
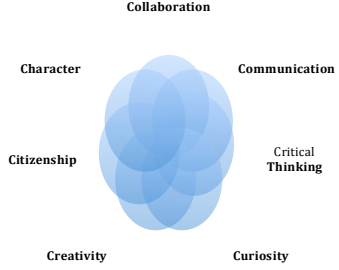


Content Area	Course: Financial Mathematics	Grade Level: 11-12
	<p><b>R14 The Seven Cs of Learning</b></p> 	
Unit Titles	Length of Unit	
<ul style="list-style-type: none"> <li>Managing Your Money</li> </ul>	9-13 weeks	
<ul style="list-style-type: none"> <li>Managing Your Expenses</li> </ul>	6-8 weeks	
<ul style="list-style-type: none"> <li>Making Financial Decisions</li> </ul>	7-11 weeks	
<ul style="list-style-type: none"> <li>Making Business Finances</li> </ul>	6-10 weeks	



Strands	Course Level Expectations*
<p><b>1.0 Use the rational decision-making process as it applies to the roles of citizens, workers, and consumers.</b></p>	<ul style="list-style-type: none"> <li>• Define and give examples of economic wants and needs.</li> <li>• Recognize and assume responsibility for the consequences of economic choices.</li> <li>• Apply the steps in a rational decision-making process to a situation involving an economic decision by an individual.</li> <li>• Apply the decision-making process to various types of decisions at different stages of the life-cycle.</li> <li>• Differentiate between types of decisions and identify those for which a formal decision-making process should be used.</li> <li>• Analyze the effects of inflations and taxes on business and financial management decisions.</li> <li>• CC.9-12.A.SSE.1: Interpret expressions that represent a quantity in terms of its context.</li> <li>• CC.9-12.A.CED.1: Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions</li> </ul>

<p><b>2.0 Identify various forms of income and analyze factors that affect income as a part of the career decision-making process.</b></p>	<ul style="list-style-type: none"> <li>• Identify various ways people earn a living.</li> <li>• Calculate Net Pay</li> <li>• CC.9-12.A.SSE.1: Interpret expressions that represent a quantity in terms of its context.</li> <li>• CC.9-12.A.CED.1: Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.</li> <li>• CC.9-12.A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.</li> <li>• Analyze how career choice, education, and skills affect income and goal attainment.</li> <li>• Analyze the characteristics and requirements of occupations of interest, including entrepreneurial opportunities.</li> <li>• CC.9-12.A.SSE.1: Interpret expressions that represent a quantity in terms of its context.</li> <li>• CC.9-12.A.CED.1: Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions.</li> <li>• Discuss how personal choices concerning human capital (experiences, technology, educational/training, and other factors) influence income.</li> </ul>
<p><b>3.0 Develop and evaluate a budget plan.</b></p>	<ul style="list-style-type: none"> <li>• Identify various sources of money for personal spending.</li> <li>• Construct and use a personal budget plan and evaluate it according to short- and long-term goals.</li> <li>• Define fixed and variable expenses.</li> <li>• Categorize and classify expenses as fixed or variable.</li> <li>• Determine discretionary income in a budget plan.</li> <li>• Compare a personal budget plan with typical consumer spending as a tool for determining individual financial goals.</li> <li>• CC.9-12.F.1F.4 For a function that models a relationship between two quantities, interpret key features of the 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.</li> <li>• CC.9-12.F.IF.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function <math>h(n)</math> gives the number of person-hours it takes to assemble <math>n</math> engines in a factory, then the positive integers would be an appropriate domain for the function.</li> <li>• CC.9-12.F.IF.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table)</li> </ul>

	<p>over a specified interval. Estimate the rate of change from a graph.</p> <ul style="list-style-type: none"> <li>Describe how income and spending patterns change throughout the life cycle for the typical person or family.</li> </ul>
<p><b>4.0 Evaluate savings and investment options to meet short- and long-term goals.</b></p>	<ul style="list-style-type: none"> <li>Describe why and how people save and identify the opportunity costs of saving.</li> <li>Differentiate between saving and investing and distinguish between simple and compound interest.</li> <li>Apply criteria for choosing a saving or investment instrument (e.g. market risk, inflation risk, interest rate risk, liquidity, and minimum amount needed for investment).</li> <li>Explain why a savings and investing plan changes as one proceeds through the life cycle.</li> <li>CC.9-12.F.LE.1b Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.</li> <li>CC.9-12.F.LE.1c Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.</li> <li>CC.9-12.F.LE.3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.</li> <li>Explain how and why the stock market works.</li> <li>CC.9-12.F.1F.4 For a function that models a relationship between two quantities, interpret key features of the 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.</li> <li>CC.9-12.F.IF.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function <math>h(n)</math> gives the number of person-hours it takes to assemble <math>n</math> engines in a factory, then the positive integers would be an appropriate domain for the function.</li> <li>CC.9-12.F.IF.6 Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.</li> <li>Identify the risk/return trade-offs for saving and investing.</li> <li>Analyze the power of compounding and the importance of starting early in implementing a plan for saving and investing.</li> </ul>

	<ul style="list-style-type: none"> <li>• CC.9-12.N.Q.1 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.</li> <li>• CC.9-12.F.LE.1 Distinguish between situations that can be modeled with linear functions and with exponential functions</li> <li>• CC.9-12.F.LE.1a Prove that linear functions grow by equal differences over equal intervals and that exponential functions grow by equal factors over equal intervals.</li> <li>• CC.9-12.F.LE.3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.</li> <li>• Develop financial goals for the future based on one’s lifestyle expectations and career choices.</li> <li>• Describe the advantages provided by employer-sponsored retirement savings plans including 401K and related plans.</li> </ul>
<p><b>5.0 Apply a decision-making model to maximize consumer satisfaction when buying goods and services.</b></p>	<ul style="list-style-type: none"> <li>• Apply a rational decision-making process to personal buying decisions.</li> <li>• Apply comparison-shopping practices and return policies.</li> <li>• Identify alternative sources for purchases (on-line, retail stores, catalogs).</li> <li>• Compare the costs and benefits of purchasing, leasing, and renting.</li> <li>• CC.9-12.A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.</li> <li>• CC.9-12.A.CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.</li> <li>• Calculate the costs of utilities, services, maintenance, and other expenses involved in independent living.</li> <li>• CC.9-12.A.REI.1 Explain each step in solving simple equations as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.</li> <li>• CC. 9-12.A.REI.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.</li> </ul>

<p><b>6.0 Evaluate services provided by financial deposit institutions to transfer funds.</b></p>	<ul style="list-style-type: none"> <li>• List the basic services provided by financial institutions.</li> <li>• Identify the rights and responsibilities associated with using a checking account.</li> <li>• Describe the steps involved in opening and using a checking account.</li> <li>• Differentiate among types of electronic monetary transactions (e.g. debit cards, ATM, and automatic deposits/payments) offered by various financial institutions</li> <li>• Describe and use the steps involved in the bank reconciliation process.</li> <li>• CC.9-12.A.REI.1 Explain each step in solving simple equations as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.</li> <li>• CC. 9-12.A.REI.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.</li> <li>• Compare costs and benefits of online and traditional banking.</li> <li>• CC.9-12.A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.</li> <li>• CC.9-12.A.CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.</li> </ul>
<p><b>7.0 Analyze factors that affect the choice of credit and the legal aspects of using credit.</b></p>	<ul style="list-style-type: none"> <li>• Explain when and why borrowing is used for the purchase of goods and services.</li> <li>• Describe the risks and responsibilities associated with using credit and the cost</li> <li>• Identify methods of establishing and maintaining a good credit rating.</li> <li>• Determine the advantages and disadvantages of using credit.</li> <li>• Evaluate the various methods of financing a purchase.</li> <li>• Define interest as a cost of credit and explain why it is charged.</li> <li>• Select an appropriate form of credit for a particular buying decision.</li> <li>• Explain the need for a sound credit rating.</li> <li>• Explain how the amount of principal, the period of the loan, the interest rate affect the amount of interest charged.</li> <li>• Explain why an interest rate varies with the amount of assumed risk.</li> </ul>

	<ul style="list-style-type: none"> <li>• Calculate a payment schedule for a loan.</li> <li>• CC.9-12.A.REI.1 Explain each step in solving simple equations as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.</li> <li>• CC. 9-12.A.REI.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.</li> <li>• Analyze various sources and types of credit (e.g. short-and long term) and related costs.</li> <li>• Explain credit ratings and credit reports and describe why they are important to consumers.</li> <li>• Describe the relationship between credit rating and the cost of credit.</li> <li>• Give examples of benefits of financial responsibility and the cost of financial irresponsibility.</li> <li>• Compare and contrast the various aspects of credit cards (e.g., APR, grace period, incentive buying, methods of calculating interest, and fees).</li> <li>• CC.9-12.A.CED.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.</li> <li>• CC.9-12.A.CED.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or non-viable options in a modeling context. For example, represent inequalities describing nutritional and cost constraints on combinations of different foods.</li> </ul>
<p><b>8.0 Analyze choices available to consumers for protection against risk and financial loss.</b></p>	<ul style="list-style-type: none"> <li>• Identify risk in life and how to gain protection again the consequences of risk. Explain how all types of insurance are based on the concept of risk sharing and statistical probability.</li> <li>• Evaluate insurance as a risk management strategy.</li> <li>• Identify the type of insurance associated with different types of risk (e.g., automobile, personal and professional liability, home and apartment, health, life, long term care and disability).</li> <li>• Explain why insurance needs change throughout the life cycle.</li> <li>• Explain the role of insurance in financial planning.</li> <li>• Develop recommended insurance coverage for individuals/families for various risks and different income levels.</li> <li>• CC.9-12.F.LE.5 Interpret the parameters in a linear, quadratic, or exponential function in terms of a context.</li> </ul>

\*Expectations cover beginning and advanced understandin

<b>Unit Title</b>	Managing Your Money	<b>Length of Unit</b>	9-13 weeks
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<b>Inquiry Questions (Engaging &amp; Debatable)</b>	<ul style="list-style-type: none"> <li>● Why is it important to know how to calculate your gross income?</li> <li>● Why do you think you have to pay taxes?</li> <li>● Why should you use a budget?</li> <li>● What are the similarities and differences between checking and savings accounts?</li> </ul>
<b>Standards</b>	<p>1.0 Use the rational decision-making process as it applies to the roles of citizens, workers, and consumers.</p> <p>2.0 Identify various forms of income and analyze factors that affect income as a part of the career decision-making process.</p> <p>3.0 Develop and evaluate a budget plan.</p> <p>4.0 Evaluate savings and investment options to meet short- and long-term goals.</p> <p>6.0 Evaluate services provided by financial deposit institutions to transfer funds.</p>
<b>Unit Strands &amp; Concepts</b>	Income, Deductions, Expenditures, Budgets, Recordkeeping, Saving and Checking Accounts
<b>Key Vocabulary</b>	Gross Income, Net Income, Commission, Exemption, Social Security, Medicare, Federal and State Income Tax, Deposit, Debit, Principal, Compound Interest,



<b>Unit Title</b>	Managing Your Money	<b>Length of Unit</b>	9-13 weeks
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<b>Critical Content:</b> My students will <b>Know</b> ...	<b>Key Skills:</b> My students will be able to <b>(Do)</b> ...
<ul style="list-style-type: none"> <li>• The difference between gross pay and net pay.</li> <li>• How gross pay and deductions from a paycheck are calculated.</li> <li>• What items to consider when creating a budget.</li> <li>• The difference between various types of deductions.</li> </ul>	<ul style="list-style-type: none"> <li>• Calculate gross income and net income including regular pay, overtime pay, salary, and commission.</li> <li>• Simulate keeping a monthly budget of income versus expenses.</li> <li>• Keep accurate records of deposits versus debits.</li> <li>• Write out a check and reconcile a checkbook.</li> <li>• Utilize an online bank account.</li> <li>• Calculate simple and compound interest earned on a checking account.</li> </ul>

<b>Assessments:</b>	<ul style="list-style-type: none"> <li>• Formative Assessments</li> <li>• Summative or Performance Assessment</li> </ul>
<b>Teacher Resources:</b>	Teacher created documents including, but not limited to, McGraw Hill Teacher Edition Resources and High School Financial Planning Program(HSFPP) "Building Your Future" Curriculum Materials Graphing Calculators

<b>Unit Title</b>	Managing Your Expenses	<b>Length of Unit</b>	6-8 weeks
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<b>Inquiry Questions (Engaging &amp; Debatable)</b>	<ul style="list-style-type: none"> <li>• Why do you think you have to pay sales tax?</li> <li>• Why might you want to buy something using a credit card instead of cash?</li> <li>• Why might you obtain a loan?</li> </ul>
<b>Standards</b>	<p>1.0 Use the rational decision-making process as it applies to the roles of citizens, workers, and consumers.</p> <p>3.0 Develop and evaluate a budget plan.</p> <p>5.0 Apply a decision-making model to maximize consumer satisfaction when buying goods and services.</p> <p>7.0 Analyze factors that affect the choice of credit and the legal aspects of using credit.</p>
<b>Unit Strands &amp; Concepts</b>	Sales Tax, Total Purchase Price, Unit Pricing, Markdown, Sale Price, Account Statements, Finance Charges, Single-payment Loans, Installment Loans,
<b>Key Vocabulary</b>	Sales Receipt, Comparison Shopping, Coupons, Rebate, Markdown Rate, Unpaid Balance, Average Daily Balance, Finance Amount, Monthly Payment Allocation, Annual Percentage Rate, Maturity Value

<b>Unit Title</b>	Managing Your Expenses	<b>Length of Unit</b>	6-8 weeks
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<b>Critical Content:</b> My students will <b>Know</b> ...	<b>Key Skills:</b> My students will be able to <b>(Do)</b> ...
<ul style="list-style-type: none"> <li>• The purchase price of an item after sales tax and markdowns are applied.</li> <li>• Why comparison-shopping is beneficial.</li> <li>• An unpaid balance of a credit card incurs interest.</li> <li>• Under what conditions taking out a loan is a wise decision.</li> </ul>	<ul style="list-style-type: none"> <li>• Calculate sales tax of an item.</li> <li>• Calculate markdown of an item.</li> <li>• Calculate sale price of an item.</li> <li>• Calculate the unit price of an item.</li> <li>• Calculate finance charges for a credit card.</li> <li>• Calculate the maturity value of a loan.</li> <li>• Calculate the monthly payment allocation of a loan.</li> </ul>

<b>Assessments:</b>	<ul style="list-style-type: none"> <li>• Formative Assessments</li> <li>• A summative and/or performance based assessment</li> </ul>
<b>Teacher Resources:</b>	Teacher created documents including, but not limited to, McGraw Hill Teacher Edition Resources and High School Financial Planning Program(HSFPP) "Building Your Future" Curriculum Materials Graphing Calculators

<b>Unit Title</b>	Making Financial Decisions	<b>Length of Unit</b>	7-11 weeks
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<b>Inquiry Questions (Engaging &amp; Debatable)</b>	<ul style="list-style-type: none"> <li>● What responsibilities come along with owning and operating a vehicle?</li> <li>● What are the pros and cons of renting or buying a home?</li> <li>● Why do people purchase insurance?</li> <li>● Why is saving for the future important?</li> </ul>
<b>Standards</b>	<p>1.0 Use the rational decision-making process as it applies to the roles of citizens, workers, and consumers.</p> <p>3.0 Develop and evaluate a budget plan.</p> <p>4.0 Evaluate savings and investment options to meet short- and long-term goals.</p> <p>7.0 Analyze factors that affect the choice of credit and the legal aspects of using credit.</p> <p>8.0 Analyze choices available to consumers for protection against risk and financial loss.</p>
<b>Unit Strands &amp; Concepts</b>	Purchasing a New/Used Vehicle, Dealer’s Cost, Insurance, Leasing, Operating and Maintaining Vehicle, Renting a Vehicle, Mortgage Loans, Closing Costs, Allocation of Monthly Payment, Real Estate Taxes, Homeowner’s Insurance, PMI, Other Housing Costs, Renting a Home, Health Insurance, Term and other Types of Life Insurance, CDs, Annual Percentage Yield, Buying and Selling Stocks, Mutual Funds, Bonds, Real Estate, Retirement Investments
<b>Key Vocabulary</b>	Sticker Price, Liability Insurance, Collision Insurance, Comprehensive Insurance, Deductible, Depreciation, Mortgage Payment and Interest, Assessed Value, Market Value, Tax Rate, Security Deposit, Premiums, Benefits, Co-payment, HMO, PPO, Beneficiary, Whole Life Insurance, Universal Life Insurance, Stock Dividends, Net Asset Value, IRA

<b>Unit Title</b>	Making Financial Decisions	<b>Length of Unit</b>	7-11 weeks
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<b>Critical Content: My students will Know...</b>	<b>Key Skills: My students will be able to (Do)...</b>
<ul style="list-style-type: none"> <li>• The factors that determine whether to purchase a new or used vehicle.</li> <li>• The differences between purchasing and leasing a vehicle.</li> <li>• The hidden costs of owning and operating a vehicle.</li> <li>• The different options for Homeowner’s Insurance.</li> <li>• The pros and cons of renting or owning a house.</li> <li>• The difference between HMO, PPO, and traditional health insurance.</li> <li>• The benefits received from a health insurance plan.</li> <li>• The differences between term, whole, and universal life insurance.</li> <li>• The difference between investments(stocks, bonds, CDs, Mutual Funds, rental property).</li> <li>• The process involved with buying and selling stocks.</li> <li>• The differences between regular IRAs and Roth IRAs.</li> </ul>	<ul style="list-style-type: none"> <li>• Calculate the cost of purchasing a new vehicle.</li> <li>• Calculate the cost of purchasing a used vehicle.</li> <li>• Calculate the cost to rent a vehicle.</li> <li>• Calculate a down payment, monthly payment, real estate taxes, and closing cost on the purchase of a house.</li> <li>• Budget for the purchase of a house.</li> <li>• Calculate the premiums for all three types of health insurance.</li> <li>• Calculate the monthly premium on a life insurance plan.</li> <li>• Calculate the annual percentage yield on different types of investments.</li> <li>• Calculate stock dividends.</li> <li>• Calculate the costs involved in owning a rental property.</li> <li>• Calculate the required minimum distribution and penalties for early withdraw.</li> </ul>

<b>Assessments:</b>	<ul style="list-style-type: none"> <li>• Formative Assessments</li> <li>• Summative Assessment</li> </ul>
<b>Teacher Resources:</b>	Teacher created documents including, but not limited to, McGraw Hill Teacher Edition Resources and High School Financial Planning Program(HSFPP) “Building Your Future” Curriculum Materials Graphing Calculators

<b>Unit Title</b>	Making Business Finances	<b>Length of Unit</b>	6-10 weeks
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<b>Inquiry Questions (Engaging &amp; Debatable)</b>	<ul style="list-style-type: none"> <li>• What are some advantages of hiring specialized professionals to perform certain tasks?</li> <li>• Why do you think it is important for a company to maintain accurate accounting records?</li> </ul>
<b>Standards</b>	<p>1.0 Use the rational decision-making process as it applies to the roles of citizens, workers, and consumers.</p> <p>3.0 Develop and evaluate a budget plan.</p>
<b>Unit Strands &amp; Concepts</b>	Building Rental, Maintenance and Improvement, Equipment Rental, Utilities Cost, Professional Services, Payroll Register, Business Expenses, Manufacturing Costs, Break-Even Analysis, Depreciation, Assets Liability and Equity, Balance Sheet, Income Statement
<b>Key Vocabulary</b>	Fuel Adjustment Charge, Consultant, Net Worth, Net Profit, Net Income, Profit and Loss Statement

<b>Unit Title</b>	Making Business Finances	<b>Length of Unit</b>	6-10 weeks
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<b>Critical Content:</b> My students will <b>Know</b> ...	<b>Key Skills:</b> My students will be able to <b>(Do)</b> ...
<ul style="list-style-type: none"> <li>• How to choose a location to house a business.</li> <li>• What factors affect the decision to rent or purchase a business property.</li> <li>• When to hire an employee versus a consultant.</li> <li>• How to utilize a payroll register.</li> <li>• How to analyze their expenses to plan for the future.</li> <li>• Understand net worth as the difference of assets and liabilities.</li> </ul>	<ul style="list-style-type: none"> <li>• Calculate a monthly budget (lease, utilities, equipment, etc).</li> <li>• Calculate difference between purchasing and renting equipment.</li> <li>• Calculate a consultant fee or employee fee.</li> <li>• Calculate weekly pay for employees, including deductions.</li> <li>• Calculate the percent expenses of the total expenses.</li> <li>• Calculating cost per item for materials and labor.</li> <li>• Produce a break-even analysis.</li> <li>• Calculate depreciation of items.</li> <li>• Produce a balance sheet.</li> <li>• Produce an income statement.</li> </ul>

<b>Assessments:</b>	<ul style="list-style-type: none"> <li>• Formative Assessments</li> <li>• Summative Assessments</li> </ul>
<b>Teacher Resources:</b>	Teacher created documents including, but not limited to, McGraw Hill Teacher Edition Resources and High School Financial Planning Program(HSFPP) "Building Your Future" Curriculum Materials Graphing Calculators