**Lesson Plan Outline Geometry in Construction**

**Title:**

Special Right Triangles

**Objective(s):**

The students will use special right triangles to find the diagonals of squares and the heights of equilateral triangles.

**Learning Standard(s):**

[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.\*

[*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.*

**Activities:**

The students will explore the activities with the exactness of windows and window trims.

Pipe Fitting; students will use Plumber’s Handbook and special right triangles to find the lengths of pipes to fit a hanging offset.

Students will practice applications of special right triangles

**Materials:**

Pipe fitting handbook copies

Pipes with set ups for rolling off sets of 45 and 60 degrees

Hanging Offset Activity

Special Right Triangles Application Practice