

June Gr.5 My Math Unit 12: Two and Three Dimensional Objects

Content Area: **Math**
Course(s):
Time Period: **June**
Length: **4-6 Weeks**
Status: **Published**

Unit Overview

This unit explores when working with two and three dimensional objects.

Enduring Understandings

It is important to remember and apply certain strategies when working with two and three dimensional objects.

Essential Questions

What strategies can be used when working with two and three dimensional objects?

Instructional Strategies & Learning Activities

Chapter 12

Pacing Guide

Suggested Pacing

Instruction	13 days
Review/Assessment	2 days
Total*	15 days

*Includes additional time for remediation and differentiation.

Lesson

Objective

**Material &
Manipulatives**

Vocabulary

Lesson 1 <i>pp. 903-908</i> Polygons	Classify two-dimensional figures based on properties.	<ul style="list-style-type: none"> • index cards • colored pencils or markers 	hexagon congruent sides pentagon regular polygon polygon octagon congruent angles
Lesson 2 <i>pp. 909-914</i> Hands On: Sides and Angles of Triangles	Measure the sides and angles of triangles.	<ul style="list-style-type: none"> • centimeter rulers • protractors 	
Lesson 3 <i>pp. 915-920</i> Classify Triangles	Classify triangles based on attributes, such as side measures and angle measures.	<ul style="list-style-type: none"> • 8" by 11" piece of paper for each student 	attribute Types of Triangles: equilateral acute isosceles obtuse scalene right
Check My Progress			
Lesson 4 <i>pp. 923-928</i> Hands On: Sides and Angles of Quadrilaterals	Measure the sides and angles of quadrilaterals.	<ul style="list-style-type: none"> • index cards • colored pencils or markers • centimeter or inch rulers • protractors 	
Lesson 5 <i>pp. 929-934</i> Classify Quadrilaterals	Classify quadrilaterals based on attributes, such as congruent sides, parallel sides, and right angles.	<ul style="list-style-type: none"> • cut-outs of three parallelograms • cut-outs of three quadrilaterals that are not parallelograms 	trapezoid rhombus parallelogram square rectangle
Lesson 6 <i>pp. 935-940</i> Hands On: Build Three-Dimensional Figures	Build nets and explore properties of threedimensional figures.	<ul style="list-style-type: none"> • three-dimensional solids: cubes and rectangular prisms • grid paper • scissors • tape 	three-dimensional figures cube congruent figures rectangular prism face
Lesson 7 <i>pp. 941-946</i> Three-Dimensional Figures	Describe properties of three-dimensional figures.	<ul style="list-style-type: none"> • classroom objects • three-dimensional solids • nets of threedimensional solids 	three-dimensional figure rectangular prism triangular prism face

prism
edge
base(s)
vertex
cube

Check My Progress

Lesson 8 *pp. 949-954* Use models to find the volume of rectangular prisms. • classroom objects (rectangular prisms)

Hands On: Use Models to Find

Volume

volume
unit cube
cubic unit

Lesson 9 *pp. 955-960* Use volume formulas to find the volume of rectangular prisms. • centimeter cubes

Volume of Prisms

volume

Lesson 10 *pp. 961-966* Use models to build composite figures and find the volume of composite figures. • centimeter cubes

Hands On: Build Composite Figures

composite figure

Lesson 11 *pp. 967-982* Find the volume of composite figures by relating volume to the operations of multiplication and addition. • centimeter cubes
• three dimensional solids

Volume of Composite Figures

composite figure

Lesson 12 *pp. 983-988* Make a model to solve problems. • centimeter cubes

Problem-Solving Investigation: Make a Model

My Review and Reflect

Integration of Career Readiness, Life Literacies and Key Skills

Students will work in cooperative groups to solve problems. Students will interact with the Smartboard to enhance the learning process.

WRK.9.2.5.CAP	Career Awareness and Planning
TECH.9.4.5.CI.2	Investigate a persistent local or global issue, such as climate change, and collaborate with individuals with diverse perspectives to improve upon current actions designed to address the issue (e.g., 6.3.5.CivicsPD.3, W.5.7).
WRK.9.2.5.CAP.1	Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.
WRK.9.2.5.CAP.2	Identify how you might like to earn an income.
TECH.9.4.5.CI.1	Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions (e.g., W.4.6, 3.MD.B.3,7.1.NM.IPERS.6).
WRK.9.2.5.CAP.3	Identify qualifications needed to pursue traditional and non-traditional careers and occupations. Collaboration with individuals with diverse perspectives can result in new ways of thinking and/or innovative solutions.
WRK.9.2.5.CAP.4	Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.
TECH.9.4.5.CI	Creativity and Innovation

Technology and Design Integration

Students will interact with the Smartboard to enhance learning activities. Students will use various web-based interactive games to expand the content knowledge, as needed.

	Data can be organized, displayed, and presented to highlight relationships.
CS.3-5.8.1.5.DA.1	Collect, organize, and display data in order to highlight relationships or support a claim.
CS.3-5.DA	Data & Analysis
CS.3-5.8.1.5.DA.3	Organize and present collected data visually to communicate insights gained from different views of the data.

Interdisciplinary Connections

Students will read and write throughout the unit. They will also use art supplies to create two and three dimensional shapes.

LA.RL.5.4	Determine the meaning of words and phrases as they are used in a text, including figurative language such as metaphors and similes.
LA.RI.5.10	By the end of year, read and comprehend literary nonfiction at grade level text-complexity or above, with scaffolding as needed.
LA.RF.5.4	Read with sufficient accuracy and fluency to support comprehension.
LA.RF.5.4.A	Read grade-level text with purpose and understanding.
LA.RI.5.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.

Differentiation

Differentiation:

- Use of different resources to match the readiness levels of the students when working on the activities in the daily lessons.
- Respond to students' needs for reteaching, reinforcing, and extending learning.
- Use of a variety of instructional strategies to engage students in learning.
- Question prompts to promote student engagement
- Small group settings as needed for specific skills
- Use discussion to promote collaboration among students
- Integrate technology to offer varied learning experiences
- Adjust instruction based on formative tasks/assessments

Modifications & Accommodations

Modifications & Accommodations:

- In class support and scaffolding based on the individual IEP's
- Independent levels on My Math and Splash Math

Benchmark Assessments

Students will complete the Aimsweb testing.

Formative Assessments

Formative Assessments:

- Task completion
- Answers and discussions
- Student maps
- Bingo
- Quizzes
- Participation

Summative Assessments

Summative Assessments:

- Quizzes
- Final Test

Instructional Materials

My Math Textbook series grade 5

See materials in lessons above

Standards

MA.5.MD.C.5b	Apply the formulas $V = \ell \times w \times h$ and $V = \ell \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real world and mathematical problems.
MA.5.MD.C.3	Recognize volume as an attribute of solid figures and understand concepts of volume measurement.
MA.5.MD.C.5c	Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of the non-overlapping parts, applying this technique to solve real world problems.
MA.5.G.B.3	Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.
MA.5.MD.C.3a	A cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume, and can be used to measure volume.
MA.5.MD.C.3b	A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.
MA.5.G.B.4	Classify two-dimensional figures in a hierarchy based on properties.

MA.5.MD.C.4

Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and non-standard units.

MA.5.MD.C.5a

Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.