



Unit 5 Data Collection and Analysis Math 6

Last Update: August 1, 2026

*Archdiocesan Curriculum > Grade 6 > Math > Length of unit 26 to 32 days

Stage 1: Desired Results		
General Information In this unit, students will explore the process of collecting, organizing, and interpreting data to answer statistical questions. They will learn how to display data using dot plots, histograms, and box plots, and use these visual tools to identify patterns and draw conclusions. Students will also explore measures of center and variability, including mean absolute deviation (MAD) and interquartile range (IQR), to summarize data sets and better understand distributions. Through real-world examples and hands-on activities, students will develop their ability to ask meaningful statistical questions, analyze data, and communicate findings clearly.	Essential Question(s) - What makes a question statistical, and how can data help us answer it? - How do different data displays (dot plots, histograms, box plots) help us understand patterns in data? - What can measures like range, IQR, and MAD tell us about how data is spread out? - How can analyzing data help us make decisions or solve real-world problems? - In what ways can the same data be interpreted differently depending on how it's displayed or summarized?	
	Enduring Understanding/Knowledge Students will: - Identify a statistical question and describe data. - Use dot plots to display data. - Make histograms and frequency tables to display data. Review/Assess - Understand how fair share and balance point are related to the mean. - Describe a set of data using mean, median, and mode. - Choose an appropriate measure of center to describe a data set. Review/Assess - Describe overall patterns in a data set. - Use box plots to display data. - Determine and use the mean absolute deviation (MAD) of a set of data values. - Summarize a set of data using range, interquartile range (IQR), and MAD. - Describe the distribution of a data set collected to answer a statistical question. Review/Assess	Vocabulary New - data - statistical question - dot plot - frequency - frequency table - histogram - average - mean - measure of center - median - mode - outlier - box plot - lower quartile - upper quartile - mean absolute deviation (MAD) - interquartile range (IQR) - measure of variability - range

Connections to Catholic Identity / Other Subjects	Differentiation
Religion/Catholic Identity: - Research information about the Bible/Catholicism and represent it using different types of graphs. For example, research numbers of Catholic churches in the US by state, calculate mean, median and mode; compare regions within the US Other Subject Here: - Across all curriculums, interpret charts and graphs presented in readings. - Use symmetry in art projects	Enrichment - Coordinate plane hidden pictures - Introduce students to computation with positive and negatives Supports - Use number lines to show positive and negatives - Using visuals to help students grasp abstracts of negatives.
Standards & Benchmarks	
Data Collection and Displays:	
6.DS.3.a	
Report the number of observations;	
6.DS.3.b	
Describe the nature of the attribute under investigation, including how it was measured and its units of measurement;	
6.DS.1	
Select, create, and interpret graphical representations of numerical data, including line plots, histograms, and box plots.	
6.SP.A.1	
Recognize a statistical question as one that anticipates variability in the data related to the question and accounts for it in the answers. For example, “How old am I?” is not a statistical question, but “How old are the students in my school?” is a statistical question because one anticipates variability in students’ ages.	
6.SP.AOB.1	
Use probability words such as likely, unlikely, certain, and impossible to describe possible outcomes and predict variation in data. Explain and justify which results may occur more or less often using probability language.	
6.SP.B.4	
Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	
Measures of Center:	
6.DS.3.e	
Relate the choice of measures of center and spread to the shape of the data distribution and the context in which the data were gathered.	
6.SP.B.5.c	
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.	
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.5.d	
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.	
CCSS.Math.Content.6.SP.B.5.d	
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.	
Variability and Data Distribution:	
6.DS.1	
Select, create, and interpret graphical representations of numerical data, including line plots, histograms, and box plots.	
6.DS.3.e	
Relate the choice of measures of center and spread to the shape of the data distribution and the context in which the data were gathered.	
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.B.5.c

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.

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.

Teaching Ideas/Resources

Websites/Resources:

- [Mean, Median and Mode Video](#) – This video reviews mean, median and mode with a song.