

## Common Core Standards - Resource Page

The resources below have been created to assist teachers' understanding and to aid instruction of this standard.

<b>Domain</b>	<b>Standard:</b> G.CO.3 - Given a rectangle, parallelogram, trapezoid, or regular polygon, describe the rotations and reflections that carry it onto itself.
<b><u>Congruence</u></b> <b>Experiment with transformations in the plane</b>	<p><u>Questions to Focus Learning</u></p> <p>How is symmetry defined? Can a figure have more than one type of symmetry?</p> <p>Figures with symmetry can be transformed onto themselves.</p> <p><u>Student Friendly Objectives</u></p> <p><i>Knowledge Targets</i></p> <p>I know precise definitions of a rectangle, parallelogram, trapezoid or regular polygon. I can describe the rotational symmetry of a rectangle, parallelogram, trapezoid, and regular polygon. I can describe the reflectional symmetry of a rectangle, parallelogram, trapezoid, and regular polygon.</p> <p><i>Reasoning Targets</i></p> <p>I can describe transformations that carry a figure onto itself.</p>

Vocabulary

angle of rotation  
center of rotation  
image  
line of symmetry  
mapping  
parallelogram  
point of symmetry  
pre-image  
rectangle  
reflectional symmetry  
reflections  
regular polygon  
rigid motion  
rotational symmetry  
rotations  
symmetry  
translations  
trapezoid  
vector

Teacher Tips

Build on student experience with rigid motions from earlier grades. Point out the basis of rigid motions in geometric concepts, e.g., translations move points a specified distance along a line parallel to a specified line; rotations move objects along a circular arc with a specified center through a specified angle.

Vertical Progression

G.CO.4 - Develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.

G.CO.5 - Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.

G.CO.6 - Use geometric descriptions of rigid motions to transform figures and to predict the effect of a given rigid motion on a given figure; given two figures, use the definition of congruence in terms of rigid motions to decide if they are congruent.

G.CO.7 - Use the definition of congruence in terms of rigid motions to show that two triangles are congruent if and only if corresponding pairs of sides and corresponding pairs of angles are congruent.

G.CO.8 - Explain how the criteria for triangle congruence (ASA, SAS, and SSS) follow from the definition of congruence in terms of rigid motions.

The above information and more can be accessed for free on the [Wiki-Teacher](#) website.

Direct link for this standard: [G.CO.3](#)