# Mini-Map for M.EE.HS.G.CO.6-8 

learning maps

## Subject: Mathematics

Geometry-Congruence (G.CO)
Grade: 11

## Learning Outcome

| DLM Essential Element | Grade-Level Standard |
| :--- | :--- |
| M.EE.HS.G.CO.6-8 Identify corresponding congruent and similar <br> parts of shapes. | M.G.CO.6 Use geometric descriptions of rigid motions to <br> transform figures and to predict the effect of a given rigid <br> motion on a given figure; given two figures, use the definition of <br> congruence in terms of rigid motions to decide if they are <br> congruent. <br> M.G.CO.7 Use the definition of congruence in terms of rigid <br> motions to show that two triangles are congruent if and only if <br> corresponding pairs of sides and corresponding pairs of angles <br> are congruent. |

## 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 3dimensional shapes (e.g., spheres, rectangular prisms, cubes, pyramids) or 2dimensional shapes (e.g., squares, rectangles, triangles) that are the same size and have either the same or different orientation. Match two 3-dimensional shapes (e.g., spheres, | Recognize two shapes that are congruent with or without rotation or reflection. Recognize two-dimensional and three-dimensional shapes that are similar. | Communicate understanding that congruent figures have the same shape and size and that similar figures have the same shape but different sizes. | Communicate understanding that two shapes are congruent if the second can be obtained from the first by a sequence of rotations, reflections, and translations. Communicate understanding that two shapes are similar if the second can be obtained from the first by a sequence of dilations, |


| Initial Precursor | Distal Precursor | Proximal Precursor | Target | Successor |
| :--- | :--- | :--- | :--- | :--- |
|  | rectangular prisms, <br> cubes, pyramids) or 2- <br> dimensional shapes <br> (e.g. squares, |  |  | rotations, reflections, or <br> translations. |
| rectangles, triangles) |  |  |  |  |
| that are different sizes |  |  |  |  |
| and have either the |  |  |  |  |
| same or different |  |  |  |  |
| orientation. |  |  |  |  |

## Initial Precursor and Distal Precursor Linkage Level Relationships to the Target

## How is the Initial Precursor related to the Target?

Recognizing congruent and similar parts of a shape requires a student to first 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" $\quad$ ) 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 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 shapes, the educator can begin to introduce different orientations of the shape as well as threedimensional shapes.

NOTE: As new attributes (e.g., size, orientation, threedimensional) 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 |
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| See the Guide to Practice Activities and Released Testlets. |
| Using Untested (UN) Nodes |
| See the document Using Mini-Maps to Plan Instruction. |

M.EE.HS.G.CO.6-8 Identify corresponding congruent and similar parts of shapes.


