DesCartes: A Continuum of Learning®

Mathematics

RIT Score Range: < 161

Goal: Statistics and Probability

Skills and Concepts to Develop (50% Probability*) < 161	Skills and Concepts to Introduce (27% Probability*) 161 - 170
Interpreting Categorical and Quantitative Data	Interpreting Categorical and Quantitative Data
• Reads a simple pictograph - comparisons (e.g., largest smallest, most often, least often)	• Reads a chart or table - numbers • Reads a simple pictograph - comparisons (e.g., largest smallest, most often, least often) • Displays data appropriately - bar graph - scale is 1 to 1 • Reads a simple bar graph - comparisons (e.g., largest, smallest, most often, least often) • Compares data from simple graphs (e.g., largest, smallest, most often, least often)
Using Sampling and Probability to Make Decisions	Using Sampling and Probability to Make Decisions
New Vocabulary: None	*New Vocabulary:* dollar, longest, shortest
New Signs and Symbols: None	*New Signs and Symbols:* = is equal to

Explanatory Notes

* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.

Educational Standard: Common Core Mathematics K-12: 2010

DesCartes: A Continuum of Learning®

Mathematics

Goal: Statistics and Probability

RIT Score Range: 161 - 170

Skills and concepts to Enhance (73% Probability*) < 161	Skills and Concepts to Develop (50% Probability*) 161 - 170	Skills and Concepts to Introduce (27% Probability*) 171 - 180
Interpreting Categorical and Quantitative Data	Interpreting Categorical and Quantitative Data	Interpreting Categorical and Quantitative Data
• Reads a simple pictograph - comparisons (e.g., largest smallest, most often, least often)	• Reads a chart or table - numbers • Reads a simple pictograph - comparisons (e.g., largest smallest, most often, least often) • Displays data appropriately - bar graph - scale is 1 to 1 • Reads a simple bar graph - comparisons (e.g., largest, smallest, most often, least often) • Compares data from simple graphs (e.g., largest, smallest, most often, least often)	• Reads a chart or table - comparisons • Reads a chart or table - numbers • Interprets simple graphs or tables • Reads a simple pictograph - comparisons (e.g., largest smallest, most often, least often) • Solves simple problems based on data from pictographs • Reads a simple bar graph - comparisons (e.g., largest, smallest, most often, least often) • Reads a simple bar graph - numbers (e.g., how many) • Solves simple problems based on data from bar graphs • Compares data from simple graphs (e.g., largest, smallest, most often, least often)
Using Sampling and Probability to Make Decisions	Using Sampling and Probability to Make Decisions	Using Sampling and Probability to Make Decisions
New Vocabulary: None	*New Vocabulary:* dollar, longest, shortest	*New Vocabulary:* None
New Signs and Symbols: None	*New Signs and Symbols:* = is equal to	*New Signs and Symbols:* None

Explanatory Notes

* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.

Educational Standard: Common Core Mathematics K-12: 2010

DesCartes: A Continuum of Learning®

Mathematics

Goal: Statistics and Probability

RIT Score Range: 171 - 180

Skills and concepts to Enhance (73% Probability*) 161 - 170	Skills and Concepts to Develop (50% Probability*) 171 - 180	Skills and Concepts to Introduce (27% Probability*) 181 - 190
Interpreting Categorical and Quantitative Data	Interpreting Categorical and Quantitative Data	Interpreting Categorical and Quantitative Data
• Reads a chart or table - numbers • Reads a simple pictograph - comparisons (e.g., largest smallest, most often, least often) • Displays data appropriately - bar graph - scale is 1 to 1 • Reads a simple bar graph - comparisons (e.g., largest, smallest, most often, least often) • Compares data from simple graphs (e.g., largest, smallest, most often, least often)	• Reads a chart or table - comparisons • Reads a chart or table - numbers • Interprets simple graphs or tables • Reads a simple pictograph - comparisons (e.g., largest smallest, most often, least often) • Solves simple problems based on data from pictographs • Reads a simple bar graph - comparisons (e.g., largest, smallest, most often, least often) • Reads a simple bar graph - numbers (e.g., how many) • Solves simple problems based on data from bar graphs • Compares data from simple graphs (e.g., largest, smallest, most often, least often)	• Interprets simple graphs or tables • Interprets a chart or table - calculation required • Reads and interprets data from a pictograph • Solves simple problems based on data from pictographs • Reads a simple bar graph - comparisons (e.g., largest, smallest, most often, least often) • Reads a simple bar graph - numbers (e.g., how many) • Reads and interprets data from a bar graph • Interprets a simple bar graph - calculation required • Solves simple problems based on data from bar graphs
Using Sampling and Probability to Make Decisions	Using Sampling and Probability to Make Decisions	Using Sampling and Probability to Make Decisions
		• Investigates probability of "more likely" or "less likely" using a spinner • Investigates probability of "more likely" or "less likely" with objects hidden in containers
New Vocabulary: dollar, longest, shortest	*New Vocabulary:* None	*New Vocabulary:* lowest
New Signs and Symbols: = is equal to	*New Signs and Symbols:* None	*New Signs and Symbols:* $ dollar sign

Explanatory Notes

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Educational Standard: Common Core Mathematics K-12: 2010

DesCartes: A Continuum of Learning®

Mathematics

Goal: Statistics and Probability

RIT Score Range: 181 - 190

Skills and concepts to Enhance (73% Probability*) 171 - 180	Skills and Concepts to Develop (50% Probability*) 181 - 190	Skills and Concepts to Introduce (27% Probability*) 191 - 200
Interpreting Categorical and Quantitative Data	Interpreting Categorical and Quantitative Data	Interpreting Categorical and Quantitative Data
• Reads a chart or table - comparisons • Reads a chart or table - numbers • Interprets simple graphs or tables • Reads a simple pictograph - comparisons (e.g., largest smallest, most often, least often) • Solves simple problems based on data from pictographs • Reads a simple bar graph - comparisons (e.g., largest, smallest, most often, least often) • Reads a simple bar graph - numbers (e.g., how many) • Solves simple problems based on data from bar graphs • Compares data from simple graphs (e.g., largest, smallest, most often, least often)	• Interprets simple graphs or tables • Interprets a chart or table - calculation required • Reads and interprets data from a pictograph • Solves simple problems based on data from pictographs • Reads a simple bar graph - comparisons (e.g., largest, smallest, most often, least often) • Reads a simple bar graph - numbers (e.g., how many) • Reads and interprets data from a bar graph • Interprets a simple bar graph - calculation required • Solves simple problems based on data from bar graphs	• Interprets a chart or table - calculation required • Reads and interprets data from a pictograph • Interprets a pictograph - calculation required • Reads and interprets data from a bar graph • Reads and interprets dual bar graphs • Interprets a simple bar graph - calculation required • Describes a trend in the data
Using Sampling and Probability to Make Decisions	Using Sampling and Probability to Make Decisions	Using Sampling and Probability to Make Decisions
	• Investigates probability of "more likely" or "less likely" using a spinner • Investigates probability of "more likely" or "less likely" with objects hidden in containers	• Investigates probability of "more likely" or "less likely" using a spinner
New Vocabulary: None	*New Vocabulary:* lowest	*New Vocabulary:* None
New Signs and Symbols: None	*New Signs and Symbols:* $ dollar sign	*New Signs and Symbols:* None

Explanatory Notes

* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.

Educational Standard: Common Core Mathematics K-12: 2010

DesCartes: A Continuum of Learning®

Mathematics

Goal: Statistics and Probability

RIT Score Range: 191 - 200

Skills and concepts to Enhance (73% Probability*) 181 - 190	Skills and Concepts to Develop (50% Probability*) 191 - 200	Skills and Concepts to Introduce (27% Probability*) 201 - 210
Interpreting Categorical and Quantitative Data	Interpreting Categorical and Quantitative Data	Interpreting Categorical and Quantitative Data
• Interprets simple graphs or tables • Interprets a chart or table - calculation required • Reads and interprets data from a pictograph • Solves simple problems based on data from pictographs • Reads a simple bar graph - comparisons (e.g., largest, smallest, most often, least often) • Reads a simple bar graph - numbers (e.g., how many) • Reads and interprets data from a bar graph • Interprets a simple bar graph - calculation required • Solves simple problems based on data from bar graphs	• Interprets a chart or table - calculation required • Reads and interprets data from a pictograph • Interprets a pictograph - calculation required • Reads and interprets data from a bar graph • Reads and interprets dual bar graphs • Interprets a simple bar graph - calculation required • Describes a trend in the data	• Solves problems using pictographs • Organizes data to create simple bar graphs • Solves problems using bar graphs • Solves problems using dual bar graphs • Determines the middle value (median) from a simple set of data • Draws conclusions from data - bar graphs • Describes a trend in the data
Using Sampling and Probability to Make Decisions	Using Sampling and Probability to Make Decisions	Using Sampling and Probability to Make Decisions
• Investigates probability of "more likely" or "less likely" using a spinner • Investigates probability of "more likely" or "less likely" with objects hidden in containers	• Investigates probability of "more likely" or "less likely" using a spinner	• Recognizes events that are certain, likely, unlikely, possible, or impossible • Uses the concept of chance to determine the likelihood of an event • Determines all possible outcomes • Determines the probability for a simple experiment using one or more coins • Determines the probability for a simple experiment using objects - must determine size of sample space
New Vocabulary: lowest	*New Vocabulary:* None	*New Vocabulary:* bar graph, chance, median, probability, random
New Signs and Symbols: $ dollar sign	*New Signs and Symbols:* None	*New Signs and Symbols:* None

Explanatory Notes

* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.

Educational Standard: Common Core Mathematics K-12: 2010

DesCartes: A Continuum of Learning®

Mathematics

Goal: Statistics and Probability

RIT Score Range: 201 - 210

Skills and concepts to Enhance (73% Probability*) 191 - 200	Skills and Concepts to Develop (50% Probability*) 201 - 210	Skills and Concepts to Introduce (27% Probability*) 211 - 220
Interpreting Categorical and Quantitative Data	Interpreting Categorical and Quantitative Data	Interpreting Categorical and Quantitative Data
• Interprets a chart or table - calculation required • Reads and interprets data from a pictograph • Interprets a pictograph - calculation required • Reads and interprets data from a bar graph • Reads and interprets dual bar graphs • Interprets a simple bar graph - calculation required • Describes a trend in the data	• Solves problems using pictographs • Organizes data to create simple bar graphs • Solves problems using bar graphs • Solves problems using dual bar graphs • Determines the middle value (median) from a simple set of data • Draws conclusions from data - bar graphs • Describes a trend in the data	• Solves problems using pictographs • Solves problems using bar graphs • Reads and interprets data in scatter plots • Reads and interprets data in line plots • Determines the average (mean) of a simple set of data • Solves simple problems involving mean • Determines the middle value (median) from a simple set of data • Predicts from plotted data • Describes a trend in the data
Using Sampling and Probability to Make Decisions	Using Sampling and Probability to Make Decisions	Using Sampling and Probability to Make Decisions
• Investigates probability of "more likely" or "less likely" using a spinner	• Recognizes events that are certain, likely, unlikely, possible, or impossible • Uses the concept of chance to determine the likelihood of an event • Determines all possible outcomes • Determines the probability for a simple experiment using one or more coins • Determines the probability for a simple experiment using objects - must determine size of sample space	• Determines all possible outcomes • Determines the probability for a simple experiment using one die • Determines probability from a real-world situation - number of possible outcomes given • Determines the probabilities for a simple experiment using a frequency table - must determine size of sample space • Determines probability when drawing objects from containers - must determine size of sample space • Modifies sample space to change the probability of an event • Determines the complement of a simple event • Determines the possible outcomes for a simple probability experiment using spinners • Determines the number of possible combinations of given items • Predicts the sample space, based on the outcome of an experiment - tally sheet • Uses systematic lists to represent problems
New Vocabulary: None	*New Vocabulary:* bar graph, chance, median, probability, random	*New Vocabulary:* fastest, fitted line, mean, number cube, outcome, scatter plot
New Signs and Symbols: None	*New Signs and Symbols:* None	*New Signs and Symbols:* { } set notation, lb pound, P( ) probability, % percent

Explanatory Notes

* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.

Educational Standard: Common Core Mathematics K-12: 2010

DesCartes: A Continuum of Learning®

Mathematics

Goal: Statistics and Probability

RIT Score Range: 211 - 220

Skills and concepts to Enhance (73% Probability*) 201 - 210	Skills and Concepts to Develop (50% Probability*) 211 - 220	Skills and Concepts to Introduce (27% Probability*) 221 - 230
Interpreting Categorical and Quantitative Data	**Interpreting Categorical and Quantitative Data**	**Interpreting Categorical and Quantitative Data**
• Solves problems using pictographs • Organizes data to create simple bar graphs • Solves problems using bar graphs • Solves problems using dual bar graphs • Determines the middle value (median) from a simple set of data • Draws conclusions from data - bar graphs • Describes a trend in the data	• Solves problems using pictographs • Solves problems using bar graphs • Reads and interprets data in scatter plots • Reads and interprets data in line plots • Determines the average (mean) of a simple set of data • Solves simple problems involving mean • Determines the middle value (median) from a simple set of data • Predicts from plotted data • Describes a trend in the data	• Determines appropriate intervals and/or scale for a bar graph • Determines the average (mean) of a simple set of data • Determines the mean of a complex set of data (e.g., fractions, integers, many data points) • Solves simple problems involving mean • Solves problems with missing data when the mean is known • Determines the middle value (median) from a simple set of data • Determines the spread (range) from a simple set of data • Predicts from line graphs • Predicts from plotted data
Using Sampling and Probability to Make Decisions	**Using Sampling and Probability to Make Decisions**	**Using Sampling and Probability to Make Decisions**
• Recognizes events that are certain, likely, unlikely, possible, or impossible • Uses the concept of chance to determine the likelihood of an event • Determines all possible outcomes • Determines the probability for a simple experiment using one or more coins • Determines the probability for a simple experiment using objects - must determine size of sample space	• Determines all possible outcomes • Determines the probability for a simple experiment using one die • Determines probability from a real-world situation - number of possible outcomes given • Determines the probabilities for a simple experiment using a frequency table - must determine size of sample space • Determines probability when drawing objects from containers - must determine size of sample space • Modifies sample space to change the probability of an event • Determines the complement of a simple event • Determines the possible outcomes for a simple probability experiment using spinners • Determines the number of possible combinations of given items • Predicts the sample space, based on the outcome of an experiment - tally sheet • Uses systematic lists to represent problems	• Determines likelihood using tree diagrams • Determines probability - must determine size of sample space • Modifies sample space to change the probability of an event • Determines the complement of a simple event • Determines the possible outcomes for a simple probability experiment using spinners • Determines the possible outcomes for a simple probability experiment using dart boards • Determines the number of possible combinations of given items • Determines the outcome of simple multiple events • Predicts the sample space, based on the outcome of an experiment - tally sheet • Uses the results of probability experiments or events to predict future events • Computes probability as a fraction, given equivalent forms • Identifies whether predictions are based on theoretical or experimental probability • Determines the most accurate sample for a situation • Describes the population based on a given sample
New Vocabulary: bar graph, chance, median, probability, random	*New Vocabulary:* fastest, fitted line, mean, number cube, outcome, scatter plot	*New Vocabulary:* tails
New Signs and Symbols: None	*New Signs and Symbols:* { } set notation, lb pound, P( ) probability, % percent	*New Signs and Symbols:* None

Explanatory Notes

* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.

Educational Standard: Common Core Mathematics K-12: 2010

DesCartes: A Continuum of Learning®

Mathematics

Goal: Statistics and Probability

RIT Score Range: 221 - 230

Skills and concepts to Enhance (73% Probability*) 211 - 220	Skills and Concepts to Develop (50% Probability*) 221 - 230	Skills and Concepts to Introduce (27% Probability*) 231 - 240
Interpreting Categorical and Quantitative Data	**Interpreting Categorical and Quantitative Data**	**Interpreting Categorical and Quantitative Data**
• Solves problems using pictographs • Solves problems using bar graphs • Reads and interprets data in scatter plots • Reads and interprets data in line plots • Determines the average (mean) of a simple set of data • Solves simple problems involving mean • Determines the middle value (median) from a simple set of data • Predicts from plotted data • Describes a trend in the data	• Determines appropriate intervals and/or scale for a bar graph • Determines the average (mean) of a simple set of data • Determines the mean of a complex set of data (e.g., fractions, integers, many data points) • Solves simple problems involving mean • Solves problems with missing data when the mean is known • Determines the middle value (median) from a simple set of data • Determines the spread (range) from a simple set of data • Predicts from line graphs • Predicts from plotted data	• Determines appropriate intervals and/or scale for a bar graph • Interprets data given in horizontal and vertical bar graphs to solve problems • Reads and interprets data in box-and-whisker plots • Determines the mean of a complex set of data (e.g., fractions, integers, many data points) • Solves problems with missing data when the mean is known • Determines the median from a complex set of data (e.g., not in order, many data points) • Determines the range of a complex set of data • Estimates line of best fit to make predictions
Using Sampling and Probability to Make Decisions	**Using Sampling and Probability to Make Decisions**	**Using Sampling and Probability to Make Decisions**
• Determines all possible outcomes • Determines the probability for a simple experiment using one die • Determines probability from a real-world situation - number of possible outcomes given • Determines the probabilities for a simple experiment using a frequency table - must determine size of sample space • Determines probability when drawing objects from containers - must determine size of sample space • Modifies sample space to change the probability of an event • Determines the complement of a simple event • Determines the possible outcomes for a simple probability experiment using spinners • Determines the number of possible combinations of given items • Predicts the sample space, based on the outcome of an experiment - tally sheet • Uses systematic lists to represent problems	• Determines likelihood using tree diagrams • Determines probability - must determine size of sample space • Modifies sample space to change the probability of an event • Determines the complement of a simple event • Determines the possible outcomes for a simple probability experiment using spinners • Determines the possible outcomes for a simple probability experiment using dart boards • Determines the number of possible combinations of given items • Determines the outcome of simple multiple events • Predicts the sample space, based on the outcome of an experiment - tally sheet • Uses the results of probability experiments or events to predict future events • Computes probability as a fraction, given equivalent forms • Identifies whether predictions are based on theoretical or experimental probability • Determines the most accurate sample for a situation • Describes the population based on a given sample	• Determines probability - must determine size of sample space • Modifies sample space to change the probability of an event • Determines the probability of independent simple compound events • Determines the possible outcomes for a simple probability experiment using dart boards • Determines the outcome of simple multiple events • Uses the results of probability experiments or events to predict future events • Predicts from an analysis of data and statistical measures • Predicts from charts and tables • Describes the population based on a given sample
New Vocabulary: fastest, fitted line, mean, number cube, outcome, scatter plot	*New Vocabulary:* tails	*New Vocabulary:* box-and-whisker plot, data point, interquartile range, middle, representative sample, sample
New Signs and Symbols: { } set notation, lb pound, P( ) probability, % percent	*New Signs and Symbols:* None	*New Signs and Symbols:* °F degrees Fahrenheit

Explanatory Notes

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Educational Standard: Common Core Mathematics K-12: 2010

DesCartes: A Continuum of Learning®

Mathematics

Goal: Statistics and Probability

RIT Score Range: 231 - 240

Skills and concepts to Enhance (73% Probability*) 221 - 230	Skills and Concepts to Develop (50% Probability*) 231 - 240	Skills and Concepts to Introduce (27% Probability*) 241 - 250
Interpreting Categorical and Quantitative Data	Interpreting Categorical and Quantitative Data	Interpreting Categorical and Quantitative Data
• Determines appropriate intervals and/or scale for a bar graph • Determines the average (mean) of a simple set of data • Determines the mean of a complex set of data (e.g., fractions, integers, many data points) • Solves simple problems involving mean • Solves problems with missing data when the mean is known • Determines the middle value (median) from a simple set of data • Determines the spread (range) from a simple set of data • Predicts from line graphs • Predicts from plotted data	• Determines appropriate intervals and/or scale for a bar graph • Interprets data given in horizontal and vertical bar graphs to solve problems • Reads and interprets data in box-and-whisker plots • Determines the mean of a complex set of data (e.g., fractions, integers, many data points) • Solves problems with missing data when the mean is known • Determines the median from a complex set of data (e.g., not in order, many data points) • Determines the range of a complex set of data • Estimates line of best fit to make predictions	• Reads and interprets data in tables • Reads and interprets data in box-and-whisker plots • Reads and interprets interquartile range in box-and-whisker plots • Reads and interprets data in stem-and-leaf plots • Determines the range of a complex set of data • Identifies outliers on a data display (e.g., uses interquartile range to identify outliers on a box-and-whisker plot) • Determines the correlation for a set of data • Identifies a set of data with a given mean, median, and/or mode
Using Sampling and Probability to Make Decisions	Using Sampling and Probability to Make Decisions	Using Sampling and Probability to Make Decisions
• Determines likelihood using tree diagrams • Determines probability - must determine size of sample space • Modifies sample space to change the probability of an event • Determines the complement of a simple event • Determines the possible outcomes for a simple probability experiment using spinners • Determines the possible outcomes for a simple probability experiment using dart boards • Determines the number of possible combinations of given items • Determines the outcome of simple multiple events • Predicts the sample space, based on the outcome of an experiment - tally sheet • Uses the results of probability experiments or events to predict future events • Computes probability as a fraction, given equivalent forms • Identifies whether predictions are based on theoretical or experimental probability • Determines the most accurate sample for a situation • Describes the population based on a given sample	• Determines probability - must determine size of sample space • Modifies sample space to change the probability of an event • Determines the probability of independent simple compound events • Determines the possible outcomes for a simple probability experiment using dart boards • Determines the outcome of simple multiple events • Uses the results of probability experiments or events to predict future events • Predicts from an analysis of data and statistical measures • Predicts from charts and tables • Describes the population based on a given sample	• Determines probability using counting procedures • Determines probability using tables • Determines the complement of a complex event • Determines probability using an area model • Uses theoretical probability to predict future events • Predicts from an analysis of data and statistical measures • Describes the population based on a given sample
New Vocabulary: tails	*New Vocabulary:* box-and-whisker plot, data point, interquartile range, middle, representative sample, sample	*New Vocabulary:* None
New Signs and Symbols: None	*New Signs and Symbols:* °F degrees Fahrenheit	*New Signs and Symbols:* • outlier

Explanatory Notes

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Educational Standard: Common Core Mathematics K-12: 2010

DesCartes: A Continuum of Learning®

Mathematics

Goal: Statistics and Probability

RIT Score Range: 241 - 250

Skills and concepts to Enhance (73% Probability*) 231 - 240	Skills and Concepts to Develop (50% Probability*) 241 - 250	Skills and Concepts to Introduce (27% Probability*) 251 - 260
Interpreting Categorical and Quantitative Data	Interpreting Categorical and Quantitative Data	Interpreting Categorical and Quantitative Data
• Determines appropriate intervals and/or scale for a bar graph • Interprets data given in horizontal and vertical bar graphs to solve problems • Reads and interprets data in box-and-whisker plots • Determines the mean of a complex set of data (e.g., fractions, integers, many data points) • Solves problems with missing data when the mean is known • Determines the median from a complex set of data (e.g., not in order, many data points) • Determines the range of a complex set of data • Estimates line of best fit to make predictions	• Reads and interprets data in tables • Reads and interprets data in box-and-whisker plots • Reads and interprets interquartile range in box-and-whisker plots • Reads and interprets data in stem-and-leaf plots • Determines the range of a complex set of data • Identifies outliers on a data display (e.g., uses interquartile range to identify outliers on a box-and-whisker plot) • Determines the correlation for a set of data • Identifies a set of data with a given mean, median, and/or mode	• Interprets the meaning of slope and intercepts in problem solving situations • Reads and interprets interquartile range in box-and-whisker plots • Solves complex problems involving mean • Identifies outliers on a data display (e.g., uses interquartile range to identify outliers on a box-and-whisker plot) • Computes and compares mean, median, mode, and range in simple examples to demonstrate that they may differ for a given set of data
Using Sampling and Probability to Make Decisions	Using Sampling and Probability to Make Decisions	Using Sampling and Probability to Make Decisions
• Determines probability - must determine size of sample space • Modifies sample space to change the probability of an event • Determines the probability of independent simple compound events • Determines the possible outcomes for a simple probability experiment using dart boards • Determines the outcome of simple multiple events • Uses the results of probability experiments or events to predict future events • Predicts from an analysis of data and statistical measures • Predicts from charts and tables • Describes the population based on a given sample	• Determines probability using counting procedures • Determines probability using tables • Determines the complement of a complex event • Determines probability using an area model • Uses theoretical probability to predict future events • Predicts from an analysis of data and statistical measures • Describes the population based on a given sample	• Determines the probabilities of complex compound events (independent) • Uses random sampling techniques
New Vocabulary: box-and-whisker plot, data point, interquartile range, middle, representative sample, sample	*New Vocabulary:* None	*New Vocabulary:* None
New Signs and Symbols: °F degrees Fahrenheit	*New Signs and Symbols:* • outlier	*New Signs and Symbols:* None

Explanatory Notes

* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.

Educational Standard: Common Core Mathematics K-12: 2010

DesCartes: A Continuum of Learning®

Mathematics

Goal: Statistics and Probability

RIT Score Range: 251 - 260

Skills and concepts to Enhance (73% Probability*) 241 - 250	Skills and Concepts to Develop (50% Probability*) 251 - 260	Skills and Concepts to Introduce (27% Probability*) > 260
Interpreting Categorical and Quantitative Data	Interpreting Categorical and Quantitative Data	Interpreting Categorical and Quantitative Data
• Reads and interprets data in tables • Reads and interprets data in box-and-whisker plots • Reads and interprets interquartile range in box-and-whisker plots • Reads and interprets data in stem-and-leaf plots • Determines the range of a complex set of data • Identifies outliers on a data display (e.g., uses interquartile range to identify outliers on a box-and-whisker plot) • Determines the correlation for a set of data • Identifies a set of data with a given mean, median, and/or mode	• Interprets the meaning of slope and intercepts in problem solving situations • Reads and interprets interquartile range in box-and-whisker plots • Solves complex problems involving mean • Identifies outliers on a data display (e.g., uses interquartile range to identify outliers on a box-and-whisker plot) • Computes and compares mean, median, mode, and range in simple examples to demonstrate that they may differ for a given set of data	• Reads and interprets interquartile range in box-and-whisker plots • Identifies outliers on a data display (e.g., uses interquartile range to identify outliers on a box-and-whisker plot)
Using Sampling and Probability to Make Decisions	Using Sampling and Probability to Make Decisions	Using Sampling and Probability to Make Decisions
• Determines probability using counting procedures • Determines probability using tables • Determines the complement of a complex event • Determines probability using an area model • Uses theoretical probability to predict future events • Predicts from an analysis of data and statistical measures • Describes the population based on a given sample	• Determines the probabilities of complex compound events (independent) • Uses random sampling techniques	• Determines the probabilities of compound events (dependent)
New Vocabulary: None	*New Vocabulary:* None	*New Vocabulary:* None
New Signs and Symbols: • outlier	*New Signs and Symbols:* None	*New Signs and Symbols:* None

Explanatory Notes

* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.

Educational Standard: Common Core Mathematics K-12: 2010

DesCartes: A Continuum of Learning®

Mathematics

Goal: Statistics and Probability

RIT Score Range: > 260

Skills and concepts to Enhance (73% Probability*) 251 - 260	Skills and Concepts to Develop (50% Probability*) > 260
Interpreting Categorical and Quantitative Data	Interpreting Categorical and Quantitative Data
• Interprets the meaning of slope and intercepts in problem solving situations • Reads and interprets interquartile range in box-and-whisker plots • Solves complex problems involving mean • Identifies outliers on a data display (e.g., uses interquartile range to identify outliers on a box-and-whisker plot) • Computes and compares mean, median, mode, and range in simple examples to demonstrate that they may differ for a given set of data	• Reads and interprets interquartile range in box-and-whisker plots • Identifies outliers on a data display (e.g., uses interquartile range to identify outliers on a box-and-whisker plot)
Using Sampling and Probability to Make Decisions	Using Sampling and Probability to Make Decisions
• Determines the probabilities of complex compound events (independent) • Uses random sampling techniques	• Determines the probabilities of compound events (dependent)
New Vocabulary: None	*New Vocabulary:* None
New Signs and Symbols: None	*New Signs and Symbols:* None

Explanatory Notes

* At the range mid-point, this is the probability students would correctly answer items measuring these concepts and skills. Both data from test items and review by NWEA curriculum specialists are used to place Learning Continuum statements into appropriate RIT ranges. Blank cells indicate data are limited or unavailable for this range or document version.

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