***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**

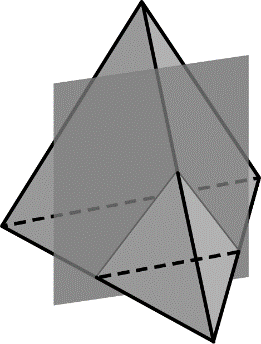
* Students will gain understanding of **vertical and adjacent angles**. These angles are classified by their position in relation to the other.
* Students will extend their knowledge of the measurement of angles with **complementary and supplementary angles**. These are two angles that combine to sum 900 and 1800, 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?**

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| --- | --- |
| **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,

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(Teacher’s Name) (Email/Phone)