

NJDOE MODEL CURRICULUM PROJECT

CONTENT AREA: Mathematics	GRADE: 8	UNIT #: 1	UNIT NAME: Geometry
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Major Supporting Additional (identified by PARCC Model Content Frameworks)

Bold type indicates grade level fluency requirements. (identified by PARCC Model Content Frameworks)

#	STUDENT LEARNING OBJECTIVES	CORRESPONDING CCSS/NJCCCS
1	Utilize the properties of rotation, reflection, and translation to model and relate pre-images of lines, line segments, and angles to their resultant image through physical representations and/or Geometry software.	8.G.1
2	Apply an effective sequence of rotations, reflections, and translations to prove that two dimensional figures are congruent.	8.G.2
3	Use the coordinate plane to locate pre-images of two-dimensional figures and determine the coordinates of a resultant image after applying dilations, rotations, reflections, and translations.	8.G.3
4	Recognize dilation as a reduction or an enlargement of a figure and determine the scale factor.	8.G.3
5	Apply an effective sequence of transformations to determine that figures are similar when corresponding angles are congruent and corresponding sides are proportional. Write similarity statements based on such transformations.	8.G.4
6	Justify facts about angles created when parallel lines are cut by a transversal.	8.G.5
7	Justify facts about the exterior angles of a triangle, the sum of the measures of the interior angles of a triangle and the angle-angle relationship used to identify similar triangles.	8.G.5

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Code #	CCSS and/or NJCCCS
8.G.1	Verify experimentally the properties of rotations, reflections, and translations. <ol style="list-style-type: none"> a. Lines are taken to lines, and line segments to line segments of the same length. b. Angles are taken to angles of the same measure. c. Parallel lines are taken to parallel lines.
8.G.2	Understand that a two-dimensional figure is congruent to another if the second can be obtained from the first by a sequence of rotations, reflections, and translations; given two congruent figures, describe a sequence that exhibits the congruence between them.
8.G.3	Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates.
8.G.4	Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations; given two similar two-dimensional figures, describe a sequence that exhibits the similarity between them
8.G.5	Use informal arguments to establish facts about the angle sum and exterior angle of triangles, about the angles created when parallel lines are cut by a transversal, and the angle-angle criterion for similarity of triangles. <i>For example, arrange three copies of the same triangle so that the sum of the three angles appears to form a line, and give an argument in terms of transversals why this is so.</i>