Mini-Map for M.EE.8.G.4

Subject: Mathematics
Geometry (G)
Grade: 8

Learning Outcome

DLM Essential Element	Grade-Level Standard
M.EE.8.G.4 Identify similar shapes with and without rotation.	**M.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.

Linkage Level Descriptions

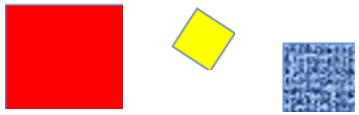
Initial Precursor	Distal Precursor	Proximal Precursor	Target	Successor
Recognize "same" as the object that shares all of the same attributes as other objects in a group. Recognize "different" as the object that shares some or none of the attributes as other objects in a group.	Match two 2-dimensional or 3-dimensional shapes (e.g., squares, rectangles, circles, spheres, rectangular prisms, cubes, pyramids) that are different sizes and have the same orientation.	Recognize two-dimensional and three-dimensional shapes that are similar. Recognize rotation as the transformation in which a shape or figure is turned.	Communicate understanding that two shapes are similar if the second can be obtained from the first by a sequence of dilations, rotations, reflections, or translations.	Describe a sequence of transformations (e.g., dilations, rotations, reflections, translations) that would result in the final shape or figure being similar to the original shape or figure.

Initial Precursor and Distal Precursor Linkage Level Relationships to the Target

How is the Initial Precursor related to the Target?

Being able to recognize congruent figures requires a student to recognize when basic objects and shapes are the same or different. Work on this understanding by providing students with a shape and naming it (e.g., "this is a square"). Then, provide multiple examples of the same shape so students can make comparisons, focusing student attention on the characteristics that make this a particular shape (e.g., a square has 4 sides that are the same size). As students explore shapes, label them and describe them as same or different.

NOTE: When presenting the same shape for comparison, do use shapes with different colors, textures, sizes, and orientation so that students understand the attribute that makes it that shape (e.g., 4 sides that are the same size).



How is the Distal Precursor related to the Target?

As students develop an understanding of same and different shapes, provide opportunities for students to match or group the same two- and three-dimensional shapes based on the shape size (e.g., "this is a big square," "this is a little square"). As students progress with identifying the size of two- and three-dimensional shapes, the educator can begin to introduce different orientations of the shape.

NOTE: As new attributes (e.g., size and orientation) are introduced, be sure to support the student in remembering that the attribute doesn't change the name of the shape.

Instructional Resources

Released Testlets
See the Guide to Practice Activities and Released Testlets.
Using Untested (UN) Nodes
See the document Using Mini-Maps to Plan Instruction.

[Link to Text-Only Map]

M.EE.8.G.4 Identify similar shapes with and without rotation.