

# Learning Targets

## Dilations, Similarity, and Introducing Slope

### Lesson 1: Projecting and Scaling

- I can decide if one rectangle is a dilation of another rectangle.
- I know how to use a center and a scale factor to describe a dilation.

### Lesson 2: Circular Grid

- I can apply dilations to figures on a circular grid when the center of dilation is the center of the grid.

### Lesson 3: Dilations with no Grid

- I can apply a dilation to a polygon using a ruler.

### Lesson 4: Dilations on a Square Grid

- I can apply dilations to figures on a rectangular grid.
- If I know the angle measures and side lengths of a polygon, I know the angles measures and side lengths of the polygon if I apply a dilation with a certain scale factor.

### Lesson 5: More Dilations

- I can apply dilations to polygons on a rectangular grid if I know the coordinates of the vertices and of the center of dilation.

### Lesson 6: Similarity

- I can apply a sequence of transformations to one figure to get a similar figure.
- I can use a sequence of transformations to explain why two figures are similar.

### Lesson 7: Similar Polygons

- I can use angle measures and side lengths to conclude that two polygons are not similar.
- I know the relationship between angle measures and side lengths in similar polygons.

### **Lesson 8: Similar Triangles**

- I know how to decide if two triangles are similar just by looking at their angle measures.

### **Lesson 9: Side Length Quotients in Similar Triangles**

- I can decide if two triangles are similar by looking at quotients of lengths of corresponding sides.
- I can find missing side lengths in a pair of similar triangles using quotients of side lengths.

### **Lesson 10: Meet Slope**

- I can draw a line on a grid with a given slope.
- I can find the slope of a line on a grid.

### **Lesson 11: Writing Equations for Lines**

- I can decide whether a point is on a line by finding quotients of horizontal and vertical distances.

### **Lesson 12: Using Equations for Lines**

- I can find an equation for a line and use that to decide which points are on that line.

### **Lesson 13: The Shadow Knows**

- I can model a real-world context with similar triangles to find the height of an unknown object.