6.G.3

Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.

Scaffolding

Instructional Strategies

Have the students explore how to determine the side length of a polygon.

Discuss conjectures and test the findings. Solidify the two different methods:

1. Students can find the side length of a polygon by counting
2. Students can find the side length of a polygon by subtracting x coordinates or y coordinates

Archeologists use the coordinate plane to note the locations of artifacts found. They select a point at the dig site to be the origin. From that point they mark the grid with 1-meter squares. When an artifact is found in a square the ordered pair is recorded.

Ask the students to use coordinate grids to locate the following objects: a piece of pottery at (5,4), a maize grinding stone at (5, -5), a doll at (-2, -5), a cup at (-2, 4).

Have the students give you the following distances:

1. From the cup to the piece of pottery
2. From the doll to the cup
3. From the piece of pottery to the grinding stone

Ask the students to identify the polygon and give its perimeter.

Have the students create their own archeological digs and plot the points for at least four items that might be found in such a dig. Have them identify the polygon and give the length of each side of the polygon and the perimeter. Stress that the points connected must have the same first coordinate or the same second coordinate.

**Mathematical Task:**

Nicole wants to landscape her yard with at least 4 trees located 15 meters apart, with two in the front yard and two in the back yard. Her yard is a rectangle with sides 40 meters by 50 meters. Use a coordinate grid to determine the placement of the trees. Give the coordinates of each tree as an ordered pair.