**Lesson Plan Outline Geometry in Construction**

**Title:**

Perimeter and Area of Polygons in the Coordinate Plane

**Objective(s):**

The students will use coordinates to find the perimeter and area of 2D & 3D shapes in the coordinate plane.

**Learning Standard(s):**

[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).

[CCSS.MATH.CONTENT.HSG.GPE.B.7](http://www.corestandards.org/Math/Content/HSG/GPE/B/7/)

Use coordinates to compute perimeters of polygons and areas of triangles and rectangles, e.g., using the distance formula.\*

**Activities:**

Students will review & practice distance formula

Students will be given various shapes in the coordinate plane and will calculate the area & perimeter of each object.

Students will use overhead pictures of various Chicago locations and their iPads to place picture in coordinate plane to estimate the perimeter and/or area of the location; students will preview scale factor

**Materials:**

Area & Perimeter in Coordinate Plane W.S.

iPad with Geometry Pad App

Picture in Coordinate Plane Activity