Send as an attachment via email to [adlerml@scsk12.org](mailto:adlerml@scsk12.org). Save file as: LessonPlans\_Last NameFirstInitial\_MonthDay

Example: LessonPlans\_AdlerA\_Aug10

Boxes will expand as necessary when you type. Due by 11:59 Friday of week before scheduled plans.

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| Teacher | Teri Lindsey |
| Class | 8th Math |

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|  | **Date: 1-9** | **Date: 1-10** | **Date: 1-11** | **Date: 1-12** | **Date: 1-13** |
| **Standard**  (Reference State, Common Core, ACT College Readiness Standards and/or State Competencies.) | 8.G.A.3 Describe the effect of dilations, translations, rotations, and reflections on two-dimensional figures using coordinates. | | | | |
| **Objective**  (Clear, Specific, and Measurable, student-friendly) | * Students know that dilations map circles to circles and ellipses to ellipses. * Students know that to shrink or magnify a dilated figure back to its original size from center *O* with scale factor *r* the figure must be dilated by a scale factor of 1/*r.*   . | * Students know that dilations map circles to circles and ellipses to ellipses. * Students know that to shrink or magnify a dilated figure back to its original size from center *O* with scale factor *r* the figure must be dilated by a scale factor of 1/*r.*   . | Students experimentally verify the properties related to the fundamental theorem of similarity (FTS). | Students verify the converse of the fundamental theorem of similarity experimentally. ƒ Students apply the fundamental theorem of similarity to find the location of dilated points on the plane. | Students describe the effect of dilations on two-dimensional figures using coordinates |
| **Connections to Prior Knowledge** | Checks for Understanding each day will make connections to prior knowledge by providing concentrated practice of previous learned skills. | Checks for Understanding each day will make connections to prior knowledge by providing concentrated practice of previous learned skills. | Checks for Understanding each day will make connections to prior knowledge by providing concentrated practice of previous learned skills. | Checks for Understanding each day will make connections to prior knowledge by providing concentrated practice of previous learned skills. | Checks for Understanding each day will make connections to prior knowledge by providing concentrated practice of previous learned skills. |
| **Guiding Questions**  (Motivator / Hook  An Essential Question encourages students to put forth more effort when faced with complex, open-ended, challenging, meaningful and authentic questions.) | What happens to rays, segments, lines, and angles under a dilation? | How many points are needed to dilate a curved shape?  What scale factor is needed to dilate a figure back to its original size? | How are parallel line segments connecting dilated points related to the segments that are dilated? | Given any two parallel segments, how can you use them to form similar triangles? | How can you find the coordinates of dilated points in figures on a coordinate plane? |

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| **Instructional Strategies**  (Step-By-Step Procedures – Sequence  Discover / Explain – Direct Instruction  Modeling Expectations – “I Do”  Questioning / Encourages Higher Order Thinking  Grouping Strategies  Differentiated Instructional Strategies to Provide Intervention & Extension, **Literacy Task**) | Eureka Math  Module 3, Lesson 2  TTW use guided notes to emphasize key points about dilations.  TTW present the last example from the classwork section to demonstrate how to use a compass to dilate a figure when r > 1.  TTW present a second example to demonstrate how to use a ruler to dilate a figure when 0<r<1. | Eureka Math Module 3, Lesson 3  TTW guide students through the examples in the classwork section to discover how to dilate a circle and an elipse.  TSW work with a partner to complete the dilations and then discuss their strategies.  TTW guide students through exercise 2 to discover how to “shrink” a figure back to its original size.  TSW work with a partner to complete the exercises. | Eureka Math Module 3, Lesson 4  TTW guide students through the investigation in the classwork section to discover what happens to the segments connecting dilated segments  Students will use notebook paper to create a drawing and then discuss the relationships observed. | TSW take a brief quiz before beginning Lesson 5.  (May carry over to the next day. Can be combined with lesson 6 to condense.)  Eureka Math  Module 3, Lesson 5    TTW guide students to recall the FTS from the previous lesson to reason about how to determine the dilation of a point on a grid.  TTW think aloud to guide students to draw a segment to dilate along the x-axis to enable parallel lines to determine location of point that is dilated in a diagonal direction. | Eureka Math  Module 3, Lesson 6  TTW display the first example and think aloud to guide students to discover the relationships between the scale factor and the coordinates of dilated points. |
| **Differentiated Tasks**  (Activities based on students’ needs and learning styles, IEP modifications) | TTW guide students through several examples and gradually release them to work independently on the Problem Set.  Below Expectation:  TTW provide support as students work.  At Expectation:  Students will work independently.  Above Expectation:  Students will work independently.  Enrichment:  Draw a star. Label each of its points. Dilate it with a scale factor r = 3.  Measure each segment of the original star and calculate the measures of the dilated segments. | TSW complete the exercises in the Problem Set.  TTW guide students through several examples and gradually release them to work independently.  Below Expectation:  TTW provide support as students work.  At Expectation:  Students will work independently.  Above Expectation:  Students will work independently.  Enrichment:  Using the star drawn in the previous lesson (or draw a new one), measure each of the interior angles of the pentagon and each of the angles at the tips of the star and calculate the measures of the remaining angles. | TSW complete exercise 2 in the Problem Set.  TTW guide students through several examples and gradually release them to work independently.  Below Expectation:  TTW provide support as students work.  At Expectation:  Students will work independently.  Above Expectation:  Students will complete Exercise 3 in the Problem Set. | TTW guide students through several examples and gradually release them to work independently.  Below Expectation:  TTW provide support as students work.  At Expectation:  Students will work independently.  Above Expectation:  Students will work independently | TTW guide students through several examples and gradually release them to work independently.  Below Expectation:  TTW provide support as students work.  At Expectation:  Students will work independently.  Above Expectation:  Students will work independently |
| **Assessment**  (Aligned with the Lesson Objective  Formative / Summative  Performance-Based/Rubric  Formal / Informal) | Formative:  Problem Set  Exit Ticket | Formative:  Problem Set  Exit Ticket | Formative:  Problem Set  Exit Ticket | Formative:  Problem Set  Exit Ticket | Formative:  Problem Set  Exit Ticket |
| **Closure**  (Reflection / Wrap-Up  Summarizing, Reminding, Reflecting, Restating, Connecting) | Lesson Summary:  Dilations map lines to lines, rays to rays, and segments to segments. Dilations map angles to angles of the same degree. | Lesson Summary:  Dilations map circles to circles and ellipses to ellipses.  If a figure is dilated by scale factor *r* ,we must dilate it by a scale factor of 1/*r* to bring the dilated figure back to the  original size. For example, if a scale factor is *r = 4,* then to bring a dilated figure back to the original size, we must  dilate it by a scale factor *r = ¼.* | Lesson Summary:  Fundamental Theorem of Similarity  When two segments are dilated from the same center with the same scale factor, the segment joining the original points and the segment joining the dilated points will be parallel and their lengths will be related by the same scale factor. | Lesson Summary:  We use the converse of the FTS to find the coordinates of dilated points on a grid by making parallel lines to intersect with the original ray. The point of intersection is the location of the dilated point. | Lesson Summary:  When points are dilated on a coordinate plane, each of the point’s coordinates are multiplied by the scale factor to find the coordinates of the dilated point. |
| **Resources/Materials**  (Aligned with the Lesson Objective  Rigorous & Relevant) | Eureka Math, Module 3, Lesson 2  Parent Tip Sheets  **Additional Resource(s)**  [**CCSS Flip Book with Examples of each Standard**](http://www.azed.gov/azccrs/files/2013/11/high-school-ccss-flip-book-usd-259-2012.pdf) | Eureka Math, Module 3, Lesson 3  Parent Tip Sheets  **Additional Resource(s)**  [**CCSS Flip Book with Examples of each Standard**](http://www.azed.gov/azccrs/files/2013/11/high-school-ccss-flip-book-usd-259-2012.pdf) | Eureka Math, Module 3, Lesson 4  Parent Tip Sheets  **Additional Resource(s)**  [**CCSS Flip Book with Examples of each Standard**](http://www.azed.gov/azccrs/files/2013/11/high-school-ccss-flip-book-usd-259-2012.pdf) | Eureka Math, Module 3, Lesson 5  Parent Tip Sheets  **Additional Resource(s)**  [**CCSS Flip Book with Examples of each Standard**](http://www.azed.gov/azccrs/files/2013/11/high-school-ccss-flip-book-usd-259-2012.pdf) | Eureka Math, Module 3, Lesson 6  Parent Tip Sheets  **Additional Resource(s)**  [**CCSS Flip Book with Examples of each Standard**](http://www.azed.gov/azccrs/files/2013/11/high-school-ccss-flip-book-usd-259-2012.pdf) |