

Next Steps and Instructional Moves

The intended purpose of this document is to provide teachers with a tool to determine student understanding and suggest instructional moves that may help guide a student forward in their learning of a particular concept or standard. This guide is not an exhaustive list of strategies.

Fifth Grade: Cluster 7 Geometry Classifying Quadrilaterals

NC.5.G.1 Graph points in the first quadrant of a coordinate plane, and identify and interpret the x and y coordinates to solve problems.

NC.5.G.3 Classify quadrilaterals into categories based on their properties.

- Explain that attributes belonging to a category of quadrilaterals also belong to all subcategories of that category.
- Classify quadrilaterals in a hierarchy based on properties.

Not Yet

Students that are consistently scoring “Not Yet” in this cluster either are unable to graph points in the coordinate plane and/or they are unable to accurately identify attributes of shapes.

Next Steps:

For students struggling with graphing points and problem solving in coordinate planes (NC.5.G.1):

- Begin by plotting points with x and y coordinates that are 5 or less only. Provide students with tasks in which they are given a point and have to name the coordinates as well as tasks in which students are given the coordinates and have to create the point.
- Have students explore solving problems in coordinate planes by first plotting a point and then moving in only one direction and naming the points they passed through. Example: Plot the point (2,2). If you move to right what are the next 4 points they will pass through? Plot the points on the grid and draw the points.
- The Drawing Shapes on the Grid [task](#) provides an introduction to this concept.
- Have students read *There’s a Fly On the Ceiling* by Julie Glass. Have students illustrate the various locations of the fly in the story. Have students create the coordinate grid on the classroom floor using painter’s tape. Write various ordered pairs on index cards and ask students to walk the coordinate grid to the coordinate location.

For students finding difficulty classifying quadrilaterals (NC.5.G.3):

- Provide tasks in which students create quadrilaterals using geoboards, popsicle sticks that are attached, or technology-based tools such as online [geoboards](#). Students should record notes about various attributes of shapes, including number of sides with equal length, number of angles that are equal, number of right angles, number of pairs of parallel sides, and number of pairs of perpendicular sides.
- Begin by exploring the difference between trapezoids and parallelograms. The Trapezoids or Parallelograms [task](#) provides opportunities for students to distinguish between trapezoids and parallelograms.

Progressing

Students that are consistently scoring “Progressing” can plot points but have difficulty solving problems in the coordinate plane. Likewise, students can identify attributes of quadrilaterals but demonstrate difficulty organizing shapes in a hierarchy or explaining how shapes’ attributes relate to other shapes.

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Next Steps:

For students struggling with graphing points and problem solving in coordinate planes (NC.5.G.1):

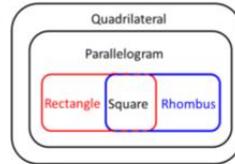
- Have students explore solving problems in coordinate planes by first plotting a point and then moving in only one direction and naming the points they passed through. Example: Plot the point (2,2). If you move to right what are the next 4 points they will pass through? Plot the points on the grid and draw the points.
- The What Shape Did You Plot [task](#) provides an introduction to this concept.

For students finding difficulty classifying quadrilaterals (NC.5.G.3):

- Provide tasks in which students create quadrilaterals using geoboards, popsicle sticks that are attached, or technology-based tools such as online [geoboards](#). Students should record notes about various attributes of shapes, including number of sides with equal length, number of angles that are equal, number of right angles, number of pairs of parallel sides, and number of pairs of perpendicular sides.
- Provide students opportunities to group and sort quadrilaterals in order to justify their thinking. Encourage students to be precise in their vocabulary.

Create a Hierarchy Diagram using the following terms:

quadrilateral – a four-sided polygon.
parallelogram – a quadrilateral with two pairs of parallel and congruent sides.
rectangle – a quadrilateral with two pairs of equal, parallel sides and four right angles.
rhombus – a parallelogram with all four sides equal in length.
square – a parallelogram with four equal sides and four right angles.



(Sample student response)

Example from NCDPI unpacking document

Meets Expectation

Students that are consistently scoring “Meets Expectation” have a good understanding of how to plot points and solve problems in coordinate planes as well as how quadrilaterals’ attributes relate to other quadrilaterals.

Next Steps:

For students who demonstrate proficiency plotting points and solving problems in a coordinate plane (NC.5.G.1):

- Pose two-step tasks in which students need to move in multiple directions on the coordinate planes, determine distance moved in horizontal or vertical directions, and determine points in which they land.
- Have students create tasks that involve problem solving on a coordinate plane. Students can then trade tasks with classmates and solve them.

For students who demonstrate proficiency categorizing quadrilaterals in a hierarchy and relating attributes of shapes to other shapes (NC.5.G.3):

- We recommend that students spend time working on other standards.