# Essential Element, Linkage Levels, and Mini-Map

## Math: Grade 8

### M.EE.8.G.2

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<th>Grade-Level Standard</th>
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| **M.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 | **M.EE.8.G.2** Identify shapes that are congruent | **Initial Precursor**  
- Recognize same  
- Recognize different  
**Distal Precursor**  
- Match the same two-dimensional shape with same size and same orientation  
- Match the same two-dimensional shape with different sizes and same orientation  
**Proximal Precursor**  
- Describe attributes of shapes  
- Analyze shapes to identify common attributes  
- Explain attribute relationships between shapes  
**Target**  
- Recognize congruent figures  
**Successor**  
- Explain the relationship between congruent figures and transformation  
- Use a sequence of transformations to describe congruence of 2 given figures |

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How is the Initial Precursor related to the Target?

**Initial Precursor:** 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 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?

**Distal Precursor:** 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.

**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.

A diagram showing the relationship of nodes in the mini-map appears below.

**Key to map codes in upper right corner of node boxes:**

- IP Initial Precursor
- SP Supporting
- DP Distal Precursor
- S Successor
- PP Proximal Precursor
- UN Untested
- T Target
M.EE.8.G.2 Identify shapes that are congruent.

- M-2635 classify same two-dimensional shapes with different size and/or different orientation
- M-131 recognize circles
- M-132 recognize triangles
- M-130 recognize squares
- M-133 recognize rectangles
- M-1487 recognize congruent figures
- M-119 describe attributes of shapes
- M-1489 explain the relationship between congruent figures and transformation
- M-120 analyze shapes to identify common attributes
- M-687 explain attribute relationships between shapes
- M-1490 use a sequence of transformations to describe congruence of 2 given figures
- F-9 match the same two-dimensional shape with same size and same orientation
- F-41 match the same two-dimensional shape with same sizes and different orientations
- F-48 match the same two-dimensional shape with different sizes and same orientation
- F-48 match the same two-dimensional shape with different sizes and same orientation
- F-17 match the same two-dimensional shapes with different size and different orientation