

Geometric Figures

Family Letter

Dear Family,

In this module, *Geometric Figures*, students will use their prior knowledge of geometry to develop understanding of angle relationships, triangles and three-dimensional figures. Geometric figures is an important topic for middle school mathematics, with applications in algebra, geometry, probability, statistics, and everyday life!

What Did Students Learn Previously?

In previous grades students learned about two-dimensional and three-dimensional geometric figures and finding area, volume, and surface area.

What Will Students Learn in This Module?

Angle relationships

- Students will gain understanding of **vertical and adjacent angles**. These angles are classified by their position in relation to the other.
- Students will extend their knowledge of the measurement of angles with **complementary and supplementary angles**. These are two angles that combine to sum either 90° or 180° .

Triangles

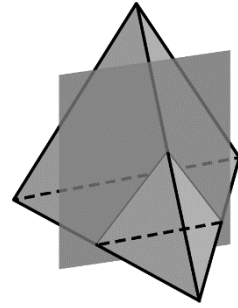
- Students will apply and extend their knowledge of classifying triangles by angle measures and side lengths.
- Students will use their understanding of the classification of triangles to create triangles freehand, with tools, and with dynamic geometric software.

Scale Drawings

- Students will apply their knowledge of ratios and rates to gain understanding of **scale** and **scale factor**.
- Students will apply their knowledge of **scale** to interpret **scale drawings** and **scale models**.

Three-Dimensional Figures

- Students will gain knowledge of different types of **polyhedrons** and classify them as **prisms**, **cylinders**, **pyramids**, or **cones**.
- Students will apply their knowledge of geometric figures to identify **cross sections** of **planes** and **polyhedrons**. For example, when a **plane** intersects a **pyramid** the result is a triangle.



What Vocabulary Terms Will Students Use?

Term	Definition
adjacent angles	Angles that have the same vertex, share a common side, and do not overlap.
bases	The two parallel congruent faces of a prism.
complementary and supplementary angles	Two angles are complementary if the sum of their measures is 90° . Two angles are supplementary if the sum of their measures is 180° .
cone, cylinder, prism and pyramid	The different types of three-dimensional figures.
congruent	Having the same measure.
edge, face, and vertex (vertices)	The parts that make up any three-dimensional solid.
plane	A two-dimensional flat surface that extends in all directions.
polyhedron	A three-dimensional figure with faces that are polygons.
scale	The scale that gives the ratio that compares the measurements of a drawing or model to the measurements of the real object.
scale drawing, scale model	A drawing or model that is used to represent objects that are too large or too small to be drawn at actual size.
scale factor	A scale written as a ratio without units in simplest form.
vertical angles	Opposite angles formed by the intersection of two lines. Vertical angles are congruent.

How You Can Provide Support

1. Support your child's understanding of geometric figures by pointing out figures and terms that were studied in this section.
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)