

Dear Family,

In this module, *Area, Surface Area, and Volume*, students will develop understanding of circumference and area of circles. They will also build their understanding of volume and surface area and extend that knowledge to composite three-dimensional solids.

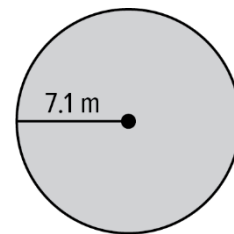
What Did Students Learn Previously?

In previous grades, students learned about finding the area of two-dimensional figures and the volume of rectangular prisms.

What Will Students Learn in This Module?

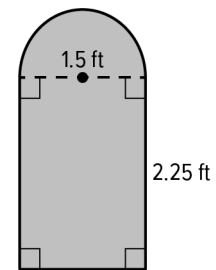
Circles

- Students will develop an understanding of the **radius** and **diameter** of a circle and how they relate to the **circumference** of the circle.
- Students will draw on their knowledge of circles to build an understanding of the **area** of circles.
- Students will also develop an understanding of finding the **area** of a circle given the **circumference**.



Area and Surface Area

- Students will draw on their knowledge of finding the **area** of triangles and quadrilaterals to find the **area** of composite figures.
- Students will draw on their knowledge of nets and finding the **area** of two-dimensional objects to find the **surface area** of **prisms, pyramids,** and **composite solids**.
- Students will understand how deconstructing **composite solids** will allow them to find their **surface area**.

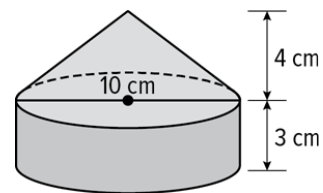


Volume

- Students will use formulas to find the **volume** of **prisms, pyramids,** cylinders, cones, spheres, hemispheres, and **composite solids**.
- Students will use their knowledge to gain an understanding of using **volume** of a three-dimensional object to find a missing dimension.
- Students will understand how deconstructing **composite solids** will allow them to find their **volume**.

- For example, to find the **volume** of the **composite solid** at the right, use the formula for the **volume** of a cone and the formula for the volume of a cylinder.

$$\text{Volume}_{\text{solid}} = \text{Volume}_{\text{cone}} + \text{Volume}_{\text{cylinder}}$$



What Vocabulary Terms Will Students Use?

Term	Definition
area	The measure of the interior surface of a two-dimensional figure.
circumference	The distance around a circle.
composite figure	A figure that is made up of two or more figures.
composite solid	An object made up of more than one solid.
diameter	The distance across a circle through its center.
face	A flat surface of a polyhedron.
lateral face	In a polyhedron, a face that is not a base.
pi	The ratio of the circumference of a circle to its diameter. The Greek letter π represents this number.
prism	A polyhedron with two parallel congruent faces called bases.
pyramid	A polyhedron with one base that is a polygon and three or more triangular faces that meet at a common vertex.
radius	The distance from the center of a circle to any point on the circle.
slant height	The height of each lateral face.
surface area	The sum of the areas of all the surfaces (faces) of a three-dimensional figure.
volume	The measure of the space occupied by a solid.

How You Can Provide Support

1. Support your child's understanding of area, surface area, and volume by having them measure figures and objects found in everyday life, such as food containers and furniture.
2. Encourage your child to have a positive, growth-oriented attitude towards mathematics and their learning.
 - Encourage them to ask questions – both at home and in class. Sometimes, an answer to a question will generate more questions. That's how you know they are learning!
 - Encourage your child to embrace challenges and remind them that every challenge is an opportunity to learn something new.
 - Celebrate successes – both small and large.
3. Contact me to arrange a time to discuss the specifics of your child's performance and how we can work together to help them succeed in this module.

Sincerely,

(Teacher's Name)

(Email/Phone)