Algebra 2 Unit 5: Transformations of Functions
Lessons 1–4: Translations and Reflections

Explore, Play, and Discuss

- I can describe how a graph is transformed.

Activity Suggestions:

- ➢ Lesson 1: Students respond to questions in an online or paper journal, or talk them over with someone at home. Attention should be given to how to adapt Activity 3 for independent work.
- ➢ Activity 3.1: Students respond to questions in an online or paper journal, or talk them over with someone at home.

Assessment Suggestions:

- ➢ Check Your Readiness assessment: Administer items 1–6 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.
- ➢ Lesson 1 cool-down

Deep Dive

- I can use function notation to represent a vertical or horizontal translation from one graph to another.
- I understand the relationship between graphs and equations describing horizontal translations.

Activity Suggestions:

- ➢ Lesson 2: sync discussion
- ➢ Activity 3.2: sync discussion

Assessment Suggestions:

- ➢ Lesson 2 cool-down

Synthesize and Apply

- I can reflect a graph across either the *x*- or *y*-axis.

Activity Suggestions:

- ➢ Activity 3.3: Students respond to questions in an online or paper journal, or talk them over with someone at home.
- ➢ Lesson 4: Students respond to questions in an online or paper journal, or talk them over with someone at home.

Assessment Suggestions:

- ➢ Lesson 3 cool-down
- ➢ Lesson 4 cool-down
- ➢ End-of-Unit Assessment question 1
- ➢ Revisions to previous assessment prompts
- ➢ 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 1–4 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	
	• Delve into one of the modeling prompts (1, 2, 3, 4, or 5). • Teach and encourage students to study the lesson summaries (at the end of every lesson) and refer back to them.

Lessons 5–11: Symmetry, Scaling Outputs and Inputs

Explore, Play, and Discuss		
	• I can identify even and odd functions by their graphs. • I can complete graphs of even and odd functions if I know what half the graph looks like.	
	Activity Suggestions: ➢ Lesson 5: Virtual card sort. Students respond to questions in an online or paper journal, or talk them over with someone at home. ➢ Activity 6.2: Students respond to questions in an online or paper journal, or talk it over with someone at home.	**Assessment Suggestions:** ➢ Lesson 5 cool-down

Dive Deep

- I can identify even and odd functions by their equations.
- I can write an equation from a description of how a graph is transformed.

Activity Suggestions:

- ➢ Activity 6.3: sync discussion
- ➢ Lesson 7: sync discussion

Assessment Suggestions:

- ➢ Lesson 6 cool-down
- ➢ Lesson 7 cool-down

Synthesize and Apply

- I can calculate the scale factor needed to transform the output of a function to model data.
- I can describe the effect of a scale factor on the input of a function.

Activity Suggestions:

- ➢ Lesson 8: Students respond to questions in an online or paper journal, or talk them over with someone at home.
- ➢ Activity 9.2: Students respond to questions in an online or paper journal, or talk them over with someone at home. Consider providing a worked example using the Anticipated Misconceptions to highlight possible errors for students to think through.

Assessment Suggestions:

- ➢ Lesson 8 cool-down
- ➢ Lesson 9 cool-down
- ➢ End-of-Unit Assessment questions 2, 4–7
- ➢ Revisions to previous assessment prompts
- ➢ 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 5–11 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	
	• Delve into one of the modeling prompts (1, 2, 3, 4, 5, or 6). • Teach and encourage students to study the lesson summaries (at the end of every lesson) and refer back to them.