

Cycle 1	27 Days	<i>The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.</i>
Unit	# Class Periods	
		<p>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p> <p><i>The Mathematical Process Standards are integrated throughout the course in all activities and lessons. Teachers should refer to these standards for instructional strategies and depth of rigor. Specific process standards have been highlighted for each unit, but these process standards should not be the only process standards associated with the daily lessons.</i></p> <p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓟ AQR.1A Apply mathematics to problems arising in everyday life, society, and the workplace. Ⓟ AQR.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution. Ⓟ AQR.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems. Ⓟ AQR.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. Ⓟ AQR.1E Create and use representations to organize, record, and communicate mathematical ideas. Ⓟ AQR.1F Analyze mathematical relationships to connect and communicate mathematical ideas. Ⓟ AQR.1G Display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication. <p>Supporting resources for the course were developed by the University of Texas Dana Center as Advanced Mathematical Decision Making (AMDM). Request to download files from www.utdanacenter.org/amdm. Reusable student books may also be ordered for a fee at this web address.</p>

Cycle 1	27 Days Aug. 23 - Oct. 1, 2021	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
Unit	# Class Periods	<p align="center">Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
<p>Unit 1: Decision Making in Finance: Future Value of Investments Students study future value to build investments.</p>	<p>4 class periods (90-min. each) or 8 class periods (45-min. each)</p> <p><i>Enrichment Opportunities</i> Aug. 2-13</p> <p><i>Teachers Report to Work</i> Aug. 16</p> <p><i>Teacher Service Days</i> Aug. 16-17, Aug. 19-20</p> <p><i>Teacher Prep Day</i> (no students) Aug. 18</p> <p><i>Labor Day</i> Sept. 6</p> <p><i>Fall Holiday</i> Sept. 16</p> <p><i>Teacher Service Day</i> (no students) Sept. 17</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓟ AQR.1A Apply mathematics to problems arising in everyday life, society, and the workplace. Ⓟ AQR.1F Analyze mathematical relationships to connect and communicate mathematical ideas. <p>Algebraic Reasoning (Expressions, Equations, and Generalized Relationships). The student applies the process standards in mathematics to create and analyze mathematical models of everyday situations to make informed decisions related to earning, investing, spending, and borrowing money by appropriate, proficient, and efficient use of tools, including technology. The student uses mathematical relationships to make connections and predictions. The student judges the validity of a prediction and uses mathematical models to represent, analyze, and solve dynamic real-world problems. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.3F Create, represent, and analyze mathematical models for various types of income calculations to determine the best option for a given situation.

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<p>Unit 2: Decision Making in Finance: Present Value of Investments Students study present value to build investments.</p>	<p>3 class periods (90-min. each) or 6 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓢ AQR.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.</p> <p>Ⓢ AQR.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.</p> <p>Algebraic Reasoning (Expressions, Equations, and Generalized Relationships). The student applies the process standards in mathematics to create and analyze mathematical models of everyday situations to make informed decisions related to earning, investing, spending, and borrowing money by appropriate, proficient, and efficient use of tools, including technology. The student uses mathematical relationships to make connections and predictions. The student judges the validity of a prediction and uses mathematical models to represent, analyze, and solve dynamic real-world problems. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.3F Create, represent, and analyze mathematical models for various types of income calculations to determine the best option for a given situation. • AQR.3H Create, represent, and analyze mathematical models and appropriate representations, including formulas and amortization tables, for various types of loans and investments to determine the best option for a given situation.
<p>Unit 3: Building an Investment Students examine the expected value of an investment based on the probability of future value.</p>	<p>3 class periods (90-min. each) or 6 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓢ AQR.1A Apply mathematics to problems arising in everyday life, society, and the workplace.</p> <p>Ⓢ AQR.1F Analyze mathematical relationships to connect and communicate mathematical ideas.</p>

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		<p>Algebraic Reasoning (Expressions, Equations, and Generalized Relationships). The student applies the process standards in mathematics to create and analyze mathematical models of everyday situations to make informed decisions related to earning, investing, spending, and borrowing money by appropriate, proficient, and efficient use of tools, including technology. The student uses mathematical relationships to make connections and predictions. The student judges the validity of a prediction and uses mathematical models to represent, analyze, and solve dynamic real-world problems. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.3H Create, represent, and analyze mathematical models and appropriate representations, including formulas and amortization tables, for various types of loans and investments to determine the best option for a given situation.
<p>Unit 4: Using Credit Students analyze real-world scenarios involving credit card debt, financing, and budgeting.</p> <p>(continues in cycle 2)</p>	<p>4 class periods (90-min. each) or 8 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓟ AQR.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems. Ⓟ AQR.1F Analyze mathematical relationships to connect and communicate mathematical ideas. <p>Algebraic Reasoning (Expressions, Equations, and Generalized Relationships). The student applies the process standards in mathematics to create and analyze mathematical models of everyday situations to make informed decisions related to earning, investing, spending, and borrowing money by appropriate, proficient, and efficient use of tools, including technology. The student uses mathematical relationships to make connections and predictions. The student judges the validity of a prediction and uses mathematical models to represent, analyze, and solve dynamic real-world problems. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.3F Create, represent, and analyze mathematical models for various types of income calculations to determine the best option for a given situation. • AQR.3G Create, represent, and analyze mathematical models for expenditures, including those involving credit, to determine the best option for a given situation.

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	Aug. 23 - Oct. 1, 2021	
Unit	# Class Periods	<p align="center">Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
		<ul style="list-style-type: none"> • AQR.3H Create, represent, and analyze mathematical models and appropriate representations, including formulas and amortization tables, for various types of loans and investments to determine the best option for a given situation.

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	Oct. 5 - Nov. 12, 2021	
		<p align="center">Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
<p>Unit 4: Using Credit Students analyze real-world scenarios involving credit card debt, financing, and budgeting.</p> <p>(continued from cycle 1)</p>	<p>4 class periods (90-min. each) or 8 class periods (45-min. each)</p> <p><i>Teacher Service Day (no students)</i> Oct. 4</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ AQR.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems. Ⓡ AQR.1F Analyze mathematical relationships to connect and communicate mathematical ideas. <p>Algebraic Reasoning (Expressions, Equations, and Generalized Relationships). The student applies the process standards in mathematics to create and analyze mathematical models of everyday situations to make informed decisions related to earning, investing, spending, and borrowing money by appropriate, proficient, and efficient use of tools, including technology. The student uses mathematical relationships to make connections and predictions. The student judges the validity of a prediction and uses mathematical models to represent, analyze, and solve dynamic real-world problems. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.3F Create, represent, and analyze mathematical models for various types of income calculations to determine the best option for a given situation. • AQR.3G Create, represent, and analyze mathematical models for expenditures, including those involving credit, to determine the best option for a given situation. • AQR.3H Create, represent, and analyze mathematical models and appropriate representations, including formulas and amortization tables, for various types of loans and investments to determine the best option for a given situation.
<p>Unit 5: Analysis of Numerical Data by Estimating Large Numbers Students analyze numerical data by estimating large numbers using proportionality.</p>	<p>2 class periods (90-min. each) or 4 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ AQR.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.

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Oct. 5 - Nov. 12, 2021		
Unit	# Class Periods	<p align="center">Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
		<p>Ⓟ AQR.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.</p> <p>Numeric Reasoning. The student applies the process standards in mathematics to generate new understandings by extending existing knowledge. The student generates new mathematical understandings through problems involving numerical data that arise in everyday life, society, and the workplace. The student extends existing knowledge and skills to analyze real-world situations. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.2A Use precision and accuracy in real-life situations related to measurement and significant figures. • AQR.2C Solve problems involving quantities that are not easily measured using proportionality. • AQR.2E Solve problems involving large quantities using combinatorics. <p>Probabilistic and Statistical Reasoning. The student uses the process standards in mathematics to generate new understandings of probability and statistics. The student analyzes statistical information and evaluates risk and return to connect mathematical ideas and make informed decisions. The student applies a problem-solving model and statistical methods to design and conduct a study that addresses one or more particular question(s). The student uses multiple representations to communicate effectively the results of student-generated statistical studies and the critical analysis of published statistical studies. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.4A Use a two-way frequency table as a sample space to identify whether two events are independent and to interpret the results. • AQR.4C Calculate conditional probabilities and probabilities of compound events using tree diagrams, Venn diagrams, area models, and formulas. • AQR.4D Interpret conditional probabilities and probabilities of compound events by analyzing representations to make decisions in problem situations.
<p>Unit 6: Ratios and Numerical Data Students analyze numerical data using ratios.</p>	<p>3 class periods (90-min. each) or 6 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓟ AQR.1E Create and use representations to organize, record, and communicate mathematical ideas.</p>

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		<p>Ⓢ AQR.1G Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.</p> <p>Numeric Reasoning. The student applies the process standards in mathematics to generate new understandings by extending existing knowledge. The student generates new mathematical understandings through problems involving numerical data that arise in everyday life, society, and the workplace. The student extends existing knowledge and skills to analyze real-world situations. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.2B Apply and analyze published ratings, weighted averages, and indices to make formal decisions.
<p>Unit 7: Indices Using Weighted Sums and Averages Students analyze numerical data by using weighted sums and weighted averages.</p>	<p>2 class periods (90-min. each) or 4 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓢ AQR.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.</p> <p>Ⓢ AQR.1E Create and use representations to organize, record, and communicate mathematical ideas.</p> <p>Numeric Reasoning. The student applies the process standards in mathematics to generate new understandings by extending existing knowledge. The student generates new mathematical understandings through problems involving numerical data that arise in everyday life, society, and the workplace. The student extends existing knowledge and skills to analyze real-world situations. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.2B Apply and analyze published ratings, weighted averages, and indices to make formal decisions. • AQR.2F Use arrays to efficiently manage large collections of data and add, subtract, and multiply matrices to solve applied problems, including geometric transformations.

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Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course. The student will:
Unit 8: Identification Numbers Students analyze numerical data to validate identification numbers.	2 class periods (90-min. each) or 4 class periods (45-min. each)	Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓡ AQR.1E Create and use representations to organize, record, and communicate mathematical ideas. Ⓡ AQR.1F Analyze mathematical relationships to connect and communicate mathematical ideas. Numeric Reasoning. The student applies the process standards in mathematics to generate new understandings by extending existing knowledge. The student generates new mathematical understandings through problems involving numerical data that arise in everyday life, society, and the workplace. The student extends existing knowledge and skills to analyze real-world situations. The student is expected to: <ul style="list-style-type: none"> • AQR.2E Solve problems involving large quantities using combinatorics. • AQR.2F Use arrays to efficiently manage large collections of data and add, subtract, and multiply matrices to solve applied problems, including geometric transformations.
Unit 9: Probability Using Diagrams Students analyze Venn diagrams and tree diagrams to determine probabilities. (continues in cycle 3)	4 class periods (90-min. each) or 8 class periods (45-min. each)	Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: Ⓡ AQR.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution. Ⓡ AQR.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems. Probabilistic and Statistical Reasoning. The student uses the process standards in mathematics to generate new understandings of probability and statistics. The student analyzes statistical information and evaluates risk and return to connect mathematical ideas and make informed decisions. The student applies a problem-solving model and statistical methods to design and conduct a study that addresses one or more particular question(s). The student uses multiple representations to effectively communicate the results of student-generated statistical studies and the critical analysis of published statistical studies. The student is expected to:

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Unit	# Class Periods	<p align="center">Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
		<ul style="list-style-type: none"> • AQR.4A Use a two-way frequency table as a sample space to identify whether two events are independent and to interpret the results. • AQR.4C Calculate conditional probabilities and probabilities of compound events using tree diagrams, Venn diagrams, area models, and formulas. • AQR.4D Interpret conditional probabilities and probabilities of compound events by analyzing representations to make decisions in problem situations.

Cycle 3	30 Days	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
	Nov. 15, 2021 - Jan. 14, 2022	
Unit	# Class Periods	<p>Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
<p>Unit 9: Probability Using Diagrams Students analyze Venn diagrams and tree diagrams to determine probabilities.</p> <p>(continued from cycle 2)</p>	<p>4 class periods (90-min. each) or 8 class periods (45-min. each)</p> <p><i>Thanksgiving Break</i> Nov. 22-26</p> <p><i>Enrichment Opportunities</i> Dec. 20-21</p> <p><i>Winter Break</i> Dec. 20-31</p> <p><i>MLK Jr. Day</i> Jan. 17</p> <p><i>Teacher Prep Day</i> (no students) Jan. 18</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓟ AQR.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.</p> <p>Ⓟ AQR.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.</p> <p>Probabilistic and Statistical Reasoning. The student uses the process standards in mathematics to generate new understandings of probability and statistics. The student analyzes statistical information and evaluates risk and return to connect mathematical ideas and make informed decisions. The student applies a problem-solving model and statistical methods to design and conduct a study that addresses one or more particular question(s). The student uses multiple representations to effectively communicate the results of student-generated statistical studies and the critical analysis of published statistical studies. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.4A Use a two-way frequency table as a sample space to identify whether two events are independent and to interpret the results. • AQR.4C Calculate conditional probabilities and probabilities of compound events using tree diagrams, Venn diagrams, area models, and formulas. • AQR.4D Interpret conditional probabilities and probabilities of compound events by analyzing representations to make decisions in problem situations.
<p>Unit 10: Decisions Based on Probabilities Students analyze probabilities involving everyday events and decisions.</p>	<p>3 class periods (90-min. each) or 6 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓟ AQR.1E Create and use representations to organize, record, and communicate mathematical ideas.</p> <p>Ⓟ AQR.1F Analyze mathematical relationships to connect and communicate mathematical ideas.</p>

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		<p>Numeric Reasoning. The student applies the process standards in mathematics to generate new understandings by extending existing knowledge. The student generates new mathematical understandings through problems involving numerical data that arise in everyday life, society, and the workplace. The student extends existing knowledge and skills to analyze real-world situations. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.2E Solve problems involving large quantities using combinatorics. <p>Probabilistic and Statistical Reasoning. The student uses the process standards in mathematics to generate new understandings of probability and statistics. The student analyzes statistical information and evaluates risk and return to connect mathematical ideas and make informed decisions. The student applies a problem-solving model and statistical methods to design and conduct a study that addresses one or more particular question(s). The student uses multiple representations to communicate effectively the results of student-generated statistical studies and the critical analysis of published statistical studies. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.4B Use the Addition Rule, $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$, in mathematical and real-world problems. • AQR.4E Use probability to make and justify decisions about risks in everyday life. • AQR.4F Calculate expected value to analyze mathematical fairness, payoff, and risk.
Unit 11: Probability with Expected Value Students analyze expected value for mathematical fairness.	2 class periods (90-min. each) or 4 class periods (45-min. each)	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ AQR.1A Apply mathematics to problems arising in everyday life, society, and the workplace. Ⓡ AQR.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.

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		Probabilistic and Statistical Reasoning. The student uses the process standards in mathematics to generate new understandings of probability and statistics. The student analyzes statistical information and evaluates risk and return to connect mathematical ideas and make informed decisions. The student applies a problem-solving model and statistical methods to design and conduct a study that addresses one or more particular question(s). The student uses multiple representations to communicate effectively the results of student-generated statistical studies and the critical analysis of published statistical studies. The student is expected to: <ul style="list-style-type: none"> • AQR.4F Calculate expected value to analyze mathematical fairness, payoff, and risk.
Unit 12: Statistical Studies and Investigations Through various methods of investigating data, students analyze data studies for accuracy and bias.	3 class periods (90-min. each) or 6 class periods (45-min. each)	Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to: <ul style="list-style-type: none"> Ⓟ AQR.1E Create and use representations to organize, record, and communicate mathematical ideas. Ⓟ AQR.1G Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication. Probabilistic and Statistical Reasoning. The student uses the process standards in mathematics to generate new understandings of probability and statistics. The student analyzes statistical information and evaluates risk and return to connect mathematical ideas and make informed decisions. The student applies a problem-solving model and statistical methods to design and conduct a study that addresses one or more particular question(s). The student uses multiple representations to communicate effectively the results of student-generated statistical studies and the critical analysis of published statistical studies. The student is expected to: <ul style="list-style-type: none"> • AQR.4G Determine the validity of logical arguments that include compound conditional statements by constructing truth tables. • AQR.4H Identify limitations or lack of information in studies reporting statistical information, including when studies are reported in condensed form. • AQR.4I Interpret and compare the results of polls, given a margin of error.

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		<p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p> <ul style="list-style-type: none"> • AQR.4J Identify potential misuses of statistics to justify particular conclusions, including assertions of a cause-and-effect relationship rather than an association, and missteps or fallacies in logical reasoning. • AQR.4K Describe strengths and weaknesses of sampling techniques, data and graphical displays, and interpretations of summary statistics and other results appearing in a study, including reports published in media. • AQR.4L Determine the need for and purpose of a statistical investigation and what type of statistical analysis can be used to answer a specific question or set of questions. • AQR.4M Identify the population of interest for a statistical investigation, select an appropriate sampling technique, and collect data. • AQR.4N Identify the variables to be used in a study. • AQR.4O Determine possible sources of statistical bias in a study and how bias may affect the validity of the results. • AQR.4Q Analyze possible sources of data variability, including those that can be controlled and those that cannot be controlled. • AQR.4S Justify the design and the conclusion(s) of statistical studies, including the methods used.

Cycle 4		27 Days Jan. 19 - Feb. 25, 2022	<i>The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.</i>
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs) The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course. The student will:	
Unit 13: Analyzing Data Students analyze the appropriateness and usefulness of graphical displays.	4 class periods (90-min. each) or 8 class periods (45-min. each) <i>Teacher Service Day/Presidents' Day (no students) Feb. 21</i>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓢ AQR.1A Apply mathematics to problems arising in everyday life, society, and the workplace. Ⓢ AQR.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. Ⓢ AQR.1E Create and use representations to organize, record, and communicate mathematical ideas. <p>Numeric Reasoning. The student applies the process standards in mathematics to generate new understandings by extending existing knowledge. The student generates new mathematical understandings through problems involving numerical data that arise in everyday life, society, and the workplace. The student extends existing knowledge and skills to analyze real-world situations. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.2G Analyze various voting and selection processes to compare results in given situations. <p>Probabilistic and Statistical Reasoning. The student uses the process standards in mathematics to generate new understandings of probability and statistics. The student analyzes statistical information and evaluates risk and return to connect mathematical ideas and make informed decisions. The student applies a problem-solving model and statistical methods to design and conduct a study that addresses one or more particular question(s). The student uses multiple representations to communicate effectively the results of student-generated statistical studies and the critical analysis of published statistical studies. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.4I Interpret and compare the results of polls, given a margin of error. • AQR.4J Identify potential misuses of statistics to justify particular conclusions, including assertions of a cause-and-effect relationship rather than an association, and missteps or fallacies in logical reasoning. • AQR.4K Describe strengths and weaknesses of sampling techniques, data and graphical displays, and interpretations of summary statistics and other results appearing in a study, including reports published in media. • AQR.4P Create data displays for given data sets to investigate, compare, and estimate center, shape, spread, and unusual features of the data. 	

Cycle 4	27 Days Jan. 19 - Feb. 25, 2022	<i>The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.</i>
Unit	# Class Periods	<p align="center">Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
		<ul style="list-style-type: none"> • AQR.4R Report results of statistical studies, including selecting an appropriate presentation format, creating graphical data displays, and interpreting results in terms of the question studied. • AQR.4S Justify the design and the conclusion(s) of statistical studies, including the methods used for each. • AQR.4T Communicate statistical results in oral and written formats using appropriate statistical and nontechnical language.
<p>Unit 14: Statistical Studies: Source of Variability Students investigate sources of statistical bias and variability.</p>	<p>3 class periods (90-min. each) or 6 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓟ AQR.1B Use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution.</p> <p>Ⓟ AQR.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.</p> <p>Probabilistic and Statistical Reasoning. The student uses the process standards in mathematics to generate new understandings of probability and statistics. The student analyzes statistical information and evaluates risk and return to connect mathematical ideas and make informed decisions. The student applies a problem-solving model and statistical methods to design and conduct a study that addresses one or more particular question(s). The student uses multiple representations to communicate effectively the results of student-generated statistical studies and the critical analysis of published statistical studies. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.4J Identify potential misuses of statistics to justify particular conclusions, including assertions of a cause-and-effect relationship rather than an association, and missteps or fallacies in logical reasoning. • AQR.4K Describe strengths and weaknesses of sampling techniques, data and graphical displays, and interpretations of summary statistics and other results appearing in a study, including reports published in media. • AQR.4O Determine possible sources of statistical bias in a study and how bias may affect the validity of the results. • AQR.4Q Analyze possible sources of data variability, including those that can be controlled and those that cannot be controlled.

Cycle 4	27 Days Jan. 19 - Feb. 25, 2022	<i>The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.</i>
Unit	# Class Periods	<p align="center">Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
<p>Unit 15: Recursion in Modeling: Relationships in Data Students study recursion relationships in data and various representations from linear models.</p>	<p>2 class periods (90-min. each) or 4 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓢ AQR.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. Ⓢ AQR.1G Display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication. <p>Numeric Reasoning. The student applies the process standards in mathematics to generate new understandings by extending existing knowledge. The student generates new mathematical understandings through problems involving numerical data that arise in everyday life, society, and the workplace. The student extends existing knowledge and skills to analyze real-world situations. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.2H Select and apply an algorithm of interest to solve real-life problems such as problems using recursion or iteration involving population growth or decline, fractals, and compound interest; the validity in recorded and transmitted data using checksums and hashing; sports rankings, weighted class rankings, and search engine rankings; and problems involving scheduling or routing situations using vertex-edge graphs, critical paths, Euler paths, and minimal spanning trees, and communicate to peers the application of the algorithm in precise mathematical and nontechnical language. <p>Algebraic Reasoning (Expressions, Equations, and Generalized Relationships). The student applies the process standards in mathematics to create and analyze mathematical models of everyday situations to make informed decisions related to earning, investing, spending, and borrowing money by appropriate, proficient, and efficient use of tools, including technology. The student uses mathematical relationships to make connections and predictions. The student judges the validity of a prediction and uses mathematical models to represent, analyze, and solve dynamic real-world problems. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.3A Collect numerical bivariate data to create a scatterplot, select a function to model the data, justify the model selection, and use the model to interpret results and make predictions.

Cycle 4	27 Days Jan. 19 - Feb. 25, 2022	<i>The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.</i>
Unit	# Class Periods	<p align="center">Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
		<ul style="list-style-type: none"> • AQR.3B Describe the degree to which uncorrelated variables may or may not be related and analyze situations where correlated variables do or do not indicate a cause-and-effect relationship.
<p>Unit 16: Recursion in Exponential Growth and Decay Students study recursion relationships in data and various representations from exponential models.</p>	<p>3 class periods (90-min. each) or 6 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓟ AQR.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. Ⓟ AQR.1G Display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication. <p>Numeric Reasoning. The student applies the process standards in mathematics to generate new understandings by extending existing knowledge. The student generates new mathematical understandings through problems involving numerical data that arise in everyday life, society, and the workplace. The student extends existing knowledge and skills to analyze real-world situations. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.2H Select and apply an algorithm of interest to solve real-life problems such as problems using recursion or iteration involving population growth or decline, fractals, and compound interest; the validity in recorded and transmitted data using checksums and hashing; sports rankings, weighted class rankings, and search engine rankings; and problems involving scheduling or routing situations using vertex-edge graphs, critical paths, Euler paths, and minimal spanning trees, and communicate to peers the application of the algorithm in precise mathematical and nontechnical language. <p>Algebraic Reasoning (Expressions, Equations, and Generalized Relationships). The student applies the process standards in mathematics to create and analyze mathematical models of everyday situations to make informed decisions related to earning, investing, spending, and borrowing money by appropriate, proficient, and efficient use of tools, including technology. The student uses mathematical relationships to make connections and predictions. The student judges the validity of a prediction and uses mathematical models to represent, analyze, and solve dynamic real-world problems. The student is expected to:</p>

Cycle 4	27 Days	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
	Jan. 19 - Feb. 25, 2022	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)
		<p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p> <ul style="list-style-type: none"> • AQR.3B Describe the degree to which uncorrelated variables may or may not be related and analyze situations where correlated variables do or do not indicate a cause-and-effect relationship. • AQR.3C Determine and analyze an appropriate growth or decay model for problem situations, including linear, exponential, and logistic functions.

Cycle 5		33 Days	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
		Feb. 28 - Apr. 22, 2022	
Unit	# Class Periods	Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)	
		The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.	
		The student will:	
Unit 17: Recursion Using Rate of Change Students study recursion relationships in data and various representations with rate of change.	4 class periods (90-min. each) or 8 class periods (45-min. each) <i>Enrichment Opportunities</i> <i>Mar. 14-16</i> <i>Spring Break</i> <i>Mar. 14-18</i> <i>Chávez-Huerta Day</i> <i>Mar. 28</i> <i>Spring Holiday</i> <i>Apr. 15</i>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓟ AQR.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems. Ⓟ AQR.1F Analyze mathematical relationships to connect and communicate mathematical ideas. <p>Algebraic Reasoning (Expressions, Equations, and Generalized Relationships). The student applies the process standards in mathematics to create and analyze mathematical models of everyday situations to make informed decisions related to earning, investing, spending, and borrowing money by appropriate, proficient, and efficient use of tools, including technology. The student uses mathematical relationships to make connections and predictions. The student judges the validity of a prediction and uses mathematical models to represent, analyze, and solve dynamic real-world problems. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.3B Describe the degree to which uncorrelated variables may or may not be related and analyze situations where correlated variables do or do not indicate a cause-and-effect relationship. • AQR.3C Determine and analyze an appropriate growth or decay model for problem situations, including linear, exponential, and logistic functions. 	
Unit 18: Recursion in Cyclical Modeling Students study recursion relationships in data and various representations from cyclical models.	2 class periods (90-min. each) or 4 class periods (45-min. each)	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓟ AQR.1A Apply mathematics to problems arising in everyday life, society, and the workplace. Ⓟ AQR.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems. <p>Numeric Reasoning. The student applies the process standards in mathematics to generate new understandings by extending existing knowledge. The student generates new mathematical understandings through problems involving numerical data that arise in everyday life, society, and the workplace. The student extends existing knowledge and skills to analyze real-world situations. The student is expected to:</p>	

Cycle 5	33 Days Feb. 28 - Apr. 22, 2022	<i>The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.</i>
Unit	# Class Periods	<p align="center">Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
		<ul style="list-style-type: none"> • AQR.2D Solve geometric problems involving indirect measurement, including similar triangles, the Pythagorean Theorem, law of sines, law of cosines, and the use of dynamic geometry software. <p>Algebraic Reasoning (Expressions, Equations, and Generalized Relationships). The student applies the process standards in mathematics to create and analyze mathematical models of everyday situations to make informed decisions related to earning, investing, spending, and borrowing money by appropriate, proficient, and efficient use of tools, including technology. The student uses mathematical relationships to make connections and predictions. The student judges the validity of a prediction and uses mathematical models to represent, analyze, and solve dynamic real-world problems. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.3B Describe the degree to which uncorrelated variables may or may not be related and analyze situations where correlated variables do or do not indicate a cause-and-effect relationship. • AQR.3D Determine or analyze an appropriate growth or decay model for problem situations that can be modeled with periodic functions.
<p>Unit 19: Functions in Models: Regression in Linear and Nonlinear Functions Students study regression relationships in linear and nonlinear functions.</p>	<p>3 class periods (90-min. each) or 6 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓟ AQR.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.</p> <p>Ⓟ AQR.1F Analyze mathematical relationships to connect and communicate mathematical ideas.</p> <p>Algebraic Reasoning (Expressions, Equations, and Generalized Relationships). The student applies the process standards in mathematics to create and analyze mathematical models of everyday situations to make informed decisions related to earning, investing, spending, and borrowing money by appropriate, proficient, and efficient use of tools, including technology. The student uses mathematical relationships to make connections and predictions. The student judges the validity of a prediction and uses mathematical models to represent, analyze, and solve dynamic real-world problems. The student is expected to:</p>

Cycle 5	33 Days Feb. 28 - Apr. 22, 2022	<i>The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.</i>
Unit	# Class Periods	<p align="center">Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
		<ul style="list-style-type: none"> • AQR.3A Collect numerical bivariate data to create a scatterplot, select a function to model the data, justify the model selection, and use the model to interpret results and make predictions. • AQR.3B Describe the degree to which uncorrelated variables may or may not be related and analyze situations where correlated variables do or do not indicate a cause-and-effect relationship. • AQR.3C Determine and analyze an appropriate growth or decay model for problem situations, including linear, exponential, and logistic functions.
<p>Unit 20: Functions in Models: Cyclical Functions Students study regression relationships in cyclical functions.</p>	<p>3 class periods (90-min. each) or 6 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <p>Ⓟ AQR.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems.</p> <p>Ⓟ AQR.1G Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.</p> <p>Algebraic Reasoning (Expressions, Equations, and Generalized Relationships). The student applies the process standards in mathematics to create and analyze mathematical models of everyday situations to make informed decisions related to earning, investing, spending, and borrowing money by appropriate, proficient, and efficient use of tools, including technology. The student uses mathematical relationships to make connections and predictions. The student judges the validity of a prediction and uses mathematical models to represent, analyze, and solve dynamic real-world problems. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.3B Describe the degree to which uncorrelated variables may or may not be related and analyze situations where correlated variables do or do not indicate a cause-and-effect relationship. • AQR.3D Determine or analyze an appropriate growth or decay model for problem situations that can be modeled with periodic functions.

Cycle 5	33 Days Feb. 28 - Apr. 22, 2022	<i>The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.</i>
Unit	# Class Periods	<p align="center">Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
<p>Unit 21: Step and Piecewise Functions Students study regression relationships in linear, nonlinear, and cyclical functions.</p> <p>(continues in cycle 6)</p>	<p>4 class periods (90-min. each) or 8 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ AQR.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems. Ⓡ AQR.1F Analyze mathematical relationships to connect and communicate mathematical ideas. <p>Numeric Reasoning. The student applies the process standards in mathematics to generate new understandings by extending existing knowledge. The student generates new mathematical understandings through problems involving numerical data that arise in everyday life, society, and the workplace. The student extends existing knowledge and skills to analyze real-world situations. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.2H Select and apply an algorithm of interest to solve real-life problems such as problems using recursion or iteration involving population growth or decline, fractals, and compound interest; the validity in recorded and transmitted data using checksums and hashing; sports rankings, weighted class rankings, and search engine rankings; and problems involving scheduling or routing situations using vertex-edge graphs, critical paths, Euler paths, and minimal spanning trees, and communicate to peers the application of the algorithm in precise mathematical and nontechnical language. <p>Algebraic Reasoning (Expressions, Equations, and Generalized Relationships). The student applies the process standards in mathematics to create and analyze mathematical models of everyday situations to make informed decisions related to earning, investing, spending, and borrowing money by appropriate, proficient, and efficient use of tools, including technology. The student uses mathematical relationships to make connections and predictions. The student judges the validity of a prediction and uses mathematical models to represent, analyze, and solve dynamic real-world problems. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.3E Determine or analyze an appropriate piecewise model for problem situations.

Cycle 5	33 Days	The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.
	Feb. 28 - Apr. 22, 2022	
Unit	# Class Periods	<p align="center">Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
		<p>Probabilistic and Statistical Reasoning. The student uses the process standards in mathematics to generate new understandings of probability and statistics. The student analyzes statistical information and evaluates risk and return to connect mathematical ideas and make informed decisions. The student applies a problem-solving model and statistical methods to design and conduct a study that addresses one or more particular question(s). The student uses multiple representations to communicate effectively the results of student-generated statistical studies and the critical analysis of published statistical studies. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.4T Communicate statistical results in oral and written formats using appropriate statistical and nontechnical language.

Cycle 6	31 Days Apr. 25 - June 7, 2022	<i>The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.</i>
Unit	# Class Periods	<p align="center">Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
<p>Unit 21: Step and Piecewise Functions Students study regression relationships in linear, nonlinear, and cyclical functions.</p> <p>(continued from cycle 5)</p>	<p>4 class periods (90-min. each) or 8 class periods (45-min. each)</p> <p><i>Memorial Day May 30</i></p> <p><i>Teacher Prep Day (no students) June 8</i></p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓡ AQR.1C Select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems. Ⓡ AQR.1F Analyze mathematical relationships to connect and communicate mathematical ideas. <p>Numeric Reasoning. The student applies the process standards in mathematics to generate new understandings by extending existing knowledge. The student generates new mathematical understandings through problems involving numerical data that arise in everyday life, society, and the workplace. The student extends existing knowledge and skills to analyze real-world situations. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.2H Select and apply an algorithm of interest to solve real-life problems such as problems using recursion or iteration involving population growth or decline, fractals, and compound interest; the validity in recorded and transmitted data using checksums and hashing; sports rankings, weighted class rankings, and search engine rankings; and problems involving scheduling or routing situations using vertex-edge graphs, critical paths, Euler paths, and minimal spanning trees, and communicate to peers the application of the algorithm in precise mathematical and nontechnical language. <p>Algebraic Reasoning (Expressions, Equations, and Generalized Relationships). The student applies the process standards in mathematics to create and analyze mathematical models of everyday situations to make informed decisions related to earning, investing, spending, and borrowing money by appropriate, proficient, and efficient use of tools, including technology. The student uses mathematical relationships to make connections and predictions. The student judges the validity of a prediction and uses mathematical models to represent, analyze, and solve dynamic real-world problems. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.3E Determine or analyze an appropriate piecewise model for problem situations.

Cycle 6	31 Days Apr. 25 - June 7, 2022	<i>The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.</i>
Unit	# Class Periods	<p align="center">Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
		<p>Probabilistic and Statistical Reasoning. The student uses the process standards in mathematics to generate new understandings of probability and statistics. The student analyzes statistical information and evaluates risk and return to connect mathematical ideas and make informed decisions. The student applies a problem-solving model and statistical methods to design and conduct a study that addresses one or more particular question(s). The student uses multiple representations to communicate effectively the results of student-generated statistical studies and the critical analysis of published statistical studies. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.4T Communicate statistical results in oral and written formats using appropriate statistical and nontechnical language.
<p>Unit 22: Networks, Circuit, Paths, and Graph Structures Students develop networks and graphs to solve real-world situations.</p>	<p>2 class periods (90-min. each) or 4 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓟ AQR.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. Ⓟ AQR.1G Display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication. <p>Numeric Reasoning. The student applies the process standards in mathematics to generate new understandings by extending existing knowledge. The student generates new mathematical understandings through problems involving numerical data that arise in everyday life, society, and the workplace. The student extends existing knowledge and skills to analyze real-world situations. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.2H Select and apply an algorithm of interest to solve real-life problems such as problems using recursion or iteration involving population growth or decline, fractals, and compound interest; the validity in recorded and transmitted data using checksums and hashing; sports rankings, weighted class rankings, and search engine rankings; and problems involving scheduling or routing situations using vertex-edge graphs, critical paths, Euler paths, and minimal spanning trees, and communicate to peers the application of the algorithm in precise mathematical and nontechnical language.

Cycle 6	31 Days Apr. 25 - June 7, 2022	<i>The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.</i>
Unit	# Class Periods	<p align="center">Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
<p>Unit 23: Spanning Trees Students develop graphs and spanning trees to solve real-world situations.</p>	<p>2 class periods (90-min. each) or 4 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓟ AQR.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. Ⓟ AQR.1G Display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication. <p>Numeric Reasoning. The student applies the process standards in mathematics to generate new understandings by extending existing knowledge. The student generates new mathematical understandings through problems involving numerical data that arise in everyday life, society, and the workplace. The student extends existing knowledge and skills to analyze real-world situations. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.2H Select and apply an algorithm of interest to solve real-life problems such as problems using recursion or iteration involving population growth or decline, fractals, and compound interest; the validity in recorded and transmitted data using checksums and hashing; sports rankings, weighted class rankings, and search engine rankings; and problems involving scheduling or routing situations using vertex-edge graphs, critical paths, Euler paths, and minimal spanning trees, and communicate to peers the application of the algorithm in precise mathematical and nontechnical language.
<p>Unit 24: Graph Coloring Students create maps conforming to coloring properties.</p>	<p>2 class periods (90-min. each) or 4 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓟ AQR.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. Ⓟ AQR.1G Display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication. <p>Numeric Reasoning. The student applies the process standards in mathematics to generate new understandings by extending existing knowledge. The student generates new mathematical understandings through problems involving numerical data that arise in everyday life, society, and the workplace.</p>

Cycle 6	31 Days Apr. 25 - June 7, 2022	<i>The recommended number of class periods is less than the number of days in the grading cycle to accommodate differentiated instruction, extended learning time, and assessment days. Complete instructional planning information and support are in the HISD Curriculum documents.</i>
Unit	# Class Periods	<p align="center">Texas Essential Knowledge and Skills/Student Expectations (TEKS/SEs)</p> <p>The bold face words in the TEKS SEs indicate concepts addressed specially in this unit, the unbolded concepts are addressed in other units of this course.</p> <p>The student will:</p>
		<p>The student extends existing knowledge and skills to analyze real-world situations. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.2H Select and apply an algorithm of interest to solve real-life problems such as problems using recursion or iteration involving population growth or decline, fractals, and compound interest; the validity in recorded and transmitted data using checksums and hashing; sports rankings, weighted class rankings, and search engine rankings; and problems involving scheduling or routing situations using vertex-edge graphs, critical paths, Euler paths, and minimal spanning trees, and communicate to peers the application of the algorithm in precise mathematical and nontechnical language.
<p>Unit 25: PERT Charts Students analyze activity graphs using Program Evaluation and Review Technique (PERT) charts.</p>	<p>2 class periods (90-min. each) or 4 class periods (45-min. each)</p>	<p>Mathematical Process Standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</p> <ul style="list-style-type: none"> Ⓟ AQR.1D Communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate. Ⓟ AQR.1G Display, explain, or justify mathematical ideas and arguments using precise mathematical language in written or oral communication. <p>Numeric Reasoning. The student applies the process standards in mathematics to generate new understandings by extending existing knowledge. The student generates new mathematical understandings through problems involving numerical data that arise in everyday life, society, and the workplace. The student extends existing knowledge and skills to analyze real-world situations. The student is expected to:</p> <ul style="list-style-type: none"> • AQR.2H Select and apply an algorithm of interest to solve real-life problems such as problems using recursion or iteration involving population growth or decline, fractals, and compound interest; the validity in recorded and transmitted data using checksums and hashing; sports rankings, weighted class rankings, and search engine rankings; and problems involving scheduling or routing situations using vertex-edge graphs, critical paths, Euler paths, and minimal spanning trees, and communicate to peers the application of the algorithm in precise mathematical and nontechnical language.