

6th Grade Math Unit 6 Information

Area, Surface Area, and Volume

CRCT Domain & Weight: 14%

[Flip Book for Unit 6](#)

[Overview: Unit 6](#)

[Vocabulary from the GADOE](#)

[Prerequisites ~ What Students Were Already Taught: Unit 6](#)

[Teaching Strategies and Common Misconceptions](#)

Unit Length: Approximately 24 days

[Checklist for Unit 6](#)

[Study Guide for Unit 6](#)

[Study Guide KEY for Unit 6](#)

Calculators may be used on ALL standards in Unit 6.

As always, require students to write formula & substitute the numbers before plugging them in the calculator. Also have students do some of each standard by hand.

Click on the links below for resources by Concept:

[Concept One: Area of Plane Figures](#)

[Concept Two: Volume of Right Rectangular Prisms](#)

[Concept Three: Nets & Surface Area of 3D Figures Composed of Rectangles
& Triangles](#)

TCSS 6th Grade Unit 6 ~ Area, Surface Area, & Volume

Concept One: Area of Plane Figures

Standard(s) & Essential Questions	Vocabulary	Resources	Assessment
<p>MGSE6.G.1 Find area of right triangles, other triangles, 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.</p> <p>E.Q. How can we find the area of figures?</p> <p>E.Q. How can we cut and rearrange irregular polygons in order to find their area?</p>	<p><i>Please see extensive vocabulary information on the first page of this document.</i></p> <ul style="list-style-type: none"> • 2-Dimensional • Area • Composing • Decomposing • Lateral Faces • Parallelogram • Polygon • Quadrilaterals • Rectangle • Rhombus • Right Triangle • Trapezoid 	<p>Area of Triangles, Parallelograms, and Trapezoids</p> <ul style="list-style-type: none"> • DO Eureka Math – 4 Area Lessons <i>License</i> • Glencoe CCSS Math (2013) <ul style="list-style-type: none"> ○ Parallelograms ~ Pages 653-668 ○ Triangles ~ Pages 669-680 ○ Trapezoids ~ Pages 681-692 • CCGPS Frameworks <ul style="list-style-type: none"> ○ Who Put the Tang in Tangrams? <ul style="list-style-type: none"> ▪ Explores relationships between triangles/parallelograms/trapezoids <p>Area of Polygons</p> <ul style="list-style-type: none"> • Do Eureka Math – Good Lessons on Area Using Composition & Decomposition <i>License</i> • Different Way, Same Answer <ul style="list-style-type: none"> ○ Good Group work task ○ Highlights different ways to get same answer • CCPS Frameworks <ul style="list-style-type: none"> ○ Finding Areas of Polygons <ul style="list-style-type: none"> ▪ Good Task! • CCGPS Frameworks <ul style="list-style-type: none"> ○ What's My Area? <ul style="list-style-type: none"> ▪ More challenging than the one above • ActivInspire Composite Figures • Glencoe CCSS Math (2013) <ul style="list-style-type: none"> ○ Composite Figures ~ Pages 717-724 ○ All topics ~ Pages 728-730 <p><u>Differentiated:</u> Composite Figures Practice Enrich Newmark 6 Learning Book page 111-115</p>	<p style="text-align: center;"><u>CC.6.G.1</u></p> <p style="text-align: right;">[back to top]</p>

TCSS 6th Grade Unit 6 ~ Area, Surface Area, & Volume

Concept Two: Volume of Right Rectangular Prisms			
Standard(s) & Essential Questions	Vocabulary	Resources	Assessment
<p>MGSE6.G.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 ($\frac{1}{2}$ u), and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = (\text{length}) \times (\text{width}) \times (\text{height})$ and $V = (\text{area of base}) \times (\text{height})$ to find volumes of right rectangular prisms with fractional edge lengths in the context of solving real-world and mathematical problems.</p> <p>E.Q. How does the fractional edge length affect the volume of a prism?</p> <p>E.Q. How can I determine the appropriate units of measure that should be used when computing the volumes of a right rectangular prism?</p>	<p><i>Please see extensive vocabulary information on the first page of this document.</i></p> <ul style="list-style-type: none"> • 3-Dimensional • Bases of a Prism • Cubic Units • Fractional edge length • Prism • Rectangular prism • Right rectangular prism • Triangular prism • Volume • Volume of a Prism 	<ul style="list-style-type: none"> • DO Eureka Math – Volume with Fractional Side Lengths (Meets standards best.) License • Station Activities for Volume of Rectangular Prisms (Includes an extension for accelerated) • Notes on Volume of Rectangular Prisms • CCGPS Frameworks <ul style="list-style-type: none"> ◦ Domino Sugar Cubes <ul style="list-style-type: none"> ▪ Spotlight Task • CCGPS Frameworks <ul style="list-style-type: none"> ◦ Packaging Graduation Programs • Glencoe CCSS Math (2013) <ul style="list-style-type: none"> ◦ Rectangular Prisms Only ~ Pages 731-746 ◦ Page 758, Omit all triangular prisms • Problem Solving Practice Volume with KEY • Differentiated: <ul style="list-style-type: none"> ◦ Newmark 6 Learning Book – page 126-130 	<p style="text-align: center;"><u>CC.6.G.2</u></p> <p style="text-align: right;">[back to top]</p>

TCSS 6th Grade Unit 6 ~ Area, Surface Area, & Volume

Concept Three: Nets and Surface Area of 3-D Figures Composed of Rectangles, Squares, and/or Triangles			
Standard(s) & Essential Questions	Vocabulary	Resources	Assessment
<p>MGSE6.G.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.</p> <p>E.Q. How can you model finding surface area of rectangular and triangular prisms?</p> <p>E. Q. How can I use manipulatives and nets to help compute the surface areas of rectangular and triangular prisms?</p>	<p><i>Please see extensive vocabulary information on the first page of this document.</i></p> <ul style="list-style-type: none"> • Net • Surface area 	<ul style="list-style-type: none"> • DO Eureka Math License <ul style="list-style-type: none"> ○ 2 Good Lessons on Nets and Surface Area • Extension Activity for Accelerated TE SE • Power Point ~ Surface Area & Volume • GSE Spotlight task <ul style="list-style-type: none"> ○ Paint the Barn <ul style="list-style-type: none"> ▪ Great task ▪ Spotlight Task • Glencoe CCSS Math (2013) <ul style="list-style-type: none"> ○ Rectangular Prisms ~ Pages 759-770 ○ Triangular Prisms ~ Pages 771-780 ○ Pyramids ~ 781-790 ○ Review All ~ Pages 792,794-796 • Differentiated: <ul style="list-style-type: none"> ○ Extension Spotlight Task <ul style="list-style-type: none"> ▪ Post-Its & the Filing Cabinet ○ Newmark 6 Learning Book - Page 125-129 	<p><u>CC.6.G.4</u></p> <p>[back to top]</p>