**Lesson Plan Outline Geometry in Construction**

**Title:**

Similarity in Triangles

**Objective(s):**

Students will apply properties of similar triangles and what other figures are similar.  (rectangles, squares, trapezoids, circles, and regular polygons)

**Learning Standard(s):**

[CCSS.MATH.CONTENT.HSG.SRT.A.2](http://www.corestandards.org/Math/Content/HSG/SRT/A/2/)Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.

[CCSS.MATH.CONTENT.HSG.SRT.A.3](http://www.corestandards.org/Math/Content/HSG/SRT/A/3/)Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar.

[*CCSS.MATH.CONTENT.HSG.SRT.B.5*](http://www.corestandards.org/Math/Content/HSG/SRT/B/5/)Use congruence and similarity criteria for triangles to solve problems and to prove relationships in geometric figures.

**Activities:**

Students will use properties of similar triangles and shadows/mirrors to find the height of an object outside.  light pole, bleaches, tree, building, ext.

**Materials:**

Tape measure, laser pointer, mirrors, outdoor location with light posts

Proving Triangles and Shapes Similar W.S.

Finding Missing Sides and Angles of Similar Figures W.S.