource Book p. 88	Study Guide: Chapter Resource Book pp. 84–85 Tutorial Software Challenge: Chapter Resource Book p. 88	Study Guide: Chapter Resource Book pp. 84–85 Tutorial Software Challenge: Chapter Resource Book p. 88

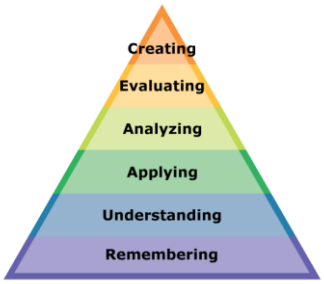
Section 1.7:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (1.6): TE p. 45; Answer Transparencies Daily Homework Quiz (1.6): TE p. 47 Warm-Up: TE p. 49 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 50	Homework Check (1.6): TE p. 45; Answer Transparencies Daily Homework Quiz (1.6): TE p. 47 Warm-Up: TE p. 49 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 50	Homework Check (1.6): TE p. 45; Answer Transparencies Daily Homework Quiz (1.6): TE p. 47 Warm-Up: TE p. 49 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 50
Teach Teaching Options	Essential Question: TE p. 49 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 91 Examples 1–5: PE pp. 49–52 Extra Examples 1–5 with Key Questions: TE pp. 50–52 Problem Solving Workshop: Mixed Problem Solving:	Essential Question: TE p. 49 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 91 Examples 1–5: PE pp. 49–52 Extra Examples 1–5 with Key Questions: TE pp. 50–52 Problem Solving Workshop: Mixed Problem Solving:	Essential Question: TE p. 49 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 91 Examples 1–5: PE pp. 49–52 Extra Examples 1–5 with Key Questions: TE pp. 50–52 Problem Solving Workshop: Mixed Problem Solving:

	Chapter Resource Book p. 101 Note taking Guide pp. 24–27	Chapter Resource Book p. 101 Note taking Guide pp. 24–27	Chapter Resource Book p. 101 Note taking Guide pp. 24–27
Checking for Understanding	Closing the Lesson: TE p. 52 Guided Practice Exercises: PE pp. 50–52	Closing the Lesson: TE p. 52 Guided Practice Exercises: PE pp. 50–52	Closing the Lesson: TE p. 52 Guided Practice Exercises: PE pp. 50–52
Practice and Apply Assigning Homework	Basic: Day 1: SRH p. 886 Exs. 1–15 odd; pp. 52–56 Exs. 1–19,40, 41, 51, 52; Day 2: pp. 52–56 Exs. 20–32, 42–44, 49, 50	Average: Day 1: pp. 52–56 Exs. 1–19, 40, 41, 51, 52; Day 2: pp. 52–56 Exs. 23–38, 42–45, 49, 50	Advanced: Day 1: pp. 52–56 Exs. 1, 2, 4–10, 12–19, 40, 41, 49–52; Day 2: pp. 52–56 Exs. 24–39*, 42–48*
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 98–99 Tutorial Software Challenge: Chapter Resource Book p. 102	Study Guide: Chapter Resource Book pp. 98–99 Tutorial Software Challenge: Chapter Resource Book p. 102	Study Guide: Chapter Resource Book pp. 98–99 Tutorial Software Challenge: Chapter Resource Book p. 102

PART IV: EVIDENCE OF LEARNING

IDENTIFY THE METHODS BY WHICH STUDENTS WILL DEMONSTRATE THEIR UNDERSTANDING OF CONTENT AND THEIR ABILITY TO APPLY SKILLS.
IDENTIFY BLOOM'S LEVELS.



Formative Assessments:

The effectiveness of the instructional program will be based on numerous activities and strategies including the following: teacher observations, students collaborating with peers, questioning strategies, student record-keeping, quizzes, exit/admit assignments, peer/self-assessments, learning/response logs, discussions and practice presentations.

Accommodations/Modifications:

- **Provide guided notes/handouts.**
- **Break problems into smaller pieces.**
- **Have students keep an organized binder.**
- **Allow students to use calculator, when applicable.**
- **Review needed skills prior to the lesson.**
- **Provide checklists for solving problems.**
- **Provide index cards to make flashcards for vocabulary and formulas with visuals.**
- **Have students highlight important words in the directions.**

Summative Assessments:

The following assessments will be used to evaluate student learning, skill acquisition and academic achievement of the Standards of Mathematical Practice and the New Jersey Learning Standards for Mathematics listed under each chapter in the Geometry curriculum/syllabus at the conclusion of an instructional time period:

- **Diagnostic Pre-Test**
- **Chapter Tests**
- **Periodic Benchmark Tests**
- **End-of-Course Assessment**
- **Standardized Tests**

Accommodations/Modifications:

Benchmark tests, chapter tests and End of Course tests may have:

- **prompts**
- **examples**
- **bolded directions**
- **extra space between problems to show work**
- **chunked (given one page at a time) to keep students focused**
- **use of a calculator, when applicable**

Performance Assessments:

The following assessments require students to utilize various strands of Mathematics:

- **Projects**
- **Performance Tasks**
- **Homework**
- **Classwork**

Accommodations/Modifications:

Projects should include:

- **a comprehensive guide**
- **rubric**
- **a visual example for students to follow as a reference**

Black Horse Pike Regional School District Curriculum Template

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

PART I: UNIT RATIONALE

WHY ARE STUDENTS LEARNING THIS CONTENT AND THESE SKILLS?

Course/Unit Title: Geometry/Reasoning and Proof **Grade Level(s):** **9-12**	**Unit Summary**: In this unit, students will analyze conditional statements and write the converse, inverse and contrapositive of a conditional statement. They will explore how conditional and biconditional statements are used to state definitions. Students will use deductive reasoning, the Law of Detachment and the Law of Syllogism, to develop simple logical arguments. Students will learn what can and cannot be assumed from a diagram. Finally, they will use properties of equality and the laws of logic to prove basic theorems about congruence, supplementary angles, complementary angles, and vertical angles.
Essential Question(s): • **How do you use inductive reasoning in mathematics?** • **How do you rewrite a biconditional statement?** • **How do you construct a logical argument?** • **How can you identify postulates illustrated by a diagram?** • **How do you solve an equation?** • **How do you write a geometric proof?** • **What is the relationship between vertical angles, between two angles that are supplementary to the same angle, and between two angles that are complementary to the same angle?**	**Enduring Understanding(s):** Students will be able to: • Write definitions as conditional statements. • Use deductive reasoning to form a logical argument. • Use postulates involving points, lines, and planes. • Use algebraic postulates in logical arguments. • Write proofs using geometric theorems. • Use properties of special pairs of angles.

PART II:INSTRUCTIONAL STRATEGIES AND RESOURCES

DESCRIBE THE LEARNING TARGETS.

After each target, identify the New Jersey Student Learning Standards that are applicable

Learning Target	NJSLS
1.Use inductive and deductive reasoning **G-CO.A.1** *[Standard] - Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.* **G-CO.C.9** *[Standard] - Prove theorems about lines and angles.* **G-CO.C.10** *[Standard] - Prove theorems about triangles.* **G-CO.C.11** *[Standard] - Prove theorems about parallelograms.*	**1. NJSLS-G-CO.A.1** **NJSLS-G-CO.C.9** **NJSLS-G-CO.C.10** **NJSLS-G-CO.C.11**
2.Understanding geometric relationships in diagrams **G-CO.C.9** *[Standard] - Prove theorems about lines and angles.* **G-CO.C.10** *[Standard] - Prove theorems about triangles.* **G-CO.C.11** *[Standard] - Prove theorems about parallelograms.*	**2. NJSLS-G-CO.C.9** **NJSLS-G-CO.C.10** **NJSLS-G-CO.C.11**
3.Writing proofs of geometric relationships **A-REI.A.1** *[Standard] - Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.* **G-CO.C.9** *[Standard] - Prove theorems about lines and angles.* **G-CO.C.10** *[Standard] - Prove theorems about triangles.* **G-CO.C.11** *[Standard] - Prove theorems about parallelograms.*	**3. NJSLS-A-REI.A.1** **NJSLS-G-CO.C.9** **NJSLS-G-CO.C.10** **NJSLS-G-CO.C.11**

Inter-Disciplinary Connections:

Real-World problem solving examples:
Patterns in baseball (p77), statements about elephant seals using inductive and deductive reasoning (p 89), determine profit using laws of logic (p 91), solving equations about heart rate (p 106), distances at the mall (p 115)

Inter-Disciplinary problem solving examples:
Statistics (p 77), Science : volcanoes (p 84), Geography: laws of logic (p 91), Geology (p 92), Designing logos (p 107

<u>Students will engage with the following text:</u>

Larson Geometry 2007, 2011 by Houghton Mifflin Harcourt Publishing Group

<u>Students will write:</u>

Writing/Open Ended questions:
Write the definition for collinear points as a biconditional (p 82), Short Response: Showing statements are false (p 84) Use deductive reasoning to make statements; Reasoning: Statements about sums (p 90), Explanations about assumptions (p 99), Reasoning: Explaining postulates (p 100), Explain how to check answers (p 108), Write everyday examples using the properties (p 109), Write about the types of statements used in two-column proofs (p 116), Describe relationships between angles (p 127), Write true statements about a diagram (p 129), Short Response: Draw conclusions and explain using a diagram (p 132).

PART III: TRANSFER OF KNOWLEDGE AND SKILLS

DESCRIBE THE LEARNING EXPERIENCE.

<u>How</u> will students uncover content and build skills.

Students will uncover and build skills through various classroom learning activities. Investigating geometry activities, modeling examples, using real-life application, using note-taking strategies, and using Smart Board technologies will all be explored as a blend of learning strategies to promote critical thinking, problem solving and performance skills of all learners. Other learning experiences could include alternative lesson openers, math and history applications, problem-solving workshops, interdisciplinary applications and projects.

Suggested warm-up activities, instructional strategies/activities, and assignments:

Section 2.2:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (2.1): TE p. 75; Answer Transparencies Daily Homework Quiz (2.1): TE p. 78 Warm-Up: TE p. 79 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 80	Homework Check (2.1): TE p. 75; Answer Transparencies Daily Homework Quiz (2.1): TE p. 78 Warm-Up: TE p. 79 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 80	Homework Check (2.1): TE p. 75; Answer Transparencies Daily Homework Quiz (2.1): TE p. 78 Warm-Up: TE p. 79 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 80
Teach Teaching Options	Essential Question: TE p. 79 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator	Essential Question: TE p. 79 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator	Essential Question: TE p. 79 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator

	Examples 1–4: PE pp. 79–82 Extra Examples 1–4 with Key Questions: TE pp. 80–82 Math and History Application: Chapter Resource Book p. 29 Notetaking Guide pp. 35–38	Examples 1–4: PE pp. 79–82 Extra Examples 1–4 with Key Questions: TE pp. 80–82 Math and History Application: Chapter Resource Book p. 29 Notetaking Guide pp. 35–38	Examples 1–4: PE pp. 79–82 Extra Examples 1–4 with Key Questions: TE pp. 80–82 Math and History Application: Chapter Resource Book p. 29 Notetaking Guide pp. 35–38
Checking for Understanding	Closing the Lesson: TE p. 82 Guided Practice Exercises: PE pp. 79–82	Closing the Lesson: TE p. 82 Guided Practice Exercises: PE pp. 79–82	Closing the Lesson: TE p. 82 Guided Practice Exercises: PE pp. 79–82
Practice and Apply Assigning Homework	Basic: Day 1: pp. 82–85 Exs. 1–15, 31, 32; Day 2: pp. 82–85 Exs. 16–25, 33, 34, 40–55	Average: Day 1: pp. 82–85 Exs. 1, 2, 4–10, 13–15, 26–29, 31, 32; Day 2: pp. 82–85 Exs. 16–25, 33–36, 40–55	Advanced: Day 1: pp. 82–85 Exs. 1, 2, 4, 5, 9, 10, 14, 15, 26–32*; Day 2: pp. 82–85 Exs. 16–25, 33–39*, 42, 45, 47, 49, 52, 55
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 26–2 Tutorial Software Challenge: Chapter Resource Book p. 30	Study Guide: Chapter Resource Book pp. 26–2 Tutorial Software Challenge: Chapter Resource Book p. 30	Study Guide: Chapter Resource Book pp. 26–2 Tutorial Software Challenge: Chapter Resource Book p. 30

Section 2.3:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (2.2): TE p 83; Answer Transparencies Daily Homework Quiz (2.2): TE p. 85 Warm-Up: TE p. 87 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 88	Homework Check (2.2): TE p 83; Answer Transparencies Daily Homework Quiz (2.2): TE p. 85 Warm-Up: TE p. 87 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 88	Homework Check (2.2): TE p 83; Answer Transparencies Daily Homework Quiz (2.2): TE p. 85 Warm-Up: TE p. 87 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 88
Teach Teaching Options	Essential Question: TE p. 87 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 33 Examples 1–4: PE pp. 87–89 Extra Examples 1–4 with Key Questions: TE pp. 88–89 Interdisciplinary Application: Chapter Resource Book p. 43 Note taking Guide pp. 39–42	Essential Question: TE p. 87 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 33 Examples 1–4: PE pp. 87–89 Extra Examples 1–4 with Key Questions: TE pp. 88–89 Interdisciplinary Application: Chapter Resource Book p. 43 Note taking Guide pp. 39–42	Essential Question: TE p. 87 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 33 Examples 1–4: PE pp. 87–89 Extra Examples 1–4 with Key Questions: TE pp. 88–89 Interdisciplinary Application: Chapter Resource Book p. 43 Note taking Guide pp. 39–42
Checking for Understanding	Closing the Lesson: TE p. 89 Guided Practice Exercises: PE pp. 88–89	Closing the Lesson: TE p. 89 Guided Practice Exercises: PE pp. 88–89	Closing the Lesson: TE p. 89 Guided Practice Exercises: PE pp. 88–89
Practice and Apply Assigning Homework	Basic: Day 1: pp. 90–93 Exs. 1–10, 16, 17, 34–38; Day 2: pp. 90–93 Exs. 11–13, 18–24, 30–33	Average: Day 1: pp. 90–93 Exs. 1–6, 8–10, 14, 16, 17, 34–38; Day 2: pp. 90–93 Exs. 11–13, 18–28,30–33	Advanced: Day 1: pp. 90–93 Exs. 1–6, 9, 10, 14–17*, 34–38; Day 2: pp. 90–93 Exs. 11–13, 18–30*, 32
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 40–41 Tutorial Software Challenge: Chapter Resource Book p. 44	Study Guide: Chapter Resource Book pp. 40–41 Tutorial Software Challenge: Chapter Resource Book p. 44	Study Guide: Chapter Resource Book pp. 40–41 Tutorial Software Challenge: Chapter Resource Book p. 44

Section 2.4:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (2.3): TE p. 90;Answer Transparencies Daily Homework Quiz (2.3): TE p. 93 Warm-Up: TE p. 96 or	Homework Check (2.3): TE p. 90;Answer Transparencies Daily Homework Quiz (2.3): TE p. 93 Warm-Up: TE p. 96 or	Homework Check (2.3): TE p. 90;Answer Transparencies Daily Homework Quiz (2.3): TE p. 93 Warm-Up: TE p. 96 or

	Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 97	Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 97	Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 97
Teach Teaching Options	Essential Question: TE p. 96 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 47 Examples 1–4: PE pp. 97–98 Extra Examples 1–4 with Key Questions: TE pp. 97–98 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 57–58 Note taking Guide pp. 43–45	Essential Question: TE p. 96 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 47 Examples 1–4: PE pp. 97–98 Extra Examples 1–4 with Key Questions: TE pp. 97–98 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 57–58 Note taking Guide pp. 43–45	Essential Question: TE p. 96 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 47 Examples 1–4: PE pp. 97–98 Extra Examples 1–4 with Key Questions: TE pp. 97–98 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 57–58 Note taking Guide pp. 43–45
Checking for Understanding	Closing the Lesson: TE p. 98 Guided Practice Exercises: PE pp. 97–98	Closing the Lesson: TE p. 98 Guided Practice Exercises: PE pp. 97–98	Closing the Lesson: TE p. 98 Guided Practice Exercises: PE pp. 97–98
Practice and Apply Assigning Homework	Basic: Day 1: pp. 99–102 Exs. 1–18, 30–41, 46–56 even	Average: Day 1: pp. 99–102 Exs. 1, 2, 4, 8–10, 15–23 odd, 24–28, 30–44, 47, 50, 53	Advanced: Day 1: pp. 99–102 Exs. 1, 2, 5, 8–12 even, 19–29*, 32–45*, 48 51, 55
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 54–55 Tutorial Software Challenge: Chapter Resource Book p. 59	Study Guide: Chapter Resource Book pp. 54–55 Tutorial Software Challenge: Chapter Resource Book p. 59	Study Guide: Chapter Resource Book pp. 54–55 Tutorial Software Challenge: Chapter Resource Book p. 59

Section 2.5:

	Regular	**Accelerated**	**Honors**
Focus and Motivate Starting Options	Homework Check (2.4): TE p. 99; Answer Transparencies Daily Homework Quiz (2.4): TE p. 102 Warm-Up: TE p. 105 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 106	Homework Check (2.4): TE p. 99; Answer Transparencies Daily Homework Quiz (2.4): TE p. 102 Warm-Up: TE p. 105 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 106	Homework Check (2.4): TE p. 99; Answer Transparencies Daily Homework Quiz (2.4): TE p. 102 Warm-Up: TE p. 105 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 106
Teach Teaching Options	Essential Question: TE p. 105 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 105–108 Extra Examples 1–5 with Key Questions: TE pp. 106–108 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 71 Note taking Guide pp. 46–49	Essential Question: TE p. 105 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 105–108 Extra Examples 1–5 with Key Questions: TE pp. 106–108 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 71 Note taking Guide pp. 46–49	Essential Question: TE p. 105 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 105–108 Extra Examples 1–5 with Key Questions: TE pp. 106–108 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 71 Note taking Guide pp. 46–49
Checking for Understanding	Closing the Lesson: TE p. 108 Guided Practice Exercises: PE pp. 106, 108	Closing the Lesson: TE p. 108 Guided Practice Exercises: PE pp. 106, 108	Closing the Lesson: TE p. 108 Guided Practice Exercises: PE pp. 106, 108
Practice and Apply Assigning Homework	Basic: Day 1: SRH p. 872 Exs. 1–6; pp. 108–111 Exs. 1–20; Day 2: pp. 108–111 Exs. 21–27, 31–35, 39–42	Average: Day 1: pp. 108–111 Exs. 1–20; Day 2: pp. 108–111 Exs. 21–29, 31–36, 39–42	Advanced: Day 1: pp. 108–111 Exs. 1–20; Day 2: pp. 108–111 Exs. 21–30*, 32–38*, 40, 42
Assess and Reteach	Study Guide: Chapter Resource Book pp. 68–69	Study Guide: Chapter Resource Book pp. 68–69	Study Guide: Chapter Resource Book pp. 68–69

Differentiating Instruction	Tutorial Software Challenge: Chapter Resource Book p. 72	Tutorial Software Challenge: Chapter Resource Book p. 72	Tutorial Software Challenge: Chapter Resource Book p. 72

Section 2.6:

	Regular	**Accelerated**	**Honors**
Focus and Motivate Starting Options	Homework Check (2.5): TE p. 109; Answer Transparencies Daily Homework Quiz (2.5): TE p. 111 Warm–Up: TE p. 112 or Transparencies Starting the Lesson Question: Teaching Guide Motivating the Lesson: TE p.113	Homework Check (2.5): TE p. 109; Answer Transparencies Daily Homework Quiz (2.5): TE p. 111 Warm–Up: TE p. 112 or Transparencies Starting the Lesson Question: Teaching Guide Motivating the Lesson: TE p.113	Homework Check (2.5): TE p. 109; Answer Transparencies Daily Homework Quiz (2.5): TE p. 111 Warm–Up: TE p. 112 or Transparencies Starting the Lesson Question: Teaching Guide Motivating the Lesson: TE p.113
Teach Teaching Options	Essential Question: TE p. 112 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 75 Examples 1–4: PE pp. 112 –115 Extra Examples 1–4 with Key Questions: TE pp. 113–115 Real-Life Application: Chapter Resource Book p. 85 Note taking Guide pp. 50–53	Essential Question: TE p. 112 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 75 Examples 1–4: PE pp. 112 –115 Extra Examples 1–4 with Key Questions: TE pp. 113–115 Real-Life Application: Chapter Resource Book p. 85 Note taking Guide pp. 50–53	Essential Question: TE p. 112 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 75 Examples 1–4: PE pp. 112 –115 Extra Examples 1–4 with Key Questions: TE pp. 113–115 Real-Life Application: Chapter Resource Book p. 85 Note taking Guide pp. 50–53
Checking for Understanding	Closing the Lesson: TE p. 115 Guided Practice Exercises: PE pp. 112–115	Closing the Lesson: TE p. 115 Guided Practice Exercises: PE pp. 112–115	Closing the Lesson: TE p. 115 Guided Practice Exercises: PE pp. 112–115
Practice and Apply Assigning Homework	Basic: Day 1: pp. 116–119 Exs. 1–12, 34–36; Day 2: pp. 116–119 Exs. 13–17, 21–28,31–33	Average: Day 1: pp. 116–119 Exs. 1–12, 34–36; Day 2: pp. 116–119 Exs. 13–19, 21–29,31,33	Advanced: Day 1: pp. 116–119 Exs. 1–12, 34–36; Day 2: pp. 116–119 Exs. 15–20*, 22–30, 32
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 82–83 Tutorial Software Challenge: Chapter Resource Book p. 86	Study Guide: Chapter Resource Book pp. 82–83 Tutorial Software Challenge: Chapter Resource Book p. 86	Study Guide: Chapter Resource Book pp. 82–83 Tutorial Software Challenge: Chapter Resource Book p. 86

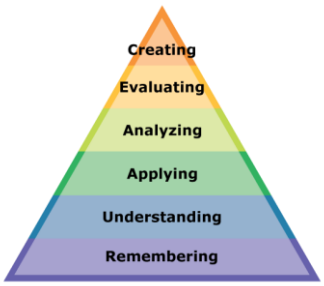
Section 2.7:

	Regular	**Accelerated**	**Honors**
Focus and Motivate Starting Options	Homework Check (2.6): TE p. 116; Answer Transparencies Daily Homework Quiz (2.6): TE p. 119 Warm-Up: TE p. 124 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 125	Homework Check (2.6): TE p. 116; Answer Transparencies Daily Homework Quiz (2.6): TE p. 119 Warm-Up: TE p. 124 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 125	Homework Check (2.6): TE p. 116; Answer Transparencies Daily Homework Quiz (2.6): TE p. 119 Warm-Up: TE p. 124 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 125
Teach Teaching Options	Essential Question: TE p. 124 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 89 Examples 1–4: PE pp. 124–127 Extra Examples 1–4 with Key Questions: TE pp. 125–127 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p.99 Note taking Guide pp. 54–57	Essential Question: TE p. 124 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 89 Examples 1–4: PE pp. 124–127 Extra Examples 1–4 with Key Questions: TE pp. 125–127 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p.99 Note taking Guide pp. 54–57	Essential Question: TE p. 124 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 89 Examples 1–4: PE pp. 124–127 Extra Examples 1–4 with Key Questions: TE pp. 125–127 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p.99 Note taking Guide pp. 54–57

Checking for Understanding	Closing the Lesson: TE p. 127 Guided Practice Exercises: PE pp. 125–127	Closing the Lesson: TE p. 127 Guided Practice Exercises: PE pp. 125–127	Closing the Lesson: TE p. 127 Guided Practice Exercises: PE pp. 125–127
Practice and Apply Assigning Homework	Basic: Day 1: pp. 127–131 Exs. 1–7, 36–39, 49–53; Day 2: pp. 127–131 Exs. 8–26, 40	Average: Day 1: pp. 127–131 Exs. 1–7, 36–39, 49–53; Day 2: pp. 127–131 Exs. 9–15 odd, 16, 17–29 odd, 30, 40–45	Advanced: Day 1: pp. 127–131 Exs. 1–7, 36–39, 43,44, 49–53; Day 2: pp. 127–131 Exs. 10, 11, 14–30 even, 31–35*, 40–42, 45–48*
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 96–97 Tutorial Software Challenge: Chapter Resource Book p. 100	Study Guide: Chapter Resource Book pp. 96–97 Tutorial Software Challenge: Chapter Resource Book p. 100	Study Guide: Chapter Resource Book pp. 96–97 Tutorial Software Challenge: Chapter Resource Book p. 100

PART IV: EVIDENCE OF LEARNING

IDENTIFY THE METHODS BY WHICH STUDENTS WILL DEMONSTRATE THEIR UNDERSTANDING OF CONTENT AND THEIR ABILITY TO APPLY SKILLS.
IDENTIFY BLOOM'S LEVELS.



Formative Assessments:

The effectiveness of the instructional program will be based on numerous activities and strategies including the following: teacher observations, students collaborating with peers, questioning strategies, student record-keeping, quizzes, exit/admit assignments, peer/self-assessments, learning/response logs, discussions and practice presentations.

Accommodations/Modifications:

- **Provide guided notes/handouts.**
- **Break problems into smaller pieces.**
- **Have students keep an organized binder.**
- **Allow students to use calculator.**
- **Review needed skills prior to the lesson.**
- **Provide checklists for solving problems.**
- **Provide index cards to make flashcards for vocabulary with visuals.**
- **Provide index cards to make flashcards with an example proof and a proof skeleton.**
- **Have students highlight important words in the directions.**

Summative Assessments:

The following assessments will be used to evaluate student learning, skill acquisition and academic achievement of the Standards of Mathematical Practice and the New Jersey Learning Standards for Mathematics listed under each chapter in the Geometry curriculum/syllabus at the conclusion of an instructional time period:

- **Diagnostic Pre-Test**
- **Chapter Tests**
- **Periodic Benchmark Tests**
- **End-of-Course Assessment**
- **Standardized Tests**

Accommodations/Modifications:

Benchmark tests, chapter tests and End of Course tests may have:

- **prompts**
- **examples**
- **bolded directions**
- **extra space between problems to show work**
- **chunked (given one page at a time) to keep students focused**
- **use of a calculator, when applicable**

Performance Assessments:

The following assessments require students to utilize various strands of Mathematics:

- **Projects**
- **Performance Tasks**
- **Homework**
- **Classwork**

Accommodations/Modifications:

Projects should include:

- **A comprehensive guide**
- **Rubric**
- **A visual example for students to follow as a reference**

Black Horse Pike Regional School District Curriculum Template

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

PART I: UNIT RATIONALE

WHY ARE STUDENTS LEARNING THIS CONTENT AND THESE SKILLS?

Course/Unit Title: Geometry/Parallel and Perpendicular Lines **Grade Level(s):** **9-12**	**Unit Summary**: In this unit, students will classify angle pairs formed by three intersecting lines and study angle pairs formed by a line that intersects two parallel lines. They will investigate slopes of lines and study the relationship between slopes of parallel and perpendicular lines. Students will find equations of lines.
Essential Question(s): • **What angle pairs are formed by transversals?** • **How are corresponding angles and alternate interior angles related from two parallel lines and a transversal?** • **How do you prove that lines are parallel?** • **How do you find the slope of a line given the coordinates of two points on the line?** • **How do you write an equation of a line?** • **How do you find the distance between a point and a line?**	**Enduring Understanding(s):** Students will be able to: • Identify angle pairs formed by three intersecting lines. • Find angles formed by parallel lines and transversals. • Find and compare slopes of lines. • Find equations of lines. • Find the distance between a point and a line.

PART II:INSTRUCTIONAL STRATEGIES AND RESOURCES

DESCRIBE THE LEARNING TARGETS.

After each target, identify the New Jersey Student Learning Standards that are applicable.

Learning Target	**NJSLS**
1.Using properties of parallel and perpendicular lines **G-CO.A.1** *[Standard] - Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.* **G-CO.C.9** *[Standard] - Prove theorems about lines and angles.*	**1. NJSLS-G-CO.A.1** **NJSLS-G-CO.C.9**

2.Proving relationships using angle measures **G-CO.C.9** *[Standard] - Prove theorems about lines and angles.* **G-CO.D.12** *[Standard] - Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.).* **3.Making connections to lines in algebra** **A-REI.D.10** *[Standard] - Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).* **F-IF.B.5** *[Standard] - Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.* **F-IF.B.6** [*Standard] - Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.*	**2. NJSLS-G-CO.C.9** **NJSLS-G-CO.D.12** **3. NJSLS-A-REI.D.10** **NJSLS-F-IF.B.5** **NJSLS-F-IF.B.6**

Inter-Disciplinary Connections:

Real-World problem solving examples:
Parallel and perpendicular lines in photography (p148), angle of the sun's rays (p 156), compare heights on a roller coaster (p 174), graphing costs of gym membership (p 182), writing an equation to find the cost of DVD rental (p 183)

Inter-Disciplinary problem solving examples:
Construction (p 151), Science: dinosaurs (p 186)

Students will engage with the following text:

Larson Geometry 2007, 2011 by Houghton Mifflin Harcourt Publishing Group

Students will write:

Writing/Open Ended questions:
Describing parallel planes (p 150), describe parallel lines and skew lines (p 151), describing congruent and supplementary angles formed with parallel lines and transversals (p 157), describe how to find the slope of horizontal and vertical lines (p 175), Explain how to find intercepts using the standard form of a line (p 184).

PART III: TRANSFER OF KNOWLEDGE AND SKILLS

DESCRIBE THE LEARNING EXPERIENCE.

How will students uncover content and build skills.

Students will uncover and build skills through various classroom learning activities. Investigating geometry activities, modeling examples, using real-life application, using note-taking strategies, and using Smart Board technologies will all be explored as a blend of learning strategies to promote critical thinking, problem solving and performance skills of all learners. Other learning experiences could include alternative lesson openers, math and history applications, problem-solving workshops, interdisciplinary applications and projects.

Suggested warm-up activities, instructional strategies/activities, and assignments:

Section 3.1:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (2.7): TE p. 128; Answer Transparencies Daily Homework Quiz (2.7): TE p. 131 Warm-Up: TE p. 147 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 148	Homework Check (2.7): TE p. 128; Answer Transparencies Daily Homework Quiz (2.7): TE p. 131 Warm-Up: TE p. 147 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 148	Homework Check (2.7): TE p. 128; Answer Transparencies Daily Homework Quiz (2.7): TE p. 131 Warm-Up: TE p. 147 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 148
Teach Teaching Options	Essential Question: TE p. 147 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–3: PE pp. 147–149 Extra Examples 1–3 with Key Questions: TE pp. 148–149 Interdisciplinary Application: Chapter Resource Book p. 14 Note taking Guide pp. 60–63	Essential Question: TE p. 147 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–3: PE pp. 147–149 Extra Examples 1–3 with Key Questions: TE pp. 148–149 Interdisciplinary Application: Chapter Resource Book p. 14 Note taking Guide pp. 60–63	Essential Question: TE p. 147 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–3: PE pp. 147–149 Extra Examples 1–3 with Key Questions: TE pp. 148–149 Interdisciplinary Application: Chapter Resource Book p. 14 Note taking Guide pp. 60–63
Checking for Understanding	Closing the Lesson: TE p. 149 Guided Practice Exercises: PE pp. 148–149	Closing the Lesson: TE p. 149 Guided Practice Exercises: PE pp. 148–149	Closing the Lesson: TE p. 149 Guided Practice Exercises: PE pp. 148–149
Practice and Apply Assigning Homework	Basic: Day 1: pp. 150–152 Exs. 1–15, 17–23 odd, 34–39, 45–49	Average: Day 1: pp. 150–152 Exs. 1, 2, 4–6, 8–10, 12–15, 16–22 even, 24–28, 34–42, 45–49 odd	Advanced: Day 1: pp. 150–152 Exs. 1, 2, 5, 6, 9, 10, 13, 14, 16–28 even, 29–44*, 46,48
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 11–12 Tutorial Software Challenge: Chapter Resource Book p. 15	Study Guide: Chapter Resource Book pp. 11–12 Tutorial Software Challenge: Chapter Resource Book p. 15	Study Guide: Chapter Resource Book pp. 11–12 Tutorial Software Challenge: Chapter Resource Book p. 15

Section 3.2:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (3.1): TE p. 150; Answer Transparencies Daily Homework Quiz (3.1): TE p. 152 Warm-Up: TE p. 154 or Transparencies	Homework Check (3.1): TE p. 150; Answer Transparencies Daily Homework Quiz (3.1): TE p. 152 Warm-Up: TE p. 154 or Transparencies	Homework Check (3.1): TE p. 150; Answer Transparencies Daily Homework Quiz (3.1): TE p. 152 Warm-Up: TE p. 154 or Transparencies

	Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 155	Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 155	Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 155
Teach **Teaching Options**	Essential Question: TE p. 154 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 18 Examples 1–4: PE pp. 154–156 Extra Examples 1–4 with Key Questions: TE pp. 155–156 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 28 Note taking Guide pp. 64–66	Essential Question: TE p. 154 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 18 Examples 1–4: PE pp. 154–156 Extra Examples 1–4 with Key Questions: TE pp. 155–156 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 28 Note taking Guide pp. 64–66	Essential Question: TE p. 154 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 18 Examples 1–4: PE pp. 154–156 Extra Examples 1–4 with Key Questions: TE pp. 155–156 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 28 Note taking Guide pp. 64–66
Checking for Understanding	Closing the Lesson: TE p. 156 Guided Practice Exercises: PE pp. 155–156	Closing the Lesson: TE p. 156 Guided Practice Exercises: PE pp. 155–156	Closing the Lesson: TE p. 156 Guided Practice Exercises: PE pp. 155–156
Practice and Apply **Assigning Homework**	Basic: Day 1: pp. 157–160 Exs. 1–8, 9–15 odd, 17–24, 37–40, 44–52 even	Average: Day 1: pp. 157–160 Exs. 1–3, 4–20 even, 21–34, 37–42, 44, 45, 49, 51	Advanced: Day 1: pp. 157–160 Exs. 1–3, 7, 8, 13, 15, 18, 19, 21–37*, 39–43*, 47, 50,52
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 25–26 Tutorial Software Challenge: Chapter Resource Book p. 29	Study Guide: Chapter Resource Book pp. 25–26 Tutorial Software Challenge: Chapter Resource Book p. 29	Study Guide: Chapter Resource Book pp. 25–26 Tutorial Software Challenge: Chapter Resource Book p. 29

Section 3.4:

	Regular	Accelerated	Honors
Focus and Motivate **Starting Options**	Homework Check (3.3): TE p. 165; Answer Transparencies Daily Homework Quiz (3.3): TE p. 169 Warm-Up: TE p. 171 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 172	Homework Check (3.3): TE p. 165; Answer Transparencies Daily Homework Quiz (3.3): TE p. 169 Warm-Up: TE p. 171 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 172	Homework Check (3.3): TE p. 165; Answer Transparencies Daily Homework Quiz (3.3): TE p. 169 Warm-Up: TE p. 171 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 172
Teach **Teaching Options**	Essential Question: TE p. 171 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 47 Examples 1–5: PE pp. 171–174 Extra Examples 1–5 with Key Questions: TE pp. 172–174 Real Life Applications: Chapter Resource Book p. 57 Note taking Guide pp. 71–73	Essential Question: TE p. 171 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 47 Examples 1–5: PE pp. 171–174 Extra Examples 1–5 with Key Questions: TE pp. 172–174 Real Life Applications: Chapter Resource Book p. 57 Note taking Guide pp. 71–73	Essential Question: TE p. 171 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 47 Examples 1–5: PE pp. 171–174 Extra Examples 1–5 with Key Questions: TE pp. 172–174 Real Life Applications: Chapter Resource Book p. 57 Note taking Guide pp. 71–73
Checking for Understanding	Closing the Lesson: TE p. 174 Guided Practice Exercises: PE pp. 171–174	Closing the Lesson: TE p. 174 Guided Practice Exercises: PE pp. 171–174	Closing the Lesson: TE p. 174 Guided Practice Exercises: PE pp. 171–174
Practice and Apply **Assigning Homework**	Basic: Day 1: SRH p. 869 Exs. 1,8, 11, 16; pp. 175–178 Exs. 1–18; Day 2: pp. 175–178 Exs. 19–22, 33–38, 43–49	Average: Day 1: pp. 175–178 Exs. 1, 2, 4–6, 8–12, 14–18 even, 23–25, 43–49; Day 2: pp. 175–178 Exs. 19–22, 26–31*, 33–41	Advanced: Day 1: pp. 175–178 Exs. 1, 2, 4–10, 14–18 even, 23–26, 43–49; Day 2: pp. 175–178 Exs. 19–22, 27–42*
Assess and Reteach **Differentiating**	Study Guide: Chapter Resource Book pp. 54–55 Tutorial Software	Study Guide: Chapter Resource Book pp. 54–55 Tutorial Software	Study Guide: Chapter Resource Book pp. 54–55 Tutorial Software

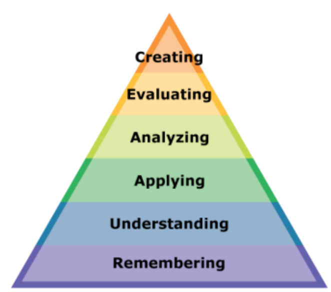
Instruction	Challenge: Chapter Resource Book p. 58	Challenge: Chapter Resource Book p. 58	Challenge: Chapter Resource Book p. 58

Section 3.5:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (3.4): TE p. 175; Answer Transparencies Daily Homework Quiz (3.4): TE p. 178 Warm-Up: TE p. 180 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 181	Homework Check (3.4): TE p. 175; Answer Transparencies Daily Homework Quiz (3.4): TE p. 178 Warm-Up: TE p. 180 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 181	Homework Check (3.4): TE p. 175; Answer Transparencies Daily Homework Quiz (3.4): TE p. 178 Warm-Up: TE p. 180 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 181
Teach Teaching Options	Essential Question: TE p. 180 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 61–62 Examples 1–6: PE pp. 180–183 Extra Examples 1–6 with Key Questions: TE pp. 181–183 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 72 Note taking Guide pp. 74–78	Essential Question: TE p. 180 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 61–62 Examples 1–6: PE pp. 180–183 Extra Examples 1–6 with Key Questions: TE pp. 181–183 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 72 Note taking Guide pp. 74–78	Essential Question: TE p. 180 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 61–62 Examples 1–6: PE pp. 180–183 Extra Examples 1–6 with Key Questions: TE pp. 181–183 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 72 Note taking Guide pp. 74–78
Checking for Understanding	Closing the Lesson: TE p. 183 Guided Practice Exercises: P E pp. 181, 183	Closing the Lesson: TE p. 183 Guided Practice Exercises: P E pp. 181, 183	Closing the Lesson: TE p. 183 Guided Practice Exercises: P E pp. 181, 183
Practice and Apply Assigning Homework	Basic: Day 1: SRH p. 879 Exs. 5–12; pp. 184–187 Exs. 1–6, 9–13, 16–19, 22–25, 29 70–75; Day 2: pp. 184–187 Exs. 30–33, 36–39, 45–49, 60–63, 67–69	Average: Day 1: pp. 184–187 Exs. 1, 2, 4–6, 9, 11–13, 17–19, 22, 24–26, 29, 49–52, 70–75; Day 2: pp. 184–187 Exs. 31–33, 40–42, 45–48, 53–57, 60–65, 67–69	Advanced: Day 1: pp. 184–187 Exs. 1, 2, 6–9, 13–15, 19–22, 26–29, 49–52, 70–75; Day 2: pp. 184–187 Exs. 33–35, 42–44, 46–48, 53–69*
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 69–70 Tutorial Software Challenge: Chapter Resource Book p. 73	Study Guide: Chapter Resource Book pp. 69–70 Tutorial Software Challenge: Chapter Resource Book p. 73	Study Guide: Chapter Resource Book pp. 69–70 Tutorial Software Challenge: Chapter Resource Book p. 73

PART IV: EVIDENCE OF LEARNING

IDENTIFY THE METHODS BY WHICH STUDENTS WILL DEMONSTRATE THEIR UNDERSTANDING OF CONTENT AND THEIR ABILITY TO APPLY SKILLS. IDENTIFY BLOOM'S LEVELS.



Formative Assessments:

The effectiveness of the instructional program will be based on numerous activities and strategies including the following: teacher observations, students collaborating with peers, questioning strategies, student record-keeping, quizzes, exit/admit assignments, peer/self-assessments, learning/response logs, discussions and practice presentations.

Accommodations/Modifications:

- **Use rulers, colored pencils and manipulatives to represent angles.**
- **Provide guided notes/handouts.**
- **Break problems into smaller pieces.**
- **Have students keep an organized binder.**
- **Allow students to use calculator, when applicable.**
- **Review needed skills prior to the lesson.**
- **Provide checklists for solving problems.**
- **Provide index cards to make flashcards for vocabulary with visuals.**
- **Have students highlight important words in the directions.**

Summative Assessments:

The following assessments will be used to evaluate student learning, skill acquisition and academic achievement of the Standards of Mathematical Practice and the New Jersey Learning Standards for Mathematics listed under each chapter in the Geometry curriculum/syllabus at the conclusion of an instructional time period:

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- **Chapter Tests**
- **Periodic Benchmark Tests**
- **End-of-Course Assessment**
- **Standardized Tests**

Accommodations/Modifications:

Benchmark tests, chapter tests and End of Course tests may have:

- **prompts**
- **examples**
- **bolded directions**
- **extra space between problems to show work**
- **chunked (given one page at a time) to keep students focused**
- **use of a calculator, when applicable**

Performance Assessments:

The following assessments require students to utilize various strands of Mathematics:

- **Projects**
- **Performance Tasks**
- **Homework**
- **Classwork**

Accommodations/Modifications:

Projects should include:

- **a comprehensive guide**
- **rubric**
- **a visual example for students to follow as a reference**

Black Horse Pike Regional School District Curriculum Template

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

PART I: UNIT RATIONALE

WHY ARE STUDENTS LEARNING THIS CONTENT AND THESE SKILLS?

<table>
<tr><td>Course/Unit Title:
Geometry/Congruent Triangles
Grade Level(s):
9-12</td><td>Unit Summary:
In this unit, students will classify triangles, find measures of angles of triangles, identify congruent figures and prove triangles are congruent. They will also use theorems about isosceles and equilateral triangles and perform transformations.</td></tr>
<tr><td>Essential Question(s):
• How can you find the measure of the third angle of a triangle if you know the measures of the other two angles?
• What are congruent figures?
• How can you use side lengths to prove triangles congruent?
• How can you use two sides and an angle to prove triangles congruent?
• If a side of one triangle is congruent to a side of another triangle, what information about the angles would allow you to prove the triangles are congruent?
• How can you use congruent triangles to prove angles or sides congruent?
• How are the sides and angles of a triangle related if there are two or more congruent sides or angles?
• What transformations create an image congruent to the original figure?</td><td>Enduring Understanding(s):
Students will be able to:
• Classify triangles and find measures of their angles.
• Identify congruent figures.
• Use the side lengths to prove triangles congruent.
• Use side lengths and angles to prove triangles congruent.
• Use two more methods to prove triangles congruent.
• Use congruent triangles to prove corresponding parts congruent.
• Use theorems about isosceles and equilateral triangles.
• Create an image congruent to a given triangle.</td></tr>
</table>

PART II: INSTRUCTIONAL STRATEGIES AND RESOURCES

DESCRIBE THE LEARNING TARGETS.

After each target, identify the New Jersey Student Learning Standards that are applicable.

Learning Target	NJSLS
1.Classifying triangles by sides and angles **G-CO.C.10** *[Standard] - Prove theorems about triangles.* **G-CO.C.11** *[Standard] - Prove theorems about parallelograms.*	**1. NJSLS-G-CO.C.10** **NJSLS-G-CO.C.11**
2.Proving that triangles are congruent **G-CO.A.2** *[Standard] - Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).* **G-CO.B.6** *[Standard] - Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.* **G-CO.B.7** *[Standard] - Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent* **G-CO.B.8** *[Standard] - Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.* **G-CO.C.10** *[Standard] - Prove theorems about triangles.* **G-CO.D.12** *[Standard] - Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.).*	**2. NJSLS-G-CO.A.2** **NJSLS-G-CO.B.6** **NJSLS-G-CO.B.7** **NJSLS-G-CO.B.8** **NJSLS-G-CO.C.10** **NJSLS-G-CO.D.12**
3.Using coordinate geometry to investigate triangle relationships **G-GPE.B.4** *[Standard] - Use coordinates to prove simple geometric theorems algebraically.*	**3. NJSLS-G-GPE.B.4**

Inter-Disciplinary Connections:

Real-World problem solving examples:

Dividing a wall into equal parts for painting (p 226), determining structural support using congruent triangles (p 236), using congruent triangles to find how much canvas is needed to make a sign (p 242), using congruent triangles to determine placement of fire towers (p 251), use congruent triangles to find the distance across a river (p 257), isosceles triangles on a lifeguard tower (p 266).

Inter-Disciplinary problem solving examples:
Architecture (p 220), Sculpture (p 223), Flower Arranging (p 248), Snowboarding (p 261), Architecture (p 262), Advertising: equilateral triangle, Architecture: isosceles triangle (p 269).

Students will engage with the following text:

Larson Geometry 2007, 2011 by Houghton Mifflin Harcourt Publishing Group

Students will write:

Writing/Open Ended questions:
Explain why a right triangle can't be obtuse (p 221), Explain what proves triangles congruent (p 228), Short Response: Explain why lines are parallel (p 230), Explain the difference between SAS and SSS (p 243), Explaining HL (p 244), Explain how to check answers (p 248), Show what is needed other than two congruent angles to prove triangles congruent (p 252), Write about situations when congruent triangles can be used to find distance (p 259), Describe the relationship between the legs and base angles of an isosceles triangle (p 267), Explain the term *congruence transformation* (p 276), Explain when a point or line can be its own image (p 277), Short Response: describe transformations on a chess board (p 278).

PART III: TRANSFER OF KNOWLEDGE AND SKILLS

DESCRIBE THE LEARNING EXPERIENCE.

How will students uncover content and build skills.

Students will uncover and build skills through various classroom learning activities. Investigating geometry activities, modeling examples, using real-life application, using note-taking strategies, and using Smart Board technologies will all be explored as a blend of learning strategies to promote critical thinking, problem solving and performance skills of all learners. Other learning experiences could include alternative lesson openers, math and history applications, problem-solving workshops, interdisciplinary applications and projects.

Suggested warm-up activities, instructional strategies/activities, and assignments:

Section 4.1:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (3.6): TE p. 194; Answer Transparencies Daily Homework Quiz (3.6): TE p. 197 Warm-Up: TE p. 217 or Transparencies	Homework Check (3.6): TE p. 194; Answer Transparencies Daily Homework Quiz (3.6): TE p. 197 Warm-Up: TE p. 217 or Transparencies	Homework Check (3.6): TE p. 194; Answer Transparencies Daily Homework Quiz (3.6): TE p. 197 Warm-Up: TE p. 217 or Transparencies

	Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 218	Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 218	Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 218
Teach **Teaching Options**	Essential Question: TE p. 217 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 5–6 Examples 1–4: PE pp. 217–220 Extra Examples 1–4 with Key Questions: TE pp. 218–220 Problem-Solving Workshop: Worked Out Examples: Chapter Resource Book p. 16 Notetaking Guide pp. 85–88	Essential Question: TE p. 217 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 5–6 Examples 1–4: PE pp. 217–220 Extra Examples 1–4 with Key Questions: TE pp. 218–220 Problem-Solving Workshop: Worked Out Examples: Chapter Resource Book p. 16 Notetaking Guide pp. 85–88	Essential Question: TE p. 217 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 5–6 Examples 1–4: PE pp. 217–220 Extra Examples 1–4 with Key Questions: TE pp. 218–220 Problem-Solving Workshop: Worked Out Examples: Chapter Resource Book p. 16 Notetaking Guide pp. 85–88
Checking for Understanding	Closing the Lesson: TE p. 220 Guided Practice Exercises: PE pp. 218, 220	Closing the Lesson: TE p. 220 Guided Practice Exercises: PE pp. 218, 220	Closing the Lesson: TE p. 220 Guided Practice Exercises: PE pp. 218, 220
Practice and Apply Assigning Homework	Basic: Day 1: EP p. 896 Exs. 24–29; pp. 221–224 Exs. 1–7, 9–19 odd, 21–29, 40–49, 54, 57, 60, 61	Average: Day 1: pp. 221–224 Exs. 1–7, 8–26 even, 27–34, 40–52, 55, 58, 62	Advanced: Day 1: pp. 221–224 Exs. 1–7, 10, 13, 16, 19, 20, 27, 28, 31–40*, 42–53*, 56, 59, 63
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 13–14 Tutorial Software Challenge: Chapter Resource Book p. 17	Study Guide: Chapter Resource Book pp. 13–14 Tutorial Software Challenge: Chapter Resource Book p. 17	Study Guide: Chapter Resource Book pp. 13–14 Tutorial Software Challenge: Chapter Resource Book p. 17

Section 4.2:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (4.1): TE p. 221; Answer Transparencies Daily Homework Quiz (4.1): TE p. 224 Warm-Up: TE p. 225 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 226	Homework Check (4.1): TE p. 221; Answer Transparencies Daily Homework Quiz (4.1): TE p. 224 Warm-Up: TE p. 225 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 226	Homework Check (4.1): TE p. 221; Answer Transparencies Daily Homework Quiz (4.1): TE p. 224 Warm-Up: TE p. 225 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 226
Teach **Teaching Options**	Essential Question: TE p. 225 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 20 Examples 1–5: PE pp. 225–227 Extra Examples 1–5 with Key Questions: TE pp. 226–227 Math and History Application: Chapter Resource Book p. 30 Notetaking Guide pp. 89–92	Essential Question: TE p. 225 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 20 Examples 1–5: PE pp. 225–227 Extra Examples 1–5 with Key Questions: TE pp. 226–227 Math and History Application: Chapter Resource Book p. 30 Notetaking Guide pp. 89–92	Essential Question: TE p. 225 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 20 Examples 1–5: PE pp. 225–227 Extra Examples 1–5 with Key Questions: TE pp. 226–227 Math and History Application: Chapter Resource Book p. 30 Notetaking Guide pp. 89–92
Checking for Understanding	Closing the Lesson: TE p. 228 Guided Practice Exercises: PE pp. 226–227	Closing the Lesson: TE p. 228 Guided Practice Exercises: PE pp. 226–227	Closing the Lesson: TE p. 228 Guided Practice Exercises: PE pp. 226–227
Practice and Apply Assigning Homework	Basic: Day 1: pp. 228–231 Exs. 1–14; Day 2: pp. 228–231 Exs. 15–19,23–28, 33–40	Average: Day 1: pp. 228–231 Exs. 1–14, 36–40; Day 2: pp. 228–231 Exs. 15–21, 23–31,33–35	Advanced: Day 1: pp. 228–231 Exs. 1–4, 7–14, 22*, 36–40; Day 2: pp. 228–231 Exs. 15–21,24–35*
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 27–28 Tutorial Software Challenge: Chapter Resource Book p. 31	Study Guide: Chapter Resource Book pp. 27–28 Tutorial Software Challenge: Chapter Resource Book p. 31	Study Guide: Chapter Resource Book pp. 27–28 Tutorial Software Challenge: Chapter Resource Book p. 31

Section 4.3:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (4.2): TE p. 229; Answer Transparencies Daily Homework Quiz (4.2): TE p. 231 Warm-Up: TE p. 234 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 235	Homework Check (4.2): TE p. 229; Answer Transparencies Daily Homework Quiz (4.2): TE p. 231 Warm-Up: TE p. 234 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 235	Homework Check (4.2): TE p. 229; Answer Transparencies Daily Homework Quiz (4.2): TE p. 231 Warm-Up: TE p. 234 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 235
Teach Teaching Options	Essential Question: TE p. 234 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–3: PE pp. 234–236 Extra Examples 1–3 with Key Questions: TE pp. 235–236 Real-Life Application: Chapter Resource Book p. 43 Notetaking Guide pp. 93–95	Essential Question: TE p. 234 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–3: PE pp. 234–236 Extra Examples 1–3 with Key Questions: TE pp. 235–236 Real-Life Application: Chapter Resource Book p. 43 Notetaking Guide pp. 93–95	Essential Question: TE p. 234 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–3: PE pp. 234–236 Extra Examples 1–3 with Key Questions: TE pp. 235–236 Real-Life Application: Chapter Resource Book p. 43 Notetaking Guide pp. 93–95
Checking for Understanding	Closing the Lesson: TE p. 236 Guided Practice Exercises: PE pp. 234–236	Closing the Lesson: TE p. 236 Guided Practice Exercises: PE pp. 234–236	Closing the Lesson: TE p. 236 Guided Practice Exercises: PE pp. 234–236
Practice and Apply Assigning Homework	Basic: Day 1: pp. 236–239 Exs. 1–17, 22–27, 31–37	Average: Day 1: pp. 236–239 Exs. 1–8, 10–14 even, 16–20, 22–29, 31–37 odd	Advanced: Day 1: pp. 236–239 Exs. 1–4, 7, 8, 11, 12, 14–30*, 33, 36, 37
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 40–41 Tutorial Software Challenge: Chapter Resource Book p. 44	Study Guide: Chapter Resource Book pp. 40–41 Tutorial Software Challenge: Chapter Resource Book p. 44	Study Guide: Chapter Resource Book pp. 40–41 Tutorial Software Challenge: Chapter Resource Book p. 44

Section 4.4:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (4.3): TE p. 237; Answer Transparencies Daily Homework Quiz (4.3): TE p. 239 Warm-Up: TE p. 240 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 241	Homework Check (4.3): TE p. 237; Answer Transparencies Daily Homework Quiz (4.3): TE p. 239 Warm-Up: TE p. 240 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 241	Homework Check (4.3): TE p. 237; Answer Transparencies Daily Homework Quiz (4.3): TE p. 239 Warm-Up: TE p. 240 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 241
Teach Teaching Options	Essential Question: TE p. 240 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 47 Examples 1–4: PE pp. 240–242 Extra Examples 1–4 with Key Questions: TE pp. 241–242 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp. 57–58 Notetaking Guide pp. 96–99	Essential Question: TE p. 240 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 47 Examples 1–4: PE pp. 240–242 Extra Examples 1–4 with Key Questions: TE pp. 241–242 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp. 57–58 Notetaking Guide pp. 96–99	Essential Question: TE p. 240 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 47 Examples 1–4: PE pp. 240–242 Extra Examples 1–4 with Key Questions: TE pp. 241–242 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp. 57–58 Notetaking Guide pp. 96–99
Checking for	Closing the Lesson: TE p. 242 Guided Practice Exercises: PE	Closing the Lesson: TE p. 242 Guided Practice Exercises: PE pp.	Closing the Lesson: TE p. 242 Guided Practice Exercises: PE

Understanding	pp. 241–242	241–242	pp. 241–242
Practice and Apply Assigning Homework	Basic: Day 1: pp. 243–246 Exs. 1–18; Day 2: pp. 243–246 Exs. 19–24, 31–36, 42–48	Average: Day 1: pp. 243–246 Exs. 1, 2, 4–8 even, 9–18, 25–27; Day 2: pp. 243–246 Exs. 19–24, 31–39, 42–48 even	Advanced: Day 1: pp. 243–246 Exs. 1, 2, 6–8, 12–18, 25–30*; Day 2: pp. 243–246 Exs. 19–24, 31–41*, 43–47 odd
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 54–55 Tutorial Software Challenge: Chapter Resource Book p. 59	Study Guide: Chapter Resource Book pp. 54–55 Tutorial Software Challenge: Chapter Resource Book p. 59	Study Guide: Chapter Resource Book pp. 54–55 Tutorial Software Challenge: Chapter Resource Book p. 59

Section 4.5:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (4.4): TE p. 243; Answer Transparencies Daily Homework Quiz (4.4): TE p. 246 Warm-Up: TE p. 249 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 250	Homework Check (4.4): TE p. 243; Answer Transparencies Daily Homework Quiz (4.4): TE p. 246 Warm-Up: TE p. 249 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 250	Homework Check (4.4): TE p. 243; Answer Transparencies Daily Homework Quiz (4.4): TE p. 246 Warm-Up: TE p. 249 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 250
Teach Teaching Options	Essential Question: TE p. 249 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 62 Examples 1–4: PE pp. 250–251 Extra Examples 1–4 with Key Questions: TE pp. 250–251 Math and History Application: Chapter Resource Book p. 72 Notetaking Guide pp. 100–103	Essential Question: TE p. 249 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 62 Examples 1–4: PE pp. 250–251 Extra Examples 1–4 with Key Questions: TE pp. 250–251 Math and History Application: Chapter Resource Book p. 72 Notetaking Guide pp. 100–103	Essential Question: TE p. 249 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 62 Examples 1–4: PE pp. 250–251 Extra Examples 1–4 with Key Questions: TE pp. 250–251 Math and History Application: Chapter Resource Book p. 72 Notetaking Guide pp. 100–103
Checking for Understanding	Closing the Lesson: TE p. 252 Guided Practice Exercises: PE pp. 250–251	Closing the Lesson: TE p. 252 Guided Practice Exercises: PE pp. 250–251	Closing the Lesson: TE p. 252 Guided Practice Exercises: PE pp. 250–251
Practice and Apply Assigning Homework	Basic: Day 1: pp. 252–255 Exs. 1–13; Day 2: pp. 252–255 Exs. 14–17, 23–30, 36–43	Average: Day 1: pp. 252–255 Exs. 1, 2, 4–7, 9–13, 18–20; Day 2; pp. 252–255 Exs. 14–17, 21, 23–34, 36–42 even	Advanced: Day 1: pp. 252–255 Exs. 1, 2, 5–7, 9–13, 18–20, 22*; Day 2: pp. 252–255 Exs. 14–17, 23–35*, 37–43 odd
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 69–70 Tutorial Software Challenge: Chapter Resource Book p. 73	Study Guide: Chapter Resource Book pp. 69–70 Tutorial Software Challenge: Chapter Resource Book p. 73	Study Guide: Chapter Resource Book pp. 69–70 Tutorial Software Challenge: Chapter Resource Book p. 73

Section 4.6:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (4.5): TE p. 253; Answer Transparencies Daily Homework Quiz (4.5): TE p. 255 Warm–Up: TE p. 256 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 257	Homework Check (4.5): TE p. 253; Answer Transparencies Daily Homework Quiz (4.5): TE p. 255 Warm–Up: TE p. 256 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 257	Homework Check (4.5): TE p. 253; Answer Transparencies Daily Homework Quiz (4.5): TE p. 255 Warm–Up: TE p. 256 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 257
Teach	Essential Question: TE p. 256 Alternative Lesson Openers:	Essential Question: TE p. 256 Alternative Lesson Openers:	Essential Question: TE p. 256 Alternative Lesson Openers:

	Regular	Accelerated	Honors
Teaching Options	Electronic Classroom Classroom Activity: Activity Generator Examples 1–4: PE pp. 256–258 Extra Examples 1–4 with Key Questions: TE pp. 257–258 Real-Life Application: Chapter Resource Book p. 85 Notetaking Guide pp. 104–107	Electronic Classroom Classroom Activity: Activity Generator Examples 1–4: PE pp. 256–258 Extra Examples 1–4 with Key Questions: TE pp. 257–258 Real-Life Application: Chapter Resource Book p. 85 Notetaking Guide pp. 104–107	Electronic Classroom Classroom Activity: Activity Generator Examples 1–4: PE pp. 256–258 Extra Examples 1–4 with Key Questions: TE pp. 257–258 Real-Life Application: Chapter Resource Book p. 85 Notetaking Guide pp. 104–107
Checking for Understanding	Closing the Lesson: TE p. 258 Guided Practice Exercises: PE pp. 256–258	Closing the Lesson: TE p. 258 Guided Practice Exercises: PE pp. 256–258	Closing the Lesson: TE p. 258 Guided Practice Exercises: PE pp. 256–258
Practice and Apply Assigning Homework	Basic: Day 1: pp. 259–263 Exs. 1–11, 28; Day 2: pp. 259–263 Exs. 12–17, 29–33,41–46	Average: Day 1: pp. 259–263 Exs. 1–11, 28, 41–43; Day 2: pp. 259–263 Exs. 12–14, 18–24, 29–36, 44–46	Advanced: Day 1: pp. 259–263 Exs. 1, 2, 4–11, 27*, 28, 41–43; Day 2: pp. 259–263 Exs. 12–14, 19–26, 31–40*, 44–46
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 82–83 Tutorial Software Challenge: Chapter Resource Book p. 86	Study Guide: Chapter Resource Book pp. 82–83 Tutorial Software Challenge: Chapter Resource Book p. 86	Study Guide: Chapter Resource Book pp. 82–83 Tutorial Software Challenge: Chapter Resource Book p. 86

Section 4.7:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (4.6): TE p. 259; Answer Transparencies Daily Homework Quiz (4.6): TE p. 263 Warm-Up: TE p. 264 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 265	Homework Check (4.6): TE p. 259; Answer Transparencies Daily Homework Quiz (4.6): TE p. 263 Warm-Up: TE p. 264 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 265	Homework Check (4.6): TE p. 259; Answer Transparencies Daily Homework Quiz (4.6): TE p. 263 Warm-Up: TE p. 264 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 265
Teach Teaching Options	Essential Question: TE p. 264 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 89 Examples 1–4: PE pp. 264–266 Extra Examples 1–4 with Key Questions: TE pp. 265–266 Interdisciplinary Application: Chapter Resource Book p. 99 Notetaking Guide pp. 108–11	Essential Question: TE p. 264 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 89 Examples 1–4: PE pp. 264–266 Extra Examples 1–4 with Key Questions: TE pp. 265–266 Interdisciplinary Application: Chapter Resource Book p. 99 Notetaking Guide pp. 108–11	Essential Question: TE p. 264 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 89 Examples 1–4: PE pp. 264–266 Extra Examples 1–4 with Key Questions: TE pp. 265–266 Interdisciplinary Application: Chapter Resource Book p. 99 Notetaking Guide pp. 108–11
Checking for Understanding	Closing the Lesson: TE p. 266 Guided Practice Exercises: PE pp. 264–266	Closing the Lesson: TE p. 266 Guided Practice Exercises: PE pp. 264–266	Closing the Lesson: TE p. 266 Guided Practice Exercises: PE pp. 264–266
Practice and Apply Assigning Homework	Basic: Day 1: pp. 267–270 Exs. 1–14, 19, 52–56; Day 2: pp. 267–270 Exs. 15–18, 20–25, 38–45, 57–60	Average: Day 1: pp. 267–270 Exs. 1, 2, 4–6, 8–10, 12–14, 19, 26–29, 52–56; Day 2: pp. 267–270 Exs. 16–18, 21–25, 30, 31, 39–48, 57, 59	Advanced: Day 1: pp. 267–270 Exs. 1, 2, 4–6, 8–10, 12–14, 19, 26–29, 35, 36, 52–56 even; Day 2: pp. 267–270 Exs. 16–18, 22, 24, 30–34, 37*, 40–51*, 58, 60
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 96–97 Tutorial Software Challenge: Chapter Resource Book p. 100	Study Guide: Chapter Resource Book pp. 96–97 Tutorial Software Challenge: Chapter Resource Book p. 100	Study Guide: Chapter Resource Book pp. 96–97 Tutorial Software Challenge: Chapter Resource Book p. 100

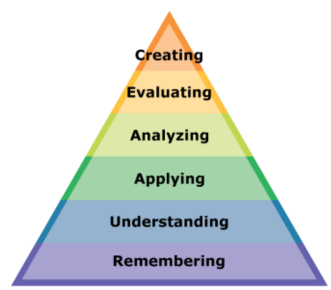
Section 4.8:

	Regular	Accelerated	Honors
Focus and Motivate	Homework Check (4.7): TE p. 267;	Homework Check (4.7): TE p. 267;	Homework Check (4.7): TE p. 267;

Starting Options	Answer Transparencies Daily Homework Quiz (4.7): TE p. 270 Warm-Up: TE p. 272 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 273	Answer Transparencies Daily Homework Quiz (4.7): TE p. 270 Warm-Up: TE p. 272 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 273	Answer Transparencies Daily Homework Quiz (4.7): TE p. 270 Warm-Up: TE p. 272 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 273
Teach **Teaching Options**	Essential Question: TE p. 272 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 103–104 Examples 1–5: PE pp. 272–275 Extra Examples 1–5 with Key Questions: TE pp. 273–275 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 114 Notetaking Guide pp. 111–115	Essential Question: TE p. 272 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 103–104 Examples 1–5: PE pp. 272–275 Extra Examples 1–5 with Key Questions: TE pp. 273–275 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 114 Notetaking Guide pp. 111–115	Essential Question: TE p. 272 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 103–104 Examples 1–5: PE pp. 272–275 Extra Examples 1–5 with Key Questions: TE pp. 273–275 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 114 Notetaking Guide pp. 111–115
Checking for Understanding	Closing the Lesson: TE p. 275 Guided Practice Exercises: PE pp. 272–275	Closing the Lesson: TE p. 275 Guided Practice Exercises: PE pp. 272–275	Closing the Lesson: TE p. 275 Guided Practice Exercises: PE pp. 272–275
Practice and Apply **Assigning Homework**	Basic: Day 1: pp. 276–279 Exs. 1–16, 51; Day 2: pp. 276–279 Exs. 17–29, 38–42, 45–50	Average: Day 1: pp. 276–279 Exs. 1, 2, 4, 8, 10–16 even, 26–31, 51; Day 2: pp. 276–279 Exs. 17–25, 32–36, 38–43, 45–49 odd	Advanced: Day 1: pp. 276–279 Exs. 1, 2, 4–16 even, 26–31, 37*, 51; Day 2: pp. 276–279 Exs. 17–25, 32–36, 38–44*, 46, 50
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 111–112 Tutorial Software Challenge: Chapter Resource Book p. 115	Study Guide: Chapter Resource Book pp. 111–112 Tutorial Software Challenge: Chapter Resource Book p. 115	Study Guide: Chapter Resource Book pp. 111–112 Tutorial Software Challenge: Chapter Resource Book p. 115

PART IV: EVIDENCE OF LEARNING

IDENTIFY THE METHODS BY WHICH STUDENTS WILL DEMONSTRATE THEIR UNDERSTANDING OF CONTENT AND THEIR ABILITY TO APPLY SKILLS. IDENTIFY BLOOM'S LEVELS.



Formative Assessments:

The effectiveness of the instructional program will be based on numerous activities and strategies including the following: teacher observations, students collaborating with peers, questioning strategies, student record-keeping, quizzes, exit/admit assignments, peer/self-assessments, learning/response logs, discussions and practice presentations.

Accommodations/Modifications:

- **Provide guided notes/handouts.**
- **Break problems into smaller pieces.**
- **Have students keep an organized binder.**
- **Allow students to use calculator.**

- **Review needed skills prior to the lesson.**
- **Provide checklists for solving problems.**
- **Provide index cards to make flashcards for vocabulary with visuals.**
- **Have students highlight important words in the directions.**

Summative Assessments:

The following assessments will be used to evaluate student learning, skill acquisition and academic achievement of the Standards of Mathematical Practice and the New Jersey Learning Standards for Mathematics listed under each chapter in the Geometry curriculum/syllabus at the conclusion of an instructional time period:

- **Diagnostic Pre-Test**
- **Chapter Tests**
- **Periodic Benchmark Tests**
- **End-of-Course Assessment**
- **Standardized Tests**

Accommodations/Modifications:

Benchmark tests, chapter tests and End of Course tests may have:

- **prompts**
- **examples**
- **bolded directions**
- **extra space between problems to show work**
- **chunked (given one page at a time) to keep students focused**
- **use of a calculator**
- **parts of assessment read aloud**

Performance Assessments:

The following assessments require students to utilize various strands of Mathematics:

- **Projects**
- **Performance Tasks**
- **Homework**
- **Classwork**

Accommodations/Modifications:

Projects should include:

- **a comprehensive guide**
- **rubric**
- **a visual example for students to follow as a reference**

Black Horse Pike Regional School District Curriculum Template

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

PART I: UNIT RATIONALE

WHY ARE STUDENTS LEARNING THIS CONTENT AND THESE SKILLS?

Course Title: Geometry/Similarity **Grade Level(s):** 9-12	**Unit Summary**: In this unit, students will use ratios, proportions and geometric means to solve geometry problems. Proportions will be used to identify similar polygons. Finding and using a scale factor is another focus in this chapter. Students will also use information about sides and angles of triangles to prove triangles similar.
Essential Question(s): • How do you use ratios and proportions to solve geometry problems? • How do you use proportions to identify similar polygons and find the scale factor between two polygons? • How do you show that triangles are similar?	**Enduring Understanding(s):** Students will be able to: • Solve problems by writing and solving proportions. • Use proportions to solve geometry problems. • Use proportions to identify similar polygons. • Use the Angle-Angle Similarity Postulate. • Use the Side-Side-Side Similarity Theorem and the Side-Angle-Side Similarity Theorem. • Use proportions with a triangle or parallel lines.

PART II: INSTRUCTIONAL STRATEGIES AND RESOURCES

DESCRIBE THE LEARNING TARGETS.

After each target, identify the New Jersey Student Learning Standards that are applicable

Learning Target	NJSLS:
1. Use ratios and proportions to solve geometry problems. *[Standard]* - Represent proportional relationships by equations	**1.** *NJSLS-7.RP.A.2.c*
2. Show that triangles are similar. *[Standard]* - Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures. *[Standard]* - Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar. *[Standard]* - Prove theorems about triangles.	**2.** *NJSLS-G-SRT.B.5; NJSLS-G-SRT.A.3; NJSLS-G-SRT.A.4*
3. Use indirect measurement and similarity. *[Standard]* - Prove theorems about triangles.	**3.** *NJSLS-G-SRT.B.5*

Inter-Disciplinary Connections:

Real-World problem solving examples: Painting a mural(pg.357), environmental study-estimating(pg.359), tiling a room, international standard paper sizes, currency exchange(pg.362), blueprint of scale drawing(pg.365), finding distance from a scale drawing of a map, finding actual size if the Reunion Tower in Dallas, Tx.(pg. 366), architecture design(pg. 368), map reading and ramp designs, statistics(pg. 369), perimeter of similar swimming pools(pg. 374), aerial photography(pg. 386), building a lean-to shelter(pg. 390), shoe rack design(pg. 398), city travel(pg. 399& 402), real estate-finding lake frontage(pg. 402)

Inter-Disciplinary problem solving examples: larvae of the Mother-of-Pearl moth, batting average, how many teeth does a gear have, ratio for a recipe, (pg. 362), table tennis, digital projector, total eclipse of the sun(pg. 378), shadow of a flagpole(pg. 383), air hockey, measuring the width of a lake(pg. 386), racecar net, stain glass(pg. 393), estimating the height of a tree(pg. 394), perspective drawing(pg. 403)

Students will engage with the following text:

Larson Geometry 2007, 2011 by Houghton Mifflin Harcourt Publishing Group

Students will write:

Students will write about the following: how to write equivalent ratios (pg. 360), given certain ratios of measures of angles, explain if the triangle is acute or obtuse(pg. 361), given a scale model of a tower, explain how to determine how many times taller the actual tower is than the model(pg. 367), explain congruent and similar polygons(pg. 376), reasoning with scale factors(pg. 377), extending ratios of angle measures(pg. 377), explain their reasoning and give examples to support why a larger image can be similar to the original and how areas of similar rectangles relate to scale factor(pg. 397), why you cannot assume corresponding sides and corresponding angles of any two similar triangles are congruent(pg. 384), why all equilateral triangles are similar(pg. 386), based on the given descriptions of triangles and angle measures, explain whether the two triangles can be similar(pg. 393), compare the Midsegment Theorem and the Triangle Proportionality Theorem and explain how they are related(pg. 400). Students will also use Cornell Note taking strategies to reinforce vocabulary, writing, and study skills.

PART III: TRANSFER OF KNOWLEDGE AND SKILLS

DESCRIBE THE LEARNING EXPERIENCE.

How will students uncover content and build skills?

Opportunities for developing students' understanding in this chapter include: investigating geometry activities, problem solving workshops, modeling examples, using real-life application and construction of models or other hands on activities such as projects. Technology such as SMART board, graphing calculators, and Geometer's Sketchpad will also be explored through the learning experience. Other interests could include, but is not limited to alternative lesson openers, using note-taking strategies, math and history applications, and interdisciplinary applications.

Suggested warm-up activities, instructional strategies/activities, and assignments:

Section 6.1

	College Prep	College Prep Accelerated	College Prep Honors
Focus and Motivate Starting Options	Homework Check (5.6): TE p. 339; Answer Transparencies Daily Homework Quiz (5.6): TE p. 341 Warm-Up: TE p. 356 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 357	Homework Check (5.6): TE p. 339; Answer Transparencies Daily Homework Quiz (5.6): TE p. 341 Warm-Up: TE p. 356 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 357	Homework Check (5.6): TE p. 339; Answer Transparencies Daily Homework Quiz (5.6): TE p. 341 Warm-Up: TE p. 356 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 357
Teach Teaching Options	Essential Question: TE p. 356 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 5 Examples 1–6: PE pp. 356–359 Extra Examples 1–6 with Key Questions: TE pp. 357–359 Real-Life Application: Chapter Resource Book p. 15 Note taking Guide pp. 140–144	Essential Question: TE p. 356 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 5 Examples 1–6: PE pp. 356–359 Extra Examples 1–6 with Key Questions: TE pp. 357–359 Real-Life Application: Chapter Resource Book p. 15 Note taking Guide pp. 140–144	Essential Question: TE p. 356 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 5 Examples 1–6: PE pp. 356–359 Extra Examples 1–6 with Key Questions: TE pp. 357–359 Real-Life Application: Chapter Resource Book p. 15 Note taking Guide pp. 140–144
Checking for Understanding	Closing the Lesson: TE p. 359 Guided Practice Exercises: PE pp. 356–359	Closing the Lesson: TE p. 359 Guided Practice Exercises: PE pp. 356–359	Closing the Lesson: TE p. 359 Guided Practice Exercises: PE pp. 356–359
Practice and Apply Assigning Homework	CP: Day 1: EP p. 902 Exs. 4–6; pp. 360–363 Exs. 1–22, 38–41, 57, 76–80; Day 2: pp. 360–363 Exs. 23–37, 42–45, 59–64, 72–75 Practice Masters: Chapter Resource Book pp. 6–11 (Levels A, B, or C)	CPA: Day 1: pp. 360–363 Exs. 1, 2, 5–8, 11–22, 37–41, 46–51, 53, 57, 58; Day 2: pp. 360–363 Exs. 25–28, 33–35, 42–45, 52, 54, 59–67, 72–80 Practice Masters: Chapter Resource Book pp. 6–11 (Levels A, B, or C)	Advanced: Day 1: pp. 360–363 Exs. 1, 2, 8–10, 12, 13, 16–19, 21, 22, 37–41, 46–51, 53, 56*, 57; Day 2: pp. 360–363 Exs. 28–30, 34–36, 42–45, 52, 54, 55, 60–71*, 72–80 even Practice Masters: Chapter Resource Book pp. 6–11 (Levels A, B, or C)

Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 12–13 Tutorial Software Challenge: Chapter Resource Book p. 16	Study Guide: Chapter Resource Book pp. 12–13 Tutorial Software Challenge: Chapter Resource Book p. 16	Study Guide: Chapter Resource Book pp. 12–13 Tutorial Software Challenge: Chapter Resource Book p. 16

Section 6.2

	College Prep	**College Prep Accelerated**	**College Prep Honors**
Focus and Motivate **Starting Options**	Homework Check (6.1): TE p. 360; Answer Transparencies Daily Homework Quiz (6.1): TE p. 363 Warm-Up: TE p. 364 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 36	Homework Check (6.1): TE p. 360; Answer Transparencies Daily Homework Quiz (6.1): TE p. 363 Warm-Up: TE p. 364 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 36	Homework Check (6.1): TE p. 360; Answer Transparencies Daily Homework Quiz (6.1): TE p. 363 Warm-Up: TE p. 364 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 36
Teach **Teaching Options**	Essential Question: TE p. 364 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 364–366 Extra Examples 1–5 with Key Questions: TE pp. 365–366 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 28 Notetaking Guide pp. 145–148	Essential Question: TE p. 364 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 364–366 Extra Examples 1–5 with Key Questions: TE pp. 365–366 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 28 Notetaking Guide pp. 145–148	Essential Question: TE p. 364 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 364–366 Extra Examples 1–5 with Key Questions: TE pp. 365–366 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 28 Notetaking Guide pp. 145–148
Checking for Understanding	Closing the Lesson: TE p. 366 Guided Practice Exercises: PE pp. 365–366	Closing the Lesson: TE p. 366 Guided Practice Exercises: PE pp. 365–366	Closing the Lesson: TE p. 366 Guided Practice Exercises: PE pp. 365–366
Practice and Apply **Assigning Homework**	CP: Day 1: SRH p. 875 Exs. 32–36; pp. 367 –370 Exs. 1–16, 22–29, 38–40 Practice Masters: Chapter Resource Book pp. 19–24 (Levels A, B, or C)	CPA: Day 1: pp. 367–370 Exs. 1, 2, 4–6, 8–18, 22–33, 38, 39 Practice Masters: Chapter Resource Book pp. 19–24 (Levels A, B, or C)	CPH: Day 1: pp. 367–370 Exs. 1, 2, 5, 6, 9, 10–18 even, 19–38*, 40 Practice Masters: Chapter Resource Book pp. 19–24 (Levels A, B, or C)
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 25–26 Tutorial Software Challenge: Chapter Resource Book p. 29	Study Guide: Chapter Resource Book pp. 25–26 Tutorial Software Challenge: Chapter Resource Book p. 29	Study Guide: Chapter Resource Book pp. 25–26 Tutorial Software Challenge: Chapter Resource Book p. 29

Section 6.3

	College Prep	**College Prep Accelerated**	**College Prep Honors**
Focus and Motivate **Starting Options**	Homework Check (6.2): TE p. 367; Answer Transparencies Daily Homework Quiz (6.2): TE p. 370 Warm-Up: TE p. 372 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 373	Homework Check (6.2): TE p. 367; Answer Transparencies Daily Homework Quiz (6.2): TE p. 370 Warm-Up: TE p. 372 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 373	Homework Check (6.2): TE p. 367; Answer Transparencies Daily Homework Quiz (6.2): TE p. 370 Warm-Up: TE p. 372 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 373

Teach **Teaching Options**	Essential Question: TE p. 372 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 372–375 Extra Examples 1–5 with Key Questions: TE pp. 373–375 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp. 41–42 Notetaking Guide pp. 149–152	Essential Question: TE p. 372 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 372–375 Extra Examples 1–5 with Key Questions: TE pp. 373–375 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp. 41–42 Notetaking Guide pp. 149–152	Essential Question: TE p. 372 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 372–375 Extra Examples 1–5 with Key Questions: TE pp. 373–375 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp. 41–42 Notetaking Guide pp. 149–152
Checking for Understanding	Closing the Lesson: TE p. 375 Guided Practice Exercises: PE pp. 372–375	Closing the Lesson: TE p. 375 Guided Practice Exercises: PE pp. 372–375	Closing the Lesson: TE p. 375 Guided Practice Exercises: PE pp. 372–375
Practice and Apply **Assigning Homework**	CP: Day 1: pp. 376–379 Exs. 1–10, 14–18, 31, 32; Day 2: pp. 376–379 Exs. 11–13, 19– 22, 33–35, 40–48 Practice Masters: Chapter Resource Book pp. 32–37 (Levels A, B, or C)	CPA: Day 1: pp. 376–379 Exs. 1–10, 14– 18, 23–26, 31, 32; Day 2: pp. 376–379 Exs. 11–13, 19– 22, 27, 28, 33–36, 40–48 even Practice Masters: Chapter Resource Book pp. 32–37 (Levels A, B, or C)	CPH: Day 1: pp. 376–379 Exs. 1, 2, 4–10, 14– 18, 23–26, 29–32*; Day 2: pp. 376–379 Exs. 11, 12, 19–22, 27, 28, 33–39*, 42, 45, 48 Practice Masters: Chapter Resource Book pp. 32–37 (Levels A, B, or C)
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 38–39 Tutorial Software Challenge: Chapter Resource Book p. 43	Study Guide: Chapter Resource Book pp. 38–39 Tutorial Software Challenge: Chapter Resource Book p. 43	Study Guide: Chapter Resource Book pp. 38–39 Tutorial Software Challenge: Chapter Resource Book p. 43

Section 6.4

	College Prep	**College Prep Accelerated**	**College Prep Honors**
Focus and Motivate **Starting Options**	Homework Check (6.3): TE p. 376; Answer Transparencies Daily Homework Quiz (6.3) Warm-Up: TE p. 381 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 382	Homework Check (6.3): TE p. 376; Answer Transparencies Daily Homework Quiz (6.3) Warm-Up: TE p. 381 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 382	Homework Check (6.3): TE p. 376; Answer Transparencies Daily Homework Quiz (6.3) Warm-Up: TE p. 381 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 382
Teach **Teaching Options**	Essential Question: TE p. 381 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–3: PE pp. 382–383 Extra Examples 1–3 with Key Questions: TE pp. 382–383 Interdisciplinary Application: Chapter Resource Book p. 55 Note taking Guide pp. 153–155	Essential Question: TE p. 381 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–3: PE pp. 382–383 Extra Examples 1–3 with Key Questions: TE pp. 382–383 Interdisciplinary Application: Chapter Resource Book p. 55 Notetaking Guide pp. 153–155	Essential Question: TE p. 381 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–3: PE pp. 382–383 Extra Examples 1–3 with Key Questions: TE pp. 382–383 Interdisciplinary Application: Chapter Resource Book p. 55 Notetaking Guide pp. 153–155
Checking for Understanding	Closing the Lesson: TE p. 383 Guided Practice Exercises: PE pp. 382–383	Closing the Lesson: TE p. 383 Guided Practice Exercises: PE pp. 382–383	Closing the Lesson: TE p. 383 Guided Practice Exercises: PE pp. 382–383

Practice and Apply **Assigning Homework**	CPA: Day 1: pp. 384–387 Exs. 1, 2–12 even, 15–25, 31–37, 42–48 even Practice Masters: Chapter Resource Book pp. 46–51 (Levels A, B, or C)	CPA: Day 1: pp. 384–387 Exs. 1, 2–12 even, 15–25, 31–37, 42–48 even Practice Masters: Chapter Resource Book pp. 46–51 (Levels A, B, or C)	CPH: Day 1: pp. 384–387 Exs. 1, 2, 3–7 odd, 11–14, 16–30*, 32, 34–40*, 44, 45,49 Practice Masters: Chapter Resource Book pp. 46–51 (Levels A, B, or C)
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp.52–53 Tutorial Software Challenge: Chapter Resource Book p. 56	Study Guide: Chapter Resource Book pp.52–53 Tutorial Software Challenge: Chapter Resource Book p. 56	Study Guide: Chapter Resource Book pp.52–53 Tutorial Software Challenge: Chapter Resource Book p. 56

Section 6.5

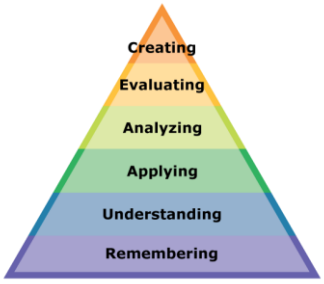
	College Prep	**College Prep Accelerated**	**College Prep Honors**
Focus and Motivate **Starting Options**	Homework Check (6.4): TE p. 384; Answer Transparencies Daily Homework Quiz (6.4): TE p. 387 Warm-Up: TE p. 388 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 389	Homework Check (6.4): TE p. 384; Answer Transparencies Daily Homework Quiz (6.4): TE p. 387 Warm-Up: TE p. 388 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 389	Homework Check (6.4): TE p. 384; Answer Transparencies Daily Homework Quiz (6.4): TE p. 387 Warm-Up: TE p. 388 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 389
Teach **Teaching Options**	Essential Question: TE p. 388 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 59 Examples 1–4: PE pp. 388–391 Extra Examples 1–4 with Key Questions: TE pp. 389–391 Math and History Application: Chapter Resource Book p. 69 Note taking Guide pp. 156–159	Essential Question: TE p. 388 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 59 Examples 1–4: PE pp. 388–391 Extra Examples 1–4 with Key Questions: TE pp. 389–391 Math and History Application: Chapter Resource Book p. 69 Notetaking Guide pp. 156–159	Essential Question: TE p. 388 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 59 Examples 1–4: PE pp. 388–391 Extra Examples 1–4 with Key Questions: TE pp. 389–391 Math and History Application: Chapter Resource Book p. 69 Notetaking Guide pp. 156–159
Checking for Understanding	Closing the Lesson: TE p. 391 Guided Practice Exercises: PE pp. 389, 391	Closing the Lesson: TE p. 391 Guided Practice Exercises: PE pp. 389, 391	Closing the Lesson: TE p. 391 Guided Practice Exercises: PE pp. 389, 391
Practice and Apply **Assigning Homework**	CPA: Day 1: pp. 391–395 Exs. 1–6, 18–23, 28–30, 32, 40, 42; Day 2: pp. 391–395 Exs. 7–17, 24, 31, 33–37, 43 Practice Masters: Chapter Resource Book pp. 60–65 (Levels A, B, or C)	CPA: Day 1: pp. 391–395 Exs. 1–6, 18–23, 28–30, 32, 40, 42; Day 2: pp. 391–395 Exs. 7–17, 24, 31, 33–37, 43 Practice Masters: Chapter Resource Book pp. 60–65 (Levels A, B, or C)	Advanced: Day 1: pp. 391–395 Exs. 1, 2, 5, 6, 18–23, 25–30*, 32, 41; Day 2: pp. 391–395 Exs. 8, 9, 11, 12, 14–17, 24, 31, 33 –38*, 44 Practice Masters: Chapter Resource Book pp. 60–65 (Levels A, B, or C)
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 66–67 Tutorial Software Challenge: Chapter Resource Book p. 70	Study Guide: Chapter Resource Book pp. 66–67 Tutorial Software Challenge: Chapter Resource Book p. 70	Study Guide: Chapter Resource Book pp. 66–67 Tutorial Software Challenge: Chapter Resource Book p. 70

Section 6.6

	College Prep	College Prep Accelerated	College Prep Honors
Focus and Motivate **Starting Options**	Homework Check (6.5): TE p. 392; Answer Transparencies Daily Homework Quiz (6.5): TE p. 395 Warm-Up: TE p. 397 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 398	Homework Check (6.5): TE p. 392; Answer Transparencies Daily Homework Quiz (6.5): TE p. 395 Warm-Up: TE p. 397 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 398	Homework Check (6.5): TE p. 392; Answer Transparencies Daily Homework Quiz (6.5): TE p. 395 Warm-Up: TE p. 397 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 398
Teach **Teaching Options**	Essential Question: TE p. 397 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 73 Examples 1–4: PE pp. 397–399 Extra Examples 1–4 with Key Questions: TE pp. 398–399 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 83 Note taking Guide pp. 160–163	Essential Question: TE p. 397 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 73 Examples 1–4: PE pp. 397–399 Extra Examples 1–4 with Key Questions: TE pp. 398–399 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 83 Notetaking Guide pp. 160–163	Essential Question: TE p. 397 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 73 Examples 1–4: PE pp. 397–399 Extra Examples 1–4 with Key Questions: TE pp. 398–399 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 83 Notetaking Guide pp. 160–163
Checking for Understanding	Closing the Lesson: TE p. 399 Guided Practice Exercises: PE pp. 398–399	Closing the Lesson: TE p. 399 Guided Practice Exercises: PE pp. 398–399	Closing the Lesson: TE p. 399 Guided Practice Exercises: PE pp. 398–399
Practice and Apply **Assigning Homework**	CPA: Day 1: pp. 400–403 Exs. 1–7, 13, 16, 22, 30–36; Day 2: pp. 400–403 Exs. 8–12, 14, 15, 17–19, 21, 23–28 Practice Masters: Chapter Resource Book pp. 74–79 (Levels A, B, or C)	CPA: Day 1: pp. 400–403 Exs. 1–7, 13, 16, 22, 30–36; Day 2: pp. 400–403 Exs. 8–12, 14, 15, 17–19, 21, 23–28 Practice Masters: Chapter Resource Book pp. 74–79 (Levels A, B, or C)	CPH: Day 1: pp. 400–403 Exs. 1–7, 13, 16, 22, 30–36; Day 2: pp. 400–403 Exs. 8, 10, 11, 14, 15, 17–21*, 23–29* Practice Masters: Chapter Resource Book pp. 74–79 (Levels A, B, or C)
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 80–81 Tutorial Software Challenge: Chapter Resource Book p. 84	Study Guide: Chapter Resource Book pp. 80–81 Tutorial Software Challenge: Chapter Resource Book p. 84	Study Guide: Chapter Resource Book pp. 80–81 Tutorial Software Challenge: Chapter Resource Book p. 84

PART IV: EVIDENCE OF LEARNING

IDENTIFY THE METHODS BY WHICH STUDENTS WILL DEMONSTRATE THEIR UNDERSTANDING OF CONTENT AND THEIR ABILITY TO APPLY SKILLS.
IDENTIFY BLOOM'S LEVELS.



Formative Assessments:

The effectiveness of the instructional program will be based on numerous activities and strategies including the following: teacher observations, students collaborating with peers, questioning strategies, student record-keeping, quizzes, exit/admit assignments, peer/self assessments, learning/response logs, discussions and practice presentations.

Accommodations/Modifications:

- Use manipulatives to represent shapes.
- Provide guided notes/handouts.
- Break problems into smaller pieces.
- Have students keep an organized binder.
- Allow students to use calculator.
- Review needed skills prior to the lesson.
- Provide checklists for solving problems.
- Provide index cards to make flashcards for vocabulary with visuals.
- Have students highlight important words in the directions.

Summative Assessments:

The following assessments will be used to evaluate student learning, skill acquisition and academic achievement of the Standards of Mathematical Practice and the New Jersey Learning Standards for Mathematics listed under each chapter in the Geometry curriculum/syllabus at the conclusion of an instructional time period.

- Diagnostic Pre-Test
- Chapter Tests
- Periodic Benchmark Tests
- End-Of –Course Assessment
- Standardized Tests

Accommodations/Modifications:

Benchmark tests, chapter tests and End of Course tests may have:

- prompts
- examples
- bolded directions
- extra space between problems to show work
- chunked (given one page at a time) to keep students focused
- use of a calculator
- parts of assessment read aloud

Performance Assessments:

Performance tasks, projects, display of student work

Accommodations/Modifications:

Projects should include:

- a comprehensive guide
- rubric
- a visual example for students to follow as a reference

Black Horse Pike Regional School District Curriculum Template

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

PART I: UNIT RATIONALE

WHY ARE STUDENTS LEARNING THIS CONTENT AND THESE SKILLS?

Course Title: Geometry/Right Triangles and Trigonometry **Grade Level(s):** 9-12	**Unit Summary**: In this unit, students will investigate side lengths and angles in triangles. They will use the Pythagorean Theorem to find side lengths in right triangles, and its converse to classify triangles. Students explore ratios of lengths formed by an altitude to the hypotenuse of a right triangle and use the ratios of side lengths for a 45°- 45°- 90° triangle and a 30°- 60°- 90° triangle. Finally, students apply trigonometric ratios to find side lengths and angle measures in triangles**.**
Essential Question(s): • How do you apply the Pythagorean Theorem and its converse? • How do you use similar right triangles and the relationships among the sides in special right triangles? • How do you apply the tangent ratio for indirect measurement and use trigonometric ratios to solve right triangles?	**Enduring Understanding(s):** Students will be able to: • Find side lengths in right triangles • Use the converse of the Pythagorean Theorem to determine if a triangle is a right triangle • Use properties of the altitude of a right triangle • Use relationships among the sides in special right triangles • Use tangent ratio for indirect measurement • Use the sine and cosine ratios • Use inverse tangent, sine, and cosine ratios

PART II: INSTRUCTIONAL STRATEGIES AND RESOURCES

DESCRIBE THE LEARNING TARGETS.

After each target, identify the New Jersey Student Learning Standards that are applicable

Learning Target	**NJSLS:**
1. Use the Pythagorean Theorem and its converse. *[Standard]* - Explain a proof of the Pythagorean Theorem and its converse. *[Standard]* - Apply the Pythagorean Theorem to determine unknown side lengths in right triangles in real-world and mathematical problems in two and three dimensions. *[Standard]* - Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula. *[Standard]* - Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.	**1.** *NJSLS-8.G.B.6; NJSLS-8.G.B.7; NJSLS-G-GPE.B.7 NJSLS-G-SRT.C.8;*

2. Use special relationships in right triangles. *[Standard]* - Prove theorems about triangles. *[Standard]* - Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures. *[Standard]* - Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles.	**2.** *NJSLS-G-SRT.B.4; NJSLS-G-SRT.B.5; NJSLS-G-SRT.C.6*
3. Use trigonometric ratios to solve right triangles *[Standard]* - Understand that by similarity, side ratios in right triangles are properties of the angles in the triangle, leading to definitions of trigonometric ratios for acute angles. *[Standard]* - Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems. *[Standard]* - Derive the formula $A = 1/2\ ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.	**3.** *NJSLS-G-SRT.C.6; NJSLS-G-SRT.C.8; NJSLS-G-SRT.D.9;*

Inter-Disciplinary Connections:

Real-World problem solving examples: shortest distance traveled at campsite(pg. 439), installing the mast on a catamaran(pg. 443), direction of the library(pg. 445), finding maximum depth of a pool(pg. 450), cost of installation of a rock climbing wall(pg. 452), find the height of the roof of the doghouse(pg. 455), determining height of monument(pg. 455), height of a logo(pg. 459), find the height of the body of a dump truck when it is raised(pg. 460), determine the height of a kayak ramp(pg. 463), drawbridge height(pg. 463), creating a quilt(pg. 463),find the height of a lamppost(pg. 468),find the height of the Washington Monument(pg. 471), find the height of a roller coaster(pg. 471), class picture(pg. 471), length of cable for a dog run(pg. 474), how far to ski down a mountain given the angle of depression(pg. 475), angle of elevation for a skateboard ramp(pg. 476), find the length of an airplane ramp(pg. 479), find the horizontal distance bleachers cover(pg. 479), hang a banner(pg. 479), building a raked stage(pg. 485), given the angle of depression, find out how far the hiker is from the base of the plateau(pg. 488), building saddle racks(pg. 488), securing guy wires for wind generators(pg. 488)

Inter-Disciplinary problem solving examples: distance a baseball travels from home plate directly to second base(pg. 438),height of a balloon(pg. 438), determine corners of a painting to be 90°(pg. 445), determining if volleyball pole is perpendicular to the ground(pg. 446), angle of elevation of a soccer kick(pg. 487),

Students will engage with the following text:

Larson Geometry 2007, 2011 by Houghton Mifflin Harcourt Publishing Group

Students will write:

Students will write about the following: using the Pythagorean Theorem (pg. 436 & pg. 444), geometric mean(pg. 453), why acute angles in an isosceles right triangle always measure 45°, solving a problem in a different way(pg. 462), describing what you must know about a triangle in order to use the tangent ratio(pg. 469), explain how to tell which side of a right triangle is adjacent to an angle and which side is the hypotenuse(pg. 477), error analysis on the sine of an angle(pg. 477), using sine ratio and cosine ratio(pg. 478), explain when to use a trigonometric ratio to find a side length of a right triangle and when to use the Pythagorean Theorem(pg. 485), and explain how to use the appropriate function to determine the measure of an angle given the proper ratio of sides(pg. 487). Students will also utilize Cornell Note Taking strategies to reinforce vocabulary, writing, and study skills.

PART III: TRANSFER OF KNOWLEDGE AND SKILLS

DESCRIBE THE LEARNING EXPERIENCE.

How will students uncover content and build skills?

Opportunities for developing students' understanding in this chapter include: investigating geometry activities, problem solving workshops, modeling examples, using real-life application and construction of models or other hands on activities such as projects. Technology such as SMART board, graphing calculators, and Geometer's Sketchpad will also be explored through the learning experience. Other interests could include, but is not limited to alternative lesson openers, using note-taking strategies, math and history applications, and interdisciplinary applications.

Suggested warm-up activities, instructional strategies/activities, and assignments:

Section 7.1

Section 7.1	College Prep	College Prep Accelerated	College Prep Honors
Focus and Motivate **Starting Options**	Homework Check (6.6): TE p. 400; Answer Transparencies Daily Homework Quiz (6.6): TE p. 403 Warm-Up: TE p. 433 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 434	Homework Check (6.6): TE p.400 Answer Transparencies Daily Homework Quiz (6.6): TE p. 403 Warm-Up: TE p. 433 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 434	Homework Check (6.6): TE p.400 Answer Transparencies Daily Homework Quiz (6.6): TE p. 403 Warm-Up: TE p. 433 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 434
Teach **Teaching Options**	Essential Question: TE p. 433 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 5–7 Examples 1–4: PE pp. 433–436 Extra Examples 1–4 with Key Questions: TE pp. 434–436 Real-Life Application: Chapter Resource Book p. 17 Notetaking Guide pp. 170–173	Essential Question: TE p. 433 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 5–7 Examples 1–4: PE pp. 433–436 Extra Examples 1–4 with Key Questions: TE pp. 434–436 Real-Life Application: Chapter Resource Book p. 17 Notetaking Guide pp. 170–173	Essential Question: TE p. 433 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 5–7 Examples 1–4: PE pp. 433–436 Extra Examples 1–4 with Key Questions: TE pp. 434–436 Real-Life Application: Chapter Resource Book p. 17 Notetaking Guide pp. 170–173

Checking for Understanding	Closing the Lesson: TE p. 436 Guided Practice Exercises: PE pp. 433–436	Closing the Lesson: TE p. 436 Guided Practice Exercises: PE pp. 433–436	Closing the Lesson: TE p. 436 Guided Practice Exercises: PE pp. 433–436
Practice and Apply Assigning Homework	CP: Day 1: SRH p. 874 Exs. 1–4, 6, 7; pp. 436-439 Exs. 1–10, 31–33, 49, 50; Day 2: pp. 436–439 Exs. 11–23, 34, 35, 39–48 Practice Masters: Chapter Resource Book pp. 8–13 (Levels A, B, or C)	CPA: Day 1: pp. 436–439 Exs. 1, 2, 4–9, 24–26, 31–33, 49, 50; Day 2: pp. 436–439 Exs. 12, 13, 15–17, 20–22, 27, 28, 34–37, 40, 44, 47 Practice Masters: Chapter Resource Book pp. 8–13 (Levels A, B, or C)	CPH: Day 1: pp. 436–439 Exs. 1, 2, 4, 5, 9, 10, 24–26, 31–33, 36–38*, 49, 50; Day 2: pp. 436– 439 Exs. 13, 16, 17, 21–23, 27–30*, 34, 35, 42, 48 Practice Masters: Chapter Resource Book pp. 8–13 (Levels A, B, or C)
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 14–15 Tutorial Software Challenge: Chapter Resource Book p. 18	Study Guide: Chapter Resource Book pp. 14–15 Tutorial Software Challenge: Chapter Resource Book p. 18	Study Guide: Chapter Resource Book pp. 14–15 Tutorial Software Challenge: Chapter Resource Book p. 18

Section 7.2

Section 7.2	**College Prep**	**College Prep Accelerated**	**College Prep Honors**
Focus and Motivate Starting Options	Homework Check (7.1): TE p. 437; Answer Transparencies Daily Homework Quiz (7.1): TE p. 439 Warm-Up: TE p.441 of Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 442	Homework Check (7.1): TE p. 437; Answer Transparencies Daily Homework Quiz (7.1): TE p. 439 Warm-Up: TE p.441 of Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 442	Homework Check (7.1): TE p. 437; Answer Transparencies Daily Homework Quiz (7.1): TE p. 439 Warm-Up: TE p.441 of Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 442
Teach Teaching Options	Essential Questions: TE p. 441 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator: Chapter Resource Book p. 21 Examples 1–3: PE pp. 441–443 Extra Examples 1–3 with Key Questions: TE pp. 442–443 Interdisciplinary Application: Chapter Resource Book p. 31 Notetaking Guide pp. 174–177	Essential Questions: TE p. 441 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator: Chapter Resource Book p. 21 Examples 1–3: PE pp. 441–443 Extra Examples 1–3 with Key Questions: TE pp. 442–443 Interdisciplinary Application: Chapter Resource Book p. 31 Notetaking Guide pp. 174–177	Essential Questions: TE p. 441 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator: Chapter Resource Book p. 21 Examples 1–3: PE pp. 441–443 Extra Examples 1–3 with Key Questions: TE pp. 442–443 Interdisciplinary Application: Chapter Resource Book p. 31 Notetaking Guide pp. 174–177
Checking for Understanding	Closing the Lesson: TE p. 443 Guided Practice Exercises: PE pp. 441, 443	Closing the Lesson: TE p. 443 Guided Practice Exercises: PE pp. 441, 443	Closing the Lesson: TE p. 443 Guided Practice Exercises: PE pp. 441, 443
Practice and Apply Assigning Homework	CP: Day 1:pp.444–447 Exs. 1–7, 9–11, 15–18, 24–28, 35–40, 46–52 Practice Masters: Chapter Resource Book pp. 22–27 (Levels A, B, or C)	CPA: Day 1: pp. 444–447 Exs. 1, 2, 5–7, 10–12, 18–20, 24–31, 35–44, 47, 50, 52 Practice Masters: Chapter Resource Book pp. 22–27 (Levels A, B, or C)	CPH:Day 1: pp. 444–447 Exs. 1, 2, 7, 8, 12–14, 21–25, 27–35*, 37–45*, 48, 51, 52 Practice Masters: Chapter Resource Book pp. 22–27 (Levels A, B, or C)

Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 28–29 Tutorial Software Challenge: Chapter Resource Book p. 32	Study Guide: Chapter Resource Book pp. 28–29 Tutorial Software Challenge: Chapter Resource Book p. 32	Study Guide: Chapter Resource Book pp. 28–29 Tutorial Software Challenge: Chapter Resource Book p. 32

Section 7.3

Section 7.3	College Prep	College Prep Accelerated	College Prep Honors
Focus and Motivate **Starting Options**	Homework Check (7.2): TE p. 444; Answer Transparencies Daily Homework Quiz (7.2): TE p. 447 Warm-Up: TE p. 449 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 450	Homework Check (7.2): TE p. 444; Answer Transparencies Daily Homework Quiz (7.2): TE p. 447 Warm-Up: TE p. 449 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 450	Homework Check (7.2): TE p. 444; Answer Transparencies Daily Homework Quiz (7.2): TE p. 447 Warm-Up: TE p. 449 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 450
Teach **Teaching Options**	Essential Question: TE p. 449 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–4: PE pp. 449–452 Extra Examples 1–4 with Key Questions: TE pp. 450–452 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 44 Note taking Guide pp. 178–181	Essential Question: TE p. 449 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–4: PE pp. 449–452 Extra Examples 1–4 with Key Questions: TE pp. 450–452 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 44 Note taking Guide pp. 178–181	Essential Question: TE p. 449 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–4: PE pp. 449–452 Extra Examples 1–4 with Key Questions: TE pp. 450–452 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 44 Note taking Guide pp. 178–181
Checking for Understanding	Closing the Lesson: TE p. 452 Guided Practice Exercises: PE pp. 450, 452	Closing the Lesson: TE p. 452 Guided Practice Exercises: PE pp. 450, 452	Closing the Lesson: TE p. 452 Guided Practice Exercises: PE pp. 450, 452
Practice and Apply **Assigning Homework**	CP: Day 1: EP p. 906 Exs. 5, 6, 13–16; pp. 453–456 Exs. 1–7, 13–15, 39–49; Day 2: pp. 453–456 Exs. 8–12, 16–21, 29–33 Practice Masters: Chapter Resource Book pp. 35–40 (Levels A, B, or C)	CPA: Day 1: pp. 453–456 Exs. 1–7, 13–15, 19, 20, 39–49; Day 2: pp. 453–456 Exs. 8–12, 16–18, 22–26, 30–37 Practice Masters: Chapter Resource Book pp. 35–40 (Levels A, B, or C)	CPH: Day 1: pp. 453–456 Exs. 1–7, 13–15, 19, 20, 28*, 39–49; Day 2: pp. 453–456 Exs. 9, 10, 17, 18, 21–27, 31–38* Practice Masters: Chapter Resource Book pp. 35–40 (Levels A, B, or C)
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 41–42 Tutorial Software Challenge: Chapter Resource Book p. 45	Study Guide: Chapter Resource Book pp. 41–42 Tutorial Software Challenge: Chapter Resource Book p. 45	Study Guide: Chapter Resource Book pp. 41–42 Tutorial Software Challenge: Chapter Resource Book p. 45

Section 7.4

Section 7.4	College Prep	College Prep Accelerated	College Prep Honors
Focus and Motivate **Starting Options**	Homework Check (7.3): TE p. 453; Answer Transparencies Daily Homework Quiz (7.3): TE p. 456 Warm-Up: TE p. 457 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 458	Homework Check (7.3): TE p. 453; Answer Transparencies Daily Homework Quiz (7.3): TE p. 456 Warm-Up: TE p. 457 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 458	Homework Check (7.3): TE p. 453; Answer Transparencies Daily Homework Quiz (7.3): TE p. 456 Warm-Up: TE p. 457 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 458

Teach **Teaching Options**	Essential Question: TE p. 457 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 48 Examples 1–6: PE pp. 457–460 Extra Examples 1–6 with Key Questions: TE pp. 458–460 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp. 58–59 Notetaking Guide pp. 182–185	Essential Question: TE p. 457 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 48 Examples 1–6: PE pp. 457–460 Extra Examples 1–6 with Key Questions: TE pp. 458–460 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp. 58–59 Notetaking Guide pp. 182–185	Essential Question: TE p. 457 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 48 Examples 1–6: PE pp. 457–460 Extra Examples 1–6 with Key Questions: TE pp. 458–460 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp. 58–59 Notetaking Guide pp. 182–185
Checking for Understanding	Closing the Lesson: TE p. 460 Guided Practice Exercises: PE pp. 458, 460	Closing the Lesson: TE p. 460 Guided Practice Exercises: PE pp. 458, 460	Closing the Lesson: TE p. 460 Guided Practice Exercises: PE pp. 458, 460
Practice and Apply **Assigning Homework**	CP: Day 1: SRH p. 874 Exs. 17, 18, 22–24; pp. 461–464 Exs. 1–7, 11, 29, 30, 36–44; Day 2: pp. 461–464 Exs. 8–10, 12–19, 27, 28, 31 Practice Masters: Chapter Resource Book pp. 49–54 (Levels A, B, or C)	CPA: Day 1: pp. 461–464 Exs. 1–7, 11, 29, 30, 33, 36–44; Day 2: pp. 461–464 Exs. 8–10, 12, 16–25, 27, 28, 31, 32 Practice Masters: Chapter Resource Book pp. 49–54 (Levels A, B, or C)	CPH: Day 1: pp. 461–464 Exs. 1–7, 11, 29, 30, 33, 36–44; Day 2: pp. 461– 464 Exs. 9, 10, 17–28*, 31, 32, 34, 35* Practice Masters: Chapter Resource Book pp. 49–54 (Levels A, B, or C)
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 55–56 Tutorial Software Challenge: Chapter Resource Book p. 60	Study Guide: Chapter Resource Book pp. 55–56 Tutorial Software Challenge: Chapter Resource Book p. 60	Study Guide: Chapter Resource Book pp. 55–56 Tutorial Software Challenge: Chapter Resource Book p. 60

Section 7.5

Section 7.5	College Prep	College Prep Accelerated	College Prep Honors
Focus and Motivate **Starting Options**	Homework Check (7.4): TE p. 461; Answer Transparencies Daily Homework Quiz (7.4): TE p. 464 Warm-Up: TE p. 466 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 467	Homework Check (7.4): TE p. 461; Answer Transparencies Daily Homework Quiz (7.4): TE p. 464 Warm-Up: TE p. 466 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 467	Homework Check (7.4): TE p. 461; Answer Transparencies Daily Homework Quiz (7.4): TE p. 464 Warm-Up: TE p. 466 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 467
Teach **Teaching Options**	Essential Question: TE p. 466 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–4: PE pp. 467–468 Extra Examples 1–4 with Key Questions: TE pp. 467–468 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 72 Notetaking Guide pp. 186–188	Essential Question: TE p. 466 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–4: PE pp. 467–468 Extra Examples 1–4 with Key Questions: TE pp. 467–468 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 72 Notetaking Guide pp. 186–188	Essential Question: TE p. 466 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–4: PE pp. 467–468 Extra Examples 1–4 with Key Questions: TE pp. 467–468 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 72 Notetaking Guide pp. 186–188
Checking for Understanding	Closing the Lesson: TE p. 468 Guided Practice Exercises: PE pp. 467–468	Closing the Lesson: TE p. 468 Guided Practice Exercises: PE pp. 467–468	Closing the Lesson: TE p. 468 Guided Practice Exercises: PE pp. 467–468

Practice and Apply **Assigning Homework**	CP: Day 1: SRH p. 874 Exs. 25–28; pp. 469–472 Exs. 1–20, 31–35, 39–47 odd Practice Masters: Chapter Resource Book pp. 63–68 (Levels A, B, or C)	CPA: Day 1: pp. 469–472 Exs. 1, 2, 4–12 even, 13–26, 31–37, 40, 42, 46 Practice Masters: Chapter Resource Book pp. 63–68 (Levels A, B, or C)	CPH: Day 1: pp. 469–472 Exs. 1, 4–12 even, 15–30*, 32–38*, 41, 44, 47 Practice Masters: Chapter Resource Book pp. 63–68 (Levels A, B, or C)
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 69–70 Tutorial Software Challenge: Chapter Resource Book p. 73	Study Guide: Chapter Resource Book pp. 69–70 Tutorial Software Challenge: Chapter Resource Book p. 73	Study Guide: Chapter Resource Book pp. 69–70 Tutorial Software Challenge: Chapter Resource Book p. 73

Section 7.6

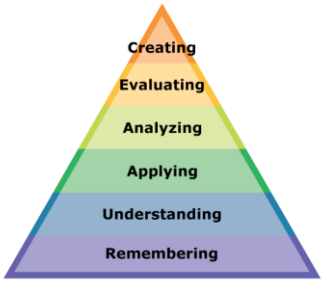
Section 7.6	**College Prep**	**College Prep Accelerated**	**College Prep Honors**
Focus and Motivate **Starting Options**	Homework Check (7.5): TE p. 469; Answer Transparencies Daily Homework Quiz (7.5): TE p. 472 Warm-Up: TE p. 473 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 474	Homework Check (7.5): TE p. 469; Answer Transparencies Daily Homework Quiz (7.5): TE p. 472 Warm-Up: TE p. 473 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 474	Homework Check (7.5): TE p. 469; Answer Transparencies Daily Homework Quiz (7.5): TE p. 472 Warm-Up: TE p. 473 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 474
Teach **Teaching Options**	Essential Question: TE p. 473 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 76–77 Examples 1–6: PE pp. 473–476 Extra Examples 1–6 with Key Questions: TE pp. 474–476 Interdisciplinary Application: Chapter Resource Book p. 87 Notetaking Guide pp. 189–193	Essential Question: TE p. 473 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 76–77 Examples 1–6: PE pp. 473–476 Extra Examples 1–6 with Key Questions: TE pp. 474–476 Interdisciplinary Application: Chapter Resource Book p. 87 Notetaking Guide pp. 189–193	Essential Question: TE p. 473 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 76–77 Examples 1–6: PE pp. 473–476 Extra Examples 1–6 with Key Questions: TE pp. 474–476 Interdisciplinary Application: Chapter Resource Book p. 87 Notetaking Guide pp. 189–193
Checking for Understanding	Closing the Lesson: TE p. 476 Guided Practice Exercises: PE pp. 473–476	Closing the Lesson: TE p. 476 Guided Practice Exercises: PE pp. 473–476	Closing the Lesson: TE p. 476 Guided Practice Exercises: PE pp. 473–476
Practice and Apply **Assigning Homework**	CP: Day 1: pp. 477–480 Exs. 1–15, 42–44; Day 2: pp. 477–480 Exs. 16–21, 33–38, 45–48 Practice Masters: Chapter Resource Book pp. 78–83 (Levels A, B, or C)	CPA: Day 1: pp. 477–480 Exs. 1, 2, 4–6, 8, 9, 11 –13, 19–27; Day 2: pp. 477–480 Exs. 16–18, 28, 29, 34–39, 42-48 even Practice Masters: Chapter Resource Book pp. 78–83 (Levels A, B, or C)	CPH: Day 1: pp. 477–480 Exs. 1, 2, 4, 5, 8, 9, 13–15, 19–27, 30, 31; Day 2: pp. 477–480 Exs. 16–18, 28, 29, 32*, 35–41*, 44–48 even Practice Masters: Chapter Resource Book pp. 78–83 (Levels A, B, or C)
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 84–85 Tutorial Software Challenge: Chapter Resource Book p. 88	Study Guide: Chapter Resource Book pp. 84–85 Tutorial Software Challenge: Chapter Resource Book p. 88	Study Guide: Chapter Resource Book pp. 84–85 Tutorial Software Challenge: Chapter Resource Book p. 88

Section 7.7

Section 7.7	College Prep	College Prep Accelerated	College Prep Honors
Focus and Motivate **Starting Options**	Homework Check (7.6): TE p. 477; Answer Transparencies Daily Homework Quiz (7.6): TE p. 480 Warm-Up: TE p. 483 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 484	Homework Check (7.6): TE p. 477; Answer Transparencies Daily Homework Quiz (7.6): TE p. 480 Warm-Up: TE p. 483 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 484	Homework Check (7.6): TE p. 477; Answer Transparencies Daily Homework Quiz (7.6): TE p. 480 Warm-Up: TE p. 483 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 484
Teach **Teaching Options**	Essential Question: TE p. 483 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 91 Examples 1–4: PE pp. 483–485 Extra Examples 1–4 with Key Questions: TE pp. 484–485 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 101 Notetaking Guide pp. 194–196	Essential Question: TE p. 483 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 91 Examples 1–4: PE pp. 483–485 Extra Examples 1–4 with Key Questions: TE pp. 484–485 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 101 Notetaking Guide pp. 194–196	Essential Question: TE p. 483 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 91 Examples 1–4: PE pp. 483–485 Extra Examples 1–4 with Key Questions: TE pp. 484–485 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 101 Notetaking Guide pp. 194–196
Checking for Understanding	Closing the Lesson: TE p. 485 Guided Practice Exercises: PE pp. 484–485	Closing the Lesson: TE p. 485 Guided Practice Exercises: PE pp. 484–485	Closing the Lesson: TE p. 485 Guided Practice Exercises: PE pp. 484–485
Practice and Apply **Assigning Homework**	CP: Day 1: pp. 485–489 Exs. 1–9, 19–24, 37; Day 2: pp. 485– 489 Exs. 10–18, 34–36, 38, 39, 43–48 Practice Masters: Chapter Resource Book pp. 92–97 (Levels A, B, or C)	CPA: Day 1: pp. 485–489 Exs. 1, 2, 4, 5, 7–9, 19–28, 37, 47, 48; Day 2: pp. 485–489 Exs. 12–16, 29–31, 34–36, 38-41, 43–46 Practice Masters: Chapter Resource Book pp. 92–97 (Levels A, B, or C)	CPH: Day 1: pp. 485–489 Exs. 1, 2, 4, 5, 8, 9, 19–28, 31, 32, 37, 47, 48; Day 2: pp. 485–489 Exs. 14–18, 29, 30, 33*, 35, 36, 38–42*, 43, 46 Practice Masters: Chapter Resource Book pp. 92–97 (Levels A, B, or C)
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 98–99 Tutorial Software Challenge: Chapter Resource Book p. 102	Study Guide: Chapter Resource Book pp. 98–99 Tutorial Software Challenge: Chapter Resource Book p. 102	Study Guide: Chapter Resource Book pp. 98–99 Tutorial Software Challenge: Chapter Resource Book p. 102

PART IV: EVIDENCE OF LEARNING

IDENTIFY THE METHODS BY WHICH STUDENTS WILL DEMONSTRATE THEIR UNDERSTANDING OF CONTENT AND THEIR ABILITY TO APPLY SKILLS. IDENTIFY BLOOM'S LEVELS.



Formative Assessments:

The effectiveness of the instructional program will be based on numerous activities and strategies including the following: teacher observations, students collaborating with peers, questioning strategies, student record-keeping, quizzes, exit/admit assignments, peer/self assessments, learning/response logs, discussions and practice presentations.

Accommodations/Modifications:

- Use manipulatives to represent shapes.
- Provide guided notes/handouts.
- Break problems into smaller pieces.
- Have students keep an organized binder.
- Allow students to use calculator.
- Review needed skills prior to the lesson.
- Provide checklists for solving problems.
- Provide index cards to make flashcards for vocabulary with visuals.
- Provide index cards to make flashcards with visuals and formulas.
- Have students highlight important words in the directions.

Summative Assessments:

The following assessments will be used to evaluate student learning, skill acquisition and academic achievement of the Standards of Mathematical Practice and the New Jersey Learning Standards for Mathematics listed under each chapter in the Geometry curriculum/syllabus at the conclusion of an instructional time period.

- Diagnostic Pre-Test
- Chapter Tests
- Periodic Benchmark Tests
- End-Of –Course Assessment
- Standardized Tests

Accommodations/Modifications:

Benchmark tests, chapter tests and End of Course tests may have:

- prompts
- examples
- bolded directions
- extra space between problems to show work
- chunked (given one page at a time) to keep students focused
- use of a calculator
- parts of assessment read aloud

Performance Assessments:

Performance tasks, projects, display of student work

Accommodations/Modifications:

Projects should include:

- a comprehensive guide
- rubric
- a visual example for students to follow as a reference

Black Horse Pike Regional School District Curriculum Template

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

PART I: UNIT RATIONALE

WHY ARE STUDENTS LEARNING THIS CONTENT AND THESE SKILLS?

Course Title: Geometry/Quadrilaterals **Grade Level(s):** 9-12	**Unit Summary**: In this unit, students will find angle measures in polygons. They will investigate properties of parallelograms and learn what information they can use to conclude that a quadrilateral is a parallelogram. Students will also study special quadrilaterals such as rhombuses, rectangles, squares, trapezoids, and kites.
Essential Question(s): • How do you use angle relationships in polygons to solve geometric problems? • How do you find angle and side measures in a parallelogram? • How can you prove that a quadrilateral is a parallelogram? • What are the properties of parallelograms that have all sides or all angles congruent? • How can you identify special quadrilaterals?	**Enduring Understanding(s):** Students will be able to: • Find angle measures in polygons. • Find angle and side measures in parallelograms. • Use properties to identify parallelograms. • Use properties of rhombuses, rectangles, and squares. • Use properties of trapezoids and kites. • Identify special quadrilaterals.

PART II: INSTRUCTIONAL STRATEGIES AND RESOURCES

DESCRIBE THE LEARNING TARGETS.

After each target, identify the New Jersey Student Learning Standards that are applicable

Learning Target	**NJSLS:**
1. Using angle relationships in polygons *[Standard]* - Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. *[Standard]* - Prove theorems about parallelograms.	**1.** *NJSLS-8.G.A.5; NJSLS-G-CO.C.11*
2. Using properties of parallelograms *[Standard]* - Prove theorems about parallelograms. *[Standard]* - Use congruence and similarity criteria for triangles to solve problems and	**2.** *NJSLS-G-CO.C.11; NJSLS-G-SRT.B.5; NJSLS-G-GPE.B.7*

to prove relationships in geometric figures. *[Standard]* - Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula. **3. Classifying quadrilaterals by their properties** *[Standard]* - Prove theorems about parallelograms. *[Standard]* - Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures. *[Standard]* - Use coordinates to prove simple geometric theorems algebraically.	**3.** *NJSLS-G-CO.C.11; NJSLS-G-SRT.B.5; NJSLS-G-GPE.B.4*

Inter-Disciplinary Connections:

Real-World problem solving examples: solve a problem about airplanes(pg. 520), architecture(pg. 524), shifting gears(pg. 526), automobile lift(pg. 528), building a frame for a window(pg. 536), marking off a square region of a patio(pg. 539), chest drawers(pg. 548), design a logo(pg. 548), design of a bridge that folds up into a octagon(pg. 548), real-world objects(pg. 556), photo of the Pyramid of Kukulcan in Mexico(pg. 556)

Inter-Disciplinary problem solving examples: Outline of baseball field(pg. 512), base of a jewelry box(pg. 512), using the floor of a greenhouse, find the measure of an interior and exterior angle(pg. 512), extending arm of a desk lamp & mirror(pg. 517 & 520), music stand(pg. 528)

Students will engage with the following text:

Larson Geometry 2007, 2011 by Houghton Mifflin Harcourt Publishing Group

Students will write:

Students will write about the following: exterior angles in an n-gon and the Polygon Exterior Angles Theorem(Pg. 510), how you would find angle measures of a parallelogram(pg. 518), why a moving platform on a ride is parallel to the ground(pg. 523), explain other methods to show a quadrilateral is a parallelogram(pg. 525), architecture(pg. 524), definition of a parallelogram(pg. 526), shifting gears(pg. 526), automobile lift(pg. 528) music stand(pg. 528), classify the special quadrilateral and explain your reasoning(pg. 534 & 538), list the properties for a square(pg. 535), building a frame for a window(pg. 536), list the properties for a rhombus(pg. 537), marking off a square region of a patio(pg. 539), the differences between a kite and a trapezoid(pg. 546), types of quadrilaterals(pg. 553 & 555), describing three methods one could use to prove that a parallelogram is a rhombus(pg. 554), why a parallelogram with one right angle must be a rectangle(pg. 556).

PART III: TRANSFER OF KNOWLEDGE AND SKILLS

DESCRIBE THE LEARNING EXPERIENCE.

How will students uncover content and build skills?

Students will uncover and build skills through various classroom activities. Investigating geometry activities, modeling examples, using real-life application, using note-taking strategies, and using technology like SMART board, graphing calculators, along with Geometer's Sketchpad will all be explored through the learning experience. Other interests could include, but is not limited to alternative lesson openers, math and history applications, problem solving workshops, interdisciplinary applications, and construction of models or other hands on activities such as projects.

Suggested warm-up activities, instructional strategies/activities, and assignments:

Section 8.1

Section 8.1	College Prep	College Prep Accelerated	College Prep Honors
Focus and Motivate **Starting Options**	Homework Check (7.7): TE p. 486; Answer Transparencies Daily Homework Quiz (7.7): TE p. 489 Warm-Up: TE p. 507 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 508	Homework Check (7.7): TE p. 486; Answer Transparencies Daily Homework Quiz (7.7): TE p. 489 Warm-Up: TE p. 507 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 508	Homework Check (7.7): TE p. 486; Answer Transparencies Daily Homework Quiz (7.7): TE p. 489 Warm-Up: TE p. 507 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 508
Teach **Teaching Options**	Essential Question: TE p. 507 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 507–510 Extra Examples 1–5 with Key Questions: TE pp. 508–510 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 14 Note taking Guide pp. 198–201	Essential Question: TE p. 507 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 507–510 Extra Examples 1–5 with Key Questions: TE pp. 508–510 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 14 Note taking Guide pp. 198–201	Essential Question: TE p. 507 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 507–510 Extra Examples 1–5 with Key Questions: TE pp. 508–510 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 14 Note taking Guide pp. 198–201
Checking for Understanding	Closing the Lesson: TE p. 510 Guided Practice Exercises: PE pp. 508–510	Closing the Lesson: TE p. 510 Guided Practice Exercises: PE pp. 508–510	Closing the Lesson: TE p. 510 Guided Practice Exercises: PE pp. 508–510
Practice and Apply **Assigning Homework**	CP: Day 1: EP p. 899 Exs. 25–30; pp. 510 –513 Exs. 1–10, 28, 29, 42–47; Day 2: pp. 510–513 Exs. 11 –23, 30–34, 39–41 Practice Masters: Chapter Resource Book pp. 5–10 (Levels A, B, or C)	CPA: Day 1: pp. 510–513 Exs. 1–10, 28, 29, 33, 34, 42–46 even; Day 2: pp. 510–513 Exs. 13–15, 17–25, 30–32, 35–37, 39–41 Practice Masters: Chapter Resource Book pp. 5–10 (Levels A, B, or C)	CPH: Day 1: pp. 510–513 Exs. 1–10, 28, 29, 33, 34, 43–47 odd; Day 2: pp. 510-513 Exs. 14–16, 18–27*, 30–32, 35–38*, 40 Practice Masters: Chapter Resource Book pp. 5–10 (Levels A, B, or C)
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 11–12 Tutorial Software Challenge: Chapter Resource Book p.15	Study Guide: Chapter Resource Book pp. 11–12 Tutorial Software Challenge: Chapter Resource Book p. 15	Study Guide: Chapter Resource Book pp. 11–12 Tutorial Software Challenge: Chapter Resource Book p. 15

Section 8.2

Section 8.2	College Prep	College Prep Accelerated	College Prep Honors
Focus and Motivate **Starting Options**	Homework Check (8.1): TE p. 511; Answer Transparencies Daily Homework Quiz (8.1): TE p. 513 Warm-Up: TE p. 515 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 516	Homework Check (8.1): TE p. 511; Answer Transparencies Daily Homework Quiz (8.1): TE p. 513 Warm-Up: TE p. 515 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 516	Homework Check (8.1): TE p. 511; Answer Transparencies Daily Homework Quiz (8.1): TE p. 513 Warm-Up: TE p. 515 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 516
Teach **Teaching Options**	Essential Question: TE p. 515 Alternative Lesson Openers: Electronic Classroom Classroom Activity:; Chapter Resource Book p. 18 Examples 1–3: PE pp. 515–517 Extra Examples 1–3 with Key Questions: TE pp. 516–517 Real-Life Application: Chapter Resource Book p. 28 Note taking Guide pp. 202–204	Essential Question: TE p. 515 Alternative Lesson Openers: Electronic Classroom Classroom Activity:; Chapter Resource Book p. 18 Examples 1–3: PE pp. 515–517 Extra Examples 1–3 with Key Questions: TE pp. 516–517 Real-Life Application: Chapter Resource Book p. 28 Note taking Guide pp. 202–204	Essential Question: TE p. 515 Alternative Lesson Openers: Electronic Classroom Classroom Activity:; Chapter Resource Book p. 18 Examples 1–3: PE pp. 515–517 Extra Examples 1–3 with Key Questions: TE pp. 516–517 Real-Life Application: Chapter Resource Book p. 28 Note taking Guide pp. 202–204
Checking for Understanding	Closing the Lesson: TE p. 517 Guided Practice Exercises: PE pp. 516–517	Closing the Lesson: TE p. 517 Guided Practice Exercises: PE pp. 516–517	Closing the Lesson: TE p. 517 Guided Practice Exercises: PE pp. 516–517
Practice and Apply **Assigning Homework**	CP: Day 1: EP p. 897 Exs. 35–40; pp. 518–521 Exs. 1–5, 9–19, 23–25, 38–41, 47–57 odd Practice Masters: Chapter Resource Book pp. 19–24 (Levels A, B, or C)	CP: Day 1: pp. 518–521 Exs. 1, 2, 5–7, 10–12, 14–16, 17–29 odd, 30–35, 38–43, 46, 50, 52, 56 Practice Masters: Chapter Resource Book pp. 19–24 (Levels A, B, or C)	CPH: Day 1: pp. 518–521 Exs. 1, 2, 7, 8, 10–12, 14–16, 20–28 even, 29–38*, 40–45*, 48, 54, 57 Practice Masters: Chapter Resource Book pp. 19–24 (Levels A, B, or C)
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 25–26 Tutorial Software Challenge: Chapter Resource Book p. 29	Study Guide: Chapter Resource Book pp. 25–26 Tutorial Software Challenge: Chapter Resource Book p. 29	Study Guide: Chapter Resource Book pp. 25–26 Tutorial Software Challenge: Chapter Resource Book p. 29

Section 8.3

Section 8.3	College Prep	College Prep Accelerated	College Prep Honors
Focus and Motivate **Starting Options**	Homework Check (8.2): TE p. 518; Answer Transparencies Daily Homework Quiz (8.2): TE p. 521 Warm-Up: TE p. 522 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 523	Homework Check (8.2): TE p. 518; Answer Transparencies Daily Homework Quiz (8.2): TE p. 521 Warm-Up: TE p. 522 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 523	Homework Check (8.2): TE p. 518; Answer Transparencies Daily Homework Quiz (8.2): TE p. 521 Warm-Up: TE p. 522 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 523
Teach **Teaching Options**	Essential Question: TE p. 522 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 32 Examples 1–4: PE pp. 523–525	Essential Question: TE p. 522 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 32 Examples 1–4: PE pp. 523–525	Essential Question: TE p. 522 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 32 Examples 1–4: PE pp. 523–525

	Extra Examples 1–4 with Key Questions: TE pp. 523–525 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp. 42–43 Note taking Guide pp. 205–208	Extra Examples 1–4 with Key Questions: TE pp. 523–525 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp. 42–43 Note taking Guide pp. 205–208	Extra Examples 1–4 with Key Questions: TE pp. 523–525 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp. 42–43 Note taking Guide pp. 205–208
Checking for Understanding	Closing the Lesson: TE p. 525 Guided Practice Exercises: PE pp. 523–525	Closing the Lesson: TE p. 525 Guided Practice Exercises: PE pp. 523–525	Closing the Lesson: TE p. 525 Guided Practice Exercises: PE pp. 523–525
Practice and Apply **Assigning Homework**	CPA: Day 1: pp. 526–529 Exs. 1–7, 19–23, 31, 32, 46; Day 2: pp. 526–529 Exs. 9, 10, 12–14, 16–18, 24–28, 33–40, 44 Practice Masters: Chapter Resource Book pp. 33–38 (Levels A, B, or C)	CPA: Day 1: pp. 526–529 Exs. 1–7, 19–23, 31, 32, 46; Day 2: pp. 526–529 Exs. 9, 10, 12–14, 16–18, 24–28, 33–40, 44 Practice Masters: Chapter Resource Book pp. 33–38 (Levels A, B, or C)	CPH: Day 1: pp. 526–529 Exs. 1, 2, 4–7, 19–23, 30-32*, 47; Day 2: pp. 526–529 Exs. 10, 13, 14, 16–18, 24–29, 34–42*, 45 Practice Masters: Chapter Resource Book pp. 33–38 (Levels A, B, or C)
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 39–40 Tutorial Software Challenge: Chapter Resource Book p. 44	Study Guide: Chapter Resource Book pp. 39–40 Tutorial Software Challenge: Chapter Resource Book p. 44	Study Guide: Chapter Resource Book pp. 39–40 Tutorial Software Challenge: Chapter Resource Book p. 44

Section 8.4

Section 8.4	College Prep	College Prep Accelerated	College Prep Honors
Focus and Motivate **Starting Options**	Homework Check (8.3): TE p. 526; Answer Transparencies Daily Homework Quiz (8.3): TE p. 529 Warm-Up: TE p. 533 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 534	Homework Check (8.3): TE p. 526; Answer Transparencies Daily Homework Quiz (8.3): TE p. 529 Warm-Up: TE p. 533 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 534	Homework Check (8.3): TE p. 526; Answer Transparencies Daily Homework Quiz (8.3): TE p. 529 Warm-Up: TE p. 533 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 534
Teach **Teaching Options**	Essential Question: TE p. 533 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 47–48 Examples 1–4: PE pp. 534–536 Extra Examples 1–4 with Key Questions: TE pp. 534–536 Interdisciplinary Application: Chapter Resource Book p. 58 Note taking Guide pp. 209–212	Essential Question: TE p. 533 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 47–48 Examples 1–4: PE pp. 534–536 Extra Examples 1–4 with Key Questions: TE pp. 534–536 Interdisciplinary Application: Chapter Resource Book p. 58 Note taking Guide pp. 209–212	Essential Question: TE p. 533 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 47–48 Examples 1–4: PE pp. 534–536 Extra Examples 1–4 with Key Questions: TE pp. 534–536 Interdisciplinary Application: Chapter Resource Book p. 58 Note taking Guide pp. 209–212
Checking for Understanding	Closing the Lesson: TE p. 536 Guided Practice Exercises: PE pp. 534–536	Closing the Lesson: TE p. 536 Guided Practice Exercises: PE pp. 534–536	Closing the Lesson: TE p. 536 Guided Practice Exercises: PE pp. 534–536

Practice and Apply **Assigning Homework**	CP: Day 1: EP p. 898 Exs. 12–17; pp. 537-540 Exs. 1–17, 54, 66–70; Day 2: pp. 537–540 Exs. 18–37, 55–59, 65 Practice Masters: Chapter Resource Book pp. 49–54 (Levels A, B, or C)	CPA: Day 1: pp. 537–540 Exs. 1, 2, 5–7, 10–12, 16, 17, 25–29, 54, 66–70; Day 2: pp. 537–540 Exs. 18, 21, 22, 30, 31, 32-50 even, 55–62, 65 Practice Masters: Chapter Resource Book pp. 49–54 (Levels A, B, or C)	CPH: Day 1: pp. 537–540 Exs. 1, 2, 7, 8, 12–14, 16, 17, 26–29, 52–54*, 66–70 even; Day 2: pp. 537–540 Exs. 18, 23, 24, 30, 31, 33–51 odd, 55, 59–65* Practice Masters: Chapter Resource Book pp. 49–54 (Levels A, B, or C)
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 55–56 Tutorial Software Challenge: Chapter Resource Book p. 59	Study Guide: Chapter Resource Book pp. 55–56 Tutorial Software Challenge: Chapter Resource Book p. 59	Study Guide: Chapter Resource Book pp. 55–56 Tutorial Software Challenge: Chapter Resource Book p. 59

Section 8.5

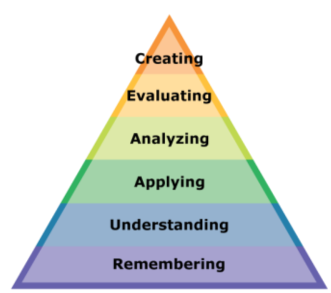
Section 8.5	College Prep	College Prep Accelerated	College Prep Honors
Focus and Motivate **Starting Options**	Homework Check (8.4): TE p. 537; Answer Transparencies Daily Homework Quiz (8.4): TE p. 540 Warm-Up: TE p. 542 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 543	Homework Check (8.4): TE p. 537; Answer Transparencies Daily Homework Quiz (8.4): TE p. 540 Warm-Up: TE p. 542 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 543	Homework Check (8.4): TE p. 537; Answer Transparencies Daily Homework Quiz (8.4): TE p. 540 Warm-Up: TE p. 542 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 543
Teach **Teaching Options**	Essential Question: TE p. 542 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 62 Examples 1–4: PE pp. 542–545 Extra Examples 1–4 with Key Questions: TE pp. 543–544 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 72 Note taking Guide pp. 213–217	Essential Question: TE p. 542 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 62 Examples 1–4: PE pp. 542–545 Extra Examples 1–4 with Key Questions: TE pp. 543–544 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 72 Note taking Guide pp. 213–21	Essential Question: TE p. 542 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 62 Examples 1–4: PE pp. 542–545 Extra Examples 1–4 with Key Questions: TE pp. 543–544 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 72 Note taking Guide pp. 213–21
Checking for Understanding	Closing the Lesson: TE p. 545 Guided Practice Exercises: PE pp. 542–545	Closing the Lesson: TE p. 545 Guided Practice Exercises: PE pp. 542–545	Closing the Lesson: TE p. 545 Guided Practice Exercises: PE pp. 542–545
Practice and Apply **Assigning Homework**	CP: Day 1: pp. 546–549 Exs. 1–12, 44–46; Day 2: pp. 546–549 Exs. 13–24, 34–38, 47, 48 Practice Masters: Chapter Resource Book pp. 63–68 (Levels A, B, or C)	CPA: Day 1: pp. 546–549 Exs. 1, 2, 4–6, 8-12, 28, 38, 39, 44–46; Day 2: pp. 546–549 Exs. 14–17, 19, 20, 22–27, 29–31, 34–37, 40, 41, 47 Practice Masters: Chapter Resource Book pp. 63–68 (Levels A, B, or C)	CPH: Day 1: pp. 546–549 Exs. 1, 2, 4–6, 8–12, 28, 37–39, 43–45*; Day 2: pp. 546–549 Exs. 15, 16, 19, 20, 22–27, 29–36*, 40–42, 48 Practice Masters: Chapter Resource Book pp. 63–68 (Levels A, B, or C)
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 69–70 Tutorial Software Challenge: Chapter Resource Book p. 73	Study Guide: Chapter Resource Book pp. 69–70 Tutorial Software Challenge: Chapter Resource Book p. 73	Study Guide: Chapter Resource Book pp. 69–70 Tutorial Software Challenge: Chapter Resource Book p. 73

Section 8.6

Section 8.6	**College Prep**	**College Prep Accelerated**	**College Prep Honors**
Focus and Motivate **Starting Options**	Homework Check (8.5): TE p. 546; Answer Transparencies Daily Homework Quiz (8.5): TE p. 549 Warm–Up: TE p. 552 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 553	Homework Check (8.5): TE p. 546; Answer Transparencies Daily Homework Quiz (8.5): TE p. 549 Warm–Up: TE p. 552 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 553	Homework Check (8.5): TE p. 546; Answer Transparencies Daily Homework Quiz (8.5): TE p. 549 Warm–Up: TE p. 552 or Transparencies Starting the Lesson Questions: Teaching Guide Motivating the Lesson: TE p. 553
Teach **Teaching Options**	Essential Question: TE p. 552 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 76 Examples 1-3: PE pp. 552–553 Extra Examples 1–3 with Key Questions: TE pp. 553 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 86 Note taking Guide pp. 218–219	Essential Question: TE p. 552 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 76 Examples 1-3: PE pp. 552–553 Extra Examples 1–3 with Key Questions: TE pp. 553 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 86 Note taking Guide pp. 218–219	Essential Question: TE p. 552 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 76 Examples 1-3: PE pp. 552–553 Extra Examples 1–3 with Key Questions: TE pp. 553 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 86 Note taking Guide pp. 218–219
Checking for Understanding	Closing the Lesson: TE p. 553 Guided Practice Exercises: PE p. 553	Closing the Lesson: TE p. 553 Guided Practice Exercises: PE p. 553	Closing the Lesson: TE p. 553 Guided Practice Exercises: PE p. 553
Practice and Apply **Assigning Homework**	CP: Day 1: pp. 554–557 Exs. 1–15, 17–19, 21, 22, 33–38, 43–49 odd Practice Masters: Chapter Resource Book pp. 77–82 (Levels A, B, or C)	CPA: Day 1: pp. 554–557 Exs. 1–13, 15–17, 19, 20, 23–28, 35–40, 43, 45, 48 Practice Masters: Chapter Resource Book pp. 77–82 (Levels A, B, or C)	CPH: Day 1: pp. 554–557 Exs. 1–11, 13, 16, 17, 20, 23–32*, 36–42*, 44, 46,50 Practice Masters: Chapter Resource Book pp. 77–82 (Levels A, B, or C)
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 83–84 Tutorial Software Challenge: Chapter Resource Book p. 87	Study Guide: Chapter Resource Book pp. 83–84 Tutorial Software Challenge: Chapter Resource Book p. 87	Study Guide: Chapter Resource Book pp. 83–84 Tutorial Software Challenge: Chapter Resource Book p. 87

PART IV: EVIDENCE OF LEARNING

IDENTIFY THE METHODS BY WHICH STUDENTS WILL DEMONSTRATE THEIR UNDERSTANDING OF CONTENT AND THEIR ABILITY TO APPLY SKILLS. IDENTIFY BLOOM'S LEVELS.



Formative Assessments:

The effectiveness of the instructional program will be based on numerous activities and strategies including the following: teacher observations, students collaborating with peers, questioning strategies, student record-keeping, quizzes, exit/admit assignments, peer/self assessments, learning/response logs, discussions and practice

presentations.

Accommodations/Modifications:

- Use manipulatives to represent shapes.
- Provide markers, highlighters or colored pencils to distinguish bisectors and angles.
- Provide guided notes/handouts.
- Break problems into smaller pieces.
- Have students keep an organized binder.
- Allow students to use calculator.
- Review needed skills prior to the lesson.
- Provide checklists for solving problems.
- Provide index cards to make flashcards for vocabulary with visuals.
- Have students highlight important words in the directions.

Summative Assessments:

The following assessments will be used to evaluate student learning, skill acquisition and academic achievement of the Standards of Mathematical Practice and the New Jersey Learning Standards for Mathematics listed under each chapter in the Geometry curriculum/syllabus at the conclusion of an instructional time period.

- Diagnostic Pre-Test
- Chapter Tests
- Periodic Benchmark Tests
- End-Of –Course Assessment
- Standardized Tests

Accommodations/Modifications:

Benchmark tests, chapter tests and End of Course tests may have:

- prompts
- examples
- bolded directions
- extra space between problems to show work
- chunked (given one page at a time) to keep students focused
- use of a calculator

- parts of assessment read aloud

Performance Assessments:

Performance tasks, projects, display of student work

Accommodations/Modifications:

Projects should include:

- guided notes
- a comprehensive guide
- rubric
- a visual example for students to follow as a reference

Black Horse Pike Regional School District Curriculum Template

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

PART I: UNIT RATIONALE

WHY ARE STUDENTS LEARNING THIS CONTENT AND THESE SKILLS?

Course/Unit Title: Geometry/Properties of Transformations **Grade Level(s):** **9-12**	**Unit Summary**: **In this unit students will perform translations with vectors, algebra and matrices. They will reflect figures in a given line, rotate figures about a point, identify line and rotational symmetry, and perform dilations using drawing tools and matrices.**
Essential Question(s): • **How do you translate a figure using a vector?** • **How do you use matrix operations to translate a figure?** • **How do you reflect a figure in the line y = x?** • **How do you rotate a figure 90°, 180°, or 270° about the origin?** • **What is a glide reflection?** • **When does a figure have line symmetry?** • **How do you use matrices to draw a dilation?**	**Enduring Understanding(s):** • Students will be able to: • Use a vector to translate a figure. • Perform translations using matrix operations. • Reflect a figure in any given line. • Rotate figures about a point. • Perform combinations of two or more transformations. • Identify line and rotational symmetries of a figure. • Use drawing tools and matrices to draw dilations.

PART II: INSTRUCTIONAL STRATEGIES AND RESOURCES

DESCRIBE THE LEARNING TARGETS.

After each target, identify the New Jersey Student Learning Standards that are applicable

Learning Target	NJSLS
1. Experiment with transformations in the plane. *- [Standard] - Represent transformations in the plane using, e.g., transparencies and geometry software; describe transformations as functions that take points in the plane as inputs and give other points as outputs. Compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).* *- [Standard] - Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.* *- [Standard] - Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.*	**1. NJSLS-G-O.A.2, NJSLS-G-CO.A.4, NJSLS-G-CO.A.5**
2. Perform operations with matrices and vectors. *- [Standard] - Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., v, |v|, ||v||, v).* *- [Standard] - Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled.* *- [Standard] - Add, subtract, and multiply matrices of appropriate dimensions.*	**2. NJSLS-N-VM.A.1, NJSLS-N-VM.C.7, NJSLS-N-VM.C.8**
3. Understand similarity in terms of similarity transformations *- [Standard] - Verify experimentally the properties of dilations given by a center and a scale factor:* *a. A dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged.* *b. The dilation of a line segment is longer or shorter in the ratio given by the scale factor.* *- [Standard] - Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.*	**3. NJSLS-G-SRT.A.1.a, NJSLS-G-SRT.A.1.b, NJSLS-G-SRT.A.2**

Inter-Disciplinary Connections:

Real-World problem solving examples:
Home Design, Snowshoeing (p. 578), Purchasing swimming equipment (p. 586), Determine types of reflections found in photographs (p. 595), Analyzing a rotating door (p. 604), Animal tracks as glide reflections (p. 613), Identifying line and rotational symmetry in words (p. 623), Using a scale drawing to sketch a mural (p. 631)

Inter-Disciplinary problem solving examples:
Science: Amoeba under a microscope (p. 579), Art: Using matrices to calculate cost (p. 586), FACS: Using transformations to describe knitting patterns (p. 614), Chemistry: molecular structure (p. 624), Photography: enlarging photographs (p. 631)

Students will engage with the following text:

Larson Geometry 2007, 2011 by Houghton Mifflin Harcourt Publishing Group

Students will write:

Writing/Open Ended questions:
Describe the difference between a vector and a ray. (p. 576); How can you determine whether two matrices can be added? How can you determine whether two matrices can be multiplied? (p. 584); Write two matrices that have a defined product, then find the product. Describe and correct the error in the computation. (p. 585); Explain how to find the distance from a point to its image if you know the distance from the point to the line of reflection. (p. 593); Compare the coordinate rules and the rotation matrices for a rotation of 90^{o}. (p. 602); Explain why a glide reflection is an isometry. (p. 611); Create a polygon, then perform three transformations of your choice. What can be said about the congruence of the pre image and final image? (p. 613); Draw a polygon with 180^{o} rotational symmetry and exactly two lines of symmetry. (p. 623); Knowing the scale factor, how do you determine if the image is larger or smaller than the pre image? (p. 629)

PART III: TRANSFER OF KNOWLEDGE AND SKILLS

DESCRIBE THE LEARNING EXPERIENCE.

How will students uncover content and build skills.

Opportunities for developing students' understanding in this chapter include: investigating geometry activities, problem solving workshops, modeling examples, using real-life application and construction of models or other hands on activities such as projects. Technology such as animated geometry, Smart Board, graphing calculators, and Geometer's Sketchpad will also be explored through the learning experience. Other interests could include, but is not limited to alternative lesson openers, using note-taking strategies, math and history applications, and interdisciplinary applications.

Suggested warm-up activities, instructional strategies/activities, and assignments:

Section 9.1:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (8.6): TE p. 554; Answer Transparencies Daily Homework Quiz (8.6): TE p. 557 Warm-Up: TE p. 572 or Transparencies	Homework Check (8.6): TE p. 554; Answer Transparencies Daily Homework Quiz (8.6): TE p. 557 Warm-Up: TE p. 572 or Transparencies	Homework Check (8.6): TE p. 554; Answer Transparencies Daily Homework Quiz (8.6): TE p. 557 Warm-Up: TE p. 572 or Transparencies
Teach Teaching Options	Essential Question: TE p. 572 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 56 Examples 1–5: PE pp. 572–575 Extra Examples 1–5 with Key Questions: TE pp. 573–575 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 16 Notetaking Guide pp. 221–225	Essential Question: TE p. 572 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 56 Examples 1–5: PE pp. 572–575 Extra Examples 1–5 with Key Questions: TE pp. 573–575 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 16 Notetaking Guide pp. 221–225	Essential Question: TE p. 572 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 56 Examples 1–5: PE pp. 572–575 Extra Examples 1–5 with Key Questions: TE pp. 573–575 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 16 Notetaking Guide pp. 221–225
Checking for Understanding	Closing the Lesson: TE p. 575 Guided Practice Exercises: PE pp. 572, 573, 575	Closing the Lesson: TE p. 575 Guided Practice Exercises: PE pp. 572, 573, 575	Closing the Lesson: TE p. 575 Guided Practice Exercises: PE pp. 572, 573, 575
Practice and Apply Assigning Homework	Basic: Day 1: pp. 576·–579 Exs. 1–14, 28, 29, 33, 34, 51, 53; Day 2: pp. 576–579 Exs. 15–27, 35–40, 47–50	Average: Day 1: pp. 576–579 Exs. 1–6, 8–10, 12, 14, 28–31, 33, 34, 51, 54; Day 2: pp. 576–579 Exs. 16, 17, 19–27, 36–43, 47, 49	Advanced: Day 1: pp. 576–579 Exs. 1–6, 8–10, 12, 14, 28–34*, 51, 54; Day 2: pp. 576-579 Exs. 16, 17, 20-27, 37-46*, 50
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 13–14 Tutorial Software Challenge: Chapter Resource Book p. 17	Study Guide: Chapter Resource Book pp. 13–14 Tutorial Software Challenge: Chapter Resource Book p. 17	Study Guide: Chapter Resource Book pp. 13–14 Tutorial Software Challenge: Chapter Resource Book p. 17

Section 9.2:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (9.1): TE p. 576; Answer Transparencies Daily Homework Quiz (9.1): TE p. 579 Warm-Up: TE p. 580 or Transparencies	Homework Check (9.1): TE p. 576; Answer Transparencies Daily Homework Quiz (9.1): TE p. 579 Warm-Up: TE p. 580 or Transparencies	Homework Check (9.1): TE p. 576; Answer Transparencies Daily Homework Quiz (9.1): TE p. 579 Warm-Up: TE p. 580 or Transparencies
Teach Teaching Options	Essential Question: TE p. 580 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 580–583 Extra Examples 1–5 with Key Questions: TE pp. 581–583 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 29 Notetaking Guide pp. 226–230	Essential Question: TE p. 580 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 580–583 Extra Examples 1–5 with Key Questions: TE pp. 581–583 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 29 Notetaking Guide pp. 226–230	Essential Question: TE p. 580 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 580–583 Extra Examples 1–5 with Key Questions: TE pp. 581–583 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 29 Notetaking Guide pp. 226–230
Checking for	Closing the Lesson: TE p. 583 Guided Practice Exercises: PE	Closing the Lesson: TE p. 583 Guided Practice Exercises: PE pp.	Closing the Lesson: TE p. 583 Guided Practice Exercises: PE

Understanding	pp. 580–581, 583	580–581, 583	pp. 580–581, 583
Practice and Apply Assigning Homework	Basic: Day 1: SRH p. 870 Exs. 1–8; pp. 584–587 Exs. 1–17; Day 2: pp. 584–587 Exs. 18–25,31–34,38–45	Average: Day 1: pp. 584–587 Exs. 1–6, 8–12, 14–17, 27, 28; Day 2: pp. 584–587 Exs. 18–26, 29, 31–36, 38–44 even	Advanced: Day 1: pp. 584–587 Exs. 1, 2, 3–6, 8–12, 14–17, 27–30*; Day 2: pp. 584–587 Exs. 18–26, 31–37*, 39–45 odd
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 26–27 Tutorial Software Challenge: Chapter Resource Book p. 30	Study Guide: Chapter Resource Book pp. 26–27 Tutorial Software Challenge: Chapter Resource Book p. 30	Study Guide: Chapter Resource Book pp. 26–27 Tutorial Software Challenge: Chapter Resource Book p. 30

Section 9.3:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (9.2): TE p. 584; Answer Transparencies Daily Homework Quiz (9.2): TE p. 587 Warm-Up: TE p. 589 or Transparencies	Homework Check (9.2): TE p. 584; Answer Transparencies Daily Homework Quiz (9.2): TE p. 587 Warm-Up: TE p. 589 or Transparencies	Homework Check (9.2): TE p. 584; Answer Transparencies Daily Homework Quiz (9.2): TE p. 587 Warm-Up: TE p. 589 or Transparencies
Teach Teaching Options	Essential Question: TE p. 589 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 589–592 Extra Examples 1–5 with Key Questions: TE pp. 590–592 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 42–43 Notetaking Guide pp. 231–235	Essential Question: TE p. 589 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 589–592 Extra Examples 1–5 with Key Questions: TE pp. 590–592 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 42–43 Notetaking Guide pp. 231–235	Essential Question: TE p. 589 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 589–592 Extra Examples 1–5 with Key Questions: TE pp. 590–592 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 42–43 Notetaking Guide pp. 231–235
Checking for Understanding	Closing the Lesson: TE p. 592 Guided Practice Exercises: PE pp. 589–592	Closing the Lesson: TE p. 592 Guided Practice Exercises: PE pp. 589–592	Closing the Lesson: TE p. 592 Guided Practice Exercises: PE pp. 589–592
Practice and Apply Assigning Homework	Basic: Day 1: EP p. 901 Exs. 24–26; pp. 593–596 Exs. 1–12, 44–46; Day 2: pp. 593–596 Exs. 13–21, 31–37, 42, 43	Average: Day 1: pp. 593–596 Exs. 1, 2, 6–12, 26–28, 44–46; Day 2: pp. 593–596 Exs. 15–25, 32–40, 42	Advanced: Day 1: pp. 593–596 Exs. 1, 2, 7–12, 26–30*, 46; Day 2: pp. 593–596 Exs. 16–25, 34–41*, 43
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 39–40 Tutorial Software Challenge: Chapter Resource Book p. 44	Study Guide: Chapter Resource Book pp. 39–40 Tutorial Software Challenge: Chapter Resource Book p. 44	Study Guide: Chapter Resource Book pp. 39–40 Tutorial Software Challenge: Chapter Resource Book p. 44

Section 9.4:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (9.3): TE p. 593; Answer Transparencies Daily Homework Quiz (9.3): TE p. 596 Warm-Up: TE p. 598 or Transparencies	Homework Check (9.3): TE p. 593; Answer Transparencies Daily Homework Quiz (9.3): TE p. 596 Warm-Up: TE p. 598 or Transparencies	Homework Check (9.3): TE p. 593; Answer Transparencies Daily Homework Quiz (9.3): TE p. 596 Warm-Up: TE p. 598 or Transparencies
Teach	Essential Question: TE p. 598 Alternative Lesson Openers:	Essential Question: TE p. 598 Alternative Lesson Openers:	Essential Question: TE p. 598 Alternative Lesson Openers:

Teaching Options	Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 47 Examples 1–4: PE pp. 598–601 Extra Examples 1-4 with Key Questions: TE pp. 599–601 Real-Life Application: Chapter Resource Book p. 57 Notetaking Guide pp. 236–239	Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 47 Examples 1–4: PE pp. 598–601 Extra Examples 1-4 with Key Questions: TE pp. 599–601 Real-Life Application: Chapter Resource Book p. 57 Notetaking Guide pp. 236–239	Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 47 Examples 1–4: PE pp. 598–601 Extra Examples 1-4 with Key Questions: TE pp. 599–601 Real-Life Application: Chapter Resource Book p. 57 Notetaking Guide pp. 236–239
Checking for Understanding	Closing the Lesson: TE p. 601 Guided Practice Exercises: PE pp. 599–601	Closing the Lesson: TE p. 601 Guided Practice Exercises: PE pp. 599–601	Closing the Lesson: TE p. 601 Guided Practice Exercises: PE pp. 599–601
Practice and Apply Assigning Homework	Basic: Day 1: EP p. 903 Exs. 39, 40; pp. 602–605 Exs. 1–14, 44–46; Day 2: 602–605 Exs. 15–23, 29–35, 41–43	Average: Day 1: pp. 602–605 Exs. 1–8, 10, 11, 13, 14, 23, 24,45, 46; Day 2: 602-605 Exs. 16–22, 29–37, 41–43	Advanced: Day 1: pp. 602–605 Exs. 1, 2, 6–8, 10, 11, 13, 14, 25–28*, 46; Day 2: 602–605 Exs. 15–17, 20–24, 31–43*
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 54–55 Tutorial Software Challenge: Chapter Resource Book p. 58	Study Guide: Chapter Resource Book pp. 54–55 Tutorial Software Challenge: Chapter Resource Book p. 58	Study Guide: Chapter Resource Book pp. 54–55 Tutorial Software Challenge: Chapter Resource Book p. 58

Section 9.5:

	Regular	**Accelerated**	**Honors**
Focus and Motivate Starting Options	Homework Check (9.4): TE p. 602; Answer Transparencies Daily Homework Quiz (9.4): TE p. 605 Warm-Up: TE p. 608 or Transparencies	Homework Check (9.4): TE p. 602; Answer Transparencies Daily Homework Quiz (9.4): TE p. 605 Warm-Up: TE p. 608 or Transparencies	Homework Check (9.4): TE p. 602; Answer Transparencies Daily Homework Quiz (9.4): TE p. 605 Warm-Up: TE p. 608 or Transparencies
Teach Teaching Options	Essential Question: TE p. 608 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 61 Examples 1–4: PE pp. 608–611 Extra Examples 1–4 with Key Questions: TE pp. 609–611 Real–Life Application: Chapter Resource Book p. 71 Notetaking Guide pp. 240–243	Essential Question: TE p. 608 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 61 Examples 1–4: PE pp. 608–611 Extra Examples 1–4 with Key Questions: TE pp. 609–611 Real–Life Application: Chapter Resource Book p. 71 Notetaking Guide pp. 240–243	Essential Question: TE p. 608 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 61 Examples 1–4: PE pp. 608–611 Extra Examples 1–4 with Key Questions: TE pp. 609–611 Real–Life Application: Chapter Resource Book p. 71 Notetaking Guide pp. 240–243
Checking for Understanding	Closing the Lesson: TE p. 611 Guided Practice Exercises: PE pp. 608, 610–611	Closing the Lesson: TE p. 611 Guided Practice Exercises: PE pp. 608, 610–611	Closing the Lesson: TE p. 611 Guided Practice Exercises: PE pp. 608, 610–611
Practice and Apply Assigning Homework	Basic: Day 1: pp. 611–615 Exs. 1–14, 27–30; Day 2: pp. 611–615 Exs. 15–23, 31 – 35,42–48	Average: Day 1: pp. 611–615 Exs. 1, 2, 4–6, 8–14, 23, 24, 27–30; Day 2: pp. 611 – 615 Exs. 15–22, 25, 31–39, 42–48	Advanced: Day 1: pp. 611–615 Exs. 1, 2, 4–6, 9–14, 23, 24, 26–30*; Day 2: pp. 611–615 Exs. 15–22, 25, 31–41*, 44, 46
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 68–69 Tutorial Software Challenge: Chapter Resource Book p. 72	Study Guide: Chapter Resource Book pp. 68–69 Tutorial Software Challenge: Chapter Resource Book p. 72	Study Guide: Chapter Resource Book pp. 68–69 Tutorial Software Challenge: Chapter Resource Book p. 72

Section 9.6:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (9.5): TE p. 612; Answer Transparencies Daily Homework Quiz (9.5): TE p. 615 Warm-Up: TE p. 619 or Transparencies	Homework Check (9.5): TE p. 612; Answer Transparencies Daily Homework Quiz (9.5): TE p. 615 Warm-Up: TE p. 619 or Transparencies	Homework Check (9.5): TE p. 612; Answer Transparencies Daily Homework Quiz (9.5): TE p. 615 Warm-Up: TE p. 619 or Transparencies
Teach Teaching Options	Essential Question: TE p. 619 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 75 Examples 1–3: PE pp. 619–621 Extra Examples 1–3 with Key Questions: TE pp. 620–621 Interdisciplinary Application: Chapter Resource Book p. 85 Notetaking Guide pp. 244–246	Essential Question: TE p. 619 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 75 Examples 1–3: PE pp. 619–621 Extra Examples 1–3 with Key Questions: TE pp. 620–621 Interdisciplinary Application: Chapter Resource Book p. 85 Notetaking Guide pp. 244–246	Essential Question: TE p. 619 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 75 Examples 1–3: PE pp. 619–621 Extra Examples 1–3 with Key Questions: TE pp. 620–621 Interdisciplinary Application: Chapter Resource Book p. 85 Notetaking Guide pp. 244–246
Checking for Understanding	Closing the Lesson: TE p. 621 Guided Practice Exercises: PE pp. 619–621	Closing the Lesson: TE p. 621 Guided Practice Exercises: PE pp. 619–621	Closing the Lesson: TE p. 621 Guided Practice Exercises: PE pp. 619–621
Practice and Apply Assigning Homework	Basic: Day 1: pp. 621–624 Exs. 1–8, 10–18, 27–32, 37–45	Average: Day 1: pp. 621–624 Exs. 1, 2, 4, 5, 7–16, 19–23, 28–35, 37–45 odd	Advanced: Day 1: pp. 621–624 Exs. 1, 2, 4, 5, 8–14, 19–26*, 29–36*, 38–44 even
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 82–83 Tutorial Software Challenge: Chapter Resource Book p. 86	Study Guide: Chapter Resource Book pp. 82–83 Tutorial Software Challenge: Chapter Resource Book p. 86	Study Guide: Chapter Resource Book pp. 82–83 Tutorial Software Challenge: Chapter Resource Book p. 86

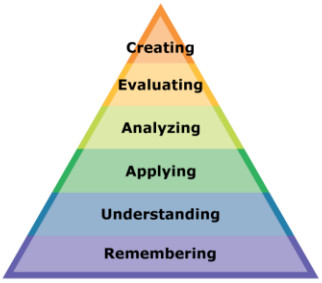
Section 9.7:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (9.6): TE p. 622; Answer Transparencies Daily Homework Quiz (9.6): TE p. 624 Warm-Up: TE p. 626 or Transparencies	Homework Check (9.6): TE p. 622; Answer Transparencies Daily Homework Quiz (9.6): TE p. 624 Warm-Up: TE p. 626 or Transparencies	Homework Check (9.6): TE p. 622; Answer Transparencies Daily Homework Quiz (9.6): TE p. 624 Warm-Up: TE p. 626 or Transparencies
Teach Teaching Options	Essential Question: TE p. 626 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 89 Examples 1–5: PE pp. 626–628 Extra Examples 1–5 with Key Questions: TE pp. 627–628 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 99 Notetaking Guide pp. 247–250	Essential Question: TE p. 626 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 89 Examples 1–5: PE pp. 626–628 Extra Examples 1–5 with Key Questions: TE pp. 627–628 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 99 Notetaking Guide pp. 247–250	Essential Question: TE p. 626 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 89 Examples 1–5: PE pp. 626–628 Extra Examples 1–5 with Key Questions: TE pp. 627–628 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 99 Notetaking Guide pp. 247–250
Checking for	Closing the Lesson: TE p. 628 Guided Practice Exercises: PE	Closing the Lesson: TE p. 628 Guided Practice Exercises: PE pp.	Closing the Lesson: TE p. 628 Guided Practice Exercises: PE

	Understanding	pp. 627–628	627–628	pp. 627–628
	Practice and Apply Assigning Homework	Basic: Day 1: EP p. 907 Exs. 41, 42; pp. 629–632 Exs. 1–10, 15–25, 33–38, 43–49 odd	Average: Day 1: pp. 629–632 Exs. 1, 2, 4–6, 10–12, 16, 17, 19–30, 34–41, 44–46	Advanced: Day 1: pp. 629–632 Exs. 1, 2, 4, 5, 13–16, 20–24 even, 25–32*, 35–42*, 45, 48
	Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 96–97 Tutorial Software Challenge: Chapter Resource Book p. 100	Study Guide: Chapter Resource Book pp. 96–97 Tutorial Software Challenge: Chapter Resource Book p. 100	Study Guide: Chapter Resource Book pp. 96–97 Tutorial Software Challenge: Chapter Resource Book p. 100

PART IV: EVIDENCE OF LEARNING

IDENTIFY THE METHODS BY WHICH STUDENTS WILL DEMONSTRATE THEIR UNDERSTANDING OF CONTENT AND THEIR ABILITY TO APPLY SKILLS. IDENTIFY BLOOM'S LEVELS.



Formative Assessments:

The effectiveness of the instructional program will be based on numerous activities and strategies including the following: teacher observations, students collaborating with peers, questioning strategies, student record-keeping, quizzes, exit/admit assignments, peer/self-assessments, learning/response logs, discussions and practice presentations.

Accommodations/Modifications:

- **Use manipulatives to represent shapes.**
- **Provide guided notes/handouts.**
- **Break problems into smaller pieces.**
- **Have students keep an organized binder.**
- **Allow students to use calculator.**
- **Review needed skills prior to the lesson.**
- **Provide checklists for solving problems.**
- **Provide index cards to make flashcards for vocabulary with visuals.**
- **Provide index cards to make flashcards for formulas.**
- **Have students highlight important words in the directions.**

Summative Assessments:

The following assessments will be used to evaluate student learning, skill acquisition and academic achievement of the Standards of Mathematical Practice and the New Jersey Learning Standards for Mathematics listed under each chapter in the Geometry curriculum/syllabus at the conclusion of an instructional time period.

- **Diagnostic Pre-Test**
- **Chapter Tests**
- **Periodic Benchmark Tests**
- **End-Of –Course Assessment**
- **Standardized Tests**

Accommodations/Modifications:

Benchmark tests, chapter tests and End of Course tests may have:

- **prompts**
- **examples**
- **bolded directions**
- **extra space between problems to show work**
- **chunked (given one page at a time) to keep students focused**
- **use of a calculator**
- **parts of assessment read aloud**

Performance Assessments:

The following assessments require students to utilize various strands of mathematics.

- **Projects**
- **Performance Tasks**
- **Homework**
- **Classwork**

Accommodations/Modifications:

Projects should include:

- **a comprehensive guide**
- **rubric**
- **a visual example for students to follow as a reference**

Black Horse Pike Regional School District Curriculum Template

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

PART I: UNIT RATIONALE

WHY ARE STUDENTS LEARNING THIS CONTENT AND THESE SKILLS?

Course/Unit Title: Geometry/Properties of Circles **Grade Level(s):** **9-12**	**Unit Summary**: **In this unit, students investigate the aspects of a circle. They start by drawing tangents to a circles and seeing how a tangent to a circle is related to the radius at the point of tangency. They use intercepted arcs of circles to measure angles formed by chords in a circle and to measure angles formed by secants and tangents to a circle. They explore relationships between segment lengths of chords that intersect in a circle and they investigate relationships between segment lengths of secants and tangents to a circle. Finally, they use the standard equation of a circle to graph and describe circles in a coordinate plane.**
Essential Question(s): • **How can you verify that a segment is tangent to a circle?** • **How do find the measure of an arc of a circle?** • **How can you tell if two chords of a circle are congruent?** • **How do you find the measure of an inscribed angle?** • **How do you find the measure of an angle formed by two chords that intersect inside a circle?** • **What are some properties of chords, tangents and secants to a circle?** • **What do you need to know to write the standard form of the equation of a circle?**	**Enduring Understanding(s):** • Students will be able to: • Use properties of a tangent to a circle. • Use angle measures to find arc measures. • Use relationships of arcs and chords in a circle. • Use inscribed angles of circles. • Find the measures of angles inside or outside a circle. • Find segment lengths in circles. • Write equations of circles in the coordinate plane.

PART II: INSTRUCTIONAL STRATEGIES AND RESOURCES

DESCRIBE THE LEARNING TARGETS.

After each target, identify the New Jersey Student Learning Standards that are applicable

Learning Target	**NJSLS**
1. Using properties of segments that intersect circles *- [Standard] - Construct a tangent line from a point outside a given circle to the circle.* *- [Standard] - Know precise definitions of angle, circle, perpendicular line, parallel line, and line segment, based on the undefined notions of point, line, distance along a line, and distance around a circular arc.* *- [Standard] - Identify and describe relationships among inscribed angles, radii, and chords.* *- [Standard] - Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.).*	**1. NJSLS-G-C.A.4, NJSLS-G-CO.A.1, NJSLS-G-C.A.2, NJSLS-G-CO.D.12**
2. Applying angle relationships in circles *- [Standard] - Identify and describe relationships among inscribed angles, radii, and chords.* *- [Standard] - Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle.*	**2. NJSLS-G-C.A.2, NJSLS-G-C.A.3**
3. Using circles in the coordinate plane *- [Standard] - Derive the equation of a circle of given center and radius using the Pythagorean Theorem; complete the square to find the center and radius of a circle given by an equation.*	**3. NJSLS-G-GPE.A.1**

Inter-Disciplinary Connections:

Real-World problem solving examples:

Bicycles with tangential spokes, Global Positioning System (GPS) (p657),Bridges that create an arc, Dart board (p 663), Logo Design, Cars going around a turn too quickly. (p669), Photography (p 674) Carpentry (p 677) Space Shuttle (p 679) Northern Lights and arc between the portion of earth flash visible (p 682)Video Recording (p. 685) Mountain (p. 686) Wells (p. 694) Dog Leash (p. 698) , Commuter Trains (p. 703) Compact Discs, Construction (p. 704), Tires (p. 705) , Skating Rink (p. 711)

Inter-Disciplinary problem solving examples:

Horology: Clocks (p 663), Science :gardening (p 665), Astronomy (p. 677) Science: Hot Air Balloon(p 685)Physics: pulleys (p. 686) , Archaeology : Stone mound in Ireland (p. 694) Science: Stereographic projection (p. 695), Science: Earthquakes (p. 701) Science: Telecommunication towers (p. 704)

Students will engage with the following text:

Larson Geometry 2007, 2011 by Houghton Mifflin Harcourt Publishing Group

Students will write:

Writing/Open Ended questions:
Explain how you can determine from the context whether the words radius and diameter are referring to a segment or a length (p. 655),Use similar triangles to explain a ratio (p. 657) Explain what you need to know about two circles to show that they are congruent (p. 661), Explain given certain information why a pt must be on an arc (p. 662), Explain given two chords of a circle are perpendicular and congruent why one of them must be the diameter (p. 667), Write the converse of Theorem 10.5 and explain its difference from Theorem 10.4 (p. 668) Explain why the diagonals of a rectangle inscribed in a circle are diameters of the circle (p. 676), A right triangle is inscribed in a circle and the radius of the circle is given. Explain how to find the length of the hypotenuse. Explain what it means that an arc has a length of 0. (p. 683) Explain the range of possible angle measures in a given diagram (p. 684), Explain the difference between a tangent segment and a secant segment (p 692), Explain how fast sparkles should move in a designed animated logo (p. 694), Explain why the location of the center and one point on a circle is enough information to draw the rest of the circle (p. 702) Explain which city seems to have better cell phone coverage in a given problem (p. 704).

PART III: TRANSFER OF KNOWLEDGE AND SKILLS

DESCRIBE THE LEARNING EXPERIENCE.

How will students uncover content and build skills.

Opportunities for developing students' understanding in this chapter include: investigating geometry activities, problem solving workshops, modeling examples, using real-life application and construction of models or other hands on activities such as projects. Technology such as animated geometry, Smart Board, graphing calculators, and Geometer's Sketchpad will also be explored through the learning experience. Other interests could include, but is not limited to alternative lesson openers, using note-taking strategies, math and history applications, and interdisciplinary applications.

Suggested warm-up activities, instructional strategies/activities, and assignments:

Section 10.1:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (9.7): TE p. 629; Answer Transparencies Daily Homework Quiz (9.7): TE p. 632 Warm-Up: TE p. 651 or Transparencies	Homework Check (9.7): TE p. 629; Answer Transparencies Daily Homework Quiz (9.7): TE p. 632 Warm-Up: TE p. 651 or Transparencies	Homework Check (9.7): TE p. 629; Answer Transparencies Daily Homework Quiz (9.7): TE p. 632 Warm-Up: TE p. 651 or Transparencies
Teach Teaching Options	Essential Question: TE p. 651 Alternative Lesson Openers: Electronic Classroom	Essential Question: TE p. 651 Alternative Lesson Openers: Electronic Classroom	Essential Question: TE p. 651 Alternative Lesson Openers: Electronic Classroom

	Classroom Activity: Activity Generator Examples 1–6: PE pp. 651–654 Extra Examples 1–6 with Key Questions: TE pp. 652–654 Real-Life Application: Chapter Resource Book p. 14 Notetaking Guide pp. 253–257	Classroom Activity: Activity Generator Examples 1–6: PE pp. 651–654 Extra Examples 1–6 with Key Questions: TE pp. 652–654 Real-Life Application: Chapter Resource Book p. 14 Notetaking Guide pp. 253–257	Classroom Activity: Activity Generator Examples 1–6: PE pp. 651–654 Extra Examples 1–6 with Key Questions: TE pp. 652–654 Real-Life Application: Chapter Resource Book p. 14 Notetaking Guide pp. 253–257
Checking for Understanding	Closing the Lesson: TE p. 654 Guided Practice Exercises: PE pp. 651–654	Closing the Lesson: TE p. 654 Guided Practice Exercises: PE pp. 651–654	Closing the Lesson: TE p. 654 Guided Practice Exercises: PE pp. 651–654
Practice and Apply Assigning Homework	Basic: Day 1: pp. 655–658 Exs. 1–17, 35, 36; Day 2: pp. 656–658 Exs. 18–29,37 — 39, 43–47	Average: Day 1: pp. 655–658 Exs. 1-17, 27, 28, 35, 36; Day 2: pp. 656–658Exs. 18–26, 29–33, 37-41, 43–47 odd	Advanced: Day 1: pp. 655–658 Exs. 1–10, 12–17, 27, 28, 35, 36; Day 2: pp. 656 – 658Exs. 18–20, 23–26, 29–34*, 37–43*, 46, 47
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 11–12 Tutorial Software Challenge: Chapter Resource Book p. 15	Study Guide: Chapter Resource Book pp. 11–12 Tutorial Software Challenge: Chapter Resource Book p. 15	Study Guide: Chapter Resource Book pp. 11–12 Tutorial Software Challenge: Chapter Resource Book p. 15

Section 10.2:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (10.1): TE p. 655; Answer Transparencies Daily Homework Quiz (10.1): TE p. 658 Warm-Up: TE p. 659 or Transparencies	Homework Check (10.1): TE p. 655; Answer Transparencies Daily Homework Quiz (10.1): TE p. 658 Warm-Up: TE p. 659 or Transparencies	Homework Check (10.1): TE p. 655; Answer Transparencies Daily Homework Quiz (10.1): TE p. 658 Warm-Up: TE p. 659 or Transparencies
Teach Teaching Options	Essential Question: TE p. 659 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 18 Examples 1–3: PE pp. 659–661 Extra Examples 1–3 with Key Questions: TE pp. 660–661 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 28 _ Notetaking Guide pp. 258–260	Essential Question: TE p. 659 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 18 Examples 1–3: PE pp. 659–661 Extra Examples 1–3 with Key Questions: TE pp. 660–661 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 28 _ Notetaking Guide pp. 258–260	Essential Question: TE p. 659 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 18 Examples 1–3: PE pp. 659–661 Extra Examples 1–3 with Key Questions: TE pp. 660–661 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 28 _ Notetaking Guide pp. 258–260
Checking for Understanding	Closing the Lesson: TE p. 661 Guided Practice Exercises: PE pp. 660–661	Closing the Lesson: TE p. 661 Guided Practice Exercises: PE pp. 660–661	Closing the Lesson: TE p. 661 Guided Practice Exercises: PE pp. 660–661
Practice and Apply Assigning Homework	Basic: Day 1: EP p. 896 Exs. 30–32; pp. 661–663 Exs. 1–17, 22–24, 26–34	Average: Day 1: pp. 661–663 Exs. 1-19, 22–24, 26–34	Advanced: Day 1: pp. 661–663 Exs. 1, 2, 4–10 even, 11–25*, 26–34 even
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 25-26 Tutorial Software Challenge: Chapter Resource Book p. 29	Study Guide: Chapter Resource Book pp. 25-26 Tutorial Software Challenge: Chapter Resource Book p. 29	Study Guide: Chapter Resource Book pp. 25-26 Tutorial Software Challenge: Chapter Resource Book p. 29

Section 10.3:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (10.2): TE p. 662; Answer Transparencies Daily Homework Quiz (10.2): TE p. 663 Warm-Up: TE p. 664 or Transparencies	Homework Check (10.2): TE p. 662; Answer Transparencies Daily Homework Quiz (10.2): TE p. 663 Warm-Up: TE p. 664 or Transparencies	Homework Check (10.2): TE p. 662; Answer Transparencies Daily Homework Quiz (10.2): TE p. 663 Warm-Up: TE p. 664 or Transparencies
Teach Teaching Options	Essential Question: TE p. 664 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 32–33 Examples 1–4: PE pp. 664–666 Extra Examples 1–4 with Key Questions: TE pp. 665–666 Interdisciplinary Application: Chapter Resource Book p. 43 Notetaking Guide pp. 261–263	Essential Question: TE p. 664 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 32–33 Examples 1–4: PE pp. 664–666 Extra Examples 1–4 with Key Questions: TE pp. 665–666 Interdisciplinary Application: Chapter Resource Book p. 43 Notetaking Guide pp. 261–263	Essential Question: TE p. 664 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 32–33 Examples 1–4: PE pp. 664–666 Extra Examples 1–4 with Key Questions: TE pp. 665–666 Interdisciplinary Application: Chapter Resource Book p. 43 Notetaking Guide pp. 261–263
Checking for Understanding	Closing the Lesson: TE p. 666 Guided Practice Exercises: PE pp. 664–666	Closing the Lesson: TE p. 666 Guided Practice Exercises: PE pp. 664–666	Closing the Lesson: TE p. 666 Guided Practice Exercises: PE pp. 664–666
Practice and Apply Assigning Homework	Basic: Day 1: pp. 667–670 Exs. 1–18, 25–28, 35–37	Average: Day 1: pp. 667–670 Exs. 1, 2–14 even, 15–22, 25–30, 35–37	Advanced: Day 1: pp. 667–670 Exs. 1, 2, 3–15 odd, 16–35*, 37
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 40–41 Tutorial Software Challenge: Chapter Resource Book p. 44	Study Guide: Chapter Resource Book pp. 40–41 Tutorial Software Challenge: Chapter Resource Book p. 44	Study Guide: Chapter Resource Book pp. 40–41 Tutorial Software Challenge: Chapter Resource Book p. 44

Section 10.4:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (10.3): TE p. 667; Answer Transparencies Daily Homework Quiz (10.3): TE p. 670 Warm-Up: TE p. 672 or Transparencies	Homework Check (10.3): TE p. 667; Answer Transparencies Daily Homework Quiz (10.3): TE p. 670 Warm-Up: TE p. 672 or Transparencies	Homework Check (10.3): TE p. 667; Answer Transparencies Daily Homework Quiz (10.3): TE p. 670 Warm-Up: TE p. 672 or Transparencies
Teach Teaching Options	Essential Question: TE p. 672 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 672–675 Extra Examples 1–5 with Key Questions: TE pp. 673–675 Real-Life Application: Chapter Resource Book p. 56 Notetaking Guide pp. 264–267	Essential Question: TE p. 672 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 672–675 Extra Examples 1–5 with Key Questions: TE pp. 673–675 Real-Life Application: Chapter Resource Book p. 56 Notetaking Guide pp. 264–267	Essential Question: TE p. 672 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 672–675 Extra Examples 1–5 with Key Questions: TE pp. 673–675 Real-Life Application: Chapter Resource Book p. 56 Notetaking Guide pp. 264–267
Checking for	Closing the Lesson: TE p. 675 Guided Practice Exercises: PE	Closing the Lesson: TE p. 675 Guided Practice Exercises: PE	Closing the Lesson: TE p. 675 Guided Practice Exercises: PE

Understanding	pp. 673–675	pp. 673–675	pp. 673–675
Practice and Apply Assigning Homework	Basic: Day 1: pp. 676–679 Exs. 1–12, 43–47; Day 2: pp. 676–679 Exs.13 – 19,27 – 33,40–42	Average: Day 1: pp. 676–679 Exs. 1, 2, 4–7, 9–12, 16–18, 43–47; Day 2: pp. 676–679 Exs. 13–15, 19–25, 28–36, 41	Advanced: Day 1: pp. 676–679 Exs. 1, 2, 5–8, 10–12, 16–18, 43–47; Day 2: pp. 676–679 Exs. 14, 15, 19–26*, 28, 29, 34–39*, 42
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 53–54 Tutorial Software Challenge: Chapter Resource Book p. 57	Study Guide: Chapter Resource Book pp. 53–54 Tutorial Software Challenge: Chapter Resource Book p. 57	Study Guide: Chapter Resource Book pp. 53–54 Tutorial Software Challenge: Chapter Resource Book p. 57

Section 10.5:

	Regular	**Accelerated**	**Honors**
Focus and Motivate Starting Options	Homework Check (10.4): TE p. 676; Answer Transparencies Daily Homework Quiz (10.4): TE p. 679 Warm-Up: TE p. 680 or Transparencies	Homework Check (10.4): TE p. 676; Answer Transparencies Daily Homework Quiz (10.4): TE p. 679 Warm-Up: TE p. 680 or Transparencies	Homework Check (10.4): TE p. 676; Answer Transparencies Daily Homework Quiz (10.4): TE p. 679 Warm-Up: TE p. 680 or Transparencies
Teach Teaching Options	Essential Question: TE p. 680 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 60 Examples 1–4: PE pp. 680–682 Extra Examples 1–4 with Key Questions: TE pp. 681–682 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp. 70–71 Notetaking Guide pp. 268–270	Essential Question: TE p. 680 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 60 Examples 1–4: PE pp. 680–682 Extra Examples 1–4 with Key Questions: TE pp. 681–682 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp. 70–71 Notetaking Guide pp. 268–270	Essential Question: TE p. 680 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 60 Examples 1–4: PE pp. 680–682 Extra Examples 1–4 with Key Questions: TE pp. 681–682 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp. 70–71 Notetaking Guide pp. 268–270
Checking for Understanding	Closing the Lesson: TE p. 682 Guided Practice Exercises: PE pp. 680–682	Closing the Lesson: TE p. 682 Guided Practice Exercises: PE pp. 680–682	Closing the Lesson: TE p. 682 Guided Practice Exercises: PE pp. 680–682
Practice and Apply Assigning Homework	Basic: Day 1: pp. 611–615 Exs. 1–14, 27–30; Day 2: pp. 611–615 Exs. 15–23, 31 – 35,42–48	Average: Day 1: pp. 611–615 Exs. 1, 2, 4–6, 8–14, 23, 24, 27–30; Day 2: pp. 611 – 615 Exs. 15–22, 25, 31–39, 42–48	Advanced: Day 1: pp. 611–615 Exs. 1, 2, 4–6, 9–14, 23, 24, 26–30*; Day 2: pp. 611–615 Exs. 15–22, 25, 31–41*, 44, 46
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 67–68 Tutorial Software Challenge: Chapter Resource Book p. 72	Study Guide: Chapter Resource Book pp. 67–68 Tutorial Software Challenge: Chapter Resource Book p. 72	Study Guide: Chapter Resource Book pp. 67–68 Tutorial Software Challenge: Chapter Resource Book p. 72

Section 10.6:

	Regular	**Accelerated**	**Honors**
Focus and Motivate Starting Options	Homework Check (10.5): TE p. 683; Answer Transparencies Daily Homework Quiz (10.5): TE p. 686 Warm-Up: TE p. 689 or Transparencies	Homework Check (10.5): TE p. 683; Answer Transparencies Daily Homework Quiz (10.5): TE p. 686 Warm-Up: TE p. 689 or Transparencies	Homework Check (10.5): TE p. 683; Answer Transparencies Daily Homework Quiz (10.5): TE p. 686 Warm-Up: TE p. 689 or Transparencies

Teach Teaching Options	Essential Question: TE p. 689 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 75 Examples 1–4: PE pp. 689–692 Extra Examples 1–4 with Key Questions: TE pp. 690–92 Real-Life Application: Chapter Resource Book p. 85 Notetaking Guide pp. 271–274	Essential Question: TE p. 689 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 75 Examples 1–4: PE pp. 689–692 Extra Examples 1–4 with Key Questions: TE pp. 690–92 Real-Life Application: Chapter Resource Book p. 85 Notetaking Guide pp. 271–274	Essential Question: TE p. 689 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 75 Examples 1–4: PE pp. 689–692 Extra Examples 1–4 with Key Questions: TE pp. 690–92 Real-Life Application: Chapter Resource Book p. 85 Notetaking Guide pp. 271–274
Checking for Understanding	Closing the Lesson: TE p. 692 Guided Practice Exercises: PE pp. 690–692	Closing the Lesson: TE p. 692 Guided Practice Exercises: PE pp. 690–692	Closing the Lesson: TE p. 692 Guided Practice Exercises: PE pp. 690–692
Practice and Apply Assigning Homework	Basic: Day 1: SRH p. 873 Exs. 1–7; pp. 692–695 Exs. 1–15, 20–23, 29–41 odd	Average: Day 1: pp. 692–695 Exs. 1–5, 7–10, 12–18, 20–26, 30–42 even	Advanced: Day 1: pp. 692–695 Exs. 1–5, 7, 8, 10, 11, 13–28*, 30, 32, 36, 39, 42
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 82–83 Tutorial Software Challenge: Chapter Resource Book p. 86	Study Guide: Chapter Resource Book pp. 82–83 Tutorial Software Challenge: Chapter Resource Book p. 86	Study Guide: Chapter Resource Book pp. 82–83 Tutorial Software Challenge: Chapter Resource Book p. 86

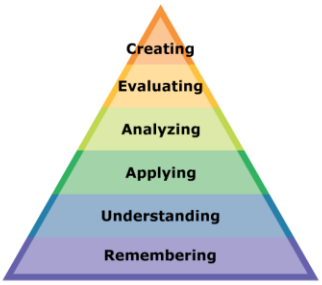
Section 10.7:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (10.6): TE p. 693; Answer Transparencies Daily Homework Quiz (10.6): TE p. 695 Warm-Up: TE p. 699 or Transparencies	Homework Check (10.6): TE p. 693; Answer Transparencies Daily Homework Quiz (10.6): TE p. 695 Warm-Up: TE p. 699 or Transparencies	Homework Check (10.6): TE p. 693; Answer Transparencies Daily Homework Quiz (10.6): TE p. 695 Warm-Up: TE p. 699 or Transparencies
Teach Teaching Options	Essential Question: TE p. 699 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 89 Examples 1–5: PE pp. 699–701 Extra Examples 1–5 with Key Questions: TE pp. 700–701 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p.99 Notetaking Guide pp. 275–278	Essential Question: TE p. 699 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 89 Examples 1–5: PE pp. 699–701 Extra Examples 1–5 with Key Questions: TE pp. 700–701 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p.99 Notetaking Guide pp. 275–278	Essential Question: TE p. 699 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 89 Examples 1–5: PE pp. 699–701 Extra Examples 1–5 with Key Questions: TE pp. 700–701 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p.99 Notetaking Guide pp. 275–278
Checking for Understanding	Closing the Lesson: TE p. 701 Guided Practice Exercises: PE pp. 700–701	Closing the Lesson: TE p. 701 Guided Practice Exercises: PE pp. 700–701	Closing the Lesson: TE p. 701 Guided Practice Exercises: PE pp. 700–701
Practice and Apply Assigning Homework	Basic: Day 1: pp. 702–705 Exs. 1–16, 49–54; Day 2: pp. 702–705 Exs. 17–28, 36–40, 46–48	Average: Day 1: pp. 702–705 Exs. 1, 2, 4–7, 10–13, 15, 16, 31–34, 49–54; Day 2: pp. 702–705 Exs. 18–23, 26–30, 36–43, 47	Advanced: Day 1: pp. 702-705 Exs. 1, 2, 5–8, 11–14, 16, 31–35*, 49–54; Day 2: pp. 702–705 Exs. 18, 19, 22–30, 36–45*, 48
Assess and Reteach	Study Guide: Chapter Resource	Study Guide: Chapter Resource	Study Guide: Chapter Resource

	Differentiating Instruction	Book pp. 96–97 Tutorial Software Challenge: Chapter Resource Book p. 100	Book pp. 96–97 Tutorial Software Challenge: Chapter Resource Book p. 100	Book pp. 96–97 Tutorial Software Challenge: Chapter Resource Book p. 100

PART IV: EVIDENCE OF LEARNING

IDENTIFY THE METHODS BY WHICH STUDENTS WILL DEMONSTRATE THEIR UNDERSTANDING OF CONTENT AND THEIR ABILITY TO APPLY SKILLS. IDENTIFY BLOOM'S LEVELS.



Formative Assessments:

The effectiveness of the instructional program will be based on numerous activities and strategies including the following: teacher observations, students collaborating with peers, questioning strategies, student record-keeping, quizzes, exit/admit assignments, peer/self-assessments, learning/response logs, discussions and practice presentations.

Accommodations/Modifications:

- **Use manipulatives to represent shapes.**
- **Provide guided notes/handouts.**
- **Break problems into smaller pieces.**
- **Have students keep an organized binder.**
- **Allow students to use calculator.**
- **Review needed skills prior to the lesson.**
- **Provide checklists for solving problems.**
- **Provide index cards to make flashcards for vocabulary with visuals.**
- **Provide index cards to make flashcards for formulas.**
- **Have students highlight important words in the directions.**

Summative Assessments:

The following assessments will be used to evaluate student learning, skill acquisition and academic achievement of the Standards of Mathematical Practice and the New Jersey Learning Standards for Mathematics listed under each chapter in the Geometry curriculum/syllabus at the conclusion of an instructional time period.

- **Diagnostic Pre-Test**
- **Chapter Tests**
- **Periodic Benchmark Tests**
- **End-Of –Course Assessment**
- **Standardized Tests**

Accommodations/Modifications:

Benchmark tests, chapter tests and End of Course tests may have:

- **prompts**
- **examples**
- **bolded directions**
- **extra space between problems to show work**
- **chunked (given one page at a time) to keep students focused**
- **use of a calculator**
- **parts of assessment read aloud**

Performance Assessments:

The following assessments require students to utilize various strands of mathematics.

- **Projects**
- **Performance Tasks**
- **Homework**
- **Classwork**

Accommodations/Modifications:

Projects should include:

- **a comprehensive guide**
- **rubric**
- **a visual example for students to follow as a reference**

Black Horse Pike Regional School District Curriculum Template

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

PART I: UNIT RATIONALE

WHY ARE STUDENTS LEARNING THIS CONTENT AND THESE SKILLS?

Course/Unit Title: Geometry/Measuring Length and Area **Grade Level(s):** **9-12**	**Unit Summary**: **In this unit, students develop and use formulas for the areas of triangles, parallelograms, trapezoids, and other polygons. They use ratios to find areas of similar polygons, and they use ratios of areas to find missing lengths of similar figures. Students explore circles, relating arc lengths and circumferences to areas of sectors, and they develop and use a formula for the area of a regular polygon. Finally, students use lengths of segments and areas of regions to calculate probability.**
Essential Question(s): • **How do you find the area of a parallelogram?** • **How do you find the area of a trapezoid, a kite and a rhombus?** • **How is the ratio of two similar polygons related to the ratio of their corresponding sides?** • **How do you find the length of the arc of a circle?** • **How do you find the area of a sector of a circle?** • **How do you find the area of a regular polygon?** **How do you find the probability that a point randomly selected in a region is in a particular part of that region?**	**Enduring Understanding(s):** • Students will be able to: • Find areas of triangles and parallelograms. • Find areas of other types of quadrilaterals. • Use ratios to find areas of similar figures. • Find arc lengths and other measures. • Find the areas of circles and sectors. • Find areas of regular polygons inscribed in circles. • Use lengths and areas to find geometric probabilities.

PART II:INSTRUCTIONAL STRATEGIES AND RESOURCES

DESCRIBE THE LEARNING TARGETS.

After each target, identify the New Jersey Student Learning Standards that are applicable

Learning Target	NJSLS
1.Using Area Formulas for Polygons *- [Standard] - Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.* *- [Standard] - Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone.* *- [Standard] - Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle.* *- [Standard] - Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.*	**1. NJSLS-G-C.B.5, NJSLS-G-GMD.A.1, NJSLS-G-CO.D.13, NJSLS-G-SRT.C.8**
2.Relating Length, Perimeter, and Area Ratios in Similar Polygon *- [Standard] - Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).* *- [Standard] - Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).*	**2. NJSLS-G-MG.A.2, NJSLS-G-MG.A.3**
3.Comparing Measures for Parts of Circles and the Whole Circle *- [Standard] - Derive using similarity the fact that the length of the arc intercepted by an angle is proportional to the radius, and define the radian measure of the angle as the constant of proportionality; derive the formula for the area of a sector.* *- [Standard] - Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone.* *- [Standard] - Describe events as subsets of a sample space (the set of outcomes) using characteristics (or categories) of the outcomes, or as unions, intersections, or complements of other events ("or," "and," "not").*	**3. NJSLS-G-C.B.5, NJSLS-G-GMD.A.1, NJSLS-S-CP.A.1**

Inter-Disciplinary Connections:

Real-World problem solving examples:
Painting a barn (p 722), Sailing, Mowing a lawn, painting, envelope construction (pg. 725), perimeter of an eraser (p. 728), Basketball area of free-throw lane (p. 730) , Map of a city park and area (p. 732), truck's windshield, designing a wall-hanging (p. 735), cooking on a rectangular pan, carpet in a bedroom (p. 738), Gazebo and its area (p. 739) Misleading graphs and similar banners (p. 742), Revolutions of a car tire (p. 747), The length of a track (p. 749) Diameter of a trunk of a tree and measuring wheel (p. 751), An entranceway that needs to be taken out to find area (p. 757), Highway signed made more readable (p. 760) Area of a table top shaped as an octagon (p. 763), crafts making wooden trivets (p. 767) Honeycomb cell and finding the distance (p. 768) Archery and geometric probability, probability on a grid (p. 773), Phone calls, fire alarms, dartboards and probability (p. 776), tiling (p. 784)

Inter-Disciplinary problem solving examples:
Trigonometry and Technology (p. 724), Acoustics and a guitar inlay (p. 731) Science and the Greek scholar Eratosthenes estimating the Earth's circumference (p. 752), Comparing Euclidean and spherical geometry (p. 753), Longitude and Latitude (p. 754), Basaltic Columns : geological formations (p. 767) , Science: losing contact with space probe and being able to locate it (p. 776)

Students will engage with the following text:

Larson Geometry 2007, 2011 by Houghton Mifflin Harcourt Publishing Group

Students will write:

Writing/Open Ended questions:
What are the two formulas you have learned for the area of a rectangle? Explain (p. 723), Explain what size square has an area of 4 square inches (p. 725), Explain possibilities of perimeter of a parallelogram (p. 726), Sketch a kite and its diagonals and describe what you know about the segments and angles formed by the intersecting diagonals. (p. 733), Explain if you need to know the value of the number of sides to find the ratio of the perimeters or the ratio of the areas of the polygons (p. 740), You enlarge the same figure three different ways Explain their similarities and differences. (p. 741), Describe the difference between the arc measure and the arc length (p. 749) , Describe the effect on the length of the arc if you double the radius of a circle (p. 751), What happens to the area of a sector if you double the arc measure? (p. 758), How much dough does it take to double the diameter of a tortilla given how much dough the original takes (p. 760), Explain how to find the measure of a central angle of a regular polygon with n sides (p. 765), Given a perimeter of a regular polygon with n sides is that enough information to find its area?(p. 766), Compare a geometric probability and a probability found by dividing the number of favorable outcomes by the total number of possible outcomes (p. 774), If the central angle of a sector of a circle stays the same and the radius of the circle doubles, what can you conclude about the probability of a randomly selected point being in the sector (p. 776) .

PART III: TRANSFER OF KNOWLEDGE AND SKILLS

DESCRIBE THE LEARNING EXPERIENCE.

How will students uncover content and build skills.

Opportunities for developing students' understanding in this chapter include: investigating geometry activities, problem solving workshops, modeling examples, using real-life application and construction of models or other hands on activities such as projects. Technology such as animated geometry, Smart Board, graphing calculators, and Geometer's Sketchpad will also be explored through the learning experience. Other interests could include, but is not limited to alternative lesson openers, using note-taking strategies, math and history applications, and interdisciplinary applications.

Suggested warm-up activities, instructional strategies/activities, and assignments:

Section 11.1:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (10.7): TE p. 702; Answer Transparencies Daily Homework Quiz (10.7): TE p. 705 Warm-Up: TE p. 720 or Transparencies	Homework Check (10.7): TE p. 702; Answer Transparencies Daily Homework Quiz (10.7): TE p. 705 Warm-Up: TE p. 720 or Transparencies	Homework Check (10.7): TE p. 702; Answer Transparencies Daily Homework Quiz (10.7): TE p. 705 Warm-Up: TE p. 720 or Transparencies
Teach Teaching Options	Essential Question: TE p. 720 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 5–6 Examples 1–3: PE pp. 721–722 Extra Examples 1–3 with Key Questions: TE pp. 721–722 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 16 Notetaking Guide pp. 281–283	Essential Question: TE p. 720 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 5–6 Examples 1–3: PE pp. 721–722 Extra Examples 1–3 with Key Questions: TE pp. 721–722 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 16 Notetaking Guide pp. 281–283	Essential Question: TE p. 720 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 5–6 Examples 1–3: PE pp. 721–722 Extra Examples 1–3 with Key Questions: TE pp. 721–722 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 16 Notetaking Guide pp. 281–283
Checking for Understanding	Closing the Lesson: TE p. 722 Guided Practice Exercises: PE pp. 721–722	Closing the Lesson: TE p. 722 Guided Practice Exercises: PE pp. 721–722	Closing the Lesson: TE p. 722 Guided Practice Exercises: PE pp. 721–722
Practice and Apply Assigning Homework	Basic: Day 1: SRH p. 883 Exs. 1, 4, 5, 8; pp. 723–726 Exs. 1–5, 9–13, 16–24, 28, 36–42, 48–54	Average: Day 1: pp. 723–726 Exs. 1, 2, 5–7, 9–11, 14–17, 19–21, 25–33, 37–45, 49–53 odd	Advanced: Day 1: pp. 723–726 Exs. 1, 2, 7–9, 14, 15, 17–21, 26–35*, 37, 39–47*, 50,54
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 13–14 Tutorial Software Challenge: Chapter Resource Book p. 17	Study Guide: Chapter Resource Book pp. 13–14 Tutorial Software Challenge: Chapter Resource Book p. 17	Study Guide: Chapter Resource Book pp. 13–14 Tutorial Software Challenge: Chapter Resource Book p. 17

Section 11.2:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (11.1): TE p. 723; Answer Transparencies Daily Homework Quiz (11.1): TE p. 726 Warm-Up: TE p. 730 or Transparencies	Homework Check (11.1): TE p. 723; Answer Transparencies Daily Homework Quiz (11.1): TE p. 726 Warm-Up: TE p. 730 or Transparencies	Homework Check (11.1): TE p. 723; Answer Transparencies Daily Homework Quiz (11.1): TE p. 726 Warm-Up: TE p. 730 or Transparencies

Teach **Teaching Options**	Essential Question: TE p. 730 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–4: PE pp. 730–732 Extra Examples 1–4 with Key Questions: TE pp. 731–732 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 29 Notetaking Guide pp. 284–287	Essential Question: TE p. 730 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–4: PE pp. 730–732 Extra Examples 1–4 with Key Questions: TE pp. 731–732 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 29 Notetaking Guide pp. 284–287	Essential Question: TE p. 730 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–4: PE pp. 730–732 Extra Examples 1–4 with Key Questions: TE pp. 731–732 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 29 Notetaking Guide pp. 284–287
Checking for Understanding	Closing the Lesson: TE p. 732 Guided Practice Exercises: PE pp. 731–732	Closing the Lesson: TE p. 732 Guided Practice Exercises: PE pp. 731–732	Closing the Lesson: TE p. 732 Guided Practice Exercises: PE pp. 731–732
Practice and Apply Assigning Homework	Basic: Day 1: pp. 733–736 Exs. 1–14, 22, 23, 34, 35; Day 2: pp. 733–736 Exs. 15-21, 24–26, 36-38, 44–48	Average: Day 1: pp. 733–736 Exs. 1–6, 8–11, 13, 14, 22–26, 34, 35; Day 2: pp. 733–736 Exs. 15–21, 27–32, 36–41, 44–48 even	Advanced: Day 1: pp. 733–736 Exs. 1–6, 9–12, 22–29, 34, 35; Day 2: pp. 733–736 Exs. 15–21, 30–33*, 36–43*, 46–48
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 26–27 Tutorial Software Challenge: Chapter Resource Book p. 30	Study Guide: Chapter Resource Book pp. 26–27 Tutorial Software Challenge: Chapter Resource Book p. 30	Study Guide: Chapter Resource Book pp. 26–27 Tutorial Software Challenge: Chapter Resource Book p. 30

Section 11.3:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (11.2): TE p. 733; Answer Transparencies Daily Homework Quiz (11.2): TE p. 736 Warm-Up: TE p. 737 or Transparencies	Homework Check (11.2): TE p. 733; Answer Transparencies Daily Homework Quiz (11.2): TE p. 736 Warm-Up: TE p. 737 or Transparencies	Homework Check (11.2): TE p. 733; Answer Transparencies Daily Homework Quiz (11.2): TE p. 736 Warm-Up: TE p. 737 or Transparencies
Teach **Teaching Options**	Essential Question: TE p. 737 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 33 Examples 1–4: PE pp. 737–739 Extra Examples 1–4 with Key Questions: TE pp. 738–739 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp. 43–44 Notetaking Guide pp. 288–291	Essential Question: TE p. 737 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 33 Examples 1–4: PE pp. 737–739 Extra Examples 1–4 with Key Questions: TE pp. 738–739 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp. 43–44 Notetaking Guide pp. 288–291	Essential Question: TE p. 737 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 33 Examples 1–4: PE pp. 737–739 Extra Examples 1–4 with Key Questions: TE pp. 738–739 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp. 43–44 Notetaking Guide pp. 288–291
Checking for Understanding	Closing the Lesson: TE p. 739 Guided Practice Exercises: PE pp. 738–739	Closing the Lesson: TE p. 739 Guided Practice Exercises: PE pp. 738–739	Closing the Lesson: TE p. 739 Guided Practice Exercises: PE pp. 738–739
Practice and Apply Assigning Homework	Basic: Day 1: EP p. 906 Exs. 23–25; pp. 740–743 Exs. 1–20, 26–30, 35–41	Average: Day 1: pp. 740–743 Exs. 1–4, 6–8, 10–22, 27–33, 35–41	Advanced: Day 1: pp. 740–743 Exs. 1, 2, 6–14, 16–25*, 27–34*, 35–41 odd
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 40–41 Tutorial Software Challenge: Chapter Resource Book p. 45	Study Guide: Chapter Resource Book pp. 40–41 Tutorial Software Challenge: Chapter Resource Book p. 45	Study Guide: Chapter Resource Book pp. 40–41 Tutorial Software Challenge: Chapter Resource Book p. 45

Section 11.4:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (11.3): TE p. 740; Answer Transparencies Daily Homework Quiz (11.3): TE p. 743 Warm-Up: TE p. 746 or Transparencies	Homework Check (11.3): TE p. 740; Answer Transparencies Daily Homework Quiz (11.3): TE p. 743 Warm-Up: TE p. 746 or Transparencies	Homework Check (11.3): TE p. 740; Answer Transparencies Daily Homework Quiz (11.3): TE p. 743 Warm-Up: TE p. 746 or Transparencies
Teach Teaching Options	Essential Question: TE p. 746 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 48 Examples 1–5: PE pp. 746–749 Extra Examples 1–5 with Key Questions: TE pp. 747–749 Real-Life Application: Chapter Resource Book p. 58 Notetaking Guide pp. 292–295	Essential Question: TE p. 746 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 48 Examples 1–5: PE pp. 746–749 Extra Examples 1–5 with Key Questions: TE pp. 747–749 Real-Life Application: Chapter Resource Book p. 58 Notetaking Guide pp. 292–295	Essential Question: TE p. 746 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 48 Examples 1–5: PE pp. 746–749 Extra Examples 1–5 with Key Questions: TE pp. 747–749 Real-Life Application: Chapter Resource Book p. 58 Notetaking Guide pp. 292–295
Checking for Understanding	Guided Practice Exercises: PE pp. 747–749	Guided Practice Exercises: PE pp. 747–749	Guided Practice Exercises: PE pp. 747–749
Practice and Apply Assigning Homework	Basic: Day 1: pp. 749–752 Exs. 1–10, 26–29, 37, 46–48; Day 2: pp. 749–752Exs. 11–25,35,36,38,42–45	Average: Day 1: pp. 749–752 Exs. 1–10, 26–29, 37, 38, 46–48; Day 2: pp. 749–752 Exs. 11–14, 18–25, 30–32, 35, 36, 39, 42–45	Advanced: Day 1: pp. 749–752 Exs. 1–10, 26–29, 33*, 37, 38, 48;Day 2: pp. 749–752 Exs. 11–13, 19–25, 30–32, 34, 39–42*, 44
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 55–56 Tutorial Software Challenge: Chapter Resource Book p. 59	Study Guide: Chapter Resource Book pp. 55–56 Tutorial Software Challenge: Chapter Resource Book p. 59	Study Guide: Chapter Resource Book pp. 55–56 Tutorial Software Challenge: Chapter Resource Book p. 59

Section 11.5:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (11.4): TE p. 750; Answer Transparencies Daily Homework Quiz (11.4): TE p. 752 Warm-Up: TE p. 755 or Transparencies	Homework Check (11.4): TE p. 750; Answer Transparencies Daily Homework Quiz (11.4): TE p. 752 Warm-Up: TE p. 755 or Transparencies	Homework Check (11.4): TE p. 750; Answer Transparencies Daily Homework Quiz (11.4): TE p. 752 Warm-Up: TE p. 755 or Transparencies
Teach Teaching Options	Essential Question: TE p. 755 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 62–63 Examples 1–4: PE pp. 755–757 Extra Examples 1–4 with Key Questions: TE pp. 756–757 Interdisciplinary Application: Chapter Resource Book p. 73 Notetaking Guide pp. 296–299	Essential Question: TE p. 755 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 62–63 Examples 1–4: PE pp. 755–757 Extra Examples 1–4 with Key Questions: TE pp. 756–757 Interdisciplinary Application: Chapter Resource Book p. 73 Notetaking Guide pp. 296–299	Essential Question: TE p. 755 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 62–63 Examples 1–4: PE pp. 755–757 Extra Examples 1–4 with Key Questions: TE pp. 756–757 Interdisciplinary Application: Chapter Resource Book p. 73 Notetaking Guide pp. 296–299
Checking for Understanding	Closing the Lesson: TE p. 757 Guided Practice Exercises: PE pp. 756–757	Closing the Lesson: TE p. 757 Guided Practice Exercises: PE pp. 756–757	Closing the Lesson: TE p. 757 Guided Practice Exercises: PE pp. 756–757
Practice and Apply Assigning Homework	Basic: Day 1: pp. 758–761 Exs. 1–13, 37, 38, 48–51; Day 2: pp. 758–761	Average: Day 1: pp. 758–761 Exs. 1, 2, 4–6, 8–13, 33, 34, 37, 38, 48–51;	Advanced: Day 1: pp. 758–761 Exs. 1, 2, 4–6, 8, 9, 11–13, 33–38*, 48, 50

	Exs. 14–28, 39–41, 45–47	Day 2: pp. 758–761 Exs. 14–19, 23–32, 39–43, 46	Day 2: pp. 758–761 Exs. 15–19, 24–32, 39–44*, 47
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 70–71 Tutorial Software	Study Guide: Chapter Resource Book pp. 70–71 Tutorial Software	Study Guide: Chapter Resource Book pp. 70–71 Tutorial Software

Section 11.6:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (11.5): TE p. 758; Answer Transparencies Daily Homework Quiz (11.5): TE p. 761 Warm-Up: TE p. 762 or Transparencies	Homework Check (11.5): TE p. 758; Answer Transparencies Daily Homework Quiz (11.5): TE p. 761 Warm-Up: TE p. 762 or Transparencies	Homework Check (11.5): TE p. 758; Answer Transparencies Daily Homework Quiz (11.5): TE p. 761 Warm-Up: TE p. 762 or Transparencies
Teach Teaching Options	Essential Question: TE p. 762 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 77 Examples 1–3: PE pp. 762–764 Extra Examples 1–3 with Key Questions: TE pp. 763–764 Real-Life Application: Chapter Resource Book p. 87 Notetaking Guide pp. 300–303	Essential Question: TE p. 762 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 77 Examples 1–3: PE pp. 762–764 Extra Examples 1–3 with Key Questions: TE pp. 763–764 Real-Life Application: Chapter Resource Book p. 87 Notetaking Guide pp. 300–303	Essential Question: TE p. 762 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 77 Examples 1–3: PE pp. 762–764 Extra Examples 1–3 with Key Questions: TE pp. 763–764 Real-Life Application: Chapter Resource Book p. 87 Notetaking Guide pp. 300–303
Checking for Understanding	Closing the Lesson: TE p. 764 Guided Practice Exercises: PE pp. 762, 764	Closing the Lesson: TE p. 764 Guided Practice Exercises: PE pp. 762, 764	Closing the Lesson: TE p. 764 Guided Practice Exercises: PE pp. 762, 764
Practice and Apply Assigning Homework	Basic: Day 1: EP p. 909 Exs. 40–45; pp. 765–768 Exs. 1–13, 47–52; Day 2: pp 765–768 Exs. 14–24, 26–30 even, 36–40	Average: Day 1: pp. 765–768 Exs. 1–13, 47–52; Day 2: pp. 765–768 Exs. 15–18, 20–22, 24–26, 27–33 odd, 34, 36–44	Advanced: Day 1: pp. 765–768 Exs. 1–13, 47–52; Day 2: pp. 765–768 Exs 16–30 even, 31-36*, 38–46*
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 84–85 Tutorial Software Challenge: Chapter Resource Book p. 88	Study Guide: Chapter Resource Book pp. 84–85 Tutorial Software Challenge: Chapter Resource Book p. 88	Study Guide: Chapter Resource Book pp. 84–85 Tutorial Software Challenge: Chapter Resource Book p. 88

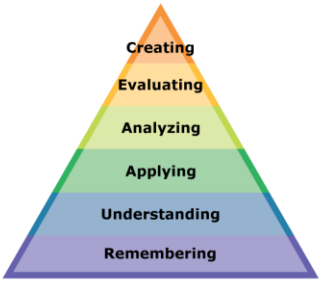
Section 11.7:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (11.6): TE p. 765; Answer Transparencies Daily Homework Quiz (11.6): TE p. 768 Warm-Up: TE p. 771 or Transparencies	Homework Check (11.6): TE p. 765; Answer Transparencies Daily Homework Quiz (11.6): TE p. 768 Warm-Up: TE p. 771 or Transparencies	Homework Check (11.6): TE p. 765; Answer Transparencies Daily Homework Quiz (11.6): TE p. 768 Warm-Up: TE p. 771 or Transparencies
Teach Teaching Options	Essential Question: TE p. 771 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 91 Examples 1–4: PEpp. 771–773 Extra Examples 1–4 with Key	Essential Question: TE p. 771 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 91 Examples 1–4: PEpp. 771–773 Extra Examples 1–4 with Key	Essential Question: TE p. 771 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 91 Examples 1–4: PEpp. 771–773 Extra Examples 1–4 with Key

	Questions: TE pp. 772–773 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 101 Notetaking Guide pp. 304–307	Questions: TE pp. 772–773 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 101 Notetaking Guide pp. 304–307	Questions: TE pp. 772–773 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 101 Notetaking Guide pp. 304–307
Checking for Understanding	Closing the Lesson: TE p. 773 Guided Practice Exercises: PE pp. 772–773	Closing the Lesson: TE p. 773 Guided Practice Exercises: PE pp. 772–773	Closing the Lesson: TE p. 773 Guided Practice Exercises: PE pp. 772–773
Practice and Apply Assigning Homework	Basic: Day 1: SRH p. 893 Exs. 1–5; pp. 774–777 Exs. 1–7, 16–19, 31–33, 42–44; Day 2: pp. 774–777 Exs. 8–15, 20–22, 30, 34, 35, 39–41	_ Average: Day 1: pp. 774–777 Exs. 1–7, 16–19, 31–33, 36, 42–44; Day 2: pp. 774–777 Exs. 8–15, 21–26, 30, 34, 35–39 odd	Advanced: Day 1: pp. 774–777 Exs. 1–7, 16–19, 29*, 31–33, 36, 42, 44; Day 2: pp. 774–777 Exs. 8–10, 13–15, 22–28, 30, 34, 35, 37, 38*, 41
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 98–99 Tutorial Software Challenge: Chapter Resource Book p. 102	Study Guide: Chapter Resource Book pp. 98–99 Tutorial Software Challenge: Chapter Resource Book p. 102	Study Guide: Chapter Resource Book pp. 98–99 Tutorial Software Challenge: Chapter Resource Book p. 102

PART IV: EVIDENCE OF LEARNING

IDENTIFY THE METHODS BY WHICH STUDENTS WILL DEMONSTRATE THEIR UNDERSTANDING OF CONTENT AND THEIR ABILITY TO APPLY SKILLS.
IDENTIFY BLOOM'S LEVELS.



Formative Assessments:

The effectiveness of the instructional program will be based on numerous activities and strategies including the following: teacher observations, students collaborating with peers, questioning strategies, student record-keeping, quizzes, exit/admit assignments, peer/self-assessments, learning/response logs, discussions and practice presentations.

Accommodations/Modifications:

- **Use manipulatives to represent shapes.**
- **Provide several manipulatives to measure length and area of figures.**
- **Provide guided notes/handouts.**
- **Break problems into smaller pieces.**
- **Have students keep an organized binder.**
- **Allow students to use calculator.**
- **Review needed skills prior to the lesson.**
- **Provide checklists for solving problems.**
- **Provide index cards to make flashcards for vocabulary with visuals.**
- **Have students highlight important words in the directions.**

Summative Assessments:

The following assessments will be used to evaluate student learning, skill acquisition and academic achievement of the Standards of Mathematical Practice and the New Jersey Learning Standards for Mathematics listed under each chapter in the Geometry curriculum/syllabus at the conclusion of an instructional time period.

- **Diagnostic Pre-Test**
- **Chapter Tests**
- **Periodic Benchmark Tests**
- **End-Of –Course Assessment**
- **Standardized Tests**

Accommodations/Modifications:

Benchmark tests, chapter tests and End of Course tests may have:

- **prompts**
- **examples**
- **bolded directions**
- **extra space between problems to show work**
- **chunked (given one page at a time) to keep students focused**
- **use of a calculator**
- **parts of assessment read aloud**

Performance Assessments:

The following assessments require students to utilize various strands of mathematics.

- **Projects**
- **Performance Tasks**
- **Homework**
- **Classwork**

Accommodations/Modifications:

Projects should include:

- **a comprehensive guide**
- **rubric**
- **a visual example for students to follow as a reference**

Black Horse Pike Regional School District Curriculum Template

ENGAGING STUDENTS • FOSTERING ACHIEVEMENT • CULTIVATING 21ST CENTURY GLOBAL SKILLS

PART I: UNIT RATIONALE

WHY ARE STUDENTS LEARNING THIS CONTENT AND THESE SKILLS?

Course/Unit Title: Geometry/Surface Area and Volume of Solids **Grade Level(s):** **9-12**	**Unit Summary**: **In this unit, students identify and name solids, including Platonic solids, and use Euler's Theorem to relate the number of faces, vertices and edges of solids. Students describe cross-sections of solids, find the surface areas and lateral areas of prisms and cylinders and use nets to find surface area. They find the surface area and volume of prisms, cylinders, cones, pyramids, spheres and composite solids. Finally, they use scale factors in similar solids to compare the ratios of the surface areas and the ratio of the volumes of the solids.**
Essential Question(s): • **When is a solid a polyhedron?** • **How do you find the surface area of a prism?** • **How do you find the surface area of a regular pyramid?** • **How do you find the volume of a right prism or a right cylinder?** • **How do you find the volume of a pyramid or cone?** • **How do you find the volume of a sphere?** • **If two solids are similar, what is the ratio of their surface area and what is the ratio of their volume?**	**Enduring Understanding(s):** • Students will be able to: • Identify solids. • Find the surface areas of prisms and cylinders. • Find surface areas of pyramids and cones. • Find volumes of prisms and cylinders. • Find volumes of pyramids and cones. • Find surface areas and volumes of spheres. • Use properties of similar solids.

PART II: INSTRUCTIONAL STRATEGIES AND RESOURCES

DESCRIBE THE LEARNING TARGETS.

After each target, identify the New Jersey Student Learning Standards that are applicable

Learning Target	**NJSLS**
1.Exploring Solids and Their Properties *- [Standard] - Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects.*	**1. NJSLS-G-GMD.B.4**
2.Solving Problems Using Surface Area and Volume *- [Standard] - Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone.* *- [Standard] - Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.* *- [Standard] - Apply concepts of density based on area and volume in modeling situations (e.g., persons per square mile, BTUs per cubic foot).* *- [Standard] - Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios)*.	**2. NJSLS-G-GMD.A.1, NJSLS-G-GMD.A.3, NJSLS-G-MG.A.2, NJSLS-G-MG.A.3**
3.Connecting Similarity to Solids *- [Standard] - Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.*	**3. NJSLS-G-GMD.A.3**

Inter-Disciplinary Connections:

Real-World problem solving examples:

Puzzles, convex or concave (p. 799), craft boxes and shape of food (p.800), compact discs and amount of shrink wrap (p. 805), various cylindrical shapes and surface area (p. 807) gift box, bass drum (p. 808),surface area of a ring (p. 809) lateral area of a traffic cone (p. 813) Lateral area of common cones (p. 814) , candles, lampshade (p. 817) volume of a sculpture made up of 13 beams (p. 822), Finding volume of gift boxes , cheese (p. 823), jewelry, concrete blocks (p. 824), architecture: cylindrical column, rotations of an index card, barn shape of a pentagonal prism (p. 825), pencil holder (p. 827), cake decoration, popcorn containers, automatic feeder for animals (p. 834), nautical deck prism and the solids it contains (p. 835), Surface area of a baseball (p. 838), Circumference of a sphere in a sport called sphering (p. 840), soccer ball volume (p. 841), globe, snow globe, rubber band sphere (p. 842)< Grain silo (p. 844), packaging (p. 848), consumer economics which store sells the best price for yarn (p. 849) coffee mugs, architecture, party planning with punch bowls (p. 852), Scale factor of a model car (p. 853),volume of a marble (p. 861)

Inter-Disciplinary problem solving examples:
Music : pentagonal speakers (p. 800), Science: volcanoes (p. 816), History: Elizabethan collar to prevent an animal from irritating a wound (p. 817) Science: Oceanography Blue Hole (p. 824), History: Khafre's Pyramid in Egypt (p. 830) Geography: Torrid Zone on Earth (p. 844), Technology (p. 845) Astronomy: Shape of Pluto (p. 860)

Students will engage with the following text:

Larson Geometry 2007, 2011 by Houghton Mifflin Harcourt Publishing Group

Students will write:

Writing/Open Ended questions:
State Euler's Theorem in words (p. 798), Name a polyhedron that has 4 vertices and 6 edges, explain (p. 800), Explain how the formula S=2B + Ph applies to finding the surface area of both a right prism and a right cylinder. (p. 806). Compare bins, given their dimensions, explain which requires more material to make (p. 809), Compare the height and slant height of a right cone (p. 814), Compare the surface areas of a larger cone and a smaller cone in terms of pi.(p. 816), Two solids have the same surface area. Do they have the same volume (p. 822), An aquarium shaped like a rectangular prism has certain dimensions. Interpret to volume of the rock when submerged in the aquarium and explain (p. 825), Compare the volume of a square pyramid to the volume of a square prism with the same base and height as the pyramid. (p. 832), Explain how the volume of a pyramid changes if the base stays the same and the height is doubled (p. 834), When a plane intersects a sphere, what point in the sphere must the plane contain for the intersection to be a great circle? Explain (p. 842), How are the volumes of similar solids related? (p. 850), A snow figure is made using three balls of snow. Find the total weight of the snow and explain your reasoning (p. 853).

PART III: TRANSFER OF KNOWLEDGE AND SKILLS

DESCRIBE THE LEARNING EXPERIENCE.

How will students uncover content and build skills.

Opportunities for developing students' understanding in this chapter include: investigating geometry activities, problem solving workshops, modeling examples, using real-life application and construction of models or other hands on activities such as projects. Technology such as animated geometry, Smart Board, graphing calculators, and Geometer's Sketchpad will also be explored through the learning experience. Other interests could include, but is not limited to alternative lesson openers, using note-taking strategies, math and history applications, and interdisciplinary applications.

Suggested warm-up activities, instructional strategies/activities, and assignments:

Section 12.1:

	Regular	Accelerated	Honors
Focus and Motivate	Homework Check (11.7): TE p. 774; Answer Transparencies	Homework Check (11.7): TE p. 774; Answer Transparencies	Homework Check (11.7): TE p. 774; Answer Transparencies

Starting Options	Daily Homework Quiz (11.7): TE p. 777 Warm-Up: TE p. 794 or Transparencies	Daily Homework Quiz (11.7): TE p. 777 Warm-Up: TE p. 794 or Transparencies	Daily Homework Quiz (11.7): TE p. 777 Warm-Up: TE p. 794 or Transparencies
Teach **Teaching Options**	Essential Question: TE p. 794 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 5–7 Examples 1–4: PE pp. 795–797 Extra Examples 1–4 with Key Questions: TE pp. 795–797 Interdisciplinary Application: Chapter Resource Book p. 17 Notetaking Guide pp. 309–312	Essential Question: TE p. 794 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 5–7 Examples 1–4: PE pp. 795–797 Extra Examples 1–4 with Key Questions: TE pp. 795–797 Interdisciplinary Application: Chapter Resource Book p. 17 Notetaking Guide pp. 309–312	Essential Question: TE p. 794 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 5–7 Examples 1–4: PE pp. 795–797 Extra Examples 1–4 with Key Questions: TE pp. 795–797 Interdisciplinary Application: Chapter Resource Book p. 17 Notetaking Guide pp. 309–312
Checking for Understanding	Closing the Lesson: TE p. 797 Guided Practice Exercises: PE pp. 795–797	Closing the Lesson: TE p. 797 Guided Practice Exercises: PE pp. 795–797	Closing the Lesson: TE p. 797 Guided Practice Exercises: PE pp. 795–797
Practice and Apply **Assigning Homework**	Basic: Day 1: EP p. 897 Exs. 41–44, pp. 798–801 Exs. 1–20, 34, 35; Day 2: pp. 798–801 Exs. 21–30, 36–42, 52–60	Average: Day 1: pp. 798–801 Exs. 1–20, 32, 34, 35, 56, 59; Day 2: pp. 798–801 Exs. 21–27 odd, 28–31, 37–49, 53	Advanced: Day 1: pp. 798–801 Exs. 1–20, 32, 34, 35, 57, 60; Day 2: pp. 798–801 Exs. 21, 24, 27–31, 33*, 38–51*, 54
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book pp. 14-15 Tutorial Software Challenge: Chapter Resource Book p. 18	Study Guide: Chapter Resource Book pp. 14-15 Tutorial Software Challenge: Chapter Resource Book p. 18	Study Guide: Chapter Resource Book pp. 14-15 Tutorial Software Challenge: Chapter Resource Book p. 18

Section 12.2:

	Regular	Accelerated	Honors
Focus and Motivate **Starting Options**	Homework Check (12.1): TE p. 798; Answer Transparencies Daily Homework Quiz (12.1): TE p. 801 Warm-Up: TE p. 803 or Transparencies	Homework Check (12.1): TE p. 798; Answer Transparencies Daily Homework Quiz (12.1): TE p. 801 Warm-Up: TE p. 803 or Transparencies	Homework Check (12.1): TE p. 798; Answer Transparencies Daily Homework Quiz (12.1): TE p. 801 Warm-Up: TE p. 803 or Transparencies
Teach **Teaching Options**	Essential Question: TE p. 803 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 21 Examples 1–4: PE pp. 803–806 Extra Examples 1–4 with Key Questions: TE pp. 804–806 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 31 Notetaking Guide pp. 313–316	Essential Question: TE p. 803 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 21 Examples 1–4: PE pp. 803–806 Extra Examples 1–4 with Key Questions: TE pp. 804–806 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 31 Notetaking Guide pp. 313–316	Essential Question: TE p. 803 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 21 Examples 1–4: PE pp. 803–806 Extra Examples 1–4 with Key Questions: TE pp. 804–806 Problem Solving Workshop: Using Alternative Methods: Chapter Resource Book p. 31 Notetaking Guide pp. 313–316
Checking for Understanding	Closing the Lesson: TE p. 806 Guided Practice Exercises: PE pp. 804–806	Closing the Lesson: TE p. 806 Guided Practice Exercises: PE pp. 804–806	Closing the Lesson: TE p. 806 Guided Practice Exercises: PE pp. 804–806
Practice and Apply **Assigning Homework**	Basic: Day 1: EP p. 917 Exs. 34, 35, 47, 48; pp. 806–809 Exs. 1–17, 22–26, 31–37	Average: Day 1: pp. 806–809 Exs. 1, 2–12 even, 13–20, 22–27, 31–37	Advanced: Day 1: pp. 806–809 Exs. 1, 2, 4–10 even, 13–22*, 24–30*, 32–36 even
Assess and Reteach **Differentiating Instruction**	Study Guide: Chapter Resource Book Tutorial Software Challenge: Chapter Resource	Study Guide: Chapter Resource Book Tutorial Software Challenge: Chapter Resource	Study Guide: Chapter Resource Book Tutorial Software Challenge: Chapter Resource

	Book p. 32	Book p. 32	Book p. 32

Section 12.3:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (807; Answer Transparencies Daily Homework Quiz (12.2): TE p. 809 Warm-Up: TE p. 810 or Transparencies	Homework Check (807; Answer Transparencies Daily Homework Quiz (12.2): TE p. 809 Warm-Up: TE p. 810 or Transparencies	Homework Check (807; Answer Transparencies Daily Homework Quiz (12.2): TE p. 809 Warm-Up: TE p. 810 or Transparencies
Teach Teaching Options	Essential Question: TE p. 810 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 35 Examples 1–4: PE pp. 810-813 Extra Examples 1–4 with Key Questions: TE pp. 811–813 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp 45–46 Notetaking Guide pp. 317–320	Essential Question: TE p. 810 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 35 Examples 1–4: PE pp. 810-813 Extra Examples 1–4 with Key Questions: TE pp. 811–813 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp 45–46 Notetaking Guide pp. 317–320	Essential Question: TE p. 810 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 35 Examples 1–4: PE pp. 810-813 Extra Examples 1–4 with Key Questions: TE pp. 811–813 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book pp 45–46 Notetaking Guide pp. 317–320
Checking for Understanding	Closing the Lesson: TE p. 813 Guided Practice Exercises: PE pp. 812–813	Closing the Lesson: TE p. 813 Guided Practice Exercises: PE pp. 812–813	Closing the Lesson: TE p. 813 Guided Practice Exercises: PE pp. 812–813
Practice and Apply Assigning Homework	Basic: Day 1: EP p. 908 Exs. 1–3; pp. 814–817 Exs. 1–9, 20, 21, 27–29, 35, 36; Day 2: pp. 814–817 Exs. 10–19, 30, 31, 37–39	Average: Day 1: pp. 814–817 Exs. 1–9, 20, 21, 25, 27–29, 35, 36; Day 2: pp. 814–817 Exs. 10–19, 22–24, 30–33, 37–39	Advanced: Day 1: pp. 814–817 Exs. 1–8, 20, 21, 25, 27–29, 35, 36; Day 2: pp. 814–817 Exs. 11–15, 17–19, 22–24, 26*, 30–34*, 37–39
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 42–43 Tutorial Software Challenge: Chapter Resource Book p. 47	Study Guide: Chapter Resource Book pp. 42–43 Tutorial Software Challenge: Chapter Resource Book p. 47	Study Guide: Chapter Resource Book pp. 42–43 Tutorial Software Challenge: Chapter Resource Book p. 47

Section 12.4:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (12.3): TE p. 814; Answer Transparencies Daily Homework Quiz (12.3): TE p. 817 Warm-Up: TE p. 819 or Transparencies	Homework Check (12.3): TE p. 814; Answer Transparencies Daily Homework Quiz (12.3): TE p. 817 Warm-Up: TE p. 819 or Transparencies	Homework Check (12.3): TE p. 814; Answer Transparencies Daily Homework Quiz (12.3): TE p. 817 Warm-Up: TE p. 819 or Transparencies
Teach Teaching Options	Essential Question: TE p. 819 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 50 Examples 1–5: PEpp. 819–822 Extra Examples 1–5 with Key Questions: TE pp. 820–822 Real-Life Application: Chapter Resource Book p. 60 Notetaking Guide pp. 321–324	Essential Question: TE p. 819 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 50 Examples 1–5: PEpp. 819–822 Extra Examples 1–5 with Key Questions: TE pp. 820–822 Real-Life Application: Chapter Resource Book p. 60 Notetaking Guide pp. 321–324	Essential Question: TE p. 819 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 50 Examples 1–5: PEpp. 819–822 Extra Examples 1–5 with Key Questions: TE pp. 820–822 Real-Life Application: Chapter Resource Book p. 60 Notetaking Guide pp. 321–324
Checking for	Closing the Lesson: TE p. 822	Closing the Lesson: TE p. 822	Closing the Lesson: TE p. 822

Understanding	Guided Practice Exercises: PE pp. 821–822	Guided Practice Exercises: PE pp. 821–822	Guided Practice Exercises: PE pp. 821–822
Practice and Apply Assigning Homework	Basic: Day 1: EP p. 916 Exs. 9–12; pp. 822–825 Exs. 1–14; Day 2: pp.822–825 Exs. 15–24, 28–32, 35–40	Average: Day 1: pp. 822–825 Exs. 1–14, 33; Day 2: pp. 822–825 Exs. 15–26, 28–32, 35-39 odd	Advanced: Day 1: pp. 822–825 Exs. 1–12, 14, 33, 34*; Day 2: pp. 822–825 Exs. 16–32*, 36–40 even
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 57-58 Tutorial Software Challenge: Chapter Resource Book p. 61	Study Guide: Chapter Resource Book pp. 57-58 Tutorial Software Challenge: Chapter Resource Book p. 61	Study Guide: Chapter Resource Book pp. 57-58 Tutorial Software Challenge: Chapter Resource Book p. 61

Section 12.5:

	Regular	**Accelerated**	**Honors**
Focus and Motivate Starting Options	Homework Check (12.4): TE p. 823; Answer Transparencies Daily Homework Quiz (12.4): TE p. 825 Warm-Up: TE p. 829 or Transparencies	Homework Check (12.4): TE p. 823; Answer Transparencies Daily Homework Quiz (12.4): TE p. 825 Warm-Up: TE p. 829 or Transparencies	Homework Check (12.4): TE p. 823; Answer Transparencies Daily Homework Quiz (12.4): TE p. 825 Warm-Up: TE p. 829 or Transparencies
Teach Teaching Options	Essential Question: TE p. 829 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 64–65 Examples 1–5: PE pp. 829–831 Extra Examples 1–5 with Key Questions: TE pp. 830–831 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 75 Notetaking Guide pp. 325–328	Essential Question: TE p. 829 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 64–65 Examples 1–5: PE pp. 829–831 Extra Examples 1–5 with Key Questions: TE pp. 830–831 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 75 Notetaking Guide pp. 325–328	Essential Question: TE p. 829 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book pp. 64–65 Examples 1–5: PE pp. 829–831 Extra Examples 1–5 with Key Questions: TE pp. 830–831 Problem Solving Workshop: Worked Out Example: Chapter Resource Book p. 75 Notetaking Guide pp. 325–328
Checking for Understanding	Closing the Lesson: TE p. 831 Guided Practice Exercises: PE pp. 830–831	Closing the Lesson: TE p. 831 Guided Practice Exercises: PE pp. 830–831	Closing the Lesson: TE p. 831 Guided Practice Exercises: PE pp. 830–831
Practice and Apply Assigning Homework	Basic: Day 1: EP p. 909 Exs. 34–36; pp. 832–836 Exs. 1–14, 43–45; Day 2: pp. 832–836 Exs. 15–22, 29–35, 46–52	Average: Day 1: pp. 832–836 Exs. 1–14, 26, 43–45; Day 2: pp. 832–836 Exs. 15–19, 21–25, 29–37, 46–52 even	Advanced: Day 1: pp. 832–836 Exs. 1–8, 11–14, 26–28*, 43–45; Day 2: pp. 832–836 Exs. 16–19, 23–25, 29, 33–42*, 48, 52
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 72–73 Tutorial Software Challenge: Chapter Resource Book p. 76	Study Guide: Chapter Resource Book pp. 72–73 Tutorial Software Challenge: Chapter Resource Book p. 76	Study Guide: Chapter Resource Book pp. 72–73 Tutorial Software Challenge: Chapter Resource Book p. 76

Section 12.6:

	Regular	**Accelerated**	**Honors**
Focus and Motivate Starting Options	Homework Check (12.5): TE p. 832; Answer Transparencies Daily Homework Quiz (12.5): TE p. 836 Warm-Up: TE p. 838 or Transparencies	Homework Check (10.7): TE p. 702; Answer Transparencies Daily Homework Quiz (10.7): TE p. 705 Warm-Up: TE p. 720 or Transparencies	Homework Check (10.7): TE p. 702; Answer Transparencies Daily Homework Quiz (10.7): TE p. 705 Warm-Up: TE p. 720 or Transparencies
Teach Teaching Options	Essential Question: TE p. 838 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 839-841	Essential Question: TE p. 838 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 839-841	Essential Question: TE p. 838 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator Examples 1–5: PE pp. 839-841

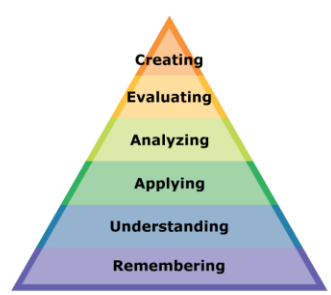
	Extra Example 1–5 with Key Questions: TE pp. 839–841 Real-Life Application: Chapter Resource Book p. 88 Notetaking Guide pp. 329-332	Extra Example 1–5 with Key Questions: TE pp. 839–841 Real-Life Application: Chapter Resource Book p. 88 Notetaking Guide pp. 329-332	Extra Example 1–5 with Key Questions: TE pp. 839–841 Real-Life Application: Chapter Resource Book p. 88 Notetaking Guide pp. 329-332
Checking for Understanding	Closing the Lesson: TE p. 841 Guided Practice Exercises: PE pp. 839–841	Closing the Lesson: TE p. 841 Guided Practice Exercises: PE pp. 839–841	Closing the Lesson: TE p. 841 Guided Practice Exercises: PE pp. 839–841
Practice and Apply Assigning Homework	Basic: Day 1: pp. 842-845 Exs. 1–11, 31, 40–44; Day 2: pp. 842–845 Exs. 12–24, 30, 32-34	Average: Day 1: pp. 842-845 Exs. 1–11, 31, 40–44; Day 2: pp. 842–845 Exs. 13–15, 17–20, 22–28 even, 30, 32–36	Advanced: Day 1: pp. 842-845 Exs. 1–9, 11, 31, 40–44; Day 2: 842–845 Exs. 18–20, 21–27 odd, 28–30*, 33–39*
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 85–86 Tutorial Software Challenge: Chapter Resource Book p. 89	Study Guide: Chapter Resource Book pp. 85–86 Tutorial Software Challenge: Chapter Resource Book p. 89	Study Guide: Chapter Resource Book pp. 85–86 Tutorial Software Challenge: Chapter Resource Book p. 89

Section 12.7:

	Regular	Accelerated	Honors
Focus and Motivate Starting Options	Homework Check (12.6): TE p. 842; Answer Transparencies Daily Homework Quiz (12.6): TE p. 845 Warm-Up: TE p. 847 or Transparencies	Homework Check (12.6): TE p. 842; Answer Transparencies Daily Homework Quiz (12.6): TE p. 845 Warm-Up: TE p. 847 or Transparencies	Homework Check (12.6): TE p. 842; Answer Transparencies Daily Homework Quiz (12.6): TE p. 845 Warm-Up: TE p. 847 or Transparencies
Teach Teaching Options	Essential Question: TE p. 847 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 92 Examples 1–4: PE pp. 847–849 Extra Examples 1–4 with Key Questions: TE pp. 848–849 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 102 Notetaking Guide pp. 333–336	Essential Question: TE p. 847 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 92 Examples 1–4: PE pp. 847–849 Extra Examples 1–4 with Key Questions: TE pp. 848–849 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 102 Notetaking Guide pp. 333–336	Essential Question: TE p. 847 Alternative Lesson Openers: Electronic Classroom Classroom Activity: Activity Generator; Chapter Resource Book p. 92 Examples 1–4: PE pp. 847–849 Extra Examples 1–4 with Key Questions: TE pp. 848–849 Problem Solving Workshop: Mixed Problem Solving: Chapter Resource Book p. 102 Notetaking Guide pp. 333–336
Checking for Understanding	Closing the Lesson: TE p. 849 Guided Practice Exercises: PE pp. 848–849	Closing the Lesson: TE p. 849 Guided Practice Exercises: PE pp. 848–849	Closing the Lesson: TE p. 849 Guided Practice Exercises: PE pp. 848–849
Practice and Apply Assigning Homework	Basic: Day 1: pp. 850–854 Exs. 1–4, 7–9, 11–13, 16–20, 25–30, 36–48 even	Average: Day 1: pp. 850–854 Exs. 1, 2, 4, 5–9 odd, 10-16 even, 17, 18, 20, 21, 26–32, 37-47 odd	Advanced: Day 1: pp. 850-854 Exs. 1, 2, 5–7, 10, 14–18, 21–24*, 27-35*, 38, 42, 44, 48
Assess and Reteach Differentiating Instruction	Study Guide: Chapter Resource Book pp. 99–100 Tutorial Software Challenge: Chapter Resource Book p. 103	Study Guide: Chapter Resource Book pp. 99–100 Tutorial Software Challenge: Chapter Resource Book p. 103	Study Guide: Chapter Resource Book pp. 99–100 Tutorial Software Challenge: Chapter Resource Book p. 103

PART IV: EVIDENCE OF LEARNING

IDENTIFY THE METHODS BY WHICH STUDENTS WILL DEMONSTRATE THEIR UNDERSTANDING OF CONTENT AND THEIR ABILITY TO APPLY SKILLS. IDENTIFY BLOOM'S LEVELS.



Formative Assessments:

The effectiveness of the instructional program will be based on numerous activities and strategies including the following: teacher observations, students collaborating with peers, questioning strategies, student record-keeping, quizzes, exit/admit assignments, peer/self-assessments, learning/response logs, discussions and practice presentations.

Accommodations/Modifications:

- **Use manipulatives to represent shapes.**
- **Provide guided notes/handouts.**
- **Break problems into smaller pieces.**
- **Have students keep an organized binder.**
- **Allow students to use calculator.**
- **Review needed skills prior to the lesson.**
- **Provide checklists for solving problems.**
- **Provide index cards to make flashcards for vocabulary with visuals.**
- **Provide index cards to make flashcards with formulas for surface area.**
- **Have students highlight important words in the directions.**

Summative Assessments:

The following assessments will be used to evaluate student learning, skill acquisition and academic achievement of the Standards of Mathematical Practice and the New Jersey Learning Standards for Mathematics listed under each chapter in the Geometry curriculum/syllabus at the conclusion of an instructional time period.

- **Diagnostic Pre-Test**
- **Chapter Tests**
- **Periodic Benchmark Tests**
- **End-Of –Course Assessment**
- **Standardized Tests**

Accommodations/Modifications:

Benchmark tests, chapter tests and End of Course tests may have:

- **prompts**
- **examples**
- **bolded directions**
- **extra space between problems to show work**
- **chunked (given one page at a time) to keep students focused**
- **use of a calculator**
- **parts of assessment read aloud**

Performance Assessments:

The following assessments require students to utilize various strands of mathematics.

- **Projects**
- **Performance Tasks**
- **Homework**
- **Classwork**

Accommodations/Modifications:

Projects should include:

- **a comprehensive guide**
- **rubric**
- **a visual example for students to follow as a reference**