Auburn School District		
Mathematics for Business and Personal Finance		
		Total Framework Hours up to: 180
CIP Code: 270305	☒**Exploratory** ☐**Preparatory**	**Date Last Modified: January 2014**
Career Cluster: Finance		**Career Pathway: Business and Management**

Unit Outline

	Hours
Unit 1: Financial Responsibility and Decision Making, Career Awareness	25
Unit 2: Income, Benefits and Taxes	20
Unit 3: Purchasing Power	20
Unit 4: Planning and Money Management	35
Unit 5: Banking	15
Unit 6: Insurance	15
Unit 7: Credit and Management	30
Unit 8: Investing	20
Total Hours	**180**

UNIT 1 Financial Responsibility, Decision Making, Career Awareness, Employment

Performance Assessments:

Career Research
Education/Training Requirements
Create a resume and cover letter
Prepare for an interview and follow up
Examview test banks used to match learning targets.

Embedded Leadership Activities

21st Century interdisciplinary theme--financial, economic, business & entrepreneurial literacy: Information Literacy
Access and Evaluate Information

21st Century Skills

4.A.1 Access information efficiently (time) and effectively (sources)
4.A.2 Evaluate information critically and competently
Activity: Career Research

STANDARDS AND COMPETENCIES

Standard/Unit:

1: Prepare for a future career.

Math Practice 3—Construct viable argument and critique reasoning of others.
Math Practice 4—Model with mathematics (apply mathematics to solve problems arising in everyday life, society and the workplace)

Competencies/Learning Targets

1.1 Discuss the job market, how it changes over time, and what you can do to prepare yourself.
1.2 Describe how your education may affect the amount of money that you earn.
1.3 Explain how to prepare a resume and a cover letter.
1.4 Describe successful job application and interview strategies.
1.5 Analyze how career choice, education, skills, and economic conditions affect income.

ALIGNED WASHINGTON STATE STANDARDS	
Speaking and Listening Standards COMMON CORE	SL4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. SL6 Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
Educational Technology	1.3.1 Identify and define authentic problems and significant questions for investigation and plan strategies to guide inquiry. 1.3.2 Locate and organize information from a variety of sources and media. 2.1.2 Practice ethical and respectful behavior. 2.2.1 Develop skills to use technology effectively. 2.4.1 Formulate and synthesize new knowledge.
Math COMMON CORE	S-ID5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. S-ID6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear and exponential models. b. Informally assess the fit of a function by plotting and analyzing residuals. Should be focused on linear models, but may be

	used to preview quadratic functions in Unit 5 of this course. c. Fit a linear function for a scatter plot that suggests a linear association. S-ID7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. S-ID8 Compute (using technology) and interpret the correlation coefficient of a linear fit. S-ID9 Distinguish between correlation and causation.
Reading COMMON CORE	RST7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
Social Studies	2.1: Understands that people have to make choices between wants and needs and evaluate the outcomes of those choices. 2.2: Understands how economic systems function.
Writing COMMON CORE	WHST4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. WHST5 Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience. WHST6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
Language COMMON CORE	L1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking. a. Use parallel structure.* b. Use various types of phrases (noun, verb, adjectival, adverbial, participial, prepositional, absolute) and clauses (independent, dependent; noun, relative, adverbial) to convey specific meanings and add variety and interest to writing or presentations. L2 Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing. a. Use a semicolon (and perhaps a conjunctive adverb) to link two or more closely related independent clauses. b. Use a colon to introduce a list or quotation. L4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies. a. Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase. b. Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., analyze, analysis, analytical; advocate, advocacy). c. Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, or its etymology. d. Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

UNIT 2 Income and Taxes

Performance Assessments:

Calculate Payroll
Complete a W-4 and 1040EZ
Examview test banks used to match learning targets.

Embedded Leadership Activities

21st Century interdisciplinary theme— financial, economic, business & entrepreneurial literacy: Leadership and Responsibility

21st Century Skills

11.B.1 Act responsibly with the interests of the larger community in mind

Accurately complete payroll and tax forms.

STANDARDS AND COMPETENCIES

Standard/Unit:

2: Calculate income and taxes.

Math Practice 1—Make sense of P.S. and persevere in solving them. (make a plan, carry out the plan and evaluate success)
Math Practice 2—Reason abstractly and quantitatively,

Competencies/ Learning Targets

2.1 List and discuss types of earned income, such as wages, salaries, tips, and commissions.
2.2 Describe employee benefits and their role in employee compensation.
2.3 Name private and governmental sources of unearned income.
2.4 List the types of taxes levied against individuals.
2.5 Discuss the benefits of paying taxes, both direct and indirect.
2.6 List the required and optional deductions from gross pay.
2.7 Learn how to complete commonly used federal tax forms.
2.8 Calculate gross and net earnings.
2.9 Describe the importance of taxes in financial planning
2.10 Discuss factors in completing a W-4 and complete a W-4.
2.11 Prepare a federal tax return.

ALIGNED WASHINGTON STATE STANDARDS

Communications COMMON CORE Speaking and Listening Standards COMMON CORE	SL4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. SL5 Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest. SL6 Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
Math COMMON CORE	N-Q1 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. N-Q2 Define appropriate quantities for the purpose of descriptive modeling. N-Q3 Continue to choose a level of accuracy appropriate to limitations on measurement when reporting quantities. A-SSE1 Interpret expressions that represent a quantity in terms of its context a. Interpret parts of an expression, such as terms, factors, and coefficients. *b.* Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret P(1+r)n as the product of P and a factor not depending on P.*

	A-CED1 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. A-CED2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. A-CED3 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. A-CED4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations). For example, rearrange Ohm's law V = IR to highlight resistance R. F-IF4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity. F-IF5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function. F-IF6 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 F-BF2 Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms. F-LE1 Distinguish between situations that can be modeled with linear functions and with exponential functions. (F.LE.1) a. Prove that linear functions grow by equal differences over equal intervals; and that exponential functions grow by equal factors over equal intervals. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. F-LE2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). F-LE5 Interpret the parameters in a linear or exponential function in terms of a context.
Reading COMMON CORE	RST7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
Social Studies	2.3: Understands the government's role in the economy.
Language COMMON CORE	L4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies.

UNIT 3 Purchasing Power

Performance Assessments:

Create purchasing power project
Examview Unit Test

Embedded Leadership Activities

21st Century interdisciplinary theme--financial, economic, business & entrepreneurial literacy: Make Judgments and Decisions

21st Century Skills

2.C.1 Effectively analyze and evaluate evidence, arguments, claims and beliefs
2.C.4 Interpret information and draw conclusions based on the best analysis

Purchasing Power Project

STANDARDS AND COMPETENCIES

Standard/Unit:

3: Explain purchasing power, consumer buying strategies and consumer protection.

Math Practice 2—Reason abstractly and quantitatively,

Competencies/Learning Targets

3.1 Explain how limited personal financial resources affect the choices people make.
3.2 Compare the benefits and costs of spending decisions.
3.3 Describes the rights and responsibilities of buyers and sellers under consumer protection laws.
3.4 Discuss strategies consumers can use before, during, and after a purchase.
3.5 Describe common deceptive practices that defraud consumers.
3.6 Discuss your responsibilities as a consumer to protect yourself from consumer fraud.

ALIGNED WASHINGTON STATE STANDARDS

Communications COMMON CORE Speaking and Listening Standards COMMON CORE	SL4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. SL5 Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest. SL6 Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
Educational Technology	1.3.2 Locate and organize information from a variety of sources and media. 1.3.3 Analyze, synthesize and ethically use information to develop a solution, make informed decisions and report results. 1.3.4 Use multiple processes and diverse perspectives to explore alternative solutions. 2.4.1 Formulate and synthesize new knowledge.
Math COMMON CORE	N-Q1 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. N-Q2 Define appropriate quantities for the purpose of descriptive modeling. N-Q3 Continue to choose a level of accuracy appropriate to limitations on measurement when reporting quantities. A-CED1 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. A-REI1 Explain each step in solving a simple equation 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. A-REI3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters S-ID1 Represent data with plots on the real number line (dot plots, histograms, and box plots).

	S-ID2 Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) or two or more different data sets. S-ID3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). S-ID5 Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data. S-ID6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear and exponential models. b. Informally assess the fit of a function by plotting and analyzing residuals. Should be focused on linear models, but may be used to preview quadratic functions in Unit 5 of this course. c. Fit a linear function for a scatter plot that suggests a linear association. S-ID7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. S-ID8 Compute (using technology) and interpret the correlation coefficient of a linear fit. S-ID9 Distinguish between correlation and causation.
Reading COMMON CORE	RST7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
Writing COMMON CORE	WHST6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
Language COMMON CORE	L4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies.

UNIT 4 Budgeting

Performance Assessments:

Create a budget
Examview test banks used to match learning targets.

Embedded Leadership Activities

21st Century interdisciplinary theme-- financial, economic, business & entrepreneurial literacy: Life and Career Skills

21st Century Skills

7.A.2 Work effectively in a climate of ambiguity and changing priorities

Create a personal budget.

STANDARDS AND COMPETENCIES

Standard/Unit:

4: Create a budget.

Math Practice 1—Make sense of P.S. and persevere in solving them. (make a plan, carry out the plan and evaluate success)

Competencies

4.1 Describe needs and wants and explain how financial resources help fulfill needs and wants.
4.2 Apply a decision-making process to personal financial choices.
4.3 Calculate income and expenses for a given time period.
4.4 Calculate variable and fixed expenses, analyze data, estimate projected income and create a budget.

ALIGNED WASHINGTON STATE STANDARDS	
Communications COMMON CORE Speaking and Listening Standards COMMON CORE	SL4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. SL5 Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest. SL6 Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
Educational Technology	1.3.3 Analyze, synthesize and ethically use information to develop a solution, make informed decisions and report results. 1.3.4 Use multiple processes and diverse perspectives to explore alternative solutions. 2.1.2 Practice ethical and respectful behavior. 2.2.2 Use a variety of hardware to support learning. 2.3.1 Select and use common applications. 2.4.1 Formulate and synthesize new knowledge.
Math COMMON CORE	A-SSE1 Interpret expressions that represent a quantity in terms of its context a. Interpret parts of an expression, such as terms, factors, and coefficients. *b.* Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret P(1+r)n as the product of P and a factor not depending on P.* A-SSE 3 Choose and producing an equivalent form of an expression to reveal and explain properties of the quantity represented by the expressions. *c.* Use the properties of exponents to transform expression for exponential functions. *For example the expression 1.15t can be rewritten as (1.151/12)12t = 1.01212t to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.* A-CED1 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.

	A-CED2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. A-CED3 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. A-CED4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations). For example, rearrange Ohm's law V = IR to highlight resistance R. A-REI5 Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions. A-REI6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables. A-REI10 Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plan, often forming a curve (which could be a line). A-REI11 Explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x); find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where f(x) and/or g(x) are linear, polynomial, rational, absolute value, exponential, and logarithmic functions. A-REI12 Graph the solutions to a linear inequality in two variables as a half-plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes. F-IF1 Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f(x). F-IF2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. F-IF3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the F-IF4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity. F-IF5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function. F-IF6 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 F-BF1 Write a function that describes a relationship between two quantities. a. Determine an explicit expression, a recursive process, or steps for calculation from a context. b. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.* c. (+) Compose functions. For example, if T(y) is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function of time. F-BF2 Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms. F-LE1 Distinguish between situations that can be modeled with linear functions and with exponential functions. (F.LE.1) a. Prove that linear functions grow by equal differences over equal intervals; and that exponential functions grow by equal

	factors over equal intervals. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. F-LE2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).
Reading COMMON CORE	RST7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
Social Studies	2.1: Understands that people have to make choices between wants and needs and evaluate the outcomes of those choices.
Writing COMMON CORE	WHST4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. WHST6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
Language COMMON CORE	L4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies.

UNIT 5 Banking

Performance Assessments:

Maintain a checking account
Savings Account Information
Examview test banks used to match learning targets.

Embedded Leadership Activities

21st Century interdisciplinary theme— financial, economic, business & entrepreneurial literacy: Communication and Collaboration – Communicate Clearly

21st Century Skills

3.A.2 Listen effectively to decipher meaning, including knowledge, values, attitudes and intentions
Listen effectively to a guest speaker from a financial institution.

STANDARDS AND COMPETENCIES

Standard/Unit:

5: Describe financial institutions and their functions.

Math Practice 4—Model with mathematics (apply mathematics to solve problems arising in everyday life, society and the workplace)
Math Practice 5—Use appropriate tools and estimate strategically.
Math Practice 6—Attend to Precision

Competencies/Learning Targets

5.1 Explain the purpose and use of a checking account.
5.2 Prepare checks and deposit slips and maintain a checkbook register.
5.3 Describe reasons for saving.
5.4 Explain how to use money-management tools available from financial institutions.
5.5 Explore other banking services/fees
5.6 Compare financial institutions

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Educational Technology	1.3.2 Locate and organize information from a variety of sources and media. 2.1.1 Practice personal safety. 2.1.2 Practice ethical and respectful behavior. 2.2.2 Use a variety of hardware to support learning. 2.4.1 Formulate and synthesize new knowledge.
Math COMMON CORE	N-RN3 Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational. A-SSE1 Interpret expressions that represent a quantity in terms of its context a. Interpret parts of an expression, such as terms, factors, and coefficients. *b.* Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret P(1+r)n as the product of P and a factor not depending on P.* A-SSE 3 Choose and producing an equivalent form of an expression to reveal and explain properties of the quantity represented by

	the expressions. c. Use the properties of exponents to transform expression for exponential functions. *For example the expression 1.15t can be rewritten as (1.151/12)12t = 1.01212t to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.* A-CED1 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. A-CED2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. F-IF4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity. F-IF5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function. F-IF6 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 F-LE1 Distinguish between situations that can be modeled with linear functions and with exponential functions. (F.LE.1) a. Prove that linear functions grow by equal differences over equal intervals; and that exponential functions grow by equal factors over equal intervals. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. F-LE2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). F-LE3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function. F-LE5 Interpret the parameters in a linear or exponential function in terms of a context.
Reading COMMON CORE	RST7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
Writing COMMON CORE	WHST6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
Language COMMON CORE	L4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies.

UNIT 6 Insurance

Performance Assessments:

Comparison Shopping
Examview test banks used to match learning targets.

Embedded Leadership Activities

21st Century interdisciplinary theme--financial, economic, business & entrepreneurial literacy: Critical Thinking and Problem Solving
Solve Problems
21st Century Skills
2.D.2 Identify and ask significant questions that clarify various points of view and lead to better solutions
Insurance comparison project.

STANDARDS AND COMPETENCIES

Standard/Unit:

6: Identify different types of risks and how to protect against them.
Math Practice 3—Construct viable argument and critique reasoning of others.
Math Practice 4—Model with mathematics (apply mathematics to solve problems arising in everyday life, society and the workplace)
Math Practice 5—Use appropriate tools and estimate strategically.
Math Practice 6—Attend to Precision
Math Practice 8--Look for and express regularity in repeated reasoning

Competencies

6.1 Explain the concepts of risk.
6.2 List the three types of risk that consumers face.
6.3 Recognize the importance of property and liability insurance.
6.4 Describe the insurance coverage and policy types available to homeowners and renters.
6.5 Analyze the factors that influence the amount of coverage and costs of home and auto insurance.
6.6 Identify the types of auto insurance.
6.7 Analyze the costs and benefits of various health insurance coverage.
6.8 Explain the importance of disability insurance.

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Educational Technology	1.3.2 Locate and organize information from a variety of sources and media. 1.3.3 Analyze, synthesize and ethically use information to develop a solution, make informed decisions and report results. 2.1.1 Practice personal safety. 2.1.2 Practice ethical and respectful behavior. 2.4.1 Formulate and synthesize new knowledge.
Math	A-CED1 Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and

COMMON CORE	quadratic functions, and simple rational and exponential functions. F-IF1 Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then f(x) denotes the output of f corresponding to the input x. The graph of f is the graph of the equation y = f(x). F-IF2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context. S-ID1 Represent data with plots on the real number line (dot plots, histograms, and box plots). S-ID2 Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) or two or more different data sets. S-ID3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers). S-ID6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. Use given functions or choose a function suggested by the context. Emphasize linear and exponential models. b. Informally assess the fit of a function by plotting and analyzing residuals. Should be focused on linear models, but may be used to preview quadratic functions in Unit 5 of this course. c. Fit a linear function for a scatter plot that suggests a linear association. S-ID7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data. S-ID8 Compute (using technology) and interpret the correlation coefficient of a linear fit. S-ID9 Distinguish between correlation and causation. S-IC1 Understand statistics as a process for making inferences about population parameters based on a random sample from that population. S-IC2 Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model? Make inferences and justify conclusions from sample surveys, experiments, and observational studies. S-IC3 Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.
Reading COMMON CORE	RST7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
Health and Fitness	3.2.1 Evaluates health and fitness information, products and services.
Language COMMON CORE	L4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies.

UNIT 7 Credit and Credit Management

Performance Assessments:

Examview test banks used to match learning targets.

Embedded Leadership Activities

21st Century interdisciplinary theme--economic, business & entrepreneurial literacy: Information Literacy
Use and manage information
21st Century Skills
4.B.2 Manage the flow of information from a wide variety of sources
Compare credit cards.

STANDARDS AND COMPETENCIES

Standard/Unit:

7: Explain how consumers can make wise credit choices.
Math Practice 1—Make sense of P.S. and persevere in solving them. (make a plan, carry out the plan and evaluate success)
Math Practice 2—Reason abstractly and quantitatively,
Math Practice 4—Model with mathematics (apply mathematics to solve problems arising in everyday life, society and the workplace)
Math Practice 6—Attend to Precision

Competencies/Learning Targets

7.1 Financial responsibility and the result of being financially irresponsible.
7.2 Discuss sources of credit
7.3 List and explain advantages and disadvantages of credit
7.4 Explain credit card interest rates
7.5 Discuss credit card practices and how they affect consumers
7.6 Discuss how consumers can make wise credit choices
7.7 List ways to reduce credit costs, explain how to avoid credit costs
7.8 Explain factors that affect creditworthiness and the purpose of credit records.
7.9 Identify ways to avoid credit problems.
7.10 Compare cash price to installment price in order to make a purchasing decision.
7.11 Calculate the effect of early payoff on an installment plan.
7.12 Explain components of credit card offers.
7.13 Explain components of credit card statements.

ALIGNED WASHINGTON STATE STANDARDS

Communications COMMON CORE Speaking and Listening Standards COMMON CORE	SL4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. SL5 Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest. SL6 Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
Educational Technology	1.1.1Generate ideas and create original works for personal and group expression using a variety of digital tools. 1.1.2 Use models and simulations to explore systems, identify trends and forecast possibilities. 1.2.1 Communicate and collaborate to learn with others. 1.2.2 Develop cultural understanding and global awareness by engaging with learners of many cultures. 1.3.2 Locate and organize information from a variety of sources and media. 1.3.3 Analyze, synthesize and ethically use information to develop a solution, make informed decisions and report results.

	2.1.1 Practice personal safety. 2.1.2 Practice ethical and respectful behavior. 2.2.1 Develop skills to use technology effectively. 2.4.1 Formulate and synthesize new knowledge.
Math COMMON CORE	N-RN1 Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms od rational exponents. N-RN2 Rewrite expressions involving radicals and rational exponents using the properties of exponents. A-SSE1 Interpret expressions that represent a quantity in terms of its context a. Interpret parts of an expression, such as terms, factors, and coefficients. *b.* Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret P(1+r)n as the product of P and a factor not depending on P.* A-SSE 3 Choose and producing an equivalent form of an expression to reveal and explain properties of the quantity represented by the expressions. *a. Continue to factor a quadratic expression to reveal the zeros of the function it defines.* *b.* Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines. *c.* Use the properties of exponents to transform expression for exponential functions. *For example the expression 1.15t can be rewritten as (1.151/12)12t = 1.01212t to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.* A-SSE 4 Derive the formula for the sum of a finite geometric series (when the common ratio is not 1), and use the formula to solve problems. For example, calculate mortgage payments.* A-CED1 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. A-CED4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations). For example, rearrange Ohm's law V = IR to highlight resistance R. F-IF8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function. b. Use the properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in functions such as y = (1.02)t, y = (.097)t, y = (1.01)12t, y = (1.2)t/10, and classify them as representing exponential growth or decay. F-BF2 Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms. F-LE1 Distinguish between situations that can be modeled with linear functions and with exponential functions. (F.LE.1) a. Prove that linear functions grow by equal differences over equal intervals; and that exponential functions grow by equal factors over equal intervals. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another. c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. F-LE2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). F-LE3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function. F-LE4 For exponential models, express as a logarithm the solution to abct= d where a, c, and d are numbers and the base b is 2, 10, or e; evaluate the logarithm using technology. S-IC2 Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?
Reading COMMON CORE	RST7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
Language COMMON CORE	L4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies.

UNIT 8 Investments

Performance Assessments:

Stock Market simulation or project
Examview test banks used to match learning targets.

Embedded Leadership Activities

21st Century interdisciplinary theme--financial, economic, business & entrepreneurial literacy: Life and Career Skills
Initiative and self-direction
21st Century Skills
8.B.1 Monitor, define, prioritize and complete tasks without direct oversight
Stock Market simulation

STANDARDS AND COMPETENCIES

Standard/Unit:

8: Become familiar with investment options.
Math Practice 1—Make sense of P.S. and persevere in solving them. (make a plan, carry out the plan and evaluate success)
Math Practice 3—Construct viable argument and critique reasoning of others.
Math Practice 4—Model with mathematics (apply mathematics to solve problems arising in everyday life, society and the workplace)
Math Practice 5—Use appropriate tools and estimate strategically.
Math Practice 6—Attend to Precision
Math Practice 7: Look for and make use of structure

Competencies/Learning Targets

8.1 Explain the relationship between savings and investing.
8.2 Describe how saving and investing help prepare you for retirement and beyond
8.3 Explain the concept of risk versus return
8.4 Demonstrate lowering investment risk through diversification
8.5 Make investment choices in financial markets
8.6 Assess factors that affect investment choices
8.7 Identify the main types of investment options.
8.8 Read, interpret, and make inferences about data from tables, charts, and graphs.
8.9 Calculate earnings per share.

ALIGNED WASHINGTON STATE STANDARDS

Communications **COMMON CORE Speaking and Listening Standards**	SL4 Present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks. SL5 Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest. SL6 Adapt speech to a variety of contexts and tasks, demonstrating a command of formal English when indicated or appropriate.
Educational Technology	1.1.2 Use models and simulations to explore systems, identify trends and forecast possibilities. 1.3.2 Locate and organize information from a variety of sources and media. 1.3.3 Analyze, synthesize and ethically use information to develop a solution, make informed decisions and report results. 1.3.4 Use multiple processes and diverse perspectives to explore alternative solutions. 2.1.1 Practice personal safety.

	2.1.2 Practice ethical and respectful behavior. 2.2.1 Develop skills to use technology effectively. 2.4.1 Formulate and synthesize new knowledge.
Math COMMON CORE	N-Q1 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. N-Q2 Define appropriate quantities for the purpose of descriptive modeling. N-Q3 Continue to choose a level of accuracy appropriate to limitations on measurement when reporting quantities. A-CED1 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. A-CED2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales. A-CED3 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. A-CED4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations). For example, rearrange Ohm's law V = IR to highlight resistance R. A-REI1 Explain each step in solving a simple equation 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. A-REI2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise. A-REI3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters A-REI5 Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions. A-REI6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables. A-REI10 Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plan, often forming a curve (which could be a line). A-REI11 Explain why the x-coordinates of the points where the graphs of the equations y = f(x) and y = g(x) intersect are the solutions of the equation f(x) = g(x); find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where f(x) and/or g(x) are linear, polynomial, rational, absolute value, exponential, and logarithmic functions. F-BF1 Write a function that describes a relationship between two quantities. Determine an explicit expression, a recursive process, or steps for calculation from a context. a. Combine standard function types using arithmetic operations. *For example, build a function that models the temperature of a cooling body by adding a constant function to a decaying exponential, and relate these functions to the model.* b. (+) Compose functions. For example, if T(y) is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then T(h(t)) is the temperature at the location of the weather balloon as a function of time. F-BF2 Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms. F-BF3 Identify the effect on the graph of replacing f(x) by f(x) + k, kf(x), f(kx), and f(x + k) for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. Include recognizing even and odd functions from their graphs and algebraic expressions for them. F-LE1 Distinguish between situations that can be modeled with linear functions and with exponential functions. (F.LE.1) a. Prove that linear functions grow by equal differences over equal intervals; and that exponential functions grow by equal factors over equal intervals. b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.

	c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another. F-LE2 Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table). F-LE3 Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function.
Reading COMMON CORE	RST7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem.
Writing COMMON CORE	WHST6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.
Language COMMON CORE	L4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grades 9–10 reading and content, choosing flexibly from a range of strategies.

21st CENTURY SKILLS		
LEARNING AND INNOVATION **Creativity and Innovation** ☒Think Creatively ☒Work Creatively with Others ☐Implement Innovations **Critical Thinking and Problem Solving** ☒Reason Effectively ☐**U**se Systems Thinking ☒Make Judgments and Decisions ☒Solve Problems **Communication and Collaboration** ☒Communicate Clearly ☒Collaborate with Others	**INFORMATION, MEDIA AND TECHNOLOGY SKILLS** **Information Literacy** ☒Access and /evaluate Information ☒Use and Manage Information **Media Literacy** ☐Analyze Media ☐Create Media Products **Information, Communications and Technology (ICT Literacy)** ☒Apply Technology Effectively	**LIFE AND CAREER SKILLS** **Flexibility and Adaptability** ☒Adapt to Change ☒Be Flexible **Initiative and Self-Direction** ☒Manage Goals and Time ☒Work Independently ☒Be Self-Directed Learners **Social and Cross-Cultural** ☒Interact Effectively with Others ☒Work Effectively in Diverse Teams **Productivity and Accountability** ☒Manage Projects ☒Produce Results **Leadership and Responsibility** ☒Guide and Lead Others ☒Be Responsible to Others