Algebra 1 Unit 1: One-Variable Statistics
Lessons 1–5: Getting to know each other and distribution shapes

Explore, Play, and Discuss

- I can tell statistical questions from non-statistical questions and can explain the difference.
- I can tell the difference between numerical and categorical data.

Activity Suggestions:

- ➢ Activity 1.1: Students complete the activity in an online or paper journal.
- ➢ Activity 1.2: Select survey questions from the options provided, and collect responses from students.
- ➢ Activity 4.1: Students complete the activity in an online or paper journal.

Assessment Suggestions:

- ➢ Check Your Readiness assessment: Administer all 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. (Note that all of the skills assessed here are used or offered as optional review lessons in this section, so information about this is important to have early.)

Deep Dive

- I can describe the shape of a distribution using the terms “symmetric,” “skewed,” “uniform,” “bimodal,” and “bell-shaped.”

Activity Suggestions:

- ➢ Activity 1.2 activity synthesis: Sync discussion. Synthesize Lesson 1 by sharing student responses to Activity 1.1 and data from Activity 1.2 to generate a discussion on different types of statistical and non-statistical questions.
- ➢ Activity 3.2: Students complete their graphs in small groups using data from Activity 1.2 provided by the teacher. (This could also be done independently outside of class.)
- ➢ Activity 4.1 activity synthesis and Activity 4.2: Sync discussion. Use student responses from 4.1 to introduce the key vocabulary and launch 4.2.

Assessment Suggestions:

- ➢ Lesson 1 cool-down
- ➢ Lesson 3 cool-down

Synthesize and Apply

- I can graphically represent the data I collected and critique the representations of others.

Activity Suggestions:

- ➢ Activity 3.2: Students do a virtual gallery walk and summarize the information in the displays of their peers.
- ➢ Activity 4.2: Virtual Card Sort

Assessment Suggestions:

- ➢ Lesson 4 cool-down

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

- Lesson 1: Are You Ready for More?
- Lesson 2: Use this optional lesson if the initial assessment shows that students need additional familiarity with data displays.
- Activity 4.3
- Lesson 4: Are You Ready for More?
- Lesson 5: Use this optional lesson if the initial assessment shows that students need additional familiarity with measures of center and variability
- Teach and encourage students to study the lesson summaries (at the end of every lesson) and refer back to them.

Lessons 6–11: Extremes and Skew

Explore

- I can create graphic representations of data and calculate statistics using technology

Activity Suggestions:

- ➢ Lesson 9: Complete in a shared spreadsheet with responses in an online or paper journal. Consider including questions from the activity syntheses for 9.2 and 9.3.
- ➢ Activity 10.2 (1–4). Complete in an online or paper journal.

Assessment Suggestions:

- ➢ Lesson 9 cool-down

Dive Deep

- I can describe how an extreme value will affect the mean and median. I can use the shape of a distribution to compare the mean and median

Activity Suggestions:

- ➢ Activity 10.2 synthesis: Sync discussion. Share student responses and do the activity synthesis.
- ➢ Activity 11.1: Sync discussion
- ➢ Activity 11.2: Students work in small groups to complete the card sort. Sync discussion to synthesize.

Assessment Suggestions:

- ➢ Lesson 10 cool-down

Synthesize and Apply

- I can arrange data sets in order of variability given graphic representations.

Activity Suggestions:

- ➢ Activity 11.3: Complete in an online or paper journal.

Assessment Suggestions:

- ➢ Lesson 11 cool-down

Ongoing Practice	
	• Assign one or more of the distributed practice problem sets from Lessons 6–11 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	
	• Any activities in Lessons 6–8 can be assigned for students to get additional practice using spreadsheets. They are optional lessons. • Activity 10.3 • Teach and encourage students to study the lesson summaries (at the end of every lesson) and refer back to them.

Lessons 12–16: Standard Deviation and Outliers

Explore

- I can use technology to compute standard deviation.
- I can find values that are outliers.
- I can tell how an outlier will impact mean, median, IQR, or standard deviation.

Activity Suggestions:

- ➢ Lesson 12: Can be completed in an online or paper journal (independently or with a partner). Include a worked example of how to find standard deviation using technology.
- ➢ Activities 14.1 and 14.2: Can be completed in an online or paper journal.

Assessment Suggestions:

- ➢ Lesson 14 cool-down

Dive Deep

- I can describe standard deviation as a measure of variability.
- I can use standard deviation to say something about a situation
- I can investigate the source of outliers and figure out what to do with them.

Activity Suggestions:

- ➢ Synthesize Lesson 12.
- ➢ Activity 13.3. Sync discussion
- ➢ Activity 14.3 Sync discussion
- ➢ Activity 15.1 Sync discussion

Assessment Suggestions:

- ➢ Lesson 12 cool-down
- ➢ Lesson 13 cool-down

Synthesize and Apply

- I can compare and contrast situations using measures of center and measures of variability.

Activity Suggestions:

- ➢ Activities 15.2 and 15.3 can be completed in an online or paper journal.

Assessment Suggestions:

- ➢ Lesson 15 cool-down
- ➢ End-of-Unit assessment

Ongoing Practice	
	• Assign one or more of the distributed practice problem sets from Lessons 12–16 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 16 • Activity 13.2: Info Gap