

**Mathematics**

**Unit 3: Data Analysis, Statistics, and Probability**

<p><b>Essential Understandings</b></p>	<ul style="list-style-type: none"> <li>▪ Graphs convey data in a concise way.</li> <li>▪ Information from a graph can be used to answer questions.</li> <li>▪ The probability of an event's occurrence can be predicted with varying degrees of confidence.</li> </ul>
<p><b>Essential Questions</b></p>	<ul style="list-style-type: none"> <li>▪ Why does one use graphs?</li> <li>▪ What is probability?</li> <li>▪ How can one use data to make predictions?</li> <li>▪ What is the median?</li> <li>▪ How does one find the median?</li> <li>▪ What is range?</li> <li>▪ How does one find the range?</li> </ul>
<p><b>Essential Knowledge</b></p>	<ul style="list-style-type: none"> <li>▪ Data is collected and organized to solve problems and answer questions.</li> <li>▪ Graphs are used to represent and interpret data.</li> <li>▪ Probability is a measure of how likely an event is to occur.</li> <li>▪ The median is the number in the middle when data is organized from least to greatest.</li> <li>▪ The range is the difference between the least and greatest values in a set of data.</li> </ul>
<p><b>Vocabulary</b></p>	<ul style="list-style-type: none"> <li>▪ <u>Terms:</u> <ul style="list-style-type: none"> <li>○ median, mode, range, Venn Diagram, pictographs, circle graphs, theoretical probability, central tendency</li> </ul> </li> </ul>
<p><b>Essential Skills</b></p>	<ul style="list-style-type: none"> <li>▪ Read, construct, and interpret tables and line plots. (I, R, A)</li> <li>▪ Read and interpret pictographs, circle graphs, and Venn diagrams. (I, R, A)</li> <li>▪ Describe events as likely, unlikely, certain, or impossible. (R, A)</li> <li>▪ Determine the probability of an event using theoretical probability. (I, R, A)</li> <li>▪ Determine possible outcomes and express as a fraction. (I, R)</li> <li>▪ Define, find, and use the median, mode, and range when analyzing data. (I, R, A)</li> </ul>
<p><b>Related Maine Learning Results</b></p>	<p>B. Data Data Analysis B2.Students collect and represent data in tables, line plots, and Interpret these types of data displays.</p> <p>D. Algebra D3.Students use tables, rules, diagrams, and patterns to represent the relationship between quantities and to extend patterns.</p>

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<b>NECAP</b>	<p>NECAP Data, Statistics, and Probability M(DSP) 4 – 1 Interprets a given representation (line plots, tables, bar graphs, pictographs, or circle graphs) to answer questions related to data, to analyze the data, to formulate or justify conclusions, to make predictions, or to solve problems.</p> <p>M (DSP) 4 – 2 Analyzes patterns, trends, or distributions in data in a variety of contexts by determining of using measures of central tendency (median or mode), or range.</p> <p>M (DSP) 4 – 5 For a probability event in which the sample space may or may not contain equally likely outcomes, determines the theoretical probability of an event and expresses the result as part to whole (e.g., two out of five).</p>
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