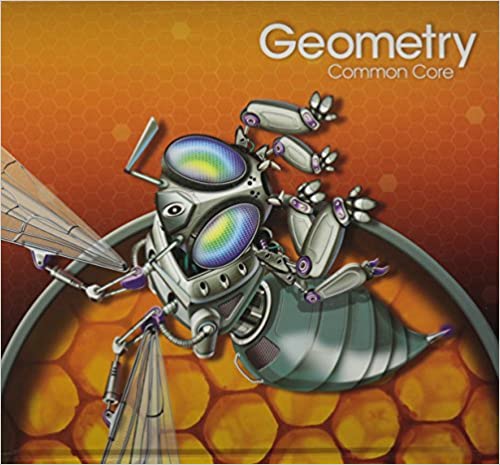
**Subject: Geometry**

**Grade: 10th**

**Textbook: Geometry Common Core**

**By Pearson**

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In this course students will acquire tools to help them explore two-dimensional and three-dimensional space. These tools include Euclidean geometry, rigid motion transformations, dilations and similarity, and coordinate geometry. Students will learn how to prove various geometric facts about triangles, quadrilaterals, and circles by using axiomatic proof and coordinate geometry proof. Finally, students will model real world objects using geometric formulas for perimeter, area, and volume. Three dimensional objects such as prisms, pyramids, cones, cylinders, and spheres will be used in a variety of models. This course is aligned to the Common Core State Standards for Geometry.

**QUARTERLY TOPICS**

**SUBJECT: Geometry**

**Unit 1: Transformations**

**Theme / Big Ideas:**

1. Transformations
2. Coordinate Geometry
3. Visualization  **GRADE:10th TIMELINE: Semester 1 - Quarter 1**

**Essential Questions for this Unit**

1.How do you transform a figure using precise geometric terminology to specify a sequence of transformations?

2.Which transformations produce congruent images and which produce similar images?

3.How do you recognize congruence and similarity in figures?

| **Standards** | **Content** | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G.G-CO.A.1**. Know precise definitions of angle,circle,perpendicular line,parallel line, and line segment, based on the undefined notions of points, line, distance along a line, and distance around a circular arc. | Points, Lines and Planes  Measuring Segments  Measuring Angles  Exploring angle pairs  Midpoint and Distance in the Coordinate Plane  Partitioning s Line Segment | I can differentiate point, line, & plane.  I can explore angle pairs.  I can measure and compare segments and angles. | Lesson Check &  Practice Test  Page 143-146  Pearson Geometry Book | Geometry Common Core –by Pearson  PP 140-147 | -Parallel lines  -Skew lines  -Parallel planes  -Transversal  -Alternate interior angles  -Same-side interior angles  -Corresponding angles  -Alternate exterior angles |
| **G.G-CO.A.2.** 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 | Translations  Rigid Motion  Composite of Transformation | I can explain rigid motions.  I can visualize translation images and identify their location . | Lesson Check &  Practice Test  Page 549-551 | Geometry Common Core –by Pearson  PP 545-552 | -Transformation  -Preimage  -Rigid motion  -Translation  -Composite of transformation |
| **G.G-CO.A.3.**Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself. | Angle of rotations  Center of rotations | I can identify types of symmetry using the skills in reflections and rotations.  I can identify the lines of symmetry of regular polygons  Using reflections. | Lesson Check & Practice Test  Page-568- 569  Common core Geometry | Geometry Common Core –by Pearson  PP 568-569 | Angle of rotations  Center of rotation |

| **Standards** | **Content** | **Student Friendly Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |

**SUBJECT: Geometry GRADE: 10th TIMELINE: Semester 1 - Quarter 1**

**Unit 2: Congruent Triangles**

**Theme/Big Ideas for this Unit:**

* Visualization
* Reasoning and Proofs

**Essential Questions for this Unit**

1. How do you identify corresponding parts of congruent triangles?

2. How do you show two triangles are congruent?

3. How can you tell whether a triangle is isosceles or equilateral?

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Standards** | **Content** | **Student Friendly Objectives** | | **Assessment** | **Resources** | | | **Vocabulary** |
| **G.G-CO.B.7.** 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.G-CO.B.8.**Explain how the criteria for triangle congruence(ASA,AAS,SAS, and SSS) follow from the definition of congruence in terms of rigid motions. | Rigid Motion  Congruent triangles  Corresponding parts of congruent figures are congruent  Justify ASA congruency  Justify SAS congruency  Justify SSS congruency  Justify AAS congruency  Justify HL( SSA not valid for congruency) | | I can identify congruence transformations.  I can prove triangle congruence using isometry.  I can prove two triangles congruent using SSS, ASA , AAS and SAS Postulates.  I can use triangle congruence and corresponding parts of congruent triangles to prove that pairs of triangles are congruent. | Lesson Check & Practice Test  Page-582- 585  Common core Geometry  Lesson Check & Practice Test  Pages 238-240  Common core Geometry | | Geometry Common Core –by Pearson  Page-578- 589  Geometry Common Core –by Pearson  Page-234- 248 | -Congruent polygons  -Congruence  -Theorems  -Postulates  -Postulates  -corresponding parts  -corollary  -Congruent | | |

**SUBJECT:Geometry**

**Unit 3: Parallel Lines and Angles**

**Theme/Big Ideas:**

1. Reasoning and Proof
2. Measurement
3. Coordinate Geometry **GRADE:10th TIMELINE: Semester 1 -Quarter 2**

**Essential Questions for this Unit**

1.How do you prove that two lines are parallel?

2.What is the sum of the measures of the angles of a triangle?

3.How do you write an equation of a line in the coordinate plane?

| **Standards** | **Content** | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G.G-CO.A.1**. Know precise definitions of angle,circle,perpendicular line,parallel line, and line segment, based on the undefined notions of points, line, distance along a line, and distance around a circular arc. | Points, Lines and Planes  Measuring Segments  Measuring Angles  Exploring angle pairs  Midpoint and Distance in the Coordinate Plane  Partitioning s Line Segment | I can differentiate point, line, & plane.  I can explore angle pairs.  I can measure and compare segments and angles. | Lesson Check & Practice Test  Pages 144-146  Common core Geometry | Geometry Common Core –by Pearson  Pages 140-155 | Parallel lines  -Skew lines  -Parallel planes  -Transversal  -Alternate interior angles  -Same-side interior angles  -Corresponding angles  -Alternate exterior angles |
| **G.G.CO.B.6.** Use geometric definitions 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. | Understand Congruence in terms of rigid motion  Composition of Isometries | I can find the distance between two points in the coordinate. Plane  I can find composition of isometries, including glide reflections .  I can classify isometries. | Lesson Check &  Practice Test  Pages 573-576 | Geometry Common Core –by Pearson  Pages 570-577 | Distance Formula  Transversal  Glide reflection  Isometry |
| **G.G-CO.C.9.** Prove theorems about lines and angles. *Theorems include: vertical angles are congruent; when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment’s endpoints.*  **G.G-GPE.B.5.**  Prove the slope criteria for parallel line and perpendicular lines and use them to solve geometric problems, including finding the equation of a line parallel or perpendicular to a given line that passes through a given points. | Perpendicular Bisectors and Angle Bisectors  Prove geometric Theorems  Equations of Lines in the Coordinate Plane  Slopes of parallel and perpendicular Lines | I can model perpendicular bisectors and angle bisectors in real world context.  I can use the properties of perpendicular bisectors and angle bisectors in solving distance problems.  I can graph and write linear equations.  I can relate slope to parallel and perpendicular lines. | Lesson Check &  Practice Test  Pages 296-298  Lesson Check & Practice test.  Pages 193-195  Pages 201-203 | Geometry Common Core –by Pearson  Pages 292-300  Geometry Common Core –by Pearson  Pages 189-196  Pages 197- 204 | Bisector  Theorems  Equidistant  Distance from a point to a line  Slope  Slope-intercept form  Point-slope form |

**SUBJECT:Geometry**

**Unit 4: Relationships in Triangles GRADE: 10th TIMELINE: Semester 1 - Quarter 2**

**Theme/Big Ideas:**

1. Coordinate Geometry
2. Measurement
3. Reasoning and proof

**Essential Questions for this Unit**

1.How do use coordinate geometry to find relationships within triangles?

2.How do you solve problems that involve measurements of triangles?

3.How do you write indirect proofs?

| **Standards** | **Content** | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G.G-CO.C.10.** Prove theorems about triangles. Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point. | Investigate Mid-segment  Mid-segments of Triangles  Medians and Altitudes  Inequalities in One Triangle  Inequalities in Two Triangles | I can model triangles and their mid-segments in real world context.  I can apply properties of mid-segments to solve distances.  I can explain the properties of medians and altitudes of a triangle.  I can model the properties of medians and altitudes in real world context.  I can apply the properties of medians and altitude in solving distance measures.  I will explain the inequalities in triangles. | Lesson Check & Practice test  Pages 288-290 | Geometry Common Core –by Pearson  Pages 285 -291 | Midsegment of a triangle |
| **G.G-CO.C.11.** Prove theorems about parallelograms. *Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.* | Properties of Parallelograms  Proving that a Quadrilateral Is A Parallelogram  Properties of Rhombuses, Rectangles, and Squares | I can understand the relationships among sides and angles in a parallelogram.  I can understand the relationships among the diagonals of parallelograms.  I can determine whether a quadrilateral is a parallelogram.  I can classify the special types of parallelogram | Lesson Check & Practice test  Pages 363-366  Pages 372-374  Pages 379-382  Pages 386-388 | Geometry Common Core –by Pearson  Pages 359-388 | Parallelogram  Opposite sides  Opposite Angles  Consecutive Angles  Rhombus  Rectangle  square |

| **Standards** | **Content** | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G.G-CO.D.12.** Make formal geometric constructions with a variety of tools and methods (compass and straightedge, string, reflective devices, paper folding, dynamic geometric software, etc.). *Copying a segment; copying an angle; bisecting a segment; bisecting an angle;*  *segment; constructing perpendicular lines, including the perpendicular bisector of a line segment; and constructing a line parallel to a given line through a point not on the line.*  **G.G-CO.D.13.** Construct an equilateral triangle, a square, and a regular hexagon inscribed in a circle. | Basic Constructions  Perimeter, Circumference, and Area  Constructing Parallel Lines and  Perpendicular Lines.  Slopes of Parallel and Perpendicular Lines  Isosceles and Equilateral Triangles  Congruence in Right Triangles.  Congruence in Overlapping Triangles | I can make formal geometric constructions with a variety of tools and methods (compass and straightedge,string,  reflective devised ,paper folding, & dynamic geometric software, etc.)  I can construct isosceles and equilateral triangles.  I can recognize congruent figures and their corresponding parts. | Lesson Check & Practice test  Pages 46 - 48  Pages 53- 56  Lesson Check & Practice test  Pages 253 -256 | Geometry Common Core –by Pearson  Pages 43- 56  Geometry Common Core –by Pearson  Pages 250-256 | Straight edge  Compass  Construction  Perpendicular bisector  Perimeter  Area  Slopes  Perpendicular lines  Parallel Lines  Legs of an isosceles triangle  Base of an isosceles triangle  Vertex angle  Base angles |

**SUBJECT:Geometry**

**Unit 5:Similarity**

**Theme/Big Ideas:**

1. Similarity
2. Reasoning and proof
3. Visualization  **GRADE:10th TIMELINE: Semester 2 - Quarter 3**

**Essential Questions for this Unit**

1.How do you use proportions to find side lengths in similar polygons?

2.How do you show tow triangles similar?

3.How do you identify corresponding parts of similar triangles?

| **Standards** | **Content** | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G-SRT.A.1.** Verify experimentally the properties of dilations given by a center and a scale factor:  Connections: *ETHS-S1C2-01*;  *9-10.WHST.1b*; *9-10.WHST.1e*  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.  The dilation of a line segment is longer or shorter in the ratio given by the scale factor  **G-SRT.A.2.** 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. | Dilations  Scale factor  Similarity Transformations  Understand similarity in terms of similarity transformations | I can understand/explain dilation images of figures.  I can identify similarity transformation and verify properties of similarity.  I can set-up proportions between corresponding parts. | Lesson Check & Practice test  Pages 590 - 592  Lesson Check & Practice test  Pages 597-600 | Geometry Common Core –by Pearson  Pages 587-593  Geometry Common Core –by Pearson  Pages 594-601 | Dilation  Scale factor  Ratio & proportion  Extended ratio  Extremes  Means  Cross Products Property  Similarity  Transformation  Similar |
| **G-SRT.B.4.** Prove theorems about triangles. Theorems include: an interior line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.  **G-SRT.B.5.** Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures. | Triangle-Angle-Bisector Theorem  Prove theorems involving similarity  The Polygon Angle-Sum Theorem  Trapezoids and Kites  Prove theorems involving similarity | I can use the Side-Splitter Theorem and the Triangle-Angle-Bisector Theorem.  I can find the sum of the interior angle measures of a polygon.  I can find the sum of the exterior angle measures of a polygon.  I can verify and use the properties of trapezoids and kites | Lesson Check & Practice test  Pages 474-478  Lesson Check & Practice test  Pages 436-438  Pages 455-457  Pages 464-467 | Geometry Common Core –by Pearson  Pages 471-480  Geometry Common Core –by Pearson  Pages 432- 470 | Triangle  Angle  Bisector  Corollary  Similar figures  Similar polygons  Extended proportion  Scale factor  Scale drawing  Scale  Geometric mean  Indirect measurement |
| **G-GPE.B.5.**  Prove the slope criteria for parallel line and perpendicular lines and use them to solve geometric problems, including finding the equation of a line parallel or perpendicular to a given line that passes through a given points.  **G-GPE.B.6.** Find the point on a directed line segment between two given points that partitions the segment in a given ratio. | Equations of Lines in the Coordinate Plane  Slopes of parallel and perpendicular Lines  Partitioning a Line Segment | I can graph and write linear equations.  I can relate slope to parallel and perpendicular lines.  I can find the distance between two points in the coordinate. plane | Lesson Check & Practice test.  Pages 193-195  Pages 201-203  Lesson Check & Practice test.  Page 57 | Geometry Common Core –by Pearson  Pages 189-196  Pages 197- 204  Geometry Common Core –by Pearson  Pages 57-58 | Slope  Slope-intercept form  Point-slope form  Coordinate  Segment  Vertical  Horizontal |

**SUBJECT:Geometry**

**Unit 6: Trigonometry & Right Triangles GRADE:10th TIMELINE: Semester 2 - Quarter 3**

**Theme/Big Ideas:**

1. Measurement
2. Similarity

**Essential Questions for this Unit**

1.How do you find a side length or angle measure in a right triangle?

2.How do trigonometric ratios relate to similar right triangles?

3.How do you know where each of the side lengths goes in the equation?

| **Standards** | **Content** | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G-SRT.C.6.** 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. | Students may use applets to explore the range of values of the trigonometric ratios as θ ranges from 0 to 90 degrees.  Shape  Description automatically generated with medium confidence   |  |  | | --- | --- | | *sine of θ = sin θ =* | *cosecant of θ = csc θ =* | | *cosine of θ = cos θ =* | *secant of θ = sec θ =* | | *tangent of θ = tan θ =* | *cotangent of θ = cot θ =* | | I can understand/explain the definition of the sine, cosine, and tangent ratios.  I can model the right triangles in real world context and apply the right triangle trigonometry to solve missing distances and angles. | Lesson Check & Practice test.  Page 506 | Geometry Common Core –by Pearson  Pages 506-507 | Sine  Cosine  Tangent  Cosine  Cotangent  Secant |
| **G-SRT.C.7.** Explain and use the relationship between the sine and cosine of complementary angles. | Angles of Elevation and Depression | I can understand the relation between the sine and cosine of the complementary angles in a right triangle | Lesson Check & Practice test.  Pages 514-515 | Geometry Common Core –by Pearson  Pages 514-515 | Elevation  Depression |

**SUBJECT:Geometry**

**Unit 7: Circles GRADE:10th TIMELINE: Semester 2 - Quarter 4**

**Theme/Big Ideas:**

1. Reasoning and proof
2. Measurement
3. Coordinate Geometry

**Essential Questions for this Unit :**

1. How can you prove relationships between angles and arcs in a circle?
2. When lines intersects a circle, how do you find the measures of resulting angles, arcs, and segments?
3. How do you find the equation of a circle in a coordinate plane?

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| Standards | Content | Student Friendly Objectives | Assessment | Resources | Vocabulary |
| **G.G-C.A.1**. Prove that all circles are similar.  **G.G-C.A.2.** Identify and describe relationships among inscribed angles, radii, and cords. Include the relationship between central, inscribed, and circumscribed angles; inscribed angles on a diameter are right angles; the radius of a circle is perpendicular to the tangent where the radius intersects the circle.  **G.G-C.A.3.** Construct the inscribed and circumscribed circles of a triangle, and prove properties of angles for a quadrilateral inscribed in a circle. | Tangents  Chords and Arcs  Inscribed Angles  Angle Measures and Segment Lengths  Inscribed angle  Intercepted arc  Bisectors in Triangles  Inscribed angle  Intercepted arc | I can prove that all circles are similar.  I can use properties of a tangent to a circle.  I can find the measure of a inscribed angle.  I can find the measure of an angle formed by a tangent and a cord.  I can find measures of angles formed by chords, secant, and tangents.  I can use properties of a tangent to a circle.  I can find the lengths of segments associated with circles.  I can determine the point of concurrency of angle bisectors in triangles.  I can use the properties of the concurrency of angle bisectors to find missing distance measures.  I can find the measure of an inscribed angle.  I can find the measure of an anlge formed by a tangent and a chord. | Lesson Check & Practice test.  Pages  **Examples:**   * Given the circle below with radius of 10 and chord length of 12, find the distance from the chord to the center of the circle.   **hs circle**   * Find the unknown length in the picture below.   Diagram  Description automatically generated  Lesson Check & Practice test.  Pages 784- 787 | Geometry Common Core –by Pearson  Geometry Common Core –by Pearson  Pages 762-797  Geometry Common Core –by Pearson  Pages 780-789 | Circle  Tangent  Chord  Arc  Tangent to a circle  Point of tangency  Inscribed angle  Intercepted arc  Secant  Chord  Inscribed angle  Intercepted arc  Inscribed angle  Intercepted arc |

| **Content** | **Standards** | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G.G-C.B.5.** 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 | Circles and Arcs  Areas of Circles and Sectors | I can describe how to determine the circumference and the area of a circle.  I can describe how to determine the length of an arc and the area of a sector of a circle.  I can solve for the length of arc and the area of a sector of the circle. | An 8 ft by 10 ft floating dock is anchored in the middle of a pond. The bow of a canoe is tied to a corner of the dock with a 10-ft rope, as shown in the picture below.   1. Sketch the diagram of the region in which the bow of the canoe can travel. 2. What is the area of the region?   A picture containing text  Description automatically generated | Geometry Common Core –by Pearson  Pages 653-658 | Arc  Intercepted  Radius  Proportionality  sector |

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| --- | --- | --- | --- | --- | --- |
| **G.G-GPE.A.1.** 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. | Equation of a circle  Pythagorean Theorem  Finding the center and radius of circle | I can derive the equation of a circle of given center and radius using the Pythagorean Theorem.  I can use the completing the square in algebra to find the center and radius of a circle given the equation.  I can write the equation of a circle.  I can find the center and radius of a circle. | Lesson Check & Practice test.  Pages 800 - 803 | Geometry Common Core –by Pearson  Pages 798-805 | Pythagorean Theorem  Center  Radius  Standard form of an equation of a circle |
|  |  |  |  |  |  |

**SUBJECT:Geometry GRADE:10th TIMELINE: Semester 2 - Quarter 4**

**Unit 8: Area and Volume**

**Theme /Big Ideas:**

1. Visualization
2. Measurement
3. Similarity

**Essential Questions for this Unit**

1.How can you determine the intersection of a solid and a plane?

2.How do you find the surface area and volume of a solid?

3.How do the surface areas and volumes of similar solids compare?

| **Standards** | **Content** | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G.G-GMD.A.1.** Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri’s principle, and informal limit arguments.* | Volume of prism  Volume of Cylinder  Cavalier’s Principle | I can find the volume of a prism and the volume of a cylinder. | Lesson Check & Practice test.  Pages 721-723 | Geometry Common Core –by Pearson  Pages 717- 725 | Volume  Composite space  Figure  Cavalieri’s principle is if two solids have the same height and the same cross-sectional area at every level, then they have the same [volume](http://www.daviddarling.info/encyclopedia/V/volume.html) |
| **G.G-GMD.A.3.** Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.  **G.G-GMD.B.4.** Identify the shapes of two-dimensional cross-sections of three-dimensional objects, and identify three-dimensional objects generated by rotations of two-dimensional objects | Volume of a Pyramid  Volume of a cone  Surface Area of a sphere  Volume of a sphere  Space Figures and Cross Sections  Polyhedron | I can calculate the volume of prism and cylinder.  I can find volume of pyramids and cones.  I can find surface areas and volume of spheres.  I can use scale factors to find the volume of similar solids.  I can explain density as it relates to the volume of a container.  I can recognize polyhedrons and their parts.  I can visualize and sketch cross sections of space figures.  I can differentiate solid figures and specify their parts.  I can find the surface area of prisms and cylinders.  I can find the surface area of Pyramids and Cones. | Lesson Check & Practice test.  Pages 729-732  Pages 736 -740  Lesson Check &  Practice test  Pages 691-695  Pages 696- 698 | Geometry Common Core –by Pearson  Pages 726- 742  Geometry Common Core –by Pearson  Pages 688- 698 | Sphere  Center of sphere  Diameter of a sphere  Circumference of a sphere  Great circle  Hemisphere  Polyhedron  Face  Edge  Vertex  Cross section  perspective |
| **G.G-MG.A.1.** Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder). | Solid figures  Surface Area | I can differentiate solid figures and specify their parts.  I can find the surface area of prisms and cylinders.  I can find the surface area of Pyramids and Cones. | Lesson Check & Practice test.  Pages 703-705  Pages 712 -715 | Geometry Common Core –by Pearson  Pages 699-716 | Prism  Right prism  Oblique prism  Cylinder  Base  Height  Altitude  Right cylinder  Oblique cylinder |
| **G.G-MG.A.2** Apply concepts of density based on area and volume in modeling situations utilizing real-world context. | Similar solids  Density of solids | I can compare and find the areas and volumes of similar solids. | Lesson Check & Practice test.  Pages 745-749 | Geometry Common Core –by Pearson  Pages 741-749 | Similar solids  Density  Scale Factor |
| **G.G-MG.A.3** Apply geometric methods to solve design problems utilizing real-world context**.** | Designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).\* | I can apply geometric methods to solve design problems like minimizing cost.  I can complete a problem set of challenging application and proof based circle problems. | Circles Assessment  (Online)  Students will complete two Do Now questions that review key concepts in the circles unit before starting the problem set.  If you have time, you can review other student questions from previous | Online ( Not found in the textbook)  Search G.G.MG.A.3  Online. | Modeling with Geometry  Structure  Cost |

| **Standards** | **Contents** | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G-GPE.B.7**. Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula. | Midpoint and Distance in the Coordinate Plane. | I can use coordinates to calculate perimeters of polygons and solve the areas of triangles and rectangles. | Lesson Check & Practice test.  Pages | Geometry Common Core –by Pearson | Midpoint  Distance  Coordinate Plane |

**SUBJECT: Geometry**

**Unit 9: Probability GRADE: 10th TIMELINE: Semester 2-Quarter 4**

**Theme/Big ideas:**

1. **Probability**
2. **Data Presentation**

**Essential Questions for this Unit**

1.What is the difference between experimental probability and theoretical probability?

2.What is frequency table?

3.What does it mean for an event to be random?

| **Standards** | **Content** | **Objectives** | **Assessment** | **Resources** | **Vocabulary** |
| --- | --- | --- | --- | --- | --- |
| **G.G-S-CP.A.**1 Describe event as subsets of a sample space using characteristics of the outcomes, or as unions, intersections, or complements of other events. | Experimental Probability  Theoretical Probability | I can calculate experimental and theoretical probability. | Lesson Check &  Practice Test  Pages 827-829 | Geometry Common Core –by Pearson  Pages 822-829 | Outcome  Event  Sample space  Probability  Experimental probability  Theoretical probability  Complement of an event |
| **G.S-CP.A.4** Construct and interpret two-way frequency tables of data when two categories are associated with each other being classified. | Probability Distributions  Frequency Tables | I can make and use frequency tables and probability distributions. | Lesson Check & Practice test  Pages 832-835 | Geometry Common Core –by Pearson  Pages 830 -835 | Frequency tables  Relative frequency  Probability distribution |
| **G.S-CP.B.9**  Use permutations and combinations to compute probabilities of compound events and solve problems. | Permutations  Combinations | I can use permutations and combinations to solve problems. | Lesson Check & Practice test  Pages 840-842 | Geometry Common Core –by Pearson  Pages 836- 843 | Fundamental counting principle  Permutation  N factorial  combination |