Unit 4 - Geometry

Content Area: **Mathematics**
Course(s):
Time Period: **March**
Length: **6-8 weeks**
Status: **Published**

Unit Overview

This unit focuses on the Geometry (G) domain.

Essential Questions

“How can you use different measurements to solve real-life problems?”

"How does measurement help you solve problems in everyday life?"

"How is shape important when measuring a figure?"

Content

Area of Parallelograms, Triangles, and Trapezoids

Changes in Dimension

Polygons on the Coordinate Plane

Area of Irregular Figures

Area of Composite Figures

Volume of Rectangular Prisms

Volume of Triangular Prisms

Surface Area of Rectangular Prisms

Surface Area of Triangular Prisms

Surface Area of Pyramids

Skills

Find the areas and missing dimensions of parallelograms

Find the areas and missing dimensions of triangles

Find the areas of trapezoids

Determine effects of changing dimensions on perimeter and area

Draw polygons in the coordinate plane and use coordinates to find length

Find the areas of composite figures

Find the volume of rectangular prisms

Find the volume of triangular prisms

Find the surface area of rectangular prisms

Find the surface area of triangular prisms

Find the surface area of pyramids

Assessments

Self-Check Quiz

Chapter Tests

Online Standardized Test Practice

Chapter Project

Teacher Observation

Lessons/Learning Scenarios

Glencoe Math Course 1 Text

Chapter 9: Area (14 Days)

Inquiry Lab: Area of Parallelograms (1 Day)

SWBAT use models to find the area of parallelograms

Lesson 1: Area of Parallelograms (2 Days)

SWBAT find the areas and missing dimensions of parallelograms

Inquiry Lab: Area of Triangles (1 Day)

SWBAT use models to find the area of triangles

Lesson 2: Area of Triangles (2 Days)

SWBAT find the area and missing dimensions of triangles

Inquiry Lab: Area of Trapezoids (1 Day)

SWBAT use models to find the area of trapezoids

Lesson 3: Area of Trapezoids (2 Days)

SWBAT find the area of trapezoids

Problem-Solving Investigation: Draw a Diagram (1 Day)

SWBAT solve problems by drawing a diagram

Lesson 4: Changes in Dimensions (1 Day)

SWBAT determine effects of changing dimensions on perimeter and area

Lesson 5: Polygons on the Coordinate Plane (1 Day)

SWBAT draw polygons in teh coordinate plane and use coordinates to find length

Inquiry Lab: Area of Irregular Figures (1 Day)

SWBAT find and estimate the area of an irregular figure by counting squares

Lesson 6: Area of Composite Figures (1 Day)

SWBAT find the areas of composite figures

Chapter 10: Volume and Surface Area (12 Days)

Inquiry Lab: Volume of Rectangular Prisms (1 Day)

SWBAT use models to find the volume of rectangular prisms

Lesson 1: Volume of Rectangular Prisms (2 Days)

SWBAT find the volume of rectangular prisms

Lesson 2: Volume of Triangular Prisms (2 Days)

SWBAT find the volume of triangular prisms

Problem-Solving Investigation: Make a Model (1 Day)

SWBAT solve problems by making a model

Inquiry Lab: Surface Area of Rectangular Prisms (1 Day)

SWBAT find the surface area of rectangular prisms using models and nets

Lesson 3: Surface Area of Rectangular Prisms (1 Day)

SWBAT find the surface area of rectangular prisms

Inquiry Lab: Surface Area of Triangular Prisms (1 Day)

SWBAT use nets to find the surface area of triangular prisms

Lesson 4: Surface Area of Triangular Prisms (1 Day)

SWBAT find the surface area of triangular prisms

Inquiry Lab: Surface Area of Pyramids (1 Day)

SWBAT use nets to find the surface area of a square pyramid

Lesson 5: Surface Area of Pyramids (1 Days)

SWBAT find the surface area of pyramids

Standards

CCSS.Math.Content.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.
CCSS.Math.Content.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.
CCSS.Math.Content.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.
CCSS.Math.Content.6.G.A.4	Represent three-dimensional figures 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.
CCSS.Math.Content.6.NS.C.8	Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second coordinate.

Resources

Glencoe Math, Course 1, McGraw-Hill, 2013

First Quadrant Grids Master

Centimeter Grid Master

Area of Polygons

Click on Response to Intervention/Lesson Tutorials

StudyJams Area of Parallelograms

StudyJams Area of Triangles

LearnZillion Area of Trapezoids

Learn Zillion Find the area of polygons by decomposing into triangles, rectangles, parallelograms, and trapezoids

Surface Area and Volume

Click on Response to Intervention/Lesson Tutorials

StudyJams Surface Area

StudyJams Volume

Learn Zillion Analyze rectangular prisms to find surface area - Part 1

Learn Zillion Analyze rectangular prisms to find surface area - Part 2

LearnZillion Determine whether to find area, surface area, or volume in a given situation

LearnZillion Find the volume of a rectangular prism by filling it with unit cubes

LearnZillion Find the volume of a rectangular prism by developing a formula

LearnZillion Find the volume of a rectangular prism with fractional edge lengths