**Lesson Plan Outline Geometry in Construction**

**Title:**

Similarity in Triangles & Shapes

Finding missing sides and angles in problem solving situations

**Objective(s):**

Students will use the similarity criteria to prove that two shapes are similar

Students will use similarity to find missing sides and angles in problem solving situations

**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 be given models of buildings and actual dimensions to determine similarity; students will then look at triangles in construction plans to determine if the triangles are similar.

Students will read blue print and directions to find actual dimensions and scaled dimension.

Students will draw a blue print for a floor plan to the proper scale.

**Materials:**

Ruler & Protractor

Building models (Lego toys or statue)

House blueprints

Scale Factor Activity