



## Topic D:

## Summarizing and Describing Distributions

## 6.SP.B.4, 6.SP.B.5

<b>Focus Standard:</b>	6.SP.B.4	Display numerical data in plots on a number line, including dot plots, histograms, and box plots.
	6.SP.B.5	Summarize numerical data sets in relation to their context, such as by: <ol style="list-style-type: none"> <li>Reporting the number of observations.</li> <li>Describing the nature of the attribute under investigation, including how it was measured and its units of measurement.</li> <li>Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.</li> <li>Relating the choice of measures of center and variability to the shape of the data distribution and the context in which the data were gathered.</li> </ol>
<b>Instructional Days:</b> 6		
<b>Lesson 17:</b> Developing a Statistical Project (E) <sup>1</sup>		
<b>Lesson 18:</b> Connecting Graphical Representations and Numerical Summaries (P)		
<b>Lesson 19:</b> Comparing Data Distributions (P)		
<b>Lesson 20:</b> Describing Center, Variability, and Shape of a Data Distribution from a Graphical Representation (P)		
<b>Lesson 21:</b> Summarizing a Data Distribution by Describing Center, Variability, and Shape (E)		
<b>Lesson 22:</b> Presenting a Summary of a Statistical Project (E)		

In Topic D, students integrate what they have learned about graphical and numerical data summaries in the previous topics. They match dot plots and histograms to numerical measures of center and variability. Students estimate means and medians from graphical representations of data distributions. They also estimate mean absolute deviation (MAD) and interquartile range (IQR) from graphical representations based

<sup>1</sup> Lesson Structure Key: **P**-Problem Set Lesson, **M**-Modeling Cycle Lesson, **E**-Exploration Lesson, **S**-Socratic Lesson

on an understanding of data distributions in terms of shape, center, and variability. Two of the lessons in this topic (Lessons 17 and 22) allow students to experience the four-step process described at the beginning of this module through completion of a project. In this project, students experience the four-step investigative process by (1) formulating a statistical question, (2) designing and implementing a plan to collect data, (3) summarizing collected data graphically and numerically, and (4) using the data to answer the question posed.