

Shepard Preparatory High School

College Prep Mathematics  
Curriculum



College Preparatory Mathematics is a 5 credit, full-year course that prepares students for success in entry-level college courses and/or success on the Accuplacer college placement test. College Preparatory Mathematics is a rigorous course that will include student learning outcomes and objectives in the following areas: Algebra and Functions, Geometry and Measurement, and Data Analysis, Statistics, and Probability.



## Unit 1

### Functions Modeling Change

<a href="#"><u>Timeframe</u></a>	September through mid-October (6-8 weeks)
<a href="#"><u>Unit Overview</u></a>	<a href="#"><u>Functions Modeling Change</u></a> extends student understanding of linear, exponential, quadratic, power, circular, and logarithmic functions to model quantitative relationships and data patterns whose graphs are transformations of basic patterns.
<a href="#"><u>Essential Questions</u></a>	<ol style="list-style-type: none"><li>1. In which situations would linear, exponential, power, quadratic, and circular functions be useful models of data patterns and relationships between quantitative variables?</li></ol>
<a href="#"><u>Unit Focus</u></a>	<ul style="list-style-type: none"><li>• linear, exponential, quadratic, power, circular, and base-10 logarithmic functions;</li><li>• mathematical modeling;</li><li>• translation, reflection, stretching, and compressing of graphs with connections to symbolic forms of corresponding function rules</li></ul>

<a href="#"><u>Interdisciplinary Connections</u></a>	21st Century Life Skills and Careers <ul style="list-style-type: none"> <li>• CRP11 Use technology to enhance productivity.</li> <li>• CRP12. Work productively in teams while using cultural global competence</li> </ul>		
<a href="#"><u>Common Assessments</u></a>	<ul style="list-style-type: none"> <li>• Assessment Suite chapter quizzes and tests</li> </ul>		
<a href="#"><u>Materials</u></a>			
<b>Common Materials</b>		<b>Supplemental Materials</b>	
Transition to College Mathematics and Statistics, McGraw Hill, 1 <sup>st</sup> Edition 2016 Transition to College Mathematics and Statistics, McGraw Hill, 1st Edition 2016 Teacher's edition Transition to College Mathematics and Statistics, McGraw Hill, 1st Edition 2016 Teachers' online edition and assessment suite Kuta Worksheets Khan Academy		Transition to College Mathematics and Statistics, McGraw Hill, 1st Edition 2016 Unit Resource Masters	
<a href="#"><u>New Jersey Student Learning Standards (NJSLs)</u></a>			
<a href="#"><u>Subject Area</u></a>  <b>Mathematics</b>	<a href="#"><u>Technology</u></a>  <i>8.1: Educational Technology 8.2: Technology Education, Engineering, Design and Computational Thinking - Programming</i>	<a href="#"><u>21st Century Life and Careers</u></a>  <i>Career Ready Practices 9.1: Personal Financial Literacy 9.2: Career Awareness, Exploration, and Preparation</i>	<a href="#"><u>ELA Companion</u></a>  <i>Secondary Science and Social Studies Only</i> <hr/> <i>N/A</i>
<p>N-Q.A.1-3 Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. Define appropriate quantities for the purpose of descriptive modeling. Choose a level</p>	NJ: 2020 SLS: Science NJ: Grades 9-12 <ul style="list-style-type: none"> <li>• HS-ETS1 Engineering Design</li> <li>• Students who demonstrate understanding can:</li> </ul>	9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2). • 9.4.2.CI.2: Demonstrate originality and	NJ: 2023 SLS: English Language Arts NJ: Grades 11-12 <ul style="list-style-type: none"> <li>• Speaking and Listening Domain</li> <li>• Speaking and Listening</li> </ul>

<p>of accuracy appropriate to limitations on measurement when reporting quantities.</p> <p>A-REI.B.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.</p> <p>A-CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.</p> <p>F-IF.B.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.</p> <p>F-IF.C.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). For example, given a graph of one quadratic function and an algebraic expression for another, say which has the larger maximum.</p>	<p>HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering</p>	<p>inventiveness in work (e.g., 1.3A.2CR1a).</p> <ul style="list-style-type: none"> <li>• 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).</li> </ul> <p>9.4.2.IML.1: Identify a simple search term to find information in a search engine or digital resource.</p> <p>9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions (e.g., W.4.6, 3.MD.B.3, 7.1.NM.IPERS.6</p>	
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Differentiation

**Differentiation for Support and General Curriculum (504, ELL, Special Education, Struggling Learners)**

**Differentiation for Enrichment**

<p><b>Modifications for Classroom:</b>  Pair visual prompts with verbal presentations  Ask students to restate information, directions, and assignments  Model skills / techniques to be mastered  Extended time to complete class work  Student-directed learning/ independent studies when appropriate</p> <p><b>Modifications for Homework and Assignments:</b>  Extended time to complete assignments  Provide the student with clearly stated (written) expectations and grading criteria for assignments</p> <p><b>Modifications for Assessments:</b>  Extended time on classroom assessments</p>	<p>Use of higher level questioning techniques  Provide assessments that require higher level thinking  Increased production  Substituting written texts with project-based learning  Student-directed learning/ independent studies  Extension activities</p> <p><b>Further Modifications for Honors Students</b>  Students in Honors courses, in addition to regular class assignments, will complete enrichment/extension activities outside of the regular class period. These assignments may be projects, labs, research papers, independent novel study, or other activities assigned by the teacher</p>
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## Unit 2

### Mathematics of Democratic Decision-Making

<a href="#"><u>Timeframe</u></a>	Mid-October through mid-December (6 to 8 weeks)
<a href="#"><u>Unit Overview</u></a>	Strategic Decision-Making develops student understanding of the mathematical concepts and methods useful in making decisions in a democratic society, as related to voting and fair division.
<a href="#"><u>Essential Questions</u></a>	<ol style="list-style-type: none"> <li>1. What are the different methods of vote analysis?</li> <li>2. What methods work best for our society?</li> </ol>
<a href="#"><u>Unit Focus</u></a>	<ul style="list-style-type: none"> <li>• Preferential voting and associated vote-analysis methods such as majority, plurality, runoff, points-for-preferences (Borda method), pairwise-comparison (Condorcet method), and Arrow’s theorem;</li> <li>• Weighted voting, including weight and power of a vote and the Banzhaf power index;</li> <li>• Fair division techniques, including apportionment methods.</li> </ul>
<a href="#"><u>Interdisciplinary Connections</u></a>	21st Century Life Skills and Careers <ul style="list-style-type: none"> <li>• CRP11 Use technology to enhance productivity.</li> <li>• CRP12. Work productively in teams while using cultural global competence</li> </ul>
<a href="#"><u>Common Assessments</u></a>	<ul style="list-style-type: none"> <li>• Assessment Suite chapter quizzes and tests</li> </ul>

### [Materials](#)

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**New Jersey Student Learning Standards (NJSL)**

<p align="center"><b><u>Subject Area</u></b></p> <p align="center"><b>Mathematics</b></p>	<p align="center"><b><u>Technology</u></b></p>	<p align="center"><b><u>21st Century Life and Careers</u></b></p>	<p align="center"><b><u>ELA Companion</u></b></p>
<p>S-IC.6 Solve real world problems using a variety of techniques, including graphing, proportional reasoning, and utilizing geometric formulas</p> <p>8.F.2 8.F.4 Represent functions in multiple ways (tabular, graphical, symbolic, verbal). Determine domain and range of functions</p> <p>S-ID.5 S-CP.4 Make lists, tables, and tree diagrams to represent all possible outcomes in determining specifics of the sample space</p> <p>S-CP.1 Compute and interpret the theoretical probability of a simple event and its complement</p> <p>S-ID.3. Describe relationship and trend of paired data observed from scatter plots in the context of the situation.</p> <p>S-ID.6 S-CP.5 S-IC.6 Justify decisions using probability measures from a given data set, in real-world contexts.</p> <p>4:4, 4:5 Graph and solve operations of sequences and series.</p>	<p>NJ: 2020 SLS: Science</p> <p>NJ: Grades 9-12</p> <ul style="list-style-type: none"> <li>• HS-ETS1 Engineering Design</li> <li>• Students who demonstrate understanding can:</li> </ul> <p>HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineering society, and the environment.</p>	<p>9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2). •</p> <p>9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).</p> <ul style="list-style-type: none"> <li>• 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).</li> </ul> <p>9.4.2.IML.1: Identify a simple search term to find information in a search engine or digital resource.</p> <p>9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions (e.g., W.4.6, 3.MD.B.3, 7.1.NM.IPERS.6</p>	<p>NJ: 2023 SLS: English Language Arts</p> <p>NJ: Grades 11-12</p> <ul style="list-style-type: none"> <li>• Speaking and Listening Domain</li> <li>• Speaking and Listening</li> </ul>

## Differentiation

Differentiation for Support and General Curriculum (504, ELL, Special Education, Struggling Learners)	Differentiation for Enrichment
<p><b>Modifications for Classroom:</b>            Pair visual prompts with verbal presentations            Ask students to restate information, directions, and assignments            Model skills / techniques to be mastered            Extended time to complete class work            Student-directed learning/ independent studies when appropriate</p> <p><b>Modifications for Homework and Assignments:</b>            Extended time to complete assignments            Provide the student with clearly stated (written) expectations and grading criteria for assignments</p> <p><b>Modifications for Assessments:</b>            Extended time on classroom assessments</p>	<p>Use of higher level questioning techniques            Provide assessments that require higher level thinking            Increased production            Substituting written texts with project-based learning            Student-directed learning/ independent studies            Extension activities</p> <p><b>Further Modifications for Honors Students</b>            Students in Honors courses, in addition to regular class assignments, will complete enrichment/extension activities outside of the regular class period. These assignments may be projects, labs, research papers, independent novel study, or other activities assigned by the teacher</p>

## Unit 3

### Interpreting Categorical Data

<u>Timeframe</u>	Mid-December through February (6 to 8 weeks)
<u>Unit Overview</u>	Interpreting Categorical Data develops student understanding of two-way frequency tables, conditional probability and independence, and using data from a randomized experiment to compare two treatments.
<u>Essential Questions</u>	<ol style="list-style-type: none"> <li>1. What are different ways to compare the risk of some condition for two groups?</li> <li>2. How do I use proportional reasoning to calculate frequencies expected under homogeneity of two populations?</li> <li>3. What are some ways to review conditional probability and independent events?</li> </ol>
<u>Unit Focus</u>	<ul style="list-style-type: none"> <li>• Two-way tables</li> <li>• Graphical representations</li> <li>• Comparison of proportions including absolute risk reduction and relative risk</li> <li>• Characteristics and terminology of well-designed experiments</li> <li>• Expected frequency</li> </ul>

	<ul style="list-style-type: none"> <li>• Chi-square test of homogeneity</li> <li>• Statistical significance</li> </ul>
<a href="#"><u>Interdisciplinary Connections</u></a>	21st Century Life Skills and Careers <ul style="list-style-type: none"> <li>• CRP11 Use technology to enhance productivity.</li> <li>• CRP12 Work productively in teams while using cultural global competence</li> </ul>
<a href="#"><u>Common Assessments</u></a>	<ul style="list-style-type: none"> <li>• Assessment Suite chapter quizzes and tests</li> </ul>

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[New Jersey Student Learning Standards \(NJSLs\)](#)

<a href="#"><u>Subject Area</u></a>	<a href="#"><u>Technology</u></a>	<a href="#"><u>21st Century Life and Careers</u></a>	<a href="#"><u>ELA Companion</u></a>
S-IC.6 Solve real world problems using a variety of techniques, including graphing, proportional reasoning, and utilizing geometric formulas  F-IF.5 Given a graph or a quadratic equation determine the x- and y- intercepts, vertex, maximum/minimum, domain, range, relative maximum and minimum, and behavior  S-ID.5 S-CP.4 Make lists, tables, and tree diagrams to represent all possible outcomes in determining specifics of the sample space  S-ID.5 Compute the probability of compound events using tree diagrams, tables, and other	NJ: 2020 SLS: Science  NJ: Grades 9-12 <ul style="list-style-type: none"> <li>• HS-ETS1 Engineering Design</li> <li>• Students who demonstrate understanding can:</li> </ul> HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineerin	<ul style="list-style-type: none"> <li>• 9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).</li> <li>• 9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).</li> <li>• 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).</li> </ul>	NJ: 2023 SLS: English Language Arts  NJ: Grades 11-12 <ul style="list-style-type: none"> <li>• Speaking and Listening Domain</li> <li>• Speaking and Listening</li> </ul>

<p>methods</p> <p>S-CP.1 Compute and interpret the theoretical probability of a simple event and its complement</p> <p>S-ID.2 Construct and interpret graphical displays of data (e.g., line plots, bar graphs, histograms, box plots, scatter plots) to generally describe the center spread and shape of the distribution of data.</p> <p>S-ID.3. Describe relationship and trend of paired data observed from scatter plots in the context of the situation.</p> <p>S-ID.6 S-CP.5 S-IC.6 Justify decisions using probability measures from a given data set, in real-world contexts.</p> <p>4:4, 4:5 Graph and solve operations of sequences and series.</p>		<p>9.4.2.IML.1: Identify a simple search term to find information in a search engine or digital resource.</p> <p>9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions (e.g., W.4.6, 3.MD.B.3,7.1.NM.IPERS.6</p>	
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Differentiation

<p style="text-align: center;"><b>Differentiation for Support and General Curriculum (504, ELL, Special Education, Struggling Learners)</b></p>	<p style="text-align: center;"><b>Differentiation for Enrichment</b></p>
<p><b>Modifications for Classroom:</b>            Pair visual prompts with verbal presentations            Ask students to restate information, directions, and assignments            Model skills / techniques to be mastered            Extended time to complete class work            Student-directed learning/ independent studies when appropriate</p> <p><b>Modifications for Homework and Assignments:</b>            Extended time to complete assignments            Provide the student with clearly stated (written) expectations and grading criteria for assignments</p> <p><b>Modifications for Assessments:</b>            Extended time on classroom assessments</p>	<p>Use of higher level questioning techniques            Provide assessments that require higher level thinking            Increased production            Substituting written texts with project-based learning            Student-directed learning/ independent studies            Extension activities</p> <p><b>Further Modifications for Honors Students</b>            Students in Honors courses, in addition to regular class assignments, will complete enrichment/extension activities outside of the regular class period. These assignments may be projects, labs, research papers, independent novel study, or other activities assigned by the teacher</p>

## Unit 4

### Binomial Distributions and Statistical Inference

<u>Timeframe</u>	February through April (6 to 8 weeks)
<u>Unit Overview</u>	Binomial Distributions and Statistical Inference develops student understanding of the rules of probability; binomial distributions; expected value; testing a model; simulation; making inferences about the population based on a random sample; margin of error; and comparison of sample surveys, experiments, and observational studies and how randomization relates to each.
<u>Essential Questions</u>	<ol style="list-style-type: none"> <li>1. What are the different rules of probability?</li> <li>2. How are the rules of probability used?</li> <li>3. How does randomization relate to each rule?</li> </ol>
<u>Unit Focus</u>	<ul style="list-style-type: none"> <li>• Review of basic rules and vocabulary of probability (addition and multiplication rules, independent events, mutually exclusive events);</li> <li>• Binomial probability formula;</li> <li>• Expected value;</li> <li>• Statistical significance and P-value;</li> <li>• Design of sample surveys including random sampling and stratified random sampling;</li> <li>• Response bias; sample selection bias;</li> <li>• Sampling distribution; variability in sampling and sampling error; margin of error; and confidence interval.</li> </ul>
<u>Interdisciplinary Connections</u>	21st Century Life Skills and Careers <ul style="list-style-type: none"> <li>• CRP11 Use technology to enhance productivity.</li> <li>• CRP12. Work productively in teams while using cultural global competence</li> </ul>
<u>Common Assessments</u>	<ul style="list-style-type: none"> <li>• Assessment Suite chapter quizzes and tests</li> </ul>

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 Khan Academy

**New Jersey Student Learning Standards (NJSLs)**

<u>Subject Area</u>	<u>Technology</u>	<u>21st Century Life and Careers</u>	<u>ELA Companion</u>
<p>S-IC.6 Solve real world problems using a variety of techniques, including graphing, proportional reasoning, and utilizing geometric formulas</p> <p>F-IF.5 Given a graph or a quadratic equation determine the x- and y- intercepts, vertex, maximum/minimum, domain, range, relative maximum and minimum, and behavior</p> <p>8.F.2 8.F.4 Represent functions in multiple ways (tabular, graphical, symbolic, verbal). Determine domain and range of functions</p> <p>S-ID.5 S-CP.4 Make lists, tables, and tree diagrams to represent all possible outcomes in determining specifics of the sample space</p> <p>.S-ID.5 Compute the probability of compound events using tree diagrams, tables, and other methods</p> <p>S-CP.1 Compute and interpret the theoretical probability of a simple event and its complement</p> <p>S-ID.2 Construct and interpret graphical displays of data (e.g., line plots, bar graphs, histograms, box plots, scatter plots) to generally describe the center spread and shape of the distribution of data.</p> <p>S-ID.3. Describe relationship and trend of paired data observed from scatter plots in</p>	<p>NJ: 2020 SLS: Science</p> <p>NJ: Grades 9-12</p> <ul style="list-style-type: none"> <li>• HS-ETS1 Engineering Design</li> <li>• Students who demonstrate understanding can:</li> </ul> <p>HS-ETS1-2. Design a solution to a complex real-world problem by breaking it down into smaller, more manageable problems that can be solved through engineerin</p>	<p>9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2). •</p> <p>9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).</p> <ul style="list-style-type: none"> <li>• 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).</li> </ul> <p>9.4.2.IML.1: Identify a simple search term to find information in a search engine or digital resource.</p> <p>9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions (e.g., W.4.6, 3.MD.B.3,7.1.NM.IPERS.6</p>	<p>NJ: 2023 SLS: English Language Arts</p> <p>NJ: Grades 11-12</p> <ul style="list-style-type: none"> <li>• Speaking and Listening Domain</li> <li>• Speaking and Listening</li> </ul>

<p>the context of the situation.</p> <p>S-ID.6 S-CP.5 S-IC.6 Justify decisions using probability measures from a given data set, in real-world contexts.</p> <p>4:4, 4:5 Graph and solve operations of sequences and series.</p>			
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<u>Differentiation</u>			
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<b>Differentiation for Support and General Curriculum (504, ELL, Special Education, Struggling Learners)</b>	<b>Differentiation for Enrichment</b>
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<p><b>Modifications for Classroom:</b>          Pair visual prompts with verbal presentations          Ask students to restate information, directions, and assignments          Model skills / techniques to be mastered          Extended time to complete class work          Student-directed learning/ independent studies when appropriate</p> <p><b>Modifications for Homework and Assignments:</b>          Extended time to complete assignments          Provide the student with clearly stated (written) expectations and grading criteria for assignments</p> <p><b>Modifications for Assessments:</b>          Extended time on classroom assessments</p>	<p>Use of higher level questioning techniques          Provide assessments that require higher level thinking          Increased production          Substituting written texts with project-based learning          Student-directed learning/ independent studies          Extension activities</p> <p><b>Further Modifications for Honors Students</b>          Students in Honors courses, in addition to regular class assignments, will complete enrichment/extension activities outside of the regular class period. These assignments may be projects, labs, research papers, independent novel study, or other activities assigned by the teacher</p>
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## Unit 5

### Mathematics of Financial Decision-Making

<u><a href="#">Timeframe</a></u>	April through June (6 to 8 weeks)
<u><a href="#">Unit Overview</a></u>	Mathematics of Financial Decision-Making extends student facility with the use of linear, exponential, and logarithmic functions, expressions, and equations in representing and reasoning about quantitative relationships, especially those involving financial mathematical models.
<u><a href="#">Essential Questions</a></u>	<ol style="list-style-type: none"> <li>1. What are different types of interest?</li> <li>2. How can I compare investment option?</li> <li>3. How can I compare mortgage loan options?</li> <li>4. How can I compare car financing options?</li> </ol>
<u><a href="#">Unit Focus</a></u>	<ul style="list-style-type: none"> <li>• Forms of investment,</li> <li>• Simple and compound interest,</li> <li>• Future value of an increasing annuity,</li> <li>• Comparing investment options,</li> <li>• Continuous compounding and natural logarithms;</li> <li>• Amortization of loans and mortgages,</li> <li>• Present value of a decreasing annuity</li> <li>• Comparing auto loan and lease options.</li> </ul>
<u><a href="#">Interdisciplinary Connections</a></u>	21st Century Life Skills and Careers <ul style="list-style-type: none"> <li>• CRP11 Use technology to enhance productivity.</li> <li>• CRP12. Work productively in teams while using cultural global competence</li> </ul>
<u><a href="#">Common Assessments</a></u>	<ul style="list-style-type: none"> <li>• Assessment Suite chapter quizzes and tests</li> </ul>

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New Jersey Student Learning Standards (NJSLs)

<u>Subject Area</u>	<u>Technology</u>	<u>21st Century Life and Careers</u>	<u>ELA Companion</u>
<p>S-IC.6 Solve real world problems using a variety of techniques, including graphing, proportional reasoning, and utilizing geometric formulas</p> <p>A-CED.2 Write equations in one or two variables to solve or model application problems including mixture and motion problems</p> <p>F-IF.5 Given a graph or a quadratic equation determine the x- and y- intercepts, vertex, maximum/minimum, domain, range, relative maximum and minimum, and behavior</p> <p>8.F.2 8.F.4 Represent functions in multiple ways (tabular, graphical, symbolic, verbal). Determine domain and range of functions .</p> <p>S-ID.5 S-CP.4 Make lists, tables, and tree diagrams to represent all possible outcomes in determining specifics of the sample space</p> <p>.S-ID.5 Compute the probability of compound events using tree diagrams, tables, and other methods</p> <p>S-CP.1 Compute and interpret the theoretical probability of a simple event and its complement</p> <p>S-ID.2 Construct and interpret graphical displays of data (e.g., line plots, bar graphs, histograms, box plots, scatter plots) to generally describe the center spread and shape of the distribution of data.</p>	<p>8.1 Educational Technology: All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.</p> <p>8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming: All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.</p>	<p>9.4.2.CI.1: Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2). •</p> <p>9.4.2.CI.2: Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a). •</p> <p>9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).</p> <p>9.4.2.IML.1: Identify a simple search term to find information in a search engine or digital resource.</p> <p>9.4.5.CI.1: Use appropriate communication technologies to collaborate with individuals with diverse perspectives about a local and/or global climate change issue and deliberate about possible solutions (e.g., W.4.6, 3.MD.B.3,7.1.NM.IPERS.6</p>	<p>RST.11-12.3. Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text</p> <p>RST.11-12.8. Evaluate the hypotheses, data, analysis, and conclusions in a science or technical text, verifying the data when possible and corroborating or challenging conclusions with other sources of information.</p>

<p>S-ID.3. Describe relationship and trend of paired data observed from scatter plots in the context of the situation.</p> <p>S-ID.6 S-CP.5 S-IC.6 Justify decisions using probability measures from a given data set, in real-world contexts.</p> <p>4:4, 4:5 Graph and solve operations of sequences and series.</p>			
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Differentiation

Differentiation for Support and General Curriculum (504, ELL, Special Education, Struggling Learners)	Differentiation for Enrichment
<p><b>Modifications for Classroom:</b>            Pair visual prompts with verbal presentations            Ask students to restate information, directions, and assignments            Model skills / techniques to be mastered            Extended time to complete class work            Student-directed learning/ independent studies when appropriate</p> <p><b>Modifications for Homework and Assignments:</b>            Extended time to complete assignments            Provide the student with clearly stated (written) expectations and grading criteria for assignments</p> <p><b>Modifications for Assessments:</b>            Extended time on classroom assessments</p>	<p>Use of higher level questioning techniques            Provide assessments that require higher level thinking            Increased production            Substituting written texts with project-based learning            Student-directed learning/ independent studies            Extension activities</p> <p><b>Further Modifications for Honors Students</b>            Students in Honors courses, in addition to regular class assignments, will complete enrichment/extension activities outside of the regular class period. These assignments may be projects, labs, research papers, independent novel study, or other activities assigned by the teacher</p>