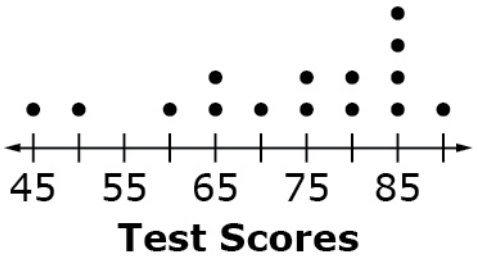
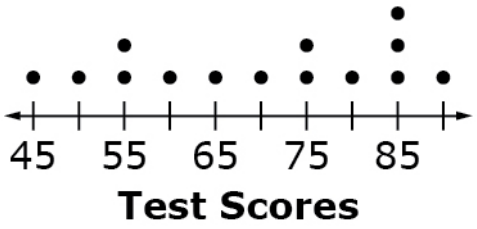
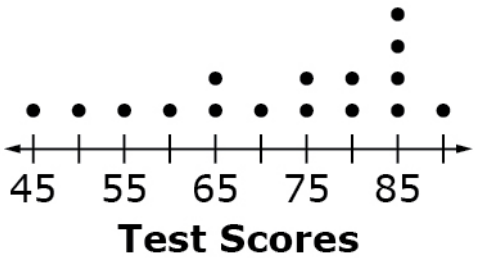
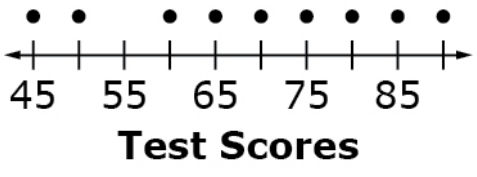
Task Model 1 **Response Type: Multiple Choice, single correct response** **DOK Level 2** **S-ID.A.1** Represent data with plots on the real number line (dot plots, histograms, and box plots). **Evidence Required:** 1. The student will be able to represent data on the real number line with a dot plot, histogram, or box plot. **Tools:** None	**Prompt Features:** The student is prompted to identify the plot of a given data set. **Stimulus Guidelines:** Item difficulty can be adjusted via these example methods, but is not limited to these methods: • Presence of repeated values in the data set • Presence of clusters and/or outliers • Student selects dot plots. • Student selects histograms. • Student selects box plots. **TM1a** **Stimulus:** The student is presented with a contextual data set. **Example Stem 1:** Select the dot plot that represents the given test scores. 90, 45, 85, 70, 85, 50, 75, 85, 65, 75, 60, 85, 80, 65, 80 A.  B.  C.  D.  **Rubric:** (1 point) The student selects the correct option (e.g., A).

Task Model 1

Response Type: Multiple Choice, single correct response

DOK Level 2

S-ID.A.1
Represent data with plots on the real number line (dot plots, histograms, and box plots).

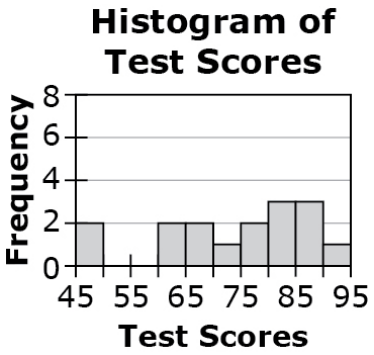
Evidence Required:
1. The student will be able to represent data on the real number line with a dot plot, histogram, or box plot.

Tools: None

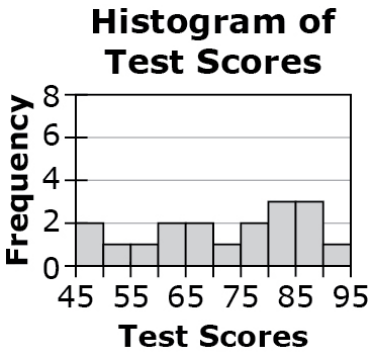
Example Stem 2: Select the histogram that represents the given test scores.

91, 48, 86, 73, 86, 49, 77, 86, 64, 78, 64, 82, 68, 82, 68, 82

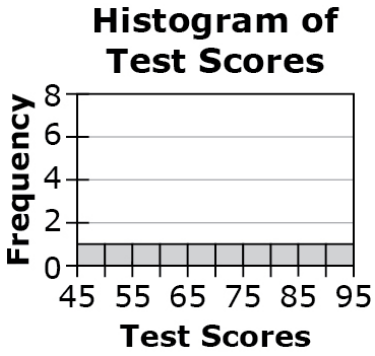
A.



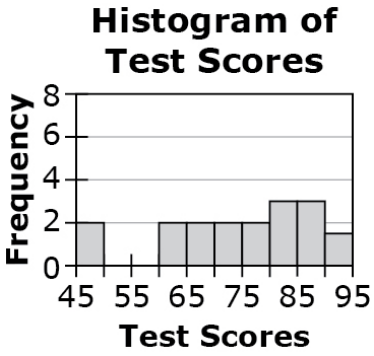
B.



C.



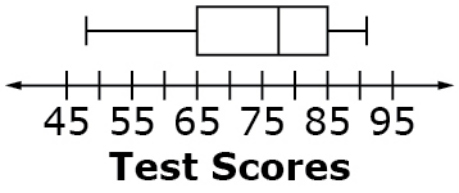
D.



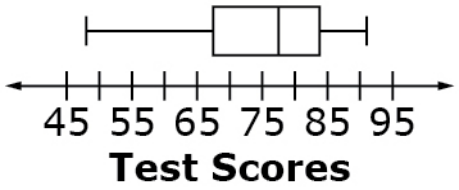
Rubric: (1 point) The student selects the correct option (e.g., A).

Example Stem 3: Select the box plot that represents the given test scores.

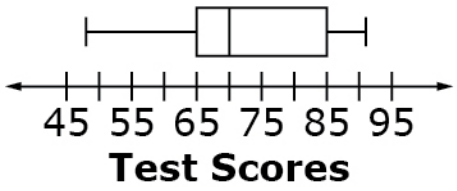
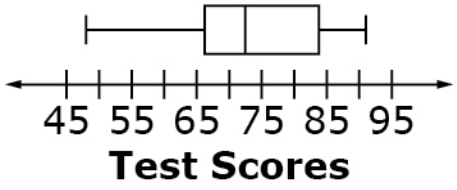
48, 50, 64, 64, 68, 68, 73, 77, 78, 82, 82, 82, 86, 86, 86, 91



A.



B.

	C.  D.  **Rubric:** (1 point) The student selects the correct option (e.g., A). **Response Type:** Multiple Choice, single correct response

Task Model 1

Response Type:
Hot Spot

DOK Level 2

S-ID.A.1
Represent data with plots on the real number line (dot plots, histograms, and box plots).

Evidence Required:
1. The student will be able to represent data on the real number line with a dot plot, histogram, or box plot.

Tools: None

Version 3 Update:
Retired example stem 1 for TM1b. Retired TM1c.

Accessibility Note:
Hot Spot items are not currently able to be Brailled. Minimize the number of items developed to this TM.

Prompt Features: Student is prompted to create a histogram of a given data set.

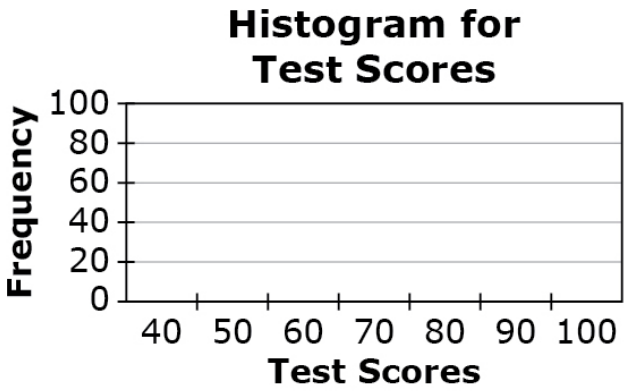
Stimulus Guidelines: Item difficulty can be adjusted via these example methods, but is not limited to these methods:

- Presence of repeated values in the data set
- Presence of clusters and/or outliers

TM1b
Stimulus: The student is presented with a contextual data set and a blank histogram to be completed in order to represent the data.

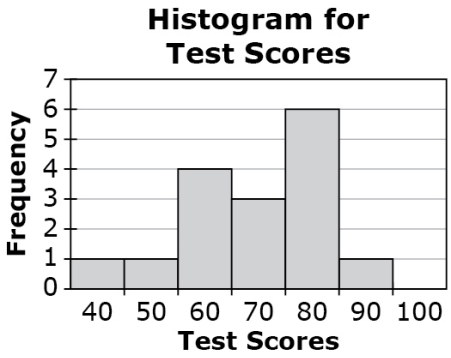
Example Stem: Click above the line to create a histogram for the given test scores.

91, 48, 86, 73, 86, 50, 77, 86, 64, 78, 64, 82, 68, 82, 68, 82

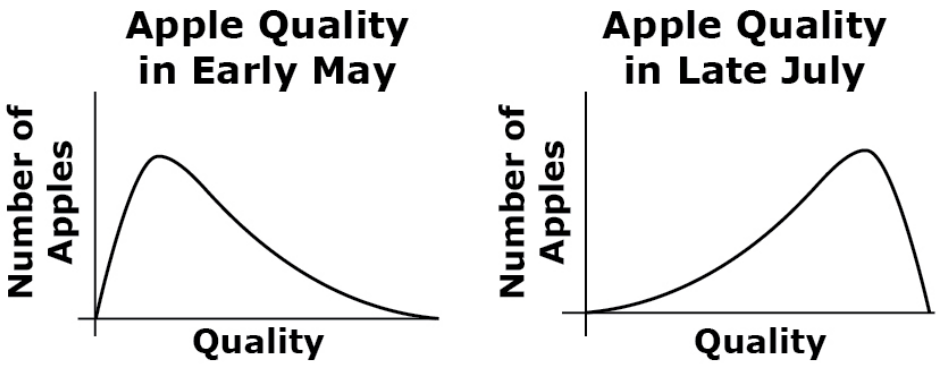


Interaction: Student selects the appropriate frequency for each interval on the histogram.

Rubric:
(1 point) Student gets 100% correct (e.g., see below).



Response Type: Hot Spot

Task Model 2 **Response Type: Multiple Choice, single correct response** **DOK Level 2** **S-ID.A.2** Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. **Evidence Required:** 2. The student will be able to use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets. **Tools:** Calculator	**Prompt Features:** The student is prompted to select the appropriate statistics to compare the center and/or spread based on data distributions. **Stimulus Guidelines:** Student is presented with a context and two distributions. **TM2** **Stimulus:** The student is presented with two data distributions in which both are skewed or both are distributed normally. **Example Stem:** Data distributions are shown for the taste quality of a farm's red apples at different points in time during the harvest season.  Which summary statistics would be best to use to compare the two data sets and why? A. The median and the interquartile range because the data sets are normally distributed. B. The median and the interquartile range because both data sets are skewed. C. The mean and standard deviation because the data sets are normally distributed. D. The mean and standard deviation because both data sets are skewed. **Rubric:** (1 point) The student selects the correct option (e.g., B). **Response Type:** Multiple Choice, single correct response

Task Model 3

Response Type: Matching Table

DOK Level 2

S-ID.A.3
Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).

Evidence Required: 3. The student will be able to interpret the differences in shape, center, and spread in the context of the data sets. 4. The student will be able to interpret the effects of outliers on the shape, center, and spread of a data set.

Tools: Calculator

Version 3 Update: Retired example stem 1 from TM3.

Prompt Features: The student is prompted to identify the effect of the removal or addition of outliers on the shape, center, and/or spread of the given data sets.

Stimulus Guidelines: Item difficulty can be adjusted via these example methods, but is not limited to these methods:

- Type of plots
- Student is presented with dot plots.
- Student is presented with histograms.
- Student is presented with box plots or verbal descriptions.

TM3
Stimulus: The student is presented with data sets, plots of data sets, or verbal descriptions.

- Graphs and data sets should include at least 1 outlier.
- Graphs and data sets should each have no more than 20 data values.

Example Stem: A car dealership has 41 cars for sale. The least expensive car costs $11,999. The most expensive car costs $19,499. Another car, priced at $33,499, is added to the dealership's inventory. Select whether the value of each statistic, for the prices of the cars, increases, decreases, or cannot be determined when the new car is added.

	Increases	**Decreases**	**Cannot Be Determined**
Mean			
Median			
Standard Deviation			

Interaction: Student selects the correct box for each statistic.

Rubric: (1 point) Student selects all of the correct options (e.g., Greater for Tuesday's, Equal for Both Days, Greater for Tuesday's; Increases, Cannot Be Determined, Increases).

Response Type: Matching Table