

Unit 1 Essentials of Geometry

Content Area: **Math**
Course(s): **CP Geometry**
Time Period: **Marking Period 1**
Length: **4**
Status: **Published**

Unit Overview

In this chapter unit students will name and sketch geometric figures, use postulates to identify congruent segments, find lengths of segments in the coordinate plane, and find the midpoint of a segment. Students also will name, measure and classify angles, identify complementary and supplementary angles, and classify polygons.

Enduring Understandings

Geometry can be broken down into three basic figures: points, lines and planes.

Students will understand how to describe geometric figures.

Students will understand how to measure geometric figures.

Students will understand equality and congruence.

Essential Questions

How do we define terms?

Why is there a need for undefined terms?

What are the purposes of postulates, and how do they relate to theorems?

What is an angle?

How do we characterize angles?

How are angles measured and what can we assume about their measures?

What are polygons?

How do we characterize polygons?

What is a polygon and how do we distinguish one polygon from another?

How do we describe geometric figures?

How do we measure geometric figures?

What are equality and congruence and how do they compare?

How do we find segment lengths?

How do you compare segments?

How do you find the midpoint and distance for a segment?

What is a segment bisector?

New Jersey Student Learning Standards (No CCS)

MA.G-CO	Congruence
MA.G-CO.A.1	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.
MA.G-CO.D	Make geometric constructions
MA.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.).
MA.G-GPE	Expressing Geometric Properties with Equations
MA.G-GPE.B.6	Find the point on a directed line segment between two given points that partitions the segment in a given ratio.
MA.G-GPE.B.7	Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.
MA.G-GMD	Geometric Measurement and Dimension
MA.G-MG	Modeling with Geometry
MA.G-MG.A	Apply geometric concepts in modeling situations
MA.G-MG.A.3	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).

Interdisciplinary Connections

LA.W.9-10.6	Use technology, including the Internet, to produce, share, and update individual or shared writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
SCI.HS-ETS1-2	Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering.
TECH.8.1.12.C.CS4	Contribute to project teams to produce original works or solve problems.

Technology Standards

TECH.8.1.12.C.CS4	Contribute to project teams to produce original works or solve problems.
TECH.8.1.12.D.CS3	Exhibit leadership for digital citizenship.
TECH.8.1.12.E.CS4	Process data and report results.
TECH.8.1.12.F.CS3	Collect and analyze data to identify solutions and/or make informed decisions.
TECH.8.1.12.F.CS4	Use multiple processes and diverse perspectives to explore alternative solutions.
TECH.8.2.12.C.CS2	The application of engineering design.

21st Century Themes/Careers

CAEP.9.2.12.C.3	Identify transferable career skills and design alternate career plans.
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Financial Literacy Integration

PFL.9.1.12.C.1	Compare and contrast the financial benefits of different products and services offered by a variety of financial institutions.
PFL.9.1.12.C.2	Compare and compute interest and compound interest and develop an amortization table using business tools.
PFL.9.1.12.C.3	Compute and assess the accumulating effect of interest paid over time when using a variety of sources of credit.

Instructional Strategies & Learning Activities

- Get to know you activities.
- Due to the review of this unit chapter, use the book activities and extensions to give added dimension.
- Defining terms activity: "cookies"
- Partner/group work.
- Lesson discovery activities.
- Use problems and activities from book involving modeling problems.
- Provide access to online book
- Provide access to book pages and problems through Canvas and Twitter
- Provide access to review keys

Formative Assessments

- Daily homework checks
- Quiz
- Chapter Unit Test
- Exit Tickets

- Warm-ups

Summative Assessment

- Unit Test
- Unit Project (Optional)

Benchmark Assessments

Students will take NJSLA Geometry Benchmark A

Alternate Assessments

- Modified homework
- Modified quizzes
- Modified tests
- Modified projects