

Data Analysis and Probability MCA-III Achievement Level Descriptors

General comments for all grade levels

Meets State Standard	Exceeds the Standard Students at this level of mathematics exceed the mathematics skills of the Minnesota Academic Standards. Some of the skills demonstrated very consistently may include:
Meets State Standard	Meets the Standard Student at this level of mathematics meet the mathematics skills of the Minnesota Academic Standards. Some of the skills demonstrated may include:
Partially Meets State Standard	Partially Meets the Standard Students at this level partially meet the mathematics skills of the Minnesota Academic Standards. Some of the skills demonstrated may include:
Partially Meets State Standard	Does Not Meet the Standard Students at this level succeed at few of the fundamental mathematical skills of the Minnesota Academic Standards. Some of the skills demonstrated may include:

Reflection Questions

- What patterns emerge in the **Data Analysis and Probability Strand**?
- What similarities and differences do you notice from grade to grade?
- How do the 'verbs' change at each of the 4 achievement levels?
- What can you do to assure all students meet the state standards for this strand?

3rd Grade

Meets State Standard	399 Exceeds the Standard Translates between data and data displays in a variety of situations.
Meets State Standard	366 Meets the Standard Interprets bar graphs, pictographs, and tally charts.
Partially Meets State Standard	350 Partially Meets the Standard Matches set of data with data display (e.g., table or graph).
Partially Meets State Standard	340 Does Not Meet the Standard Reads data from a bar graph.
Partially Meets State Standard	301

4th Grade

Meets State Standard	499 Exceeds the Standard Conceptual understanding of solving problems involving data displays, including timelines and Venn diagrams
Meets State Standard	466 Meets the Standard Collects, organizes, and displays data; solves problems in data displays involving fractions.
Partially Meets State Standard	450 Partially Meets the Standard Translates between tables and bar graphs.
Partially Meets State Standard	440 Does Not Meet the Standard Displays data from a table in a bar graph
Partially Meets State Standard	401

5th Grade

Meets State Standard	599 Exceeds the Standard Conceptual understanding of mean, median and range; analyzes complex situations that include data displays and making interpretations.
Meets State Standard	563 Meets the Standard Calculates mean, median and range, and data can be provided in a variety of formats (e.g., tables, bar graphs); works fluently with data displays and solving problems.
Partially Meets State Standard	550 Partially Meets the Standard Applies rote procedures for calculating mean, median and range (e.g., median is always middle number in a list); interprets simple displays of data to solve problems.
Partially Meets State Standard	540 Does Not Meet the Standard Performs procedures for finding mean, median and range according to direct instructions; reads displays of data.
Partially Meets State Standard	501

6th Grade

Meets State Standard	699 Exceeds the Standard Represents probabilities in real-world problems, including determining sample space in a variety of ways; understands concept of probability; solves problems involving compound probability.
Meets State Standard	662 Meets the Standard Determines sample space; understands simple probability in fractions, decimals, and percents.
Partially Meets State Standard	650 Partially Meets the Standard Determines sample space (i.e., the set of all possible outcomes) in a simple and very familiar context; understands simple probability expressed in fractional form.
Partially Meets State Standard	640 Does Not Meet the Standard Determines probability as a fraction when sample space is given.
Partially Meets State Standard	601

7th Grade

Meets State Standard	799 Exceeds the Standard Efficiently determines mean, median and range regardless of presentation; understands abstractly how change in data set impacts mean and median (quantity of change without recalculating); interprets circle graphs and histograms to solve problems; uses proportions to calculate probabilities and solve non-routine problems.
Meets State Standard	760 Meets the Standard Calculates mean, median and range from various data displays; understands impact of change in data set (increase or decrease); reads circle graphs and histograms to solve problems; calculates probability as a fraction of sample space.
Partially Meets State Standard	750 Partially Meets the Standard Calculates mean, median and range from a string of numbers (knows to order data set to determine median – or does not have to write down the ordered data set); reads circle graphs to solve problems; determines the sample space for an experiment using inefficient procedures; understands simple probability in fractions, decimals, and percents.
Partially Meets State Standard	740 Does Not Meet the Standard Calculates mean, median and range from a string of numbers using rote procedures (numbers must be in increasing order to calculate median); matches a given data set to the graph of the data; determines sample space (i.e., the set of all possible outcomes) in a simple and very familiar context; understands simple probability expressed in fractional form.
Partially Meets State Standard	701

8th Grade

Meets State Standard	899 Exceeds the Standard Given a data set, student determines the line of best fit and interprets the data; assesses reasonableness of predictions in non-routine situations
Meets State Standard	861 Meets the Standard Given a data set, student identifies the line of best fit and interprets the data; makes predictions about the data set.
Partially Meets State Standard	850 Partially Meets the Standard Given a data set, student identifies the line of best fit and makes statements about the general trend of the data.
Partially Meets State Standard	840 Does Not Meet the Standard Generalizes the properties of the line of best fit of a graphed data set; displays data using scatterplots.
Partially Meets State Standard	801