**Chapter 3 Parallel and Perpendicular lines**

**Essential Questions:**

* How do you prove that two lines are parallel or perpendicular and when in real life would it be applicable?
* How do you use slope to make decisions about geometric relationships?
* From a diagram of intersecting and non-intersecting lines, how can the degree measure of missing angles be found?

**3.1 Lines and Angles (G- CO.1 and G-CO.5)**

* I can determine whether two intersecting lines are perpendicular or not.
* I can determine whether two non-intersecting lines are parallel or skew.
* I can name angles formed by two lines and a transversal based on their position.

**3.2 Properties of Parallel and Perpendicular Lines (G-CO.1 and G-CO.7)**

* I can make conjectures about the measures of angles formed by two parallel lines and a transversal.
* I can, when given two parallel lines cut by a transversal, solve for missing angles measures and justify my reasoning.

**3.3 Angles formed by Transversals (G-CO.7, G-CO.8, and G-CO.9)**

* I can name angles based off of their relationship with each other (alternate interior, corresponding, same-side interior).
* I can create a transversal intersecting parallel lines and classify pairs of angles.

**3.4 Parallel Lines and Transversals (G-CO.9 and G-SRT.5)**

* I can find the congruent angles formed when a transversal cuts parallel lines.
* I can determine the measure of the unknown angle in a given diagram using angle theorems and postulates (Corresponding Angle Postulate, Alternate Interior Angles Theorem, Alternate Exterior Angles Theorem, and Same-Side Interior Angles Theorem).

**3.5 Showing Lines are Parallel (G-CO.10 and G-CO.9)**

* I can write the converse of an if-then statement.
* I can show that lines are parallel using the converse of the angle theorems and postulates(Corresponding Angle Converse, Alternate Interior Angles Converse, Alternate Exterior Angles Converse, and Same-Side Interior Angles Converse).

**3.6 Using Perpendicular and Parallel Lines (G-CO. 12 and G-CO.10)**

* I can use a compass and straight-edge to construct a perpendicular to a line
* I can make use of a perpendicular line to show that two lines are parallel.
* I can draw parallel lines and can explain the relationship between slope and parallel lines.

**3.7 Translations (G-CO.2, G-CO.5, and G-CO.10)**

* I can identify and use translations.
* I can draw translations when given coordinates or the image.