Translations in the Coordinate Plane
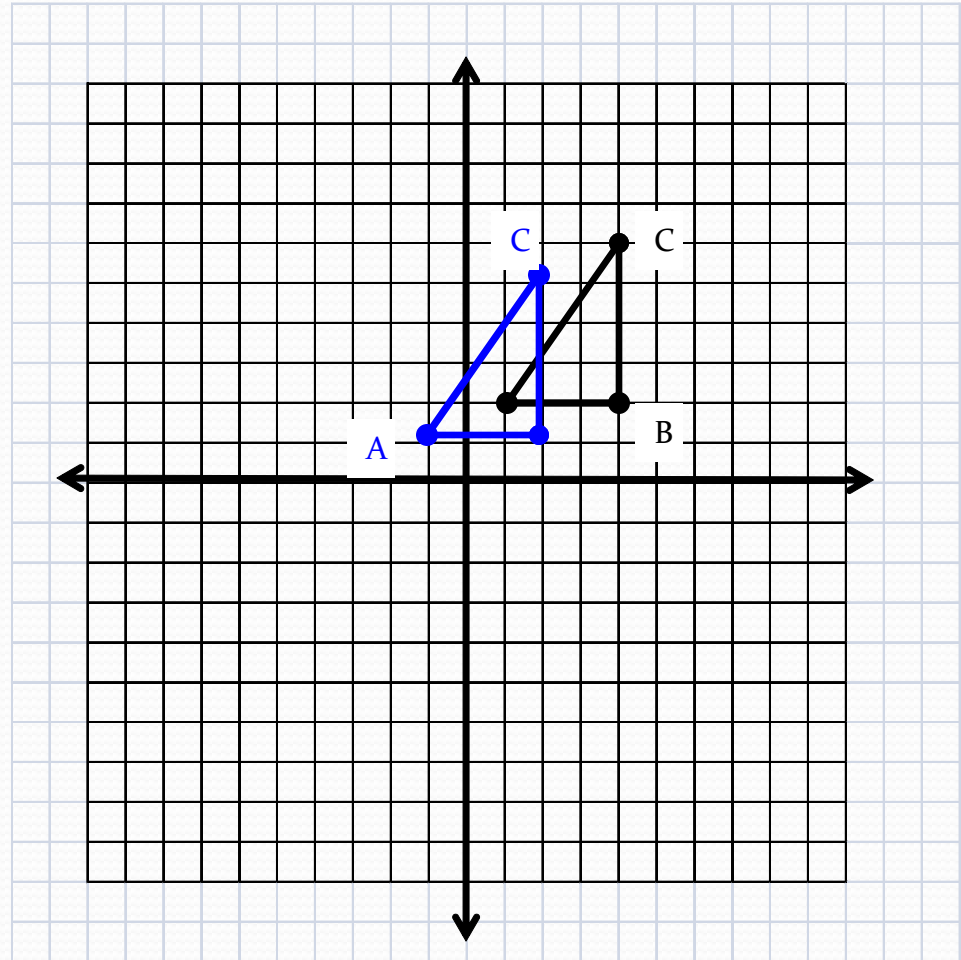
What is a translation?

- A translation occurs when a figure slides along a line without turning

- The line a figure slides along MUST be a straight line

Working through an example

Translate each vertex 2 units left and 1 unit down

Original coordinates A(1,2), B(4,2), and C(4,6)

Once translated, the new coordinates are (-1,1), (2,1), and (2,5)

Ideas for application

- Have students spread out and give them directions that cause them to translate their body (e.g., Slide one step to the right)

- Using construction and tissue paper, make a mock quilt using reflections, rotations, and transformation of different shapes (have a different quilts for different polygons)

- Use photo program and have students orient the pictures correctly

Making Connections

- Exploring translations in the coordinate plane address the following 6th, 7th, and 8th grade Core Content Connectors
  - 6.GM.1c4 Locate points on a graph
  - 6.GM.1c5 Use order pairs to graph given points
  - 6.GM.1c6 Find coordinate values of points in the context of a situation
  - 6.GM.1c7 Use coordinate points to draw polygons6.NO.1d5 find given points between -10 and 10 on both axis of a coordinate plane
  - 6.NO.1d6 Label points between -10 and 10 on both axis of coordinate plane
  - 7.GM.1e1 Construct or draw plane figures using properties
  - 8.GM.1f1 Recognize a rotation, reflection, or translation of a figure
  - 8.GM.1f2 Identify a rotation, reflection, or translation of a plane figure when given coordinates