

DesCartes (Combined)

Subject: Mathematics
**Goal: Data Analysis and
Probability**

Subject: Mathematics

Goal Strand: Data Analysis and Probability

RIT Score Range: Below 171

Skills and Concepts to Develop Below 171	Skills and Concepts to Introduce 171 - 180
Data - Organize, Display, Interpret	Data - Organize, Display, Interpret
<ul style="list-style-type: none"> Solves simple problems based on data from tables* 	<ul style="list-style-type: none"> Interprets simple graphs or tables Interprets data using tally charts Reads and interprets data from a pictograph* Solves simple problems based on data from pictographs Displays data appropriately - bar graph - scale is 1 to 1* Solves simple problems based on data from bar graphs
Data Analysis - Central Tendency and Range	Data Analysis - Central Tendency and Range
Basic Concepts of Probability	Basic Concepts of Probability
	<ul style="list-style-type: none"> Investigates probability of "more likely" or "less likely" using a table*
<i>New Vocabulary:</i> table	<i>New Vocabulary:</i> fewer, less, quart, taller
<i>New Signs and Symbols:</i> none	<i>New Signs and Symbols:</i> cm centimeter/centimetre, \$ dollar sign, in. inch, = is equal to, tally mark

Subject: Mathematics

Goal Strand: Data Analysis and Probability

RIT Score Range: 171 - 180

Skills and Concepts to Enhance Below 171	Skills and Concepts to Develop 171 - 180	Skills and Concepts to Introduce 181 - 190
Data - Organize, Display, Interpret	Data - Organize, Display, Interpret	Data - Organize, Display, Interpret
<ul style="list-style-type: none"> Solves simple problems based on data from tables* 	<ul style="list-style-type: none"> Interprets simple graphs or tables Interprets data using tally charts Reads and interprets data from a pictograph* Solves simple problems based on data from pictographs Displays data appropriately - bar graph - scale is 1 to 1* Solves simple problems based on data from bar graphs 	<ul style="list-style-type: none"> Interprets simple graphs or tables Solves simple problems based on data from tally charts* Solves simple problems based on data from pictographs Reads and interprets data from a bar graph Solves simple problems based on data from bar graphs
Data Analysis - Central Tendency and Range	Data Analysis - Central Tendency and Range	Data Analysis - Central Tendency and Range
Basic Concepts of Probability	Basic Concepts of Probability	Basic Concepts of Probability
	<ul style="list-style-type: none"> Investigates probability of "more likely" or "less likely" using a table* 	<ul style="list-style-type: none"> Investigates probability of "more likely" or "less likely" using a spinner Investigates probability of "more likely" or "less likely" with objects hidden in containers*
<i>New Vocabulary:</i> table	<i>New Vocabulary:</i> fewer, less, quart, taller	<i>New Vocabulary:</i> average, consecutive, lowest, most likely, most often, spinner
<i>New Signs and Symbols:</i> none	<i>New Signs and Symbols:</i> cm centimeter/centimetre, \$ dollar sign, in. inch, = is equal to, tally mark	<i>New Signs and Symbols:</i> none

Subject: Mathematics

Goal Strand: Data Analysis and Probability

RIT Score Range: 181 - 190

Skills and Concepts to Enhance 171 - 180	Skills and Concepts to Develop 181 - 190	Skills and Concepts to Introduce 191 - 200
<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> • Interprets simple graphs or tables • Interprets data using tally charts • Reads and interprets data from a pictograph* • Solves simple problems based on data from pictographs • Displays data appropriately - bar graph - scale is 1 to 1* • Solves simple problems based on data from bar graphs 	<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> • Interprets simple graphs or tables • Solves simple problems based on data from tally charts* • Solves simple problems based on data from pictographs • Reads and interprets data from a bar graph • Solves simple problems based on data from bar graphs 	<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> • Solves problems using tables • Solves problems using tally charts* • Reads and interprets data from a bar graph • Reads and interprets dual bar graphs* • Reads and interprets simple line graphs • Reads and interprets data given in percent form on a circle graph*
<p>Data Analysis - Central Tendency and Range</p>	<p>Data Analysis - Central Tendency and Range</p>	<p>Data Analysis - Central Tendency and Range</p>
<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> • Investigates probability of "more likely" or "less likely" using a table* 	<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> • Investigates probability of "more likely" or "less likely" using a spinner • Investigates probability of "more likely" or "less likely" with objects hidden in containers* 	<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> • Investigates probability of "more likely" or "less likely" using a spinner • Investigates probability of "more likely" or "less likely" with a dart board*
<p><i>New Vocabulary:</i> fewer, less, quart, taller</p>	<p><i>New Vocabulary:</i> average, consecutive, lowest, most likely, most often, spinner</p>	<p><i>New Vocabulary:</i> line graph</p>
<p><i>New Signs and Symbols:</i> cm centimeter/centimetre, \$ dollar sign, in. inch, = is equal to, tally mark</p>	<p><i>New Signs and Symbols:</i> none</p>	<p><i>New Signs and Symbols:</i> a.m., °F degrees Fahrenheit, g gram, lb pound, min minute, p.m., % percent, : used with time</p>

Subject: Mathematics

Goal Strand: Data Analysis and Probability

RIT Score Range: 191 - 200

Skills and Concepts to Enhance 181 - 190	Skills and Concepts to Develop 191 - 200	Skills and Concepts to Introduce 201 - 210
<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> • Interprets simple graphs or tables • Solves simple problems based on data from tally charts* • Solves simple problems based on data from pictographs • Reads and interprets data from a bar graph • Solves simple problems based on data from bar graphs 	<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> • Solves problems using tables • Solves problems using tally charts* • Reads and interprets data from a bar graph • Reads and interprets dual bar graphs* • Reads and interprets simple line graphs • Reads and interprets data given in percent form on a circle graph* 	<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> • Reads and interprets tables* • Solves problems using tables • Understands how the omission or duplication of data affects the interpretation of results from a pictograph* • Organizes data to create simple bar graphs • Solves problems using bar graphs • Solves problems using dual bar graphs* • Solves problems using line graphs* • Displays data appropriately - simple circle graph - no calculations necessary* • Reads and interprets data given in percent form on a circle graph* • Interprets data given in circle graphs to solve simple problems (with percents) • Solves problems using Venn diagrams
<p>Data Analysis - Central Tendency and Range</p>	<p>Data Analysis - Central Tendency and Range</p>	<p>Data Analysis - Central Tendency and Range</p>
<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> • Investigates probability of "more likely" or "less likely" using a spinner • Investigates probability of "more likely" or "less likely" with objects hidden in containers* 	<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> • Investigates probability of "more likely" or "less likely" using a spinner • Investigates probability of "more likely" or "less likely" with a dart board* 	<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> • Recognizes events that are certain, likely, unlikely, possible, or impossible* • Uses the concept of chance to determine the likelihood of an event* • 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
<p><i>New Vocabulary:</i> average, consecutive, lowest, most likely, most often, spinner</p>	<p><i>New Vocabulary:</i> line graph</p>	<p><i>New Vocabulary:</i> bar graph, below, chance, kilogram, less likely, probability, random, square mile</p>
<p><i>New Signs and Symbols:</i> none</p>	<p><i>New Signs and Symbols:</i> a.m., °F degrees Fahrenheit, g gram, lb pound, min minute, p.m., % percent, : used with time</p>	<p><i>New Signs and Symbols:</i> ft feet, kg kilogram</p>

Subject: Mathematics

Goal Strand: Data Analysis and Probability

RIT Score Range: 201 - 210

Skills and Concepts to Enhance 191 - 200	Skills and Concepts to Develop 201 - 210	Skills and Concepts to Introduce 211 - 220
<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> Solves problems using tables Solves problems using tally charts* Reads and interprets data from a bar graph Reads and interprets dual bar graphs* Reads and interprets simple line graphs Reads and interprets data given in percent form on a circle graph* 	<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> Reads and interprets tables* Solves problems using tables Understands how the omission or duplication of data affects the interpretation of results from a pictograph* Organizes data to create simple bar graphs Solves problems using bar graphs Solves problems using dual bar graphs* Solves problems using line graphs* Displays data appropriately - simple circle graph - no calculations necessary* Reads and interprets data given in percent form on a circle graph* Interprets data given in circle graphs to solve simple problems (with percents) Solves problems using Venn diagrams 	<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> Solves problems using pictographs* Solves problems using bar graphs Interprets data in line graphs (e.g., change over time) Solves problems using line graphs* Reads and interprets circle graphs* Interprets data given in circle graphs to solve simple problems (with percents) Solves problems using circle graphs* Reads and interprets Venn diagrams
<p>Data Analysis - Central Tendency and Range</p>	<p>Data Analysis - Central Tendency and Range</p>	<p>Data Analysis - Central Tendency and Range</p> <ul style="list-style-type: none"> Determines the average (mean) of a simple set of data Solves simple problems involving mean
<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> Investigates probability of "more likely" or "less likely" using a spinner Investigates probability of "more likely" or "less likely" with a dart board* 	<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> Recognizes events that are certain, likely, unlikely, possible, or impossible* Uses the concept of chance to determine the likelihood of an event* 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 	<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> 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 Solves problems involving permutations Determines the number of possible combinations of given items
<p><i>New Vocabulary:</i> line graph</p>	<p><i>New Vocabulary:</i> bar graph, below, chance, kilogram, less likely, probability, random, square mile</p>	<p><i>New Vocabulary:</i> combinations, likelihood, mean, number cube</p>
<p><i>New Signs and Symbols:</i> a.m., °F degrees Fahrenheit, g</p>	<p><i>New Signs and Symbols:</i> ft feet, kg kilogram</p>	<p><i>New Signs and Symbols:</i> { } set notation, ¢ cent sign, d distance, hr hour, t time</p>

gram, lb pound, min minute, p.m., % percent, : used with time		
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Subject: Mathematics

Goal Strand: Data Analysis and Probability

RIT Score Range: 211 - 220

Skills and Concepts to Enhance 201 - 210	Skills and Concepts to Develop 211 - 220	Skills and Concepts to Introduce 221 - 230
<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> • Reads and interprets tables* • Solves problems using tables • Understands how the omission or duplication of data affects the interpretation of results from a pictograph* • Organizes data to create simple bar graphs • Solves problems using bar graphs • Solves problems using dual bar graphs* • Solves problems using line graphs* • Displays data appropriately - simple circle graph - no calculations necessary* • Reads and interprets data given in percent form on a circle graph* • Interprets data given in circle graphs to solve simple problems (with percents) • Solves problems using Venn diagrams 	<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> • Solves problems using pictographs* • Solves problems using bar graphs • Interprets data in line graphs (e.g., change over time) • Solves problems using line graphs* • Reads and interprets circle graphs* • Interprets data given in circle graphs to solve simple problems (with percents) • Solves problems using circle graphs* • Reads and interprets Venn diagrams 	<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> • Interprets data given in tables to solve problems • Interprets data given in circle graphs to solve complex problems (with percents) • Solves problems using circle graphs*
<p>Data Analysis - Central Tendency and Range</p>	<p>Data Analysis - Central Tendency and Range</p> <ul style="list-style-type: none"> • Determines the average (mean) of a simple set of data • Solves simple problems involving mean 	<p>Data Analysis - Central Tendency and Range</p> <ul style="list-style-type: none"> • 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) • Estimates the mean from a set of data* • 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 mode of a set of data
<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> • Recognizes events that are certain, likely, unlikely, possible, or impossible* • Uses the concept of chance to determine the likelihood of an event* • 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 	<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> • 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 	<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> • Determines likelihood using tree diagrams* • Determines probability - must determine size of sample space • Solves problems involving combinations • Determines the number of possible combinations of given items

	containers - must determine size of sample space • Solves problems involving permutations • Determines the number of possible combinations of given items	
<i>New Vocabulary:</i> bar graph, below, chance, kilogram, less likely, probability, random, square mile	<i>New Vocabulary:</i> combinations, likelihood, mean, number cube	<i>New Vocabulary:</i> frequency table, median, mode
<i>New Signs and Symbols:</i> ft feet, kg kilogram	<i>New Signs and Symbols:</i> { } set notation, ¢ cent sign, d distance, hr hour, τ time	<i>New Signs and Symbols:</i> h hour (SI metric), – negative number, oz ounce, P() probability, s second (SI metric)

Subject: Mathematics

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RIT Score Range: 221 - 230

Skills and Concepts to Enhance 211 - 220	Skills and Concepts to Develop 221 - 230	Skills and Concepts to Introduce 231 - 240
<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> • Solves problems using pictographs* • Solves problems using bar graphs • Interprets data in line graphs (e.g., change over time) • Solves problems using line graphs* • Reads and interprets circle graphs* • Interprets data given in circle graphs to solve simple problems (with percents) • Solves problems using circle graphs* • Reads and interprets Venn diagrams 	<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> • Interprets data given in tables to solve problems • Interprets data given in circle graphs to solve complex problems (with percents) • Solves problems using circle graphs* 	<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> • Interprets data given in tables to solve problems • Determines appropriate intervals and/or scale for a bar graph* • Interprets data given in horizontal and vertical bar graphs to solve problems • Interprets data given in line graphs to solve problems* • Interprets data given in circle graphs to solve complex problems (with percents)
<p>Data Analysis - Central Tendency and Range</p> <ul style="list-style-type: none"> • Determines the average (mean) of a simple set of data • Solves simple problems involving mean 	<p>Data Analysis - Central Tendency and Range</p> <ul style="list-style-type: none"> • 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) • Estimates the mean from a set of data* • 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 mode of a set of data 	<p>Data Analysis - Central Tendency and Range</p> <ul style="list-style-type: none"> • Determines the mean of a complex set of data (e.g., fractions, integers, many data points) • Estimates the mean from a set of data* • 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
<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> • 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 • Solves problems involving permutations • Determines the number of possible combinations of given items 	<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> • Determines likelihood using tree diagrams* • Determines probability - must determine size of sample space • Solves problems involving combinations • Determines the number of possible combinations of given items 	<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> • Determines certainty from a set data* • Determines probability - must determine size of sample space • Modifies sample space to change the probability of an event*
<p><i>New Vocabulary:</i> combinations, likelihood, mean, number cube</p>	<p><i>New Vocabulary:</i> frequency table, median, mode</p>	<p><i>New Vocabulary:</i> average salary, meters per minute, middle</p>

<i>New Signs and Symbols:</i> { } set notation, ¢ cent sign, d distance, hr hour, τ time	<i>New Signs and Symbols:</i> h hour (SI metric), – negative number, oz ounce, P() probability, s second (SI metric)	<i>New Signs and Symbols:</i> \$ dollar sign
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Subject: Mathematics

Goal Strand: Data Analysis and Probability

RIT Score Range: 231 - 240

Skills and Concepts to Enhance 221 - 230	Skills and Concepts to Develop 231 - 240	Skills and Concepts to Introduce 241 - 250
<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> • Interprets data given in tables to solve problems • Interprets data given in circle graphs to solve complex problems (with percents) • Solves problems using circle graphs* 	<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> • Interprets data given in tables to solve problems • Determines appropriate intervals and/or scale for a bar graph* • Interprets data given in horizontal and vertical bar graphs to solve problems • Interprets data given in line graphs to solve problems* • Interprets data given in circle graphs to solve complex problems (with percents) 	<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> • Reads and interprets data in tables
<p>Data Analysis - Central Tendency and Range</p> <ul style="list-style-type: none"> • 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) • Estimates the mean from a set of data* • 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 mode of a set of data 	<p>Data Analysis - Central Tendency and Range</p> <ul style="list-style-type: none"> • Determines the mean of a complex set of data (e.g., fractions, integers, many data points) • Estimates the mean from a set of data* • 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 	<p>Data Analysis - Central Tendency and Range</p> <ul style="list-style-type: none"> • Determines the range of a complex set of data
<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> • Determines likelihood using tree diagrams* • Determines probability - must determine size of sample space • Solves problems involving combinations • Determines the number of possible combinations of given items 	<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> • Determines certainty from a set data* • Determines probability - must determine size of sample space • Modifies sample space to change the probability of an event* 	<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> • Determines certainty from a set data* • Determines probability using counting procedures* • Determines probability using tables
<p><i>New Vocabulary:</i> frequency table, median, mode</p>	<p><i>New Vocabulary:</i> average salary, meters per minute, middle</p>	<p><i>New Vocabulary:</i> mileage table</p>
<p><i>New Signs and Symbols:</i> h hour (SI metric), – negative number, oz ounce, P() probability, s second (SI metric)</p>	<p><i>New Signs and Symbols:</i> \$ dollar sign</p>	<p><i>New Signs and Symbols:</i> ° degrees, E east, NE northeast, NNE north northeast, N north, NW northwest, S south, W west</p>

Subject: Mathematics

Goal Strand: Data Analysis and Probability

RIT Score Range: 241 - 250

Skills and Concepts to Enhance 231 - 240	Skills and Concepts to Develop 241 - 250	Skills and Concepts to Introduce Above 250
<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> • Interprets data given in tables to solve problems • Determines appropriate intervals and/or scale for a bar graph* • Interprets data given in horizontal and vertical bar graphs to solve problems • Interprets data given in line graphs to solve problems* • Interprets data given in circle graphs to solve complex problems (with percents) 	<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> • Reads and interprets data in tables 	<p>Data - Organize, Display, Interpret</p> <ul style="list-style-type: none"> • Displays data appropriately - circle graph - calculations necessary*
<p>Data Analysis - Central Tendency and Range</p> <ul style="list-style-type: none"> • Determines the mean of a complex set of data (e.g., fractions, integers, many data points) • Estimates the mean from a set of data* • 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 	<p>Data Analysis - Central Tendency and Range</p> <ul style="list-style-type: none"> • Determines the range of a complex set of data 	<p>Data Analysis - Central Tendency and Range</p> <ul style="list-style-type: none"> • Solves complex problems involving mean*
<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> • Determines certainty from a set data* • Determines probability - must determine size of sample space • Modifies sample space to change the probability of an event* 	<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> • Determines certainty from a set data* • Determines probability using counting procedures* • Determines probability using tables 	<p>Basic Concepts of Probability</p> <ul style="list-style-type: none"> • Determines certainty from a set data*
<p><i>New Vocabulary:</i> average salary, meters per minute, middle</p>	<p><i>New Vocabulary:</i> mileage table</p>	<p><i>New Vocabulary:</i> none</p>
<p><i>New Signs and Symbols:</i> \$ dollar sign</p>	<p><i>New Signs and Symbols:</i> ° degrees, E east, NE northeast, NNE north northeast, N north, NW northwest, S south, W west</p>	<p><i>New Signs and Symbols:</i> none</p>

Subject: Mathematics

Goal Strand: Data Analysis and Probability

RIT Score Range: Above 250

Skills and Concepts to Enhance 241 - 250	Skills and Concepts to Develop Above 250
Data - Organize, Display, Interpret	Data - Organize, Display, Interpret
<ul style="list-style-type: none"> • Reads and interprets data in tables 	<ul style="list-style-type: none"> • Displays data appropriately - circle graph - calculations necessary*
Data Analysis - Central Tendency and Range	Data Analysis - Central Tendency and Range
<ul style="list-style-type: none"> • Determines the range of a complex set of data 	<ul style="list-style-type: none"> • Solves complex problems involving mean*
Basic Concepts of Probability	Basic Concepts of Probability
<ul style="list-style-type: none"> • Determines certainty from a set data* • Determines probability using counting procedures* • Determines probability using tables 	<ul style="list-style-type: none"> • Determines certainty from a set data*
<i>New Vocabulary:</i> mileage table	<i>New Vocabulary:</i> none
<i>New Signs and Symbols:</i> ° degrees, E east, NE northeast, NNE north northeast, N north, NW northwest, S south, W west	<i>New Signs and Symbols:</i> none