**Lesson Plan Outline Geometry in Construction**

**Title:**

Problem Solving with Volume of 3D Objects

**Objective(s):**

Students will use concepts related to area, right triangles, and algebra to solve various problem solving situations

**Learning Standard(s):**

[CCSS.MATH.CONTENT.HSG.GMD.A.3](http://www.corestandards.org/Math/Content/HSG/GMD/A/3/)

Use volume formulas for cylinders, pyramids, cones, and spheres to solve problems.\*

[CCSS.MATH.CONTENT.HSG.GMD.A.1](http://www.corestandards.org/Math/Content/HSG/GMD/A/1/)

Give an informal argument for the formulas for the circumference of a circle, area of a circle, volume of a cylinder, pyramid, and cone. *Use dissection arguments, Cavalieri's principle, and informal limit arguments*.

**Activities:**

Students will determine amount of concrete bags need for fence posting to meet construction regulations.

Students will solve various cost analysis problems

**Materials:**

Post Hole Digger, Tape Measure, Wood for Boxes

Cost Analysis Problems