

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, scale drawings, 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, surface area, and volume.

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 90° and 180° , respectively.
- Students will examine relationships of angles formed by parallel lines cut by a **transversal**.

Triangles

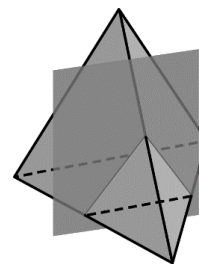
- Students will apply and extend their knowledge of classifying triangles by angle measures and side lengths.
- Students will use their understanding of the classification of triangles to create triangles freehand, with tools, and with dynamic geometric software.
- Students will examine relationships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

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 use the attributes of polyhedron to describe three-dimensional figures.
- Students will describe **cross sections** of planes and polyhedrons.



What Vocabulary Terms Will Students Use?

Term	Definition
adjacent angles	Angles that have the same vertex, share a common side, and do not overlap.
alternate exterior angles	Exterior angles that lie on opposite sides of a transversal.
alternate interior angles	Interior angles that lie on opposite sides of a transversal.
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° .
corresponding angles	Angles that are in the same position on two parallel lines in relation to a transversal.
cross section	The intersection of a solid and a plane.
remote interior angles	The angles of a triangle that are not adjacent to a given exterior angle.
scale drawing, scale model	A drawing or model that is used to represent objects that are too large or too small to be drawn or built at actual size.
scale factor	A scale written as a ratio without units in simplest form.
transversal	A line that intersects two or more other lines.
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 real-world examples of figures and terms that were studied in this module.
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)