



Topic B:

Summarizing a Distribution that is Approximately Symmetric Using the Mean and Mean Absolute Deviation

6.SP.A.2, 6.SP.A.3, 6.SP.B.4, 6.SP.B.5

Focus Standard:	6.SP.A.2	Understand that a set of data collected to answer a statistical question has a distribution, which can be described by its center, spread, and overall shape.
	6.SP.A.3	Recognize that a measure of center for a numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.
	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"> Reporting the number of observations. Describing the nature of the attribute under investigation, including how it was measured and its units of measurement. 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. 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.

Instructional Days: 6

Lesson 6: Describing the Center of a Distribution Using the Mean (P)¹

Lesson 7: The Mean as a Balance Point (P)

Lesson 8: Variability in a Data Distribution (P)

Lesson 9: The Mean Absolute Deviation (MAD) (P)

Lessons 10–11: Describing Distributions Using the Mean and MAD (P,P)

In Topic B, students begin to summarize data distributions numerically. In Topic A, students have represented data distributions graphically and have described distributions informally in terms of shape, center, and variability. In this topic, students are introduced to a measure of center (the mean) and a measure of variability (the mean absolute deviation (MAD)) that are appropriate for describing data distributions that are approximately symmetric. In Lesson 6, students learn to calculate the mean and to understand the “fair share” interpretation of the mean. In Lesson 7, students develop an understanding of the mean as a balance point of a data distribution—the point where the sum of distances of points to the right of the mean and the sum of distances of points to the left of the mean are equal. This understanding provides a foundation for considering distances from the mean, which are used in calculating the MAD, a measure of variability around the mean. Lessons 8 and 9 introduce the MAD as a measure of variability, and students calculate and interpret the value of the MAD. Lessons 10 and 11 give students the opportunity to use both graphical and numerical summaries to describe data distributions, to compare distributions, and to answer questions in context using information provided by a data distribution.

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