

## Math 6+: Data, Statistics, and Probability

### Collect, Represent, and Analyze Data

## Data Analysis

Students	Learning Continuum Statements:
Students:	<b>RIT 141-150:</b> <ul style="list-style-type: none"><li>Compares categories in bar graphs with single-unit scales to determine which is greater than or greatest</li><li>Compares categories in pictographs with single-unit scales to determine which is greater than or greatest</li></ul>
Students:	<b>RIT 151-160:</b> <ul style="list-style-type: none"><li>Compares categories in bar graphs with multi-unit scales to determine which is greater than or greatest</li><li>Compares categories in bar graphs with single-unit scales to determine which is greater than or greatest</li><li>Compares categories in pictographs with multi-unit scales to determine which is greater than or greatest</li><li>Compares categories in pictographs with single-unit scales to determine which is greater than or greatest</li><li>Compares categories in tables or charts to determine which is greater than or greatest</li><li>Reads bar graphs with single-unit scales to determine how many in a category</li></ul>
Students:	<b>RIT 161-170:</b> <ul style="list-style-type: none"><li>Adds and subtracts to answer questions about pictographs with single-unit scales</li><li>Compares categories in bar graphs with multi-unit scales to determine which is greater than or greatest</li><li>Compares categories in bar graphs with single-unit scales to determine which is greater than or greatest</li><li>Compares categories in bar graphs with single-unit scales to determine which is less than or least</li><li>Compares categories in pictographs with multi-unit scales to determine which is greater than or greatest</li><li>Compares categories in pictographs with single-unit scales to determine which is greater than or greatest</li><li>Compares categories in pictographs with single-unit scales to determine which is less than or least</li><li>Compares categories in tables or charts to determine which is greater than or greatest</li><li>Compares multiple categories in pictographs with single-unit scales to answer questions</li><li>Reads and interprets data from a circle graph</li><li>Reads bar graphs with single-unit scales to determine how many in a category</li><li>Reads pictographs with single-unit scales to determine how many in a category</li><li>Reads tables or charts to determine how many in a category</li></ul>

**Students:****RIT 171-180:**

- Adds and subtracts to answer questions about bar graphs with single-unit scales
- Adds and subtracts to answer questions about pictographs with single-unit scales
- Adds and subtracts to answer questions about tables or charts
- Compares categories in bar graphs with multi-unit scales to determine which is greater than or greatest
- Compares categories in bar graphs with multi-unit scales to determine which is less than or least
- Compares categories in bar graphs with single-unit scales to determine which is greater than or greatest
- Compares categories in bar graphs with single-unit scales to determine which is less than or least
- Compares categories in pictographs with multi-unit scales to determine which is greater than or greatest
- Compares categories in pictographs with single-unit scales to determine which is less than or least
- Compares categories in tables or charts to determine which is greater than or greatest
- Compares categories in tables or charts to determine which is less than or least
- Compares multiple categories in bar graphs with multi-unit scales to answer questions
- Compares multiple categories in bar graphs with single-unit scales to answer questions
- Compares multiple categories in pictographs with multi-unit scales to answer questions
- Compares multiple categories in pictographs with single-unit scales to answer questions
- Compares multiple categories in tables or charts to answer questions
- Compares the distributions of multiple data sets presented in bar graphs with multi-unit scales
- Determines the question to ask in order to collect data for a given purpose
- Reads and interprets data from a circle graph
- Reads and interprets data from a Venn diagram
- Reads bar graphs with multi-unit scales to determine how many in a category
- Reads bar graphs with single-unit scales to determine how many in a category
- Reads line or dot plots with whole-number scales to determine how many in a category
- Reads tables or charts to determine how many in a category

**Students:****RIT 181-190:**

- Adds and subtracts to answer questions about bar graphs with multi-unit scales
- Adds and subtracts to answer questions about bar graphs with single-unit scales
- Adds and subtracts to answer questions about pictographs with single-unit scales
- Adds and subtracts to answer questions about tables or charts
- Compares categories in bar graphs with multi-unit scales to determine which is greater than or greatest
- Compares categories in bar graphs with multi-unit scales to determine which is less than or least
- Compares categories in bar graphs with single-unit scales to determine which is less than or least
- Compares categories in pictographs with single-unit scales to determine which is less than or least
- Compares multiple categories in bar graphs with multi-unit scales to answer questions
- Compares multiple categories in bar graphs with single-unit scales to answer questions
- Compares multiple categories in pictographs with single-unit scales to answer questions
- Compares multiple categories in tables or charts to answer questions

- Compares the distributions of multiple data sets presented in tables or charts
- Counts sets of objects by category
- Determines the question to ask in order to collect data for a given purpose
- Reads and interprets data from a circle graph
- Reads and interprets data from a Venn diagram
- Reads and interprets data in a scaled line graph
- Reads bar graphs with multi-unit scales to determine how many in a category
- Reads bar graphs with single-unit scales to determine how many in a category
- Reads pictographs with multi-unit scales to determine how many in a category
- Reads tables or charts to determine how many in a category

**Students:**

**RIT 191-200:**

- Adds and subtracts to answer questions about bar graphs with multi-unit scales
- Adds and subtracts to answer questions about bar graphs with single-unit scales
- Adds and subtracts to answer questions about double bar graphs with multi-unit scales
- Adds and subtracts to answer questions about double bar graphs with single-unit scales
- Adds and subtracts to answer questions about pictographs with multi-unit scales
- Adds and subtracts to answer questions about pictographs with single-unit scales
- Adds and subtracts to answer questions about tables or charts
- Compares categories in bar graphs with multi-unit scales to determine which is less than or least
- Compares categories in pictographs with single-unit scales to determine which is less than or least
- Compares multiple categories in bar graphs with multi-unit scales to answer questions
- Compares multiple categories in tables or charts to answer questions
- Compares the distributions of multiple data sets presented in bar graphs with single-unit scales
- Compares the distributions of multiple data sets presented in line or dot plots, or histograms
- Determines the question that can be answered from a given set of data
- Determines the question to ask in order to collect data for a given purpose
- Multiplies to answer questions about bar graphs with single-unit scales
- Reads and interprets data from a circle graph
- Reads and interprets data from a scatter plot
- Reads and interprets data from a Venn diagram
- Reads and interprets data from line or dot plots with whole-number scales
- Reads and interprets data in a scaled line graph
- Reads bar graphs with multi-unit scales to determine how many in a category
- Reads pictographs with multi-unit scales to determine how many in a category
- Reads tables or charts to determine how many in a category
- Solves multi-step problems using data from bar graphs with single-unit scales

**Students:**

**RIT 201-210:**

- Adds and subtracts to answer questions about bar graphs with multi-unit scales
- Adds and subtracts to answer questions about bar graphs with single-unit scales
- Adds and subtracts to answer questions about double bar graphs with multi-unit scales
- Adds and subtracts to answer questions about pictographs with multi-unit scales
- Adds and subtracts to answer questions about tables or charts
- Compares multiple categories in bar graphs with multi-unit scales to answer questions
- Compares multiple categories in tables or charts to answer questions

- Describes a trend over time given data presented in a line graph
- Determines the question that can be answered from a given set of data
- Identifies the median, quartiles, extreme values, and outliers from a box plot
- Interprets data in a table or chart
- Multiplies to answer questions about double bar graphs with single-unit scales
- Reads and interprets data from a circle graph
- Reads and interprets data from a histogram
- Reads and interprets data from a scatter plot
- Reads and interprets data from a Venn diagram
- Reads and interprets data from line or dot plots with whole-number scales
- Reads and interprets data in a scaled line graph
- Reads pictographs with multi-unit scales to determine how many in a category
- Reads and interprets line or dot plots with fractional scales
- Solves multi-step problems using data from bar graphs with multi-unit scales

**Students:**

**RIT 211-220:**

- Adds and subtracts to answer questions about bar graphs with multi-unit scales
- Adds and subtracts to answer questions about pictographs with multi-unit scales
- Describes a trend over time given data presented in a line graph
- Describes a trend over time given data presented in a table or chart
- Determines the question that can be answered from a given set of data
- Identifies the median, quartiles, extreme values, and outliers from a box plot
- Multiplies to answer questions about double bar graphs with multi-unit scales
- Reads and interprets data from a circle graph
- Reads and interprets data from a histogram
- Reads and interprets data from a scatter plot
- Reads and interprets data from a Venn diagram
- Reads and interprets data from line or dot plots with whole-number scales
- Reads and interprets data in a scaled line graph
- Reads and interprets line or dot plots with fractional scales
- Solves multi-step problems using data from bar graphs with multi-unit scales
- Solves multi-step problems using data from double bar graphs with single-unit scales
- Solves percent problems using data from a circle graph
- Solves word problems using data from line or dot plots with fractional scales

**Students:**

**RIT 221-230:**

- Determines the question that can be answered from a given set of data
- Determines the range from a stem-and-leaf plot
- Identifies the median, quartiles, extreme values, and outliers from a box plot
- Multiplies to answer questions about double bar graphs with multi-unit scales
- Reads and interprets data from a histogram
- Reads and interprets data from a scatter plot
- Reads and interprets data from a stem-and-leaf plot
- Reads and interprets data from a Venn diagram
- Reads and interprets data in a scaled line graph
- Reads and interprets line or dot plots with fractional scales
- Solves multi-step problems using data from bar graphs with multi-unit scales
- Solves multi-step problems using data from double bar graphs with single-unit scales

- Solves percent problems using data from a circle graph
- Solves word problem using a Venn diagram
- Solves word problems using data from line or dot plots with fractional scales

**Students:**

**RIT 231-240:**

- Compares the median and variability of related data sets presented in box plots
- Describes regions of a Venn diagram in terms of the context
- Determines the median from a stem-and-leaf plot
- Determines the mode from a stem-and-leaf plot
- Identifies the median, quartiles, extreme values, and outliers from a box plot
- Reads and interprets data from a stem-and-leaf plot
- Reads and interprets data in a scaled double line graph
- Reads and interprets data in a scaled line graph
- Solves percent problems using data from a circle graph
- Solves word problem using a Venn diagram
- Solves word problems using data from line or dot plots with fractional scales

**Students:**

**RIT 241-250:**

- Compares the means and medians of related data sets represented in histograms
- Compares the medians of related data sets represented numerically and in a line or dot plot
- Determines the median value of a variable from a scatter plot
- Reads and interprets data from a stem-and-leaf plot
- Solves percent problems using data from a circle graph
- Solves word problem using a Venn diagram
- Solves word problems using data from line or dot plots with fractional scales