

Overview

Prior Learning	Grade 6, Unit 1	Future Learning
Grades 3–5 <ul style="list-style-type: none"> Area of rectangles Classifying quadrilaterals Parallel and perpendicular lines Volume of rectangular prisms 	<ul style="list-style-type: none"> Area (parallelograms, triangles, and polygons) Surface area 	Grade 7 <ul style="list-style-type: none"> Area and circumference of circles Volume and surface area of prisms Grade 8 <ul style="list-style-type: none"> Volume of cylinders, cones, and spheres

Big Ideas

Area (Lessons 1–8)

- Calculate the area of parallelograms and triangles.
- Calculate the area of polygons by decomposing into rectangles and triangles, or surrounding and subtracting.

Surface Area (Lessons 9–13)

- Connect polyhedra with nets that represent them.
- Calculate the surface area of polyhedra made up of rectangles and triangles.

Vocabulary

Area

area, base (of a parallelogram or triangle), height, parallelogram, quadrilateral, polygon

Surface Area

surface area, volume, face, net, polyhedron, prism, pyramid, base (of a prism or pyramid)

Unit Cool-Downs

[Unit 6.1 Cool-Downs](#)

Connections to Prior Learning

The following concepts from previous grades may support students in meeting grade-level standards in this unit:

- Calculating areas of rectangles. ([3.MD.C](#), [3.MD.C.6](#), [3.MD.C.7.B](#), [4.MD.A.3](#), [5.NF.B.4.B](#))
- Classifying shapes such as right triangles and parallelograms. ([4.G.A.2](#), [5.G.B.4](#))
- Calculating the volume of a rectangular prism. ([5.MD.C.4](#))

What Might I See and Hear in This Unit?

Throughout the Unit

- All students actively engaged in class discourse and persevering through points of difficulty, challenge, or error.
- All students revising their thinking using feedback on Desmos and through conversations with peers and teachers.
- All students using paper to organize or visualize their thinking and record key information when needed.
- All students using multiple sentences to construct, critique, and defend their thinking.

Area (Lessons 1–8)

- Students comparing different strategies for calculating the area of a parallelogram or triangle. **(MP3)**
- Students choosing which sides of a parallelogram or triangle to measure to determine its area. **(MP6)**
- Students using repeated reasoning to develop a formula for the area of a parallelogram and triangle. **(MP8)**
- “The area of a triangle is half of the area of a parallelogram, so it must be base times height divided by 2.”
- “I can break up this polygon into two triangles and a rectangle, then figure out the area of each smaller shape.”

Surface Area (Lessons 9–13)

- Students making connections between 3-D images of polyhedra and 2-D nets of them. **(MP2)**
- Students comparing strategies for calculating the surface area of a prism or pyramid. **(MP3)**
- Students using precise language to describe different polyhedra and their nets. **(MP6)**
- “This prism has 5 faces; 3 rectangles and 2 triangles.”
- “I can calculate the total surface area by calculating the area of each face and then adding them together.”