

## **DesCartes: A Continuum of Learning®**

## **Mathematics**

Goal: Statistics and Probability

RIT Score Range: 211 - 220 Statements Last Updated: Mar 10, 2014

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	Solves problems using pictographs	Determines appropriate intervals and/or scale for a bar graph
Organizes data to create simple bar graphs	Solves problems using bar graphs	Determines the average (mean) of a simple set of data
Solves problems using bar graphs	Reads and interprets data in scatter plots	Determines the mean of a complex set of data (e.g., fractions,
Solves problems using dual bar graphs	Reads and interprets data in line plots	integers, many data points)
• Determines the middle value (median) from a simple set of data	Determines the average (mean) of a simple set of data	Solves simple problems involving mean
Draws conclusions from data - bar graphs	Solves simple problems involving mean	Solves problems with missing data when the mean is known
Describes a trend in the data	Determines the middle value (median) from a simple set of data	Determines the middle value (median) from a simple set of data
	Predicts from plotted data	Determines the spread (range) from a simple set of data
	Describes a trend in the 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	Determines all possible outcomes	Determines likelihood using tree diagrams
impossible	Determines the probability for a simple experiment using one die	Determines probability - must determine size of sample space
Uses the concept of chance to determine the likelihood of an event	Determines probability from a real-world situation - number of possible	Modifies sample space to change the probability of an event
Determines all possible outcomes	outcomes given	Determines the complement of a simple event
<ul> <li>Determines the probability for a simple experiment using one or more coins</li> </ul>	Determines the probabilities for a simple experiment using a frequency table - must determine size of sample space	Determines the possible outcomes for a simple probability experiment using spinners
Determines the probability for a simple experiment using objects - must determine size of sample space	Determines probability when drawing objects from containers - must determine size of sample space	Determines the possible outcomes for a simple probability experiment using dart boards
	Modifies sample space to change the probability of an event	Determines the number of possible combinations of given items
	Determines the complement of a simple event	Determines the outcome of simple multiple events
	Determines the possible outcomes for a simple probability experiment using spinners	Predicts the sample space, based on the outcome of an experiment- tally sheet
	Determines the number of possible combinations of given items	Uses the results of probability experiments or events to predict future
	Predicts the sample space, based on the outcome of an experiment -	events
	tally sheet	Computes probability as a fraction, given equivalent forms
	Uses systematic lists to represent problems	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: None
	New Signs and Symbols: { } set notation, lb pound, P( ) probability, % percent	

## **Explanatory Note**

\* 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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