

Unit 4 - Geometry

Content Area: **Math**
Course(s):
Time Period: **Full Year**
Length: **Full Year**
Status: **Published**

Unit Overview

Solve real-world and mathematical problems involving area, surface area, and volume. Modules 8 &9.

Enduring Understandings

Statistical data has a distribution that can be described by its center or by its spread.

Statistical data can be represented in a variety of ways.

Prisms and pyramids are examples of three-dimensional geometry

A net is a two-dimensional figure that can be folded to make a three-dimensional figure.

A right rectangular prism with fractional edge lengths can be packed with unit cubes of the appropriate unit fraction edge lengths to find the volume.

Essential Questions

How do two-dimensional and three-dimensional geometry differ?

What is the relationship between a triangle and a rectangle with the same dimensions?

What is the relationship between surface area and volume?

How can a trapezoid be decomposed to help find its area?

Learning Objectives

Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes.

Find the volume of a right rectangular prism with fractional edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism.

Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of

a side joining points with the same first coordinate or the same second coordinate.

Represent three-dimensional figures (e.g. pyramid, triangular prism, rectangular prism) using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

Standards: Content

MATH.6.G	Geometry
MATH.6.G.A	Solve real-world and mathematical problems involving area, surface area, and volume
MATH.6.G.A.1	Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.
MATH.6.G.A.2	Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = lwh$ and $V = bh$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.
MATH.6.G.A.3	Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.
MATH.6.G.A.4	Represent three-dimensional figures (e.g., pyramid, triangular prism, rectangular prism) using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.

Standards: Interdisciplinary

CS.6-8.8.2.8.ITH.1	Explain how the development and use of technology influences economic, political, social, and cultural issues.
TECH.9.4.8.IML.1	Critically curate multiple resources to assess the credibility of sources when searching for information.

Assessment Evidence

Formative	Collaborative Activities, Homework, Classwork, Discussion, Independent Class Assignment, Informal Observations of Students, Games, Exit Slips, Pre-Assessments, Math Message – Warm up, Questioning, Teacher Made Pages, Learning Centers, LinkIt, Problem of the Day, Problem of the Week, Entrance Slips, Pre-Assessments
Summative	LinkIt Benchmark Assessments, Tests, Pre-Assessments, Quizzes, Written Responses
Alternative & Benchmark	Alternative – Reteaching, One on One Conferencing, Learning Centers, Levels Homework, Higher Order Thinking Problems, Additional leveled practice Benchmark - LinkIt Benchmark Assessments, Totowa TPA

Instructional Resources

Smartboard, Computers, iPads, websites and digital interactives/models, multi-media presentations, video streaming, Brain Pop, Microsoft 365, Primary and Secondary Source Documents, Assorted Manipulatives, Khan Academy, Crosswalk Coach for the Common Core Standards, Ready Common Core Mathematics Instruction and Practice, Common Core Coach, Calculators, Reveal Math Resources.

[Instructional Resource List](#)

Curricular Mandates

Below are the curricular requirements as defined in NJ Administrative Code and Statute

Amistad	Diversity, Equity, and Inclusion
Holocaust	LGBT and Disabilities (Grades 6-12)
Climate Change	Asian American & Pacific Islander

Social Emotional Learning (SEL) Competencies

[NJ Social and Emotional Learning Competencies & Sub-Competencies](#)

	Self-Awareness	X	Relationship Skills
X	Responsible Decision-Making		Social Awareness
X	Self-Management		

21st Century Skills & Themes

	Global and Cultural Awareness	X	Technology Literacy		Planning and Budgeting
X	Creativity and Innovation		Financial Institutions		Risk Management and Insurance
X	Information and Media Literacy		Digital Citizenship		Economic and Government Influences
	Critical Thinking and Problem Solving		Credit Profile		Career Awareness and Planning
	Civic Financial Responsibility		Financial Psychology		