

Geometry

In fifth grade, students are introduced to the coordinate plane. They learn to identify a location in the plane as an ordered coordinate pair (x, y) , where x and y indicate the distances from the origin in the horizontal and vertical directions, respectively. Students use the coordinate plane to address geometry topics such as parallel and perpendicular lines and to represent real-world contexts such as locations on maps. In fifth grade, students work only in the first quadrant of the plane, where both the x - and y -coordinates are positive. When students are introduced to integers in sixth grade, they will work in all four quadrants.

Students in fifth grade also classify two-dimensional figures. They learn that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. For example, given the fact that all rectangles have four right angles and that squares are rectangles, students conclude that all squares have four right angles.

The Grade 5 Common Core State Standards for Geometry specify that students should—

- Graph points on the coordinate plane to solve real-world and mathematical problems.
- Classify two-dimensional figures into categories based on their properties.

Geometry is a particularly visual domain, so concrete experiences are especially useful to students when they study geometry. The following hands-on activities provide teachers with a means to deliver the concrete experiences that many students will need. During the activities, teachers should elicit discussion among students to help them refine their communication skills and to help them construct their own understanding.