**Lesson Plan Outline Geometry in Construction**

**Title:**

Surface Area of 3D Figures

**Objective(s):**

Students will use nets to find the area of a 3D figure & will design 3D figures with a given area.  Figures include prism, cone, cylinder, and pyramid.

**Learning Standard(s):**

[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*.

[CCSS.MATH.CONTENT.HSG.MG.A.1](http://www.corestandards.org/Math/Content/HSG/MG/A/1/)Use geometric shapes, their measures, and their properties to describe objects (e.g., modeling a tree trunk or a human torso as a cylinder).

[CCSS.MATH.CONTENT.HSG.MG.A.3](http://www.corestandards.org/Math/Content/HSG/MG/A/3/)Apply geometric methods to solve design problems (e.g., designing an object or structure to satisfy physical constraints or minimize cost; working with typographic grid systems based on ratios).

**Activities:**

Area of 2D Figures Formative Assessment

Students will be given various 3D shapes and will be required to find the shapes with the figure and the total surface area.

**Materials:**

Area of 2D Figures Formative Assessment

Boxes of various shapes

Area of 3D Figures W.S.