**Lesson Plan Outline Geometry in Construction**

**Title:**

Classifying Triangles

Pythagorean Theorem

**Objective(s):**

Student will classify triangles based on their sides and angles.    Students will also review the definition of complementary and supplementary.

Students will review Pythagorean Theorem and use it to find missing sides of a right triangle.   Student will then relate Pythagorean Theorem to find the distance formula.

**Learning Standard(s):**

[CCSS.MATH.CONTENT.HSG.CO.C.10](http://www.corestandards.org/Math/Content/HSG/CO/C/10/)Prove theorems about triangles. *Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point*.

[CCSS.MATH.CONTENT.HSG.SRT.B.4](http://www.corestandards.org/Math/Content/HSG/SRT/B/4/)Prove theorems about triangles. *Theorems include: a line parallel to one side of a triangle divides the other two proportionally, and conversely; the Pythagorean Theorem proved using triangle similarity.*

[CCSS.MATH.CONTENT.HSG.SRT.C.8](http://www.corestandards.org/Math/Content/HSG/SRT/C/8/)Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.\*

**Activities:**

Have each student draw a triangle with a ruler.   They then need to cut out the triangles.   After that they should cut each angel off the triangle.     Have the students put the three angles next to each other and write discuss with their groups what they observe.

Laying the Foundation of House; students will use Pythagorean Theorem to lay the foundation of a house in parking lot using chalk.

**Materials:**

Ruler, tape measures, strings, and chalk

Foundation Construction Activity