

Statistics and Probability in the CCSS-M

Middle School Progression

Distributions and Variability (Grade 6)

- Develop understanding of statistical variability.
- Summarize and describe distributions.

Samples and Probability (Grade 7)

- Use random sampling to draw inferences about a population.
- Draw informal comparative inferences about two populations.
- Investigate chance processes and develop, use, and evaluate probability models.

Bivariate Data (Grade 8)

- Investigate patterns of association in bivariate data.

High School Progression

Categorical and Quantitative Data (Algebra 1)

- Interpreting Categorical and Quantitative Data
 - Summarize, represent, and interpret data on a single count or measurement variable.
 - Summarize, represent, and interpret data on two categorical and quantitative variables.
 - Interpret linear models.

Probability (Geometry)

- Conditional Probability and the Rules of Probability
 - Understand independence and conditional probability and use them to interpret data.
 - Use the rules of probability to compute probabilities of compound events.
- Using Probability to Make Decisions (+)
 - Calculate expected values and use them to solve problems.
 - Use probability to evaluate outcomes of decisions.

Statistics: Random Processes (Algebra 2)

- Making Inferences and Justifying Conclusions
 - Understand and evaluate random processes underlying statistical experiments.
 - Make inferences and justify conclusions from sample surveys, experiments, and observational studies.

Univariate Statistics

Representing Data	<ul style="list-style-type: none"> • dot plots • histograms • box plots 	Introduced: Grade 6 Reviewed: Algebra 1
Measures of Center	<ul style="list-style-type: none"> • median • mean 	Introduced: Grade 6 Reviewed: Grade 7, Algebra 1
Measures of Spread	<ul style="list-style-type: none"> • range • interquartile range • mean absolute deviation 	Introduced: Grade 6 Reviewed: Grade 7, Algebra 1
	<ul style="list-style-type: none"> • standard deviation 	Introduced: Algebra 1
Comparing Groups	<ul style="list-style-type: none"> • informal inferences 	Introduced: Grade 7 Reviewed: Algebra 1
Normal Curve	<ul style="list-style-type: none"> • normal distributions • population percentages • margin of error • inferences 	Introduced: Algebra 2

Bivariate Statistics

Representing Data	<ul style="list-style-type: none"> • two-way tables • scatter plots 	Introduced: Grade 8 Reviewed: Algebra 1
Linear Models	<ul style="list-style-type: none"> • line of best fit • interpreting slope 	Introduced: Grade 8 Reviewed: Algebra 1
	<ul style="list-style-type: none"> • residual plots • correlation coefficient 	Introduced: Algebra 1

Probability

Probability Models	<ul style="list-style-type: none"> • random sampling • sample space • relative frequencies 	Introduced: Grade 7 Reviewed: Geometry
Compound Events	<ul style="list-style-type: none"> • lists, tables, tree diagrams • simulations 	Introduced: Grade 7 Reviewed: Geometry
	<ul style="list-style-type: none"> • weighted tree diagrams • area models 	Introduced: Geometry
Conditional Probability	<ul style="list-style-type: none"> • independence of events • conditional probabilities • addition and multiplication rules (+) • expected value (+) 	Introduced: Geometry