

**Chapter  
9****Area, Surface Area, and Volume**

Dear Family,

Does your student help you with projects in the house or yard, perhaps installing floor tiles or spreading grass seed? Many home projects involve finding areas so that you can purchase the correct amount of materials needed for the project. For example, how many bags of mulch would you need to buy to cover your raised garden bed? How many rolls of wallpaper do you need to cover the walls of a room?

You and your student can discuss how to find areas for projects you might tackle around your home. You can ask the student:

- "Suppose we covered a large section of wall with chalkboard paint. How would we find the area we wanted to paint?" Your student might answer, "Measure how high and how far across, then multiply." Then ask, "If one quart of paint covers 65 square feet of wall, how many quarts would we need to paint the blackboard section with 2 coats?" Your student would multiply the area by 2 and compare that number to 65. For example, a blackboard 8 feet wide and 5 feet high is 40 square feet, and 2 coats would be 80 square feet. One can of paint would not be enough.
- "Suppose we put new carpet in your bedroom. How many square feet would we need to buy? How would we figure this out?" Your student might answer, "Measure each wall of the room and multiply. If the room isn't a perfect rectangle, divide it into smaller pieces that are easier to work with."

Getting your student involved with home projects develops useful skills for helping around the house, finding a part-time job, and eventually being responsible for his or her own home.

Enjoy your time working together!

<b>Lesson</b>	<b>Learning Target</b>	<b>Success Criteria</b>
9.1 Areas of Parallelograms	Find areas and missing dimensions of parallelograms.	<ul style="list-style-type: none"> <li>I can explain how the area of a rectangle is used to find the area of a parallelogram.</li> <li>I can use the base and the height of a parallelogram to find its area.</li> <li>I can use the area of a parallelogram and one of its dimensions to find the other dimension.</li> </ul>
9.2 Areas of Triangles	Find areas and missing dimensions of triangles, and find areas of composite figures.	<ul style="list-style-type: none"> <li>I can explain how the area of a parallelogram is used to find the area of a triangle.</li> <li>I can use the base and the height of a triangle to find its area.</li> <li>I can use the area of a triangle and one of its dimensions to find the other dimension.</li> <li>I can use decomposition to find the area of a figure.</li> </ul>
9.3 Areas of Trapezoids and Kites	Find areas of trapezoids, kites, and composite figures.	<ul style="list-style-type: none"> <li>I can explain how the area of a parallelogram is used to find the area of a trapezoid.</li> <li>I can decompose trapezoids and kites into smaller shapes.</li> <li>I can use decomposition to find the area of a figure.</li> <li>I can use the bases and the height of a trapezoid to find its area.</li> </ul>
9.4 Three-Dimensional Figures	Describe and draw three-dimensional figures.	<ul style="list-style-type: none"> <li>I can find the number of faces, edges, and vertices of a three-dimensional figure.</li> <li>I can draw prisms and pyramids.</li> <li>I can draw the front, side, and top views of a three-dimensional figure.</li> </ul>
9.5 Surface Areas of Prisms	Represent prisms using nets and use nets to find surface areas of prisms.	<ul style="list-style-type: none"> <li>I can draw nets to represent prisms.</li> <li>I can use nets to find surface areas of prisms.</li> <li>I can use a formula to find the surface area of a cube.</li> <li>I can apply surface areas of prisms to solve real-life problems.</li> </ul>
9.6 Surface Areas of Pyramids	Represent pyramids using nets and use nets to find surface areas of pyramids.	<ul style="list-style-type: none"> <li>I can draw nets to represent pyramids.</li> <li>I can use nets to find surface areas of pyramids.</li> <li>I can apply surface areas of pyramids to solve real-life problems.</li> </ul>
9.7 Volumes of Rectangular Prisms	Find volumes of rectangular prisms with fractional edge lengths.	<ul style="list-style-type: none"> <li>I can use a divided unit cube to find the volume of a rectangular prism.</li> <li>I can use a formula to find the volume of a rectangular prism.</li> <li>I can solve for a missing dimension of a rectangular prism.</li> </ul>