Data and Probability standards: Book 1

Use pictographs

D.RE.01.01 Collect and organize data to use in pictographs.

D.RE.01.02 Read and interpret pictographs.

D.RE.01.03 Make pictographs of given data using both horizontal and vertical forms of graphs; scale should be in units of one and include symbolic representations, e.g.,☺represents one child.

Data and Probability standards: Book 2

Create, interpret, and solve problems involving pictographs

D.RE.02.01 Make pictographs using a scale representation, using scales where symbols equal more than one.

D.RE.02.02 Read and interpret pictographs with scales, using scale factors of 2 and 3.

D.RE.02.03 Solve problems using information in pictographs; include scales such as each  represents 2 apples; avoid  cases.

Data and Probability standards: Book 3

Use bar graphs

D.RE.03.01 Read and interpret bar graphs in both horizontal and vertical forms.

D.RE.03.02 Read scales on the axes and identify the maximum, minimum, and range of values in a bar graph.

D.RE.03.03 Solve problems using information in bar graphs, including comparison of bar graphs.

Data and Probability standards: Book 4

Represent and solve problems for given data

D.RE.04.01 Construct tables and bar graphs from given data.

D.RE.04.02 Order a given set of data, find the median, and specify the range of values.

D.RE.04.03 Solve problems using data presented in tables and bar graphs, e.g., compare data represented in two bar graphs and read bar graphs showing two data sets.

Data and Probability standards: Book 5

Construct and interpret line graphs

D.RE.05.01 Read and interpret line graphs, and solve problems based on line graphs, e.g., distance-time graphs, and problems with two or three line graphs on same axes, comparing different data.

D.RE.05.02 Construct line graphs from tables of data; include axis labels and scale.

Find and interpret mean and mode for a given set of data

D.AN.05.03 Given a set of data, find and interpret the mean (using the concept of fair share) and mode.

D.AN.05.04 Solve multi-step problems involving means.

Data and Probability standards: Book 6

Understand the concept of probability and solve problems

D.PR.06.01 Express probabilities as fractions, decimals, or percentages between 0 and 1; know that 0 probability means an event will not occur and that probability 1 means an event will occur.

D.PR.06.02 Compute probabilities of events from simple experiments with equally likely outcomes, e.g., tossing dice, flipping coins, spinning spinners, by listing all possibilities and finding the fraction that meets given conditions.

Data and Probability standards: Book 7

Represent and interpret data

D.RE.07.01 Represent and interpret data using circle graphs, stem and leaf plots, histograms, and box-and-whisker plots, and select appropriate representation to address specific questions.

D.AN.07.02 Create and interpret scatter plots and find line of best fit; use an estimated line of best fit to answer questions about the data.

Compute statistics about data sets

D.AN.07.03 Calculate and interpret relative frequencies and cumulative frequencies for given data sets.

D.AN.07.04 Find and interpret the median, quartiles, and interquartile range of a given set of data.

Data and Probability standards: Book 8

Draw, explain, and justify conclusions based on data

D.AN.08.01 Determine which measure of central tendency (mean, median, mode) best represents a data set, e.g., salaries, home prices, for answering certain questions; justify the choice made.

D.AN.08.02 Recognize practices of collecting and displaying data that may bias the presentation or analysis.

Understand probability concepts for simple and compound events

D.PR.08.03 Compute relative frequencies from a table of experimental results for a repeated event. Interpret the results using relationship of probability to relative frequency.

D.PR.08.04 Apply the Basic Counting Principle to find total number of outcomes possible for independent and dependent events, and calculate the probabilities using organized lists or tree diagrams.

D.PR.08.05 Find and/or compare the theoretical probability, the experimental probability, and/or the relative frequency of a given event.

D.PR.08.06 Understand the difference between independent and dependent events, and recognize common misconceptions involving probability, e.g., Alice rolls a 6 on a die three times in a row; she is just as likely to roll a 6 on the fourth roll as she was on any previous roll.