Grade 8 Unit 2: Dilations, Similarity and Introducing Slope
Lessons 1–5: Dilations

Explore, Play, and Discuss

- I can decide if one rectangle is a dilation of another rectangle. (Lesson 1)
- I know how to use a center and a scale factor to describe a dilation. (Lesson 1)

Activity Suggestions:

- ➢ Lesson 1: Students respond to questions in an online or paper journal, or talk them over with someone at home.
- ➢ Activity 1.2: Have students respond to how they sorted the triangles online, create a video or in a journal.

Assessment Suggestions:

- ➢ Check Your Readiness Assessment: Administer questions 1–7 items within the first day or two of this section. Use the guidance provided with each problem to adjust instruction so that students can access the math in the unit.

Deep Dive

- I can apply dilations to figures on a circular grid when the center of dilation is the center of the grid. (Lesson 2)
- I can apply a dilation to a polygon using a ruler. (Lesson 3)
- I can apply dilations to figures on a square grid. (Lesson 4)

Activity Suggestions:

- ➢ Activity 4.2: Sync discussion
- ➢ Lesson 3: Sync discussion

Assessment Suggestions:

- ➢ Lesson 2 Cool-down
- ➢ Lesson 3 Cool-down
- ➢ Lesson 4 Cool-down

Synthesize and Apply

- 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 4)
- 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 5)

Activity Suggestions:

- ➢ Activity 4.3: Make contents of cards available in online or paper journals for students to respond.
- ➢ Teach and encourage students to study the lesson summaries (at the end of every lesson) and refer back to them.

Assessment Suggestions:

- ➢ Lesson 5 Cool-down
- ➢ Students use learning targets to decide what additional practice they need.

Ongoing Practice	• Assign one or more of the distributed practice problem sets from Lessons 1–5 to be completed over the time period that the section is being worked on. • Specify which problems students should submit, or let them choose. • Note: Several existing platforms already have IM's practice problems loaded so that students can complete and submit them online. Some can be autoscored.

Anytime Resources	• Teach and encourage students to study the lesson summaries (at the end of every lesson) and refer back to them. • Emphasize the Are You Ready for More opportunities to students who want to explore the topics in more depth.

Lessons 6–9: Similarity

Dive Deep	• I can apply a sequence of transformations to one figure to get a similar figure. (Lesson 6) • I can use a sequence of transformations to explain why two figures are similar. (Lesson 6) • I can use angle measures and side lengths to conclude that two polygons are not similar. (Lesson 7) • I know the relationship between angle measures and side lengths in similar polygons. (Lesson 7)	
	Activity Suggestions: ➢ Activity 6.2: Sync discussion ➢ Activity 7.2: Sync discussion	**Assessment Suggestions:** ➢ Lesson 7 Cool-down ➢ Lesson 6 Cool-down ➢ Students use learning targets to decide what additional practice they need.

Synthesize and Apply

- I know how to decide if two triangles are similar just by looking at their angle measures. (Lesson 8)
- I can decide if two triangles are similar by looking at quotients of lengths of corresponding sides. (Lesson 9)
- I can find missing side lengths in a pair of similar triangles using quotients of side lengths. (Lesson 9)

Activity Suggestions:

- ➢ Activity 9.3: Sync discussion
- ➢ Activity 9.2: Sync discussion

Assessment Suggestions:

- ➢ Lesson 9 Cool-down

Ongoing Practice

- Assign one or more of the distributed practice problem sets from Lessons 6–9 to be completed over the time period that the section is being worked on.
- These could also be lagging, so that students are working on practice problems from the previous section or unit during this section or unit.
- Specify which problems students should submit, or let them choose.
- Note: Several existing platforms already have IM's practice problems loaded so that students can complete and submit them online. Some can be autoscored.

Anytime Resources

- Lesson 8, optional activity—Are you ready for more?
- Unit 2 lesson summaries

Lessons 10–12: Slope

Explore, Play, and Discuss

- I can draw a line on a grid with a given slope. (Lesson 10)

Activity Suggestions:

- ➢ Activity 10.2: Tell students to select any 2 of the 3 triangles to explain why they are similar. Then ask them to complete the table.
- ➢ Lesson 10.3: Students respond to questions in an online or paper journal, or record their responses with audio or video

Assessment Suggestions:

- ➢ Lesson 10 Cool-down
- ➢ Students use learning targets to decide what additional practice they need.

Deep Dive

- I can decide whether a point is on a line by finding quotients of horizontal and vertical distances. (Lesson 11)
- I can find an equation for a line and use that to decide which points are on that line. (Lesson 12)

Activity Suggestions:

- ➢ Activity 10.2 activity synthesis
- ➢ Activity 11.3: Sync discussion

Assessment Suggestions:

- ➢ Lesson 11 cool-down or
- ➢ Lesson 12: Activity 3

Synthesize and Apply

- I can find an equation for a line and use that to decide which points are on that line. (Lesson 12)

Activity Suggestions:

- ➢ Lesson 12: Students respond to questions in an online or paper journal, or record their responses with audio or video.

Assessment Suggestions:

- ➢ End of Unit Assessment
- ➢ Lesson 12 Cool-down

Ongoing Practice	
	• Assign one or more of the distributed practice problem sets from Lessons 10–12 to be completed over the time period that the section is being worked on. • These could also be lagging, so that students are working on practice problems from the previous section or unit during this section or unit. • Specify which problems students should submit, or let them choose. • Note: Several existing platforms already have IM's practice problems loaded so that students can complete and submit them online. Some can be autoscored.

Anytime Resources	
	• Teach and encourage students to study the lesson summaries (at the end of every lesson) and refer back to them. • Complete the culminating Lesson 13. • Emphasize the Are You Ready for More opportunities to students who want to explore the topics in more depth.