



## Statewide Framework Document for: 190401

**Standards may be added to this document prior to submission, but may not be removed from the framework to meet state credit equivalency requirements.** Performance assessments may be developed at the local level. In order to earn state approval, performance assessments must be submitted within this framework. **This course is eligible for 1 credit of Algebra I.** Washington State Mathematics Standards ([Common Core State Standards](#)) support foundational mathematical knowledge and reasoning. While it is important to develop a conceptual understanding of mathematical topics and fluency in numeracy and procedural skills, teachers should also focus on the application of mathematics to career fields to support the [three \(3\) key shifts of CCSS](#). The [Standards for Mathematical Practice](#) develop mathematical habits of mind and are to be modeled and integrated throughout the course.

Consumer and Family Resources		
<b>Course Title: Consumer and Family Resources</b>		<b>Total Framework Hours: 180</b>
<b>CIP Code: 190401</b>	<input checked="" type="checkbox"/> Exploratory <input type="checkbox"/> Preparatory	<b>Date Last Modified: May 4, 2015</b>
<b>Career Cluster: Human Services</b>		<b>Cluster Pathway: Consumer Services</b>
<b>Eligible for Equivalent Credit in:</b> <input checked="" type="checkbox"/> Math <input type="checkbox"/> Science		<b>Total Number of Units: 13</b>
Course Overview		
<p><b>Summary:</b> In Consumer and Family Resources, students will learn to evaluate management practices related to human, economic, and environmental resources. The effective management of current and future resources is an important theme in this course. Learning activities will help students make satisfying short- and long-term decisions. Standards and competencies address financial goal setting and strategies; household income, assets, and debt management; preventing and resolving financial difficulties; and use of public resources.</p> <p>Resources for this course include:</p> <ul style="list-style-type: none"> <li>• Family &amp; Consumer Sciences National Standards</li> <li>• Family Career and Community Leaders of America (FCCLA) activities</li> <li>• National Jump\$tart Standards</li> <li>• Washington State Mathematics Standards (CCSS)</li> </ul>		

Unit 1: Financial Responsibility and Decision Making	Total Learning Hours for Unit: 10
<p><b>Unit Summary:</b> In this unit, students will:</p> <ul style="list-style-type: none"> <li>• Apply reliable information and systematic decision making to personal financial decisions at different stages in life.</li> <li>• Analyze strategies to manage multiple individual, family, career, and community roles and responsibilities.</li> </ul>	

- Find and evaluate financial information from a variety of sources.
- Examine individual and family roles in the economic system.
- Apply opportunity costs and trade-offs to financial decision making.
- Recognize the consequences of economic choices.
- Differentiate between types of financial decisions and identify those for which a formal decision-making process should be used.
- Examine how advertising, media, and technological advances affect family and consumer decisions.

**Performance Assessments:**

*Performance assessments may be developed at the local level. In order to earn approval at the state level, performance assessments must be submitted within this framework.*

*It is expected that students will:*

- Use the FCCLA decision-making process to make a financial decision and explain in a written/oral format why this was the best decision.

**Leadership Alignment:**

- Leadership activities should include 21st Century Skills embedded in curriculum and instruction for this unit of instruction. Include leadership skills that are being taught and assessed within the class for all students.
- The event, activity, or project and the associated 21st Century Skill should be clearly articulated.  
Example: Students will demonstrate the ability to communicate clearly through their group project presentation.

Possible activities include a CTSO activity such as *The Life Planning Event*, the FCCLA project *The Power of One*, or an activity that demonstrates how the 21st Century Skills will be applied in the classroom.

***Industry Standards and Competencies***

**National Standards for Family and Consumer Sciences Education:**

- 1.3.3 Analyze personal and family assets and skills that provide service to the community.
- 2.1 Demonstrate management of individual and family resources such as food, clothing, shelter, health care, recreation, transportation, time, and human capital.
- 2.1.2 Analyze how individuals and families make choices to satisfy needs and wants.
- 2.1.7 Apply consumer skills to decisions about recreation.
- 2.5.1 Analyze the use of resources in making choices that satisfy needs and wants of individuals and families.
- 2.5.4 Analyze practices that allow families to maintain economic self-sufficiency.
- 2.6 Demonstrate management of financial resources to meet the goals of individuals and families across the life span.
- 2.6.1 Examine the need for personal and family financial planning.
- 2.6.2 Apply management principles to individual and family financial practices.
- 3.3.2 Demonstrate components of a financial planning process that reflect the distinction between needs, wants, values, goals, and economic resources.

**National Jump\$tart Standards:**

Financial Responsibility and Decision Making

Overall Competency: Apply reliable information and systematic decision making to personal financial decisions.

Standard 1: Take responsibility for personal financial decisions.

Standard 3: Summarize major consumer protection laws.

Standard 4: Make financial decisions by systematically considering alternatives and consequences.

Standard 5: Develop communication strategies for discussing financial issues.

## Income and Careers

Overall Competency: Use a career plan to develop personal income potential.

Standard 1: Explore career options.

Standard 2: Identify sources of personal income.

Standard 3: Describe factors affecting take-home pay.

## *Aligned Washington State Standards*

### **Standards for Mathematical Practice (Common Core State Standards):**

Practice 1: Make sense of problems and persevere in solving them.

Practice 2: Reason abstractly and quantitatively.

Practice 3: Construct viable arguments and critique the reasoning of others.

Practice 4: Model with mathematics.

Practice 5: Use appropriate tools strategically.

Practice 6: Attend to precision.

Practice 7: Look for and make use of structure.

Practice 8: Look for and express regularity in repeated reasoning.

### **Washington Mathematics Standards (Common Core State Standards):**

Cluster: Extend the properties of exponents to rational exponents.

N.RN.A.1 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 of rational exponents.

Cluster: Reason quantitatively and use units to solve problems.

N.Q.A.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.

N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.

N.Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Cluster: Interpret the structure of expressions.

A.SSE.A.1 Interpret expressions that represent a quantity in terms of its context.

1a Interpret part of an expression, such as terms, factors, and coefficients.

1b Interpret complicated expressions by viewing one or more of their parts as a single entity.

A.SSE.A.2 Use the structure of an expression to identify ways to rewrite it.

Cluster: Create equations that describe numbers or relationships.

A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems.

A.CED.A.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.

Cluster: Understand solving equations as a process of reasoning and explain the reasoning.

A.REI.A.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.

Cluster: Solve systems of equations.

A.REI.C.5 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.REI.C.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

A.REI.C.7 Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. For example, find the points of intersection between the line  $y = -3x$  and the circle  $x^2 + y^2 = 3$ .

A.REI.C.8 Represent a system of linear equations as a single matrix equation in a vector variable.

A.REI.C.9 Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension  $3 \times 3$  or greater).

Cluster: Represent and solve equations and inequalities graphically.

A.REI.D.10 Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

Cluster: Understand the concept of a function and use function notation.

F.IF.A.1 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.IF.A.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

Cluster: Interpret functions that arise in applications in terms of the context.

F.IF.B.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.

Cluster: Analyze functions using different representations.

F.IF.C.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.

7a Graph linear and quadratic functions and show intercepts, maxima, and minima.

7b Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.

Cluster: Construct and compare linear, quadratic, and exponential models and solve problems.

F.LE.A.1 Distinguish between situations that can be modeled with linear functions and with exponential functions.

1a Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.

1b Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.

1c Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.

F.LE.A.2 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.LE.A.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.

F.LE.A.4 For exponential models, express as a logarithm the solution to  $ab^{ct} = d$  where  $a$ ,  $c$ , and  $d$  are numbers and the base  $b$  is 2, 10, or  $e$ ; evaluate the logarithm using technology.

Cluster: Interpret expressions for functions in terms of the situation they model.

F.LE.B.5 Interpret the parameters in a linear or exponential function in terms of a context.

Cluster: Experiment with transformations in the plane.

G.CO.A.5 Given a geometric figure and a rotation, reflection, or translation, draw the transformed figure using, e.g., graph paper, tracing paper, or geometry software. Specify a sequence of transformations that will carry a given figure onto another.

Cluster: Summarize, represent, and interpret data on a single count or measurement variable.

S.ID.A.1 Represent data with plots on the real number line (dot plots, histograms, and box plots).

Cluster: Summarize, represent, and interpret data on two categorical and quantitative variables.

S.ID.B.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.

6a 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, quadratic, and exponential models.

6b Informally assess the fit of a function by plotting and analyzing residuals.

6c Fit a linear function for a scatter plot that suggests a linear association.

Cluster: Interpret linear models.

S.ID.C.8 Compute (using technology) and interpret the correlation coefficient of a linear fit.

**Washington English Language Arts Standards (Common Core State Standards) - Science and Technology Literacy Standards (Grades 9-10):**

RST.9-10.2 Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.

RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.

RST.9-10.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

RST.9-10.10 By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently.

**Unit 2: Percentages, Rounding Review, and Wages**

**Total Learning Hours for Unit: 10**

**Unit Summary:**

In this unit, students will:

- Review math concepts such as rounding and calculating percentages.
- Learn about careers and wages, including salary expectations for a variety of jobs.
- Calculate overtime pay for a position that is paid hourly wages.
- Complete time cards and be able to round hourly units to the quarter hour.
- Calculate a sales commission using percentages, fractions, and decimals.

**Performance Assessments:**

*Performance assessments may be developed at the local level. In order to earn approval at the state level, performance assessments must be submitted within this framework.*

*It is expected that students will:*

- Select a career and investigate the potential earnings and availability.
- Demonstrate an understanding of their income through calculating their wages, net, gross, and benefit costs and percentages.
- Pass a unit exam on hourly and overtime pay, weekly time cards, salary, and commission, demonstrating competency through understanding, application, and calculation of percent and rounding.

**Leadership Alignment:**

- Leadership activities should include 21st Century Skills embedded in curriculum and instruction for this unit of instruction. Include leadership skills that are being taught and assessed within the class for all students.
- The event, activity, or project and the associated 21st Century Skill should be clearly articulated.  
Example: Students will demonstrate the ability to communicate clearly through their group project presentation.

Possible activities include a CTSO activity such as *Consumer Math Event* from FCCLA or an activity that demonstrates how the 21st Century Skills will be applied in the classroom.

***Industry Standards and Competencies***

**National Standards for Family and Consumer Sciences Education:**

1.1.3 Analyze ways that individual career goals can affect the family's capacity to meet goals for all family members.

1.1.4 Analyze potential effects of career path decisions on balancing work and family.

1.1.6 Develop a life plan, including pathways to acquiring the knowledge and skills needed to achieve individual, family, and career goals.

- 1.2.1 Analyze potential career choices to determine the knowledge, skills, and attitudes associated with each career.  
 1.3.5 Analyze the effects of public policies, agencies, and institutions on the family.

**National Jumpstart Standards:**

Financial Responsibility and Decision Making

Overall Competency: Apply reliable information and systematic decision making to personal financial decisions.

Standard 1: Take responsibility for personal financial decisions.

Standard 3: Summarize major consumer protection laws.

Standard 4: Make financial decisions by systematically considering alternatives and consequences.

Standard 5: Develop communication strategies for discussing financial issues.

Income and Careers

Overall Competency: Use a career plan to develop personal income potential.

Standard 1: Explore career options.

Standard 2: Identify sources of personal income.

Standard 3: Describe factors affecting take-home pay.

***Aligned Washington State Mathematics Standards***

**Standards for Mathematical Practice (Common Core State Standards):**

Practice 1: Make sense of problems and persevere in solving them.

Practice 4: Model with mathematics.

Practice 5: Use appropriate tools strategically.

Practice 6: Attend to precision.

**Washington Mathematics Standards (Common Core State Standards):**

Cluster: Reason quantitatively and use units to solve problems.

N.Q.A.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.

N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.

N.Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

**Washington English Language Arts Standards (Common Core State Standards) - Science and Technology Literacy Standards (Grades 9-10):**

RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.

RST.9-10.10 By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently.

**Unit 3: Income Tax and Payroll Deductions**

**Total Learning Hours for Unit: 15**

**Unit Summary:**

In this unit, students will:

- Identify various forms of income and analyze factors that affect take-home pay.
- Identify various ways people earn a living.
- Discuss how income from employment is affected by factors such as supply and demand, geographic location, level of education, type of industry, union membership, productivity, skill level, and work ethic.

- Identify benefits as a component of total income.
- Compare and contrast compensation packages that include varying levels of wages and benefits.
- Investigate employee benefits and incentives.
- Differentiate between earned and unearned income and identify sources of unearned income (e.g., interest, rent, and profit).
- Differentiate between gross and net income.
- Calculate net pay.
- Determine practices that allow families to maintain economic self-sufficiency.
- Explore potential tax deductions and credits on a tax return.
- Calculate personal tax liabilities for various types of taxes (e.g., payroll, property, income, sales, FICA, and Medicare).
- Explain the impact of taxes on personal financial planning.

**Performance Assessments:**

*Performance assessments may be developed at the local level. In order to earn approval at the state level, performance assessments must be submitted within this framework.*

*It is expected that students will:*

- Use a career plan to develop personal income potential, complete a tax return form correctly, fill out a 1040 EZ form, and teach another person how to fill out a 1040EZ, using real or simulated figures.

**Leadership Alignment:**

- Leadership activities should include 21st Century Skills embedded in curriculum and instruction for this unit of instruction. Include leadership skills that are being taught and assessed within the class for all students.
- The event, activity, or project and the associated 21st Century Skill should be clearly articulated.  
Example: Students will demonstrate the ability to communicate clearly through their group project presentation.

Possible activities include a CTSO activity such as the Financial Fitness national project from FCCLA or an activity that demonstrates how the 21st Century Skills will be applied in the classroom.

***Industry Standards and Competencies***

**National Standards for Family and Consumer Sciences Education:**

- 2.1.1 Apply management and planning skills and processes to organize tasks and responsibilities.
- 2.5.3 Analyze economic effects of laws and regulations that pertain to consumers and providers of services.
- 2.5.4 Analyze practices that allow families to maintain economic self-sufficiency.
- 2.6.2 Apply management principles to individual and family financial practices.
- 2.6.4 Evaluate personal and legal documents related to managing individual and family finances.

**National Jump\$tart Standards:**

Financial Responsibility and Decision Making

Overall Competency: Apply reliable information and systematic decision making to personal financial decisions.

Standard 1: Take responsibility for personal financial decisions.

Standard 3: Summarize major consumer protection laws.

Standard 5: Develop communication strategies for discussing financial issues.

Standard 6: Control personal information.

Income and Careers

Overall Competency: Use a career plan to develop personal income potential.

Standard 2: Identify sources of personal income.

Standard 3: Describe factors affecting take-home pay.

***Aligned Washington State Standards***

**Standards for Mathematical Practice (Common Core State Standards):**

Practice 1: Make sense of problems and persevere in solving them.

Practice 4: Model with mathematics.

Practice 5: Use appropriate tools strategically.

Practice 6: Attend to precision.

**Washington Mathematics Standards (Common Core State Standards):**

Cluster: Reason quantitatively and use units to solve problems.

N.Q.A.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.

N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.

N.Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Cluster: Interpret the structure of expressions.

A.SSE.A.1 Interpret expressions that represent a quantity in terms of its context.

1a Interpret part of an expression, such as terms, factors, and coefficients.

1b Interpret complicated expressions by viewing one or more of their parts as a single entity.

A.SSE.A.2 Use the structure of an expression to identify ways to rewrite it.

Cluster: Create equations that describe numbers or relationships.

A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems.

A.CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

A.CED.A.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.

A.CED.A.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.

Cluster: Solve equations and inequalities in one variable.

A.REI.B.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

A.REI.B.4 Solve quadratic equations in one variable.

4a Use the method of completing the square to transform any quadratic equation in  $x$  into an equation of the form  $(x - p)^2 = q$  that has the same solutions. Derive the quadratic formula from this form.

4b Solve quadratic equations by inspection (e.g., for  $x^2 = 49$ ), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as  $a \pm bi$  for real numbers  $a$  and  $b$ .

Cluster: Understand the concept of a function and use function notation.

F.IF.A.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

Cluster: Interpret functions that arise in applications in terms of the context.

F.IF.B.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.



Cluster: Analyze functions using different representations.

F.IF.C.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.

7b Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.

Cluster: Build a function that models a relationship between two quantities.

F.BF.A.1 Write a function that describes a relationship between two quantities.

1a Determine an explicit expression, a recursive process, or steps for calculation from a context.

Cluster: Construct and compare linear, quadratic, and exponential models and solve problems.

F.LE.A.1 Distinguish between situations that can be modeled with linear functions and with exponential functions.

1a Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.

1b Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.

1c Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.

Cluster: Interpret expressions for functions in terms of the situation they model.

F.LE.B.5 Interpret the parameters in a linear or exponential function in terms of a context.

Cluster: Interpret linear models.

S.ID.C.7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.

**Washington English Language Arts Standards (Common Core State Standards) - Science and Technology Literacy Standards (Grades 9-10):**

RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.

RST.9-10.10 By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently.

**Unit 4: Budgeting**

**Total Learning Hours for Unit: 10**

**Unit Summary:**

In this unit, students will:

- Learn how to prioritize financial decisions as they create a monthly budget on a limited wage.
- Learn how to apply opportunity costs and trade-offs to financial decision making.
- Come to terms with financial decisions that differentiate between needs, wants, values, and long-term goals, which will be especially important as they identify fixed and variable expenses that they can or cannot control.

**Performance Assessments:**

*Performance assessments may be developed at the local level. In order to earn approval at the state level, performance assessments must be submitted within this framework.*

*It is expected that students will:*

- Complete a workable monthly budget with simulated figures, evaluating its effectiveness.

**Leadership Alignment:**

- Leadership activities should include 21st Century Skills embedded in curriculum and instruction for this unit of instruction. Include leadership skills that are being taught and assessed within the class for all students.
- The event, activity, or project and the associated 21st Century Skill should be clearly articulated.  
Example: Students will demonstrate the ability to communicate clearly through their group project presentation.

Possible activities include a CTSO activity such as the Financial Fitness national project from FCCLA or an activity that demonstrates how the 21st Century Skills will be applied in the classroom.

### ***Industry Standards and Competencies***

#### **National Standards for Family and Consumer Sciences Education:**

- 2.1 Demonstrate management of individual and family resources such as food, clothing, shelter, health care, recreation, transportation, time, and human capital.
- 2.5 Analyze relationships between the economic system and consumer actions.
- 2.6 Demonstrate management of financial resources to meet the goals of individuals and families across the life span.
  - 2.1.2 Analyze how individuals and families make choices to satisfy needs and wants
  - 2.1.3 Analyze decisions about providing safe and nutritious food for individuals and families.
  - 2.1.4 Apply consumer skills to providing and maintaining clothing.
  - 2.1.5 Apply consumer skills to decisions about housing, utilities, and furnishings.
  - 2.1.7 Apply consumer skills to decisions about recreation.
  - 2.1.8 Apply consumer skills to acquire and maintain transportation that meets the needs of individual and family members.
- 2.5.1 Analyze the use of resources in making choices that satisfy needs and wants of individuals and families.
- 2.5.4 Analyze practices that allow families to maintain economic self-sufficiency.
- 2.6.1 Examine the need for personal and family financial planning.
- 2.6.2 Apply management principles to individual and family financial practices.
- 2.6.3 Apply management principles to decisions about individuals and family insurance.
- 3.3.2 Demonstrate components of a financial planning process that reflect the distinction between needs, wants, values, goals, and economic resources.

#### **National Jump\$tart Standards:**

##### Financial Responsibility and Decision Making

Overall Competency: Apply reliable information and systematic decision making to personal financial decisions.

Standard 1: Take responsibility for personal financial decisions.

Standard 2: Find and evaluate financial information from a variety of sources.

Standard 4: Make financial decisions by systematically considering alternatives and consequences.

Standard 5: Develop communication strategies for discussing financial issues.

##### Income and Careers

Overall Competency: Use a career plan to develop personal income potential.

Standard 2: Identify sources of personal income.

Standard 3: Describe factors affecting take-home pay.

##### Planning and Money Management

Overall Competency: Organize personal finances and use a budget to manage cash flow.

Standard 1: Develop a plan for spending and saving.

Standard 2: Develop a system for keeping and using financial records.

Standard 4: Apply consumer skills to purchase decisions.

Standard 5: Consider charitable giving.

Standard 6: Develop a personal financial plan.

#### **National Business Education Association: Personal Finance Achievement Standards:**

##### Personal Decision Making

Achievement Standard: Use a rational decision-making process as it applies to the roles of citizens, workers, and consumers.

##### Managing Finances and Budgeting

Achievement Standard: Develop and evaluate a spending/savings plan.

## ***Aligned Washington State Standards***

### **Standards for Mathematical Practice (Common Core State Standards):**

- Practice 1: Make sense of problems and persevere in solving them.
- Practice 2: Reason abstractly and quantitatively.
- Practice 3: Construct viable arguments and critique the reasoning of others.
- Practice 4: Model with mathematics.
- Practice 5: Use appropriate tools strategically.
- Practice 6: Attend to precision.
- Practice 7: Look for and make use of structure.
- Practice 8: Look for and express regularity in repeated reasoning.

### **Washington Mathematics Standards (Common Core State Standards):**

- Cluster: Reason quantitatively and use units to solve problems.
  - N.Q.A.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.
  - N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.
  - N.Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.
- Cluster: Interpret the structure of expressions.
  - A.SSE.A.1 Interpret expressions that represent a quantity in terms of its context.
    - 1a Interpret part of an expression, such as terms, factors, and coefficients.
    - 1b Interpret complicated expressions by viewing one or more of their parts as a single entity.
- Cluster: Create equations that describe numbers or relationships.
  - A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems.
  - A.CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
  - A.CED.A.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.
  - A.CED.A.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.
- Cluster: Understand solving equations as a process of reasoning and explain the reasoning.
  - A.REI.A.1 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.REI.A.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.
- Cluster: Solve systems of equations.
  - A.REI.C.5 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.REI.C.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
  - A.REI.C.7 Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. For example, find the points of intersection between the line  $y = -3x$  and the circle  $x^2 + y^2 = 3$ .
  - A.REI.C.8 Represent a system of linear equations as a single matrix equation in a vector variable.
  - A.REI.C.9 Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension  $3 \times 3$  or greater).
- Cluster: Represent and solve equations and inequalities graphically.
  - A.REI.D.10 Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

Cluster: Analyze functions using different representations.

F.IF.C.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.

7a Graph linear and quadratic functions and show intercepts, maxima, and minima.

7b Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.

**Washington English Language Arts Standards (Common Core State Standards) - Science and Technology Literacy Standards (Grades 9-10):**

RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.

RST.9-10.10 By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently.

**Unit 5: Checking/Debit Accounts**

**Total Learning Hours for Unit: 15**

**Unit Summary:**

In this unit, students will:

- Distinguish between different types of bank accounts.
- Describe how checking accounts function.
- Understand the difference between banks, credit unions, and other types of banking institutions.

**Performance Assessments:**

*Performance assessments may be developed at the local level. In order to earn approval at the state level, performance assessments must be submitted within this framework.*

*It is expected that students will:*

- Complete a check-writing simulation that includes debit transactions for a month's worth of entries.
- Demonstrate that they can accurately reconcile the checking account by comparing the bank's balance to their simulated account balance, taking into account any outstanding transactions.

**Leadership Alignment:**

- Leadership activities should include 21st Century Skills embedded in curriculum and instruction for this unit of instruction. Include leadership skills that are being taught and assessed within the class for all students.
- The event, activity, or project and the associated 21st Century Skill should be clearly articulated.  
Example: Students will demonstrate the ability to communicate clearly through their group project presentation.

***Industry Standards and Competencies***

**National Standards for Family and Consumer Sciences Education:**

- 2.1 Demonstrate management of individual and family resources such as food, clothing, shelter, health care, recreation, transportation, time, and human capital.
- 2.1.1 Apply management and planning skills and processes to organize tasks and responsibilities.
- 2.3.1 Analyze state and federal policies and laws providing consumer protection.
- 2.4.1 Summarize types of technology that affect family and consumer decision-making.
- 2.4.2 Analyze how media and technological advances affect family and consumer decisions.
- 2.6.1 Evaluate the need for personal and family financial planning.

- 2.6.2 Apply management principles to individual and family financial practices.
- 3.3.3 Analyze the effect of consumer credit in long-term financial planning.
- 3.3.8 Analyze factors that influence establishing and maintaining a good credit rating and the effect of credit ratings on rates and terms for credit and insurance.
- 3.5.3 Analyze features, prices, product information, styles, and performance of consumer goods for potential trade-offs among the components.

**National Jump\$tart Standards:**

Financial Responsibility and Decision Making

Overall Competency: Apply reliable information and systematic decision making to personal financial decisions.

Standard 1: Take responsibility for personal financial decisions.

Standard 2: Find and evaluate financial information from a variety of sources.

Planning and Money Management

Overall Competency: Organize personal finances and use a budget to manage cash flow.

Standard 1: Develop a plan for spending and saving.

Standard 2: Develop a system for keeping and using financial records.

Standard 3: Describe how to use different payment methods.

***Aligned Washington State Standards***

**Standards for Mathematical Practice (Common Core State Standards):**

Practice 1: Make sense of problems and persevere in solving them.

Practice 4: Model with mathematics.

Practice 5: Use appropriate tools strategically.

Practice 6: Attend to precision.

**Washington English Language Arts Standards (Common Core State Standards) - Science and Technology Literacy Standards (Grades 9-10):**

RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.

RST.9-10.10 By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently.

<b>Unit 6: Saving and Investing Accounts</b>	<b>Total Learning Hours for Unit: 10</b>
<p><b>Unit Summary:</b>            In this unit, students will:</p> <ul style="list-style-type: none"> <li>• Evaluate savings and investment options to meet short- and long-term goals.</li> <li>• Discuss how savings contribute to financial well-being.</li> <li>• Differentiate between saving and investing.</li> <li>• Distinguish between simple and compound interest.</li> <li>• Analyze the power of compounding interest and the importance of starting early in implementing a plan of saving and investing.</li> <li>• Describe investment products, including mutual funds, 401(k), 403(b), annuity, Roth IRA, traditional IRA, tax shelters, etc.</li> <li>• Describe the advantages and disadvantages of various savings and investing plans.</li> <li>• Apply criteria for choosing a savings or investment instrument (e.g., market risk, inflation risk, interest rate risk, liquidity, and minimum investment).</li> <li>• Describe how to buy and sell investments.</li> <li>• Calculate and apply the Rule of 72 (to find the number of years required to double money at a given interest rate, divide the interest rate into 72).</li> </ul>	

- Investigate how agencies that regulate financial markets protect investors.
- Explain why a savings and investing plan changes as one proceeds through life.
- Differentiate between interest, dividends, capital gains, and rent from property.
- Describe how saving and investing influence economic growth.
- Evaluate the tax incentives available for certain investments.
- Analyze factors in developing a long-term financial management plan.
- Evaluate the impact of technology on individual and family resources.

**Performance Assessments:**

*Performance assessments may be developed at the local level. In order to earn approval at the state level, performance assessments must be submitted within this framework.*

*It is expected that students will:*

- Calculate and graph interest and investment dividends.
- Demonstrate an understanding of linear and exponential functions through the use of mathematical formulas and modeling.
- Develop a diversified investment plan that is compatible with his or her personal goals.
- Create an investment portfolio and analyze its progress throughout the course, which could include using the stock market game.

**Leadership Alignment:**

- Leadership activities should include 21st Century Skills embedded in curriculum and instruction for this unit of instruction. Include leadership skills that are being taught and assessed within the class for all students.
- The event, activity, or project and the associated 21st Century Skill should be clearly articulated.  
Example: Students will demonstrate the ability to communicate clearly through their group project presentation.

***Industry Standards and Competencies***

**National Standards for Family and Consumer Sciences Education:**

- 2.5.1 Analyze the use of resources in making choices that satisfy needs and wants of individuals and families.
- 2.5.2 Analyze individual and family roles in the economic system.
- 2.5.3 Analyze economic effects of laws and regulations that pertain to consumers and providers of services.
- 2.5.4 Analyze practices that allow families to maintain economic self-sufficiency.
- 2.6 Evaluate the need for personal and family financial planning.
  - 2.6.1 Demonstrate management of financial resources to meet the goals of individuals and families across the life span.
  - 2.6.2 Apply management principles to individual and family financial practices.
- 3.3.4 Compare investment and savings alternatives.
- 3.3.5 Analyze the effects of risk management strategies on long-term financial planning.
- 3.3.6 Analyze the effect of key life transitions on financial planning.
- 3.3.7 Explain the role of estate planning in long-term financial planning.
- 3.3.8 Analyze factors that influence establishing and maintaining a good credit rating and the effect of credit ratings on rates and terms for credit and insurance.

**National JumpStart Standards:**

Financial Responsibility and Decision Making

Overall Competency: Apply reliable information and systematic decision making to personal financial decisions.

Standard 1: Take responsibility for personal financial decisions.

Standard 2: Find and evaluate financial information from a variety of sources.

Standard 4: Make financial decisions by systematically considering alternatives and consequences.

Standard 5: Develop communication strategies for discussing financial issues.

Saving and Investing

Overall Competency: Implement a diversified investment strategy that is compatible with personal goals.

Standard 1: Discuss how saving contributes to financial well-being.

***Aligned Washington State Standards***

**Standards for Mathematical Practice (Common Core State Standards):**

Practice 1: Make sense of problems and persevere in solving them.

Practice 2: Reason abstractly and quantitatively.

Practice 4: Model with mathematics.

Practice 5: Use appropriate tools strategically.

Practice 6: Attend to precision.

**Washington Mathematics Standards (Common Core State Standards):**

Cluster: Extend the properties of exponents to rational exponents.

N.RN.A.1 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 of rational exponents.

N.RN.A.2 Rewrite expressions involving radicals and rational exponents using the properties of exponents.

Cluster: Reason quantitatively and use units to solve problems.

N.Q.A.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.

N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.

N.Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Cluster: Interpret the structure of expressions.

A.SSE.A.1 Interpret expressions that represent a quantity in terms of its context.

1a Interpret part of an expression, such as terms, factors, and coefficients.

1b Interpret complicated expressions by viewing one or more of their parts as a single entity.

A.SSE.A.2 Use the structure of an expression to identify ways to rewrite it.

Cluster: Create equations that describe numbers or relationships.

A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems.

A.CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

A.CED.A.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.

A.CED.A.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.

Cluster: Understand solving equations as a process of reasoning and explain the reasoning.

A.REI.A.1 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.REI.A.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.

Cluster: Solve equations and inequalities in one variable.

A.REI.B.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

A.REI.B.4 Solve quadratic equations in one variable.

4a Use the method of completing the square to transform any quadratic equation in  $x$  into an equation of the form  $(x - p)^2 = q$  that has the same solutions. Derive the quadratic formula from this form.

4b Solve quadratic equations by inspection (e.g., for  $x^2 = 49$ ), taking square roots, completing the square, the quadratic formula and factoring,

as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as  $a \pm bi$  for real numbers  $a$  and  $b$ .

Cluster: Understand the concept of a function and use function notation.

F.IF.A.1 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.IF.A.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

F.IF.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.

Cluster: Interpret functions that arise in applications in terms of the context.

F.IF.B.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.

F.IF.B.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.

F.IF.B.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.

Cluster: Build a function that models a relationship between two quantities.

F.BF.A.1 Write a function that describes a relationship between two quantities.

1a Determine an explicit expression, a recursive process, or steps for calculation from a context.

1b Combine standard function types using arithmetic operations.

1c Compose functions.

F.BF.A.2 Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.

Cluster: Construct and compare linear, quadratic, and exponential models and solve problems.

F.LE.A.1 Distinguish between situations that can be modeled with linear functions and with exponential functions.

1a Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.

1b Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.

1c Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.

F.LE.A.2 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.LE.A.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.

F.LE.A.4 For exponential models, express as a logarithm the solution to  $ab^{ct} = d$  where  $a$ ,  $c$ , and  $d$  are numbers and the base  $b$  is 2, 10, or  $e$ ; evaluate the logarithm using technology.

Cluster: Summarize, represent, and interpret data on a single count or measurement variable.

S.ID.A.1 Represent data with plots on the real number line (dot plots, histograms, and box plots).

S.ID.A.2 Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

S.ID.A.3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).

S.ID.A.4 Use the mean and standard deviation of a data set to fit it to a normal distribution and to estimate population percentages. Recognize that there are data sets for which such a procedure is not appropriate. Use calculators, spreadsheets, and tables to estimate areas under the normal curve.

Cluster: Interpret linear models.

S.ID.C.7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.

S.ID.C.8 Compute (using technology) and interpret the correlation coefficient of a linear fit.

S.ID.C.9 Distinguish between correlation and causation.



Cluster: Understand and evaluate random processes underlying statistical experiments.

S.IC.A.1 Understand statistics as a process for making inferences about population parameters based on a random sample from that population.

S.IC.A.2 Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation.

**Washington English Language Arts Standards (Common Core State Standards) - Science and Technology Literacy Standards (Grades 9-10):**

RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.

RST.9-10.10 By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently.

**Unit 7: Buying Goods and Services**

**Total Learning Hours for Unit: 20**

**Unit Summary:**

In this unit, students will:

- Apply a decision-making model to maximize consumer satisfaction when buying goods and services.
- Demonstrate management of individual and family resources including food, clothing, shelter, health care, recreation, and transportation.
- Develop communication strategies for discussing financial issues.
- Apply comparison-buying practices, using alternative sources for purchases, such as online stores, e-malls, retail stores, wholesale shopping, and catalogs.
- Discuss various ways that competition among buyers helps the consumer.
- Describe reasons why there is variance in price for a given item bought from different providers.
- Compare the costs and benefits of purchasing, leasing, and renting.
- Summarize major consumer protection laws.
- Identify and describe consumer assistance services provided by public and private organizations.
- Calculate the costs of utilities, services, maintenance, and other expenses.
- Describe the role that supply and demand and market structure play in determining the availability and price of goods and services.
- Examine behaviors that conserve, reuse, and recycle resources to maintain the environment.

**Performance Assessments:**

*Performance assessments may be developed at the local level. In order to earn approval at the state level, performance assessments must be submitted within this framework.*

*It is expected that students will:*

- Demonstrate an understanding of unit pricing and how it can be applied for comparison shopping. Students will calculate the unit price of various goods and services.
- Conduct a consumer research project for a product, then produce an advertisement reflecting why one product is better than another supported by a cost-benefit analysis
- Use the Washington State Attorney General's homepage ([access.wa.gov](http://access.wa.gov)) to research the current policies and laws regarding consumer issues such as credit, finance, health fraud, insurance, consumer problems, and educational services.
- Select and track an area of public policy regarding consumer protection. Findings will be presented to the class.
- Demonstrate understanding of how to resolve a consumer problem by responding to various case studies in writing.

**Leadership Alignment:**

- Leadership activities should include 21st Century Skills embedded in curriculum and instruction for this unit of instruction. Include leadership skills that are being taught and assessed within the class for all students.
- The event, activity, or project and the associated 21st Century Skill should be clearly articulated.  
Example: Students will demonstrate the ability to communicate clearly through their group project presentation.

***Industry Standards and Competencies*****National Standards for Family and Consumer Sciences Education:**

- 2.3 Analyze policies that support consumer rights and responsibilities.
- 3.2 Analyze factors that affect consumer advocacy.
- 1.3.6 Identify ways individuals and families can influence change in policies, agencies, and institutions that affect individuals and families.
- 2.3.1 Examine state and federal policies and laws providing consumer protection.
- 2.3.2 Analyze how policies become laws relating to consumer rights.
- 2.3.3 Examine skills used in seeking information related to consumer rights.
- 3.3.3 Demonstrate strategies that enable consumers to become advocates.
- 3.2.5 Apply strategies to reduce the risk of consumer fraud.
- 3.2.6 Analyze the role of media in consumer advocacy.

**National JumpStart Standards:**

## Financial Responsibility and Decision Making

Overall Competency: Apply reliable information and systematic decision making to personal financial decisions.

Standard 1: Take responsibility for personal financial decisions.

Standard 4: Make financial decisions by systematically considering alternatives and consequences.

## Planning and Money Management

Overall Competency: Organize personal finances and use a budget to manage cash flow.

Standard 4: Apply consumer skills to purchase decisions.

***Aligned Washington State Standards*****Standards for Mathematical Practice (Common Core State Standards):**

- Practice 1: Make sense of problems and persevere in solving them.
- Practice 2: Reason abstractly and quantitatively.
- Practice 3: Construct viable arguments and critique the reasoning of others.
- Practice 4: Model with mathematics.
- Practice 5: Use appropriate tools strategically.
- Practice 6: Attend to precision.
- Practice 8: Look for and express regularity in repeated reasoning.

**Washington Mathematics Standards (Common Core State Standards):**

Cluster: Reason quantitatively and use units to solve problems.

N.Q.A.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.

N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.

N.Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Cluster: Interpret the structure of expressions.

A.SSE.A.1 Interpret expressions that represent a quantity in terms of its context.

1a Interpret part of an expression, such as terms, factors, and coefficients.

1b Interpret complicated expressions by viewing one or more of their parts as a single entity.

Cluster: Create equations that describe numbers or relationships.

A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems.

A.CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

A.CED.A.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.

A.CED.A.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.

Cluster: Understand solving equations as a process of reasoning and explain the reasoning.

A.REI.A.1 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.

Cluster: Solve systems of equations.

A.REI.C.5 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.REI.C.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

A.REI.C.7 Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. For example, find the points of intersection between the line  $y = -3x$  and the circle  $x^2 + y^2 = 3$ .

A.REI.C.8 Represent a system of linear equations as a single matrix equation in a vector variable.

A.REI.C.9 Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension  $3 \times 3$  or greater).

Cluster: Represent and solve equations and inequalities graphically.

A.REI.D.10 Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

A.REI.11 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.REI.D.12 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.

Cluster: Understand the concept of a function and use function notation.

F.IF.A.1 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  $y = f(x)$ .

Cluster: Interpret functions that arise in applications in terms of the context.

F.IF.B.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.

F.IF.B.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.

F.IFB.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.

Cluster: Analyze functions using different representations.

F.IF.C.8 Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.

8a Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.

8b Use the properties of exponents to interpret expressions for exponential functions.

Cluster: Build a function that models a relationship between two quantities.

F.BF.A.1 Write a function that describes a relationship between two quantities.

1a Determine an explicit expression, a recursive process, or steps for calculation from a context.

1b Combine standard function types using arithmetic operations.

1c Compose functions.

Cluster: Construct and compare linear, quadratic, and exponential models and solve problems.

F.LE.A.1 Distinguish between situations that can be modeled with linear functions and with exponential functions.

1a Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.

1b Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.

1c Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.

F.LE.A.2 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.LE.A.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.

F.LE.A.4 For exponential models, express as a logarithm the solution to  $ab^{ct} = d$  where  $a$ ,  $c$ , and  $d$  are numbers and the base  $b$  is 2, 10, or  $e$ ; evaluate the logarithm using technology.

Cluster: Summarize, represent, and interpret data on two categorical and quantitative variables.

S.ID.B.5 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.ID.B.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.

6a 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, quadratic, and exponential models.

6b Informally assess the fit of a function by plotting and analyzing residuals.

6c Fit a linear function for a scatter plot that suggests a linear association.

Cluster: Interpret linear models.

S.ID.C.7 Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.

S.ID.C.8 Compute (using technology) and interpret the correlation coefficient of a linear fit.

S.ID.C.9 Distinguish between correlation and causation.

**Washington English Language Arts Standards (Common Core State Standards) - Science and Technology Literacy Standards (Grades 9-10):**

RST.9-10.2 Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.

RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.

RST.9-10.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

RST.9-10.10 By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently.

Unit 8: Credit and Debit	Total Learning Hours for Unit: 15
<p><b>Unit Summary:</b>            In this unit, students will:</p> <ul style="list-style-type: none"> <li>• Analyze factors that affect credit worthiness, borrowing, and managing debt.</li> <li>• Understand the risks of identity theft and learn how to minimize exposure to that risk.</li> <li>• Learn about interest rates and minimum monthly payments.</li> <li>• Learn how to compare credit card offers in order to find the most advantageous offer.</li> </ul>	
<p><b>Performance Assessments:</b>  <i>Performance assessments may be developed at the local level. In order to earn approval at the state level, performance assessments must be submitted within this framework.</i></p> <p><i>It is expected that students will:</i></p> <ul style="list-style-type: none"> <li>• Demonstrate understanding of credit card minimum payments by examining a credit card statement and accurately calculating the average daily balance with new purchases.</li> <li>• Pick the least expensive form of credit card and defend their choice when given several options for credit cards.</li> <li>• Use functions to calculate the time it will take to pay off credit card debt if one pays only the minimum monthly payment.</li> </ul>	
<p><b>Leadership Alignment:</b></p> <ul style="list-style-type: none"> <li>• Leadership activities should include 21st Century Skills embedded in curriculum and instruction for this unit of instruction. Include leadership skills that are being taught and assessed within the class for all students.</li> <li>• The event, activity, or project and the associated 21st Century Skill should be clearly articulated.            Example: Students will demonstrate the ability to communicate clearly through their group project presentation.</li> </ul>	
<p><b><i>Industry Standards and Competencies</i></b></p>	
<p><b>National Standards for Family and Consumer Sciences Education:</b></p> <p>3.3.1 Explain the effects of the economy on personal income, individual and family security, and consumer decisions.</p> <p>3.3.2 Demonstrate components of a financial planning process that reflect the distinction between needs, wants, values, goals, and economic resources.</p> <p>3.3.3 Analyze the effect of consumer credit in long-term financial planning.</p> <p>3.3.8 Analyze factors that influence establishing and maintaining a good credit rating and the effect of credit ratings on rates and terms for credit and insurance.</p> <p><b>National Jump\$tart Standards:</b></p> <p>Financial Responsibility and Decision Making</p> <p>Overall Competency: Apply reliable information and systematic decision making to personal financial decisions.</p> <p>Standard 1: Take responsibility for personal financial decisions.</p> <p>Standard 2: Find and evaluate financial information from a variety of sources.</p> <p>Standard 3: Summarize major consumer protection laws.</p> <p>Standard 4: Make financial decisions by systematically considering alternatives and consequences.</p> <p>Standard 5: Develop communication strategies for discussing financial issues.</p> <p>Standard 6: Control personal information.</p> <p>Planning and Money Management</p> <p>Overall Competency: Organize personal finances and use a budget to manage cash flow.</p> <p>Standard 1: Develop a plan for spending and saving.</p>	

Standard 2: Develop a system for keeping and using financial records.  
Standard 3: Describe how to use different payment methods.  
Standard 4: Apply consumer skills to purchase decisions.

**Credit and Debt**

Overall Competency: Maintain creditworthiness, borrow at favorable terms, and manage debt.  
Standard 1: Identify the costs and benefits of various types of credit.  
Standard 2: Explain the purpose of a credit record and identify borrowers' credit report rights.  
Standard 3: Describe ways to avoid or correct debt problems.  
Standard 4: Summarize major consumer credit laws.

***Aligned Washington State Standards***

**Standards for Mathematical Practice (Common Core State Standards):**

Practice 1: Make sense of problems and persevere in solving them.  
Practice 2: Reason abstractly and quantitatively.  
Practice 3: Construct viable arguments and critique the reasoning of others.  
Practice 4: Model with mathematics.  
Practice 5: Use appropriate tools strategically.  
Practice 6: Attend to precision.

**Washington Mathematics Standards (Common Core State Standards):**

Cluster: Reason quantitatively and use units to solve problems.

N.Q.A.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.

N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.

Cluster: Interpret the structure of expressions.

A.SSE.A.1 Interpret expressions that represent a quantity in terms of its context.

1a Interpret part of an expression, such as terms, factors, and coefficients.

1b Interpret complicated expressions by viewing one or more of their parts as a single entity.

Cluster: Create equations that describe numbers or relationships.

A.CED.A.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.

Cluster: Understand solving equations as a process of reasoning and explain the reasoning.

A.REI.A.1 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.REI.A.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.

Cluster: Build a function that models a relationship between two quantities.

F.BF.A.1 Write a function that describes a relationship between two quantities.

1a Determine an explicit expression, a recursive process, or steps for calculation from a context.

1b Combine standard function types using arithmetic operations.

1c Compose functions.

F.BF.A.2 Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.

Cluster: Construct and compare linear, quadratic, and exponential models and solve problems.

F.LE.A.1 Distinguish between situations that can be modeled with linear functions and with exponential functions.

1a Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.

1b Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.

1c Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.

F.LE.A.2 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.LE.A.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.

F.LE.A.4 For exponential models, express as a logarithm the solution to  $ab^{ct} = d$  where  $a$ ,  $c$ , and  $d$  are numbers and the base  $b$  is 2, 10, or  $e$ ; evaluate the logarithm using technology.

Cluster: Summarize, represent, and interpret data on a single count or measurement variable.

S.ID.A.1 Represent data with plots on the real number line (dot plots, histograms, and box plots).

S.ID.A.2 Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

S.ID.A.3 Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).

Cluster: Summarize, represent, and interpret data on two categorical and quantitative variables.

S.ID.B.6 Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.

6a 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, quadratic, and exponential models.

6b Informally assess the fit of a function by plotting and analyzing residuals.

6c Fit a linear function for a scatter plot that suggests a linear association.

**Washington English Language Arts Standards (Common Core State Standards) - Science and Technology Literacy Standards (Grades 9-10):**

RST.9-10.2 Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.

RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.

RST.9-10.7 Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.

RST.9-10.10 By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently.

**Unit 9: Loans**

**Total Learning Hours for Unit: 15**

**Unit Summary:**

In this unit, students will:

- Investigate loan terminology, types, and costs.
- Learn the potential benefits and pitfalls of taking out a loan.

**Performance Assessments:**

*Performance assessments may be developed at the local level. In order to earn approval at the state level, performance assessments must be submitted within this framework.*

*It is expected that students will:*

- Demonstrate knowledge of loan vocabulary and calculations.
- Choose a financial service from two different institutions and compare the costs and benefits. Analyze which would be the better choice and why.

- Complete a FAFSA and do shared readings about school loans and financial aid.

**Leadership Alignment:**

- Leadership activities should include 21st Century Skills embedded in curriculum and instruction for this unit of instruction. Include leadership skills that are being taught and assessed within the class for all students.
- The event, activity, or project and the associated 21st Century Skill should be clearly articulated.  
Example: Students will demonstrate the ability to communicate clearly through their group project presentation.

***Industry Standards and Competencies***

**National Standards for Family and Consumer Sciences Education:**

- 2.5.4 Analyze practices that allow families to maintain economic self-sufficiency.
- 2.6.1 Evaluate the need for personal and family financial planning.
- 2.5.1 Analyze the use of resources in making choices that satisfy needs and wants of individuals and families.
- 3.3.2 Demonstrate components of a financial planning process that reflect the distinction between needs, wants, values, goals, and economic resources.
- 3.3.3 Analyze the effect of consumer credit in long-term financial planning.
- 3.3.8 Analyze factors that influence establishing and maintaining a good credit rating and the effect of credit ratings on rates and terms for credit and insurance.
- 3.5.5 Apply statistical analysis processes to interpret, summarize, and report data from tests.
- 3.5.7 Demonstrate a product to educate an audience about a new product on the consumer market.
- 3.5.8 Utilize appropriate marketing and sales techniques to aid consumers in the selection of goods and services that meet consumer needs.

**National JumpStart Standards:**

Financial Responsibility and Decision Making

Overall Competency: Apply reliable information and systematic decision making to personal financial decisions.

- Standard 1: Take responsibility for personal financial decisions.
- Standard 2: Find and evaluate financial information from a variety of sources.
- Standard 3: Summarize major consumer protection laws.
- Standard 4: Make financial decisions by systematically considering alternatives and consequences.
- Standard 5: Develop communication strategies for discussing financial issues.

Planning and Money Management

Overall Competency: Organize personal finances and use a budget to manage cash flow.

- Standard 4: Apply consumer skills to purchase decisions.

Credit and Debt

Overall Competency: Maintain creditworthiness, borrow at favorable terms, and manage debt.

- Standard 4: Summarize major consumer credit laws.

***Aligned Washington State Standards***

**Standards for Mathematical Practice (Common Core State Standards):**

- Practice 1: Make sense of problems and persevere in solving them.
- Practice 2: Reason abstractly and quantitatively.
- Practice 3: Construct viable arguments and critique the reasoning of others.
- Practice 4: Model with mathematics.
- Practice 5: Use appropriate tools strategically.
- Practice 6: Attend to precision.



**Washington Mathematics Standards (Common Core State Standards):**

Cluster: Extend the properties of exponents to rational exponents.

N.RN.A.1 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 of rational exponents.

N.RN.A.2 Rewrite expressions involving radicals and rational exponents using the properties of exponents.

Cluster: Reason quantitatively and use units to solve problems.

N.Q.A.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.

N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.

N.Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Cluster: Understand solving equations as a process of reasoning and explain the reasoning.

A.REI.A.1 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.REI.A.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.

Cluster: Understand the concept of a function and use function notation.

F.IF.A.1 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.IF.A.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

F.IF.A.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.

Cluster: Interpret functions that arise in applications in terms of the context.

F.IF.B.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.

F.IF.B.5 Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.

F.IF.B.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.

**Washington English Language Arts Standards (Common Core State Standards) - Science and Technology Literacy Standards (Grades 9-10):**

RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.

**Unit 10: Vehicle Transportation****Total Learning Hours for Unit: 15****Unit Summary:**

In this unit, students will:

- Learn about the costs associated with vehicle ownership.

**Performance Assessments:**

*Performance assessments may be developed at the local level. In order to earn approval at the state level, performance assessments must be submitted within this framework.*

*It is expected that students will:*

- Choose a vehicle and calculate the costs of that purchase, making sure it fits within the budgeted career plan they developed earlier in the course.

- Estimate maintenance, insurance, and fuel costs for their vehicle.
- Calculate the costs of alternate forms of transportation and debate transportation options.
- Use a simulated purchasing experience (e.g., negotiating a car purchase) to understand how two sides of a negotiation can represent their interests.

**Leadership Alignment:**

- Leadership activities should include 21st Century Skills embedded in curriculum and instruction for this unit of instruction. Include leadership skills that are being taught and assessed within the class for all students.
- The event, activity, or project and the associated 21st Century Skill should be clearly articulated.  
Example: Students will demonstrate the ability to communicate clearly through their group project presentation.

***Industry Standards and Competencies***

**National Standards for Family and Consumer Sciences Education:**

- 2.1 Demonstrate management of individual and family resources such as food, clothing, shelter, health care, recreation, transportation, time, and human capital.
- 2.1.2 Analyze how individuals and families make choices to satisfy needs and wants.
- 2.1.8 Apply consumer skills to acquire and maintain transportation that meets the needs of individuals and family members.
- 2.2 Analyze the relationship of the environment to family and consumer resources.
- 2.2.1 Analyze individual and family responsibility in relation to the environmental trends and issues.
- 2.6.3 Apply management principles to decisions about insurance for individuals and families.

**National Jumpstart Standards:**

Financial Responsibility and Decision Making

- Overall Competency: Apply reliable information and systematic decision making to personal financial decisions.
- Standard 1: Take responsibility for personal financial decisions.
- Standard 2: Find and evaluate financial information from a variety of sources.
- Standard 4: Make financial decisions by systematically considering alternatives and consequences.
- Standard 5: Develop communication strategies for discussing financial issues.

Planning and Money Management

- Overall Competency: Organize personal finances and use a budget to manage cash flow.
- Standard 4: Apply consumer skills to purchase decisions.

Risk Management and Insurance

- Overall Competency: Use appropriate and cost-effective risk management strategies.
- Standard 2: Explain the purpose and importance of property and liability insurance protection.

***Aligned Washington State Standards***

**Standards for Mathematical Practice (Common Core State Standards):**

- Practice 1: Make sense of problems and persevere in solving them.
- Practice 2: Reason abstractly and quantitatively.
- Practice 3: Construct viable arguments and critique the reasoning of others.
- Practice 4: Model with mathematics.
- Practice 5: Use appropriate tools strategically.
- Practice 6: Attend to precision.

**Washington Mathematics Standards (Common Core State Standards):**

Cluster: Reason quantitatively and use units to solve problems.

N.Q.A.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.

N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.

N.Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Cluster: Understand solving equations as a process of reasoning and explain the reasoning.

A.REI.A.1 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.REI.A.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.

Cluster: Solve systems of equations.

A.REI.C.5 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.REI.C.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

A.REI.C.7 Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. For example, find the points of intersection between the line  $y = -3x$  and the circle  $x^2 + y^2 = 3$ .

A.REI.C.8 Represent a system of linear equations as a single matrix equation in a vector variable.

A.REI.C.9 Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension  $3 \times 3$  or greater).

Cluster: Understand the concept of a function and use function notation.

F.IF.A.1 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.IF.A.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

F.IF.A.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.

Cluster: Construct and compare linear, quadratic, and exponential models and solve problems.

F.LE.A.1 Distinguish between situations that can be modeled with linear functions and with exponential functions.

1a Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.

1b Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.

1c Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.

F.LE.A.2 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.LE.A.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.

F.LE.A.4 For exponential models, express as a logarithm the solution to  $ab^{ct} = d$  where  $a$ ,  $c$ , and  $d$  are numbers and the base  $b$  is 2, 10, or  $e$ ; evaluate the logarithm using technology.

**Washington English Language Arts Standards (Common Core State Standards) - Science and Technology Literacy Standards (Grades 9-10):**

RST.9-10.1 Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.

RST.9-10.10 By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently.

Unit 11: Housing Costs	Total Learning Hours for Unit: 15
<p><b>Unit Summary:</b>            In this unit, students will:</p> <ul style="list-style-type: none"> <li>• Learn about the costs associated with housing.</li> <li>• Compare and contrast various types of housing.</li> </ul>	
<p><b>Performance Assessments:</b>  <i>Performance assessments may be developed at the local level. In order to earn approval at the state level, performance assessments must be submitted within this framework.</i></p> <p><i>It is expected that students will:</i></p> <ul style="list-style-type: none"> <li>• Complete a housing simulation analysis. After finding a home or apartment that interests them, they will calculate the costs including move-in expenses, rent or mortgage, utilities, etc.</li> <li>• Work with a partner as a potential roommate to calculate the cost of setting up a new home, analyzing their needs and wants and how that affects their purchases and budget. Students will present their findings to the class.</li> </ul>	
<p><b>Leadership Alignment:</b></p> <ul style="list-style-type: none"> <li>• Leadership activities should include 21st Century Skills embedded in curriculum and instruction for this unit of instruction. Include leadership skills that are being taught and assessed within the class for all students.</li> <li>• The event, activity, or project and the associated 21st Century Skill should be clearly articulated.            Example: Students will demonstrate the ability to communicate clearly through their group project presentation.</li> </ul>	
<p><b><i>Industry Standards and Competencies</i></b></p>	
<p><b>National Standards for Family and Consumer Sciences Education:</b></p> <p>2.1 Demonstrate management of individual and family resources such as food, clothing, shelter, health care, recreation, transportation, time, and human capital.</p> <p>2.1.5 Apply consumer skills to decisions about housing, utilities, and furnishings.</p> <p>2.3.1 Analyze state and federal policies and laws providing consumer protection.</p> <p>2.6.1 Evaluate the need for personal and family financial planning.</p> <p>2.6.2 Apply management principles to individual and family financial practices.</p> <p>2.6.3 Apply management principles to decisions about insurance for individuals and families.</p> <p>2.6.4 Evaluate personal and legal documents related to managing individual and family finances.</p> <p>11.6.3 Assess a variety of available resources for housing and interior design, including ergonomic and anthropometric data.</p> <p><b>National JumpStart Standards:</b></p> <p>Financial Responsibility and Decision Making</p> <p>Overall Competency: Apply reliable information and systematic decision making to personal financial decisions.</p> <p>Standard 1: Take responsibility for personal financial decisions.</p> <p>Standard 2: Find and evaluate financial information from a variety of sources.</p> <p>Standard 4: Make financial decisions by systematically considering alternatives and consequences.</p> <p>Standard 5: Develop communication strategies for discussing financial issues.</p> <p>Planning and Money Management</p> <p>Overall Competency: Organize personal finances and use a budget to manage cash flow.</p> <p>Standard 4: Apply consumer skills to purchase decisions.</p>	

Risk Management and Insurance

Overall Competency: Use appropriate and cost-effective risk management strategies.

Standard 2: Explain the purpose and importance of property and liability insurance protection.

**Aligned Washington State Standards**

**Standards for Mathematical Practice (Common Core State Standards):**

Practice 1: Make sense of problems and persevere in solving them.

Practice 3: Construct viable arguments and critique the reasoning of others.

Practice 4: Model with mathematics.

Practice 5: Use appropriate tools strategically.

Practice 6: Attend to precision.

**Washington Mathematics Standards (Common Core State Standards):**

Cluster: Reason quantitatively and use units to solve problems.

N.Q.A.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.

N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.

N.Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Cluster: Understand solving equations as a process of reasoning and explain the reasoning.

A.REI.A.1 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.REI.A.2 Solve simple rational and radical equations in one variable, and give examples showing how extraneous solutions may arise.

**Washington English Language Arts Standards (Common Core State Standards) - Science and Technology Literacy Standards (Grades 9-10):**

RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.

RST.9-10.10 By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently.

**Unit 12: Insurance**

**Total Learning Hours for Unit: 15**

**Unit Summary:**

In this unit, students will:

- Understand the importance of insurance.
- Investigate and debate public policies regarding health insurance.

**Performance Assessments:**

*Performance assessments may be developed at the local level. In order to earn approval at the state level, performance assessments must be submitted within this framework.*

*It is expected that students will:*

- Investigate the cost of health insurance for a variety of ages and family structures.
- Research and debate health coverage issues such as the Affordable Care Act, Medicare, and Medicaid.

**Leadership Alignment:**

- Leadership activities should include 21st Century Skills embedded in curriculum and instruction for this unit of instruction. Include leadership skills that are being taught and assessed within the class for all students.
- The event, activity, or project and the associated 21st Century Skill should be clearly articulated.  
Example: Students will demonstrate the ability to communicate clearly through their group project presentation.

***Industry Standards and Competencies*****National Standards for Family and Consumer Sciences Education:**

- 2.1 Demonstrate management of individual and family resources such as food, clothing, shelter, health care, recreation, transportation, time, and human capital.
- 2.3.1 Analyze state and federal policies and laws providing consumer protection.
- 2.6.1 Evaluate the need for personal and family financial planning.
- 2.6.2 Apply management principles to individual and family financial practices.
- 2.6.3 Apply management principles to decisions about insurance for individuals and families.
- 2.6.4 Evaluate personal and legal documents related to managing individual and family finances.

**National Jumpstart Standards:**

## Financial Responsibility and Decision Making

Overall Competency: Apply reliable information and systematic decision making to personal financial decisions.

Standard 1: Take responsibility for personal financial decisions.

Standard 2: Find and evaluate financial information from a variety of sources.

Standard 3: Summarize major consumer protection laws.

Standard 4: Make financial decisions by systematically considering alternatives and consequences.

Standard 5: Develop communication strategies for discussing financial issues.

## Planning and Money Management

Overall Competency: Organize personal finances and use a budget to manage cash flow.

Standard 4: Apply consumer skills to purchase decisions.

Standard 7: Examine the purpose and importance of a will.

## Risk Management and Insurance

Overall Competency: Use appropriate and cost-effective risk management strategies.

Standard 1: Identify common types of risks and basic risk management methods.

Standard 2: Explain the purpose and importance of property and liability insurance protection.

Standard 3: Explain the purpose and importance of health, disability, and life insurance protection.

**National Business Education Association: Personal Finance Achievement Standards:**

## Protecting Against Risk

Achievement Standard: Analyze choices available to consumers for protection against risk and financial loss.

***Aligned Washington State Standards*****Standards for Mathematical Practice (Common Core State Standards):**

Practice 1: Make sense of problems and persevere in solving them.

Practice 2: Reason abstractly and quantitatively.

Practice 3: Construct viable arguments and critique the reasoning of others.

Practice 4: Model with mathematics.

Practice 5: Use appropriate tools strategically.

Practice 6: Attend to precision.

**Washington Mathematics Standards (Common Core State Standards):**

Cluster: Reason quantitatively and use units to solve problems.

N.Q.A.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.

N.Q.A.2 Define appropriate quantities for the purpose of descriptive modeling.

N.Q.A.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Cluster: Solve systems of equations.

A.REI.C.5 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.REI.C.6 Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

A.REI.C.7 Solve a simple system consisting of a linear equation and a quadratic equation in two variables algebraically and graphically. For example, find the points of intersection between the line  $y = -3x$  and the circle  $x^2 + y^2 = 3$ .

A.REI.C.8 Represent a system of linear equations as a single matrix equation in a vector variable.

A.REI.C.9 Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension  $3 \times 3$  or greater).

Cluster: Understand the concept of a function and use function notation.

F.IF.A.1 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.IF.A.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

F.IF.A.3 Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.

Cluster: Construct and compare linear, quadratic, and exponential models and solve problems.

F.LE.A.1 Distinguish between situations that can be modeled with linear functions and with exponential functions.

1a Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.

1b Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.

1c Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.

F.LE.A.2 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.LE.A.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.

F.LE.A.4 For exponential models, express as a logarithm the solution to  $ab^{ct} = d$  where  $a$ ,  $c$ , and  $d$  are numbers and the base  $b$  is 2, 10, or  $e$ ; evaluate the logarithm using technology.

Cluster: Interpret expressions for functions in terms of the situation they model.

F.LE.B.5 Interpret the parameters in a linear or exponential function in terms of a context.

Cluster: Make inferences and justify conclusions from sample surveys, experiments, and observational studies.

S.IC.B.3 Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.

S.IC.B.4 Use data from a sample survey to estimate a population mean or proportion; develop a margin of error through the use of simulation models for random sampling.

S.IC.B.5 Use data from a randomized experiment to compare two treatments; use simulations to decide if differences between parameters are significant.

S.IC.B.6 Evaluate reports based on data.

**Washington English Language Arts Standards (Common Core State Standards) - Science and Technology Literacy Standards (Grades 9-10):**  
 RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.  
 RST.9-10.10 By the end of grade 10, read and comprehend science/technical texts in the grades 9-10 text complexity band independently and proficiently.

<b>Unit 13: Career Awareness</b>	<b>Total Learning Hours for Unit: 15</b>
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**Unit Summary:**  
 In this unit, students will:

- Assess personal skills, abilities, aptitudes, strengths, and weaknesses as they relate to career exploration and development.
- Assess and analyze personal talents, values, and interests as they may relate to a future career, based on the completion of a standardized career interest survey and personality indicator assessments.
- Correlate personal characteristics with the requirements of specific jobs within career clusters.
- Identify transferable competencies and job-specific skills related to career and job options.
- Apply knowledge gained from the individual assessment to a comprehensive set of goals and an individual career plan.
- Relate the importance of lifelong learning to career success.
- Use a variety of research tools (e.g., computer-assisted programs, newspapers, books, professional and trade associations, informational interviews, job shadowing, career fairs, and the Internet) in the career exploration process.
- Relate the importance of workplace expectations to career development.
- Develop a plan to make an effective transition from school to a career.
- Describe the impact of the global economy on jobs and careers and explain how types and availability of jobs are determined primarily by consumer demand in the market-oriented economy of the United States.
- Assess the impact of sociological, economic, and technological changes on future jobs.

**Performance Assessments:**  
*Performance assessments may be developed at the local level. In order to earn approval at the state level, performance assessments must be submitted within this framework.*

*It is expected that students will:*

- Prepare for and participate in a mock interview by writing a letter of interest, a professional résumé, and a follow-up letter.
- Create a career plan for the years immediately following high school and include a financial analysis or plan for that path.

**Leadership Alignment:**

- Leadership activities should include 21st Century Skills embedded in curriculum and instruction for this unit of instruction. Include leadership skills that are being taught and assessed within the class for all students.
- The event, activity, or project and the associated 21st Century Skill should be clearly articulated.  
 Example: Students will demonstrate the ability to communicate clearly through their group project presentation.

***Industry Standards and Competencies***

**National Standards for Family and Consumer Sciences Education:**

1.2 Demonstrate transferable and employability skills in school, community and workplace settings.

1.1.6 Develop a life plan, including pathways to acquiring the knowledge and skills needed to achieve individual, family, and career goals.

1.1.3 Analyze ways that individual career goals can affect the family's capacity to meet goals for all family members.



- 1.1.4 Analyze potential effects of career path decisions on balancing work and family.
- 1.2.1 Analyze potential career choices to determine the knowledge, skills, and attitudes associated with each career.
- 1.2.3 Apply communication skills in school, community and workplace settings.
- 1.2.4 Demonstrate teamwork skills in school, community and workplace settings.
- 1.2.5 Analyze strategies to manage the effects of changing technologies in workplace settings.
- 1.2.6 Demonstrate leadership skills and abilities in school, workplace and community settings.

**National Jump\$tart Standards:**

Financial Responsibility and Decision Making

Overall Competency: Apply reliable information and systematic decision making to personal financial decisions.

Standard 1: Take responsibility for personal financial decisions.

Standard 4: Make financial decisions by systematically considering alternatives and consequences.

Standard 5: Develop communication strategies for discussing financial issues.

Standard 6: Control personal information.

Income and Careers

Overall Competency: Use a career plan to develop personal income potential.

Standard 1: Explore career options.

Standard 2: Identify sources of personal income.

Standard 3: Describe factors affecting take-home pay.

***Aligned Washington State Standards***

**Standards for Mathematical Practice (Common Core State Standards)**

Practice 1: Make sense of problems and persevere in solving them.

Practice 2: Reason abstractly and quantitatively.

Practice 5: Use appropriate tools strategically.

Practice 6: Attend to precision.

**Washington Mathematics Standards (Common Core State Standards):**

Cluster: Interpret the structure of expressions.

A.SSE.A.1 Interpret expressions that represent a quantity in terms of its context.

1a Interpret part of an expression, such as terms, factors, and coefficients.

1b Interpret complicated expressions by viewing one or more of their parts as a single entity.

A.SSE.A.2 Use the structure of an expression to identify ways to rewrite it.

Cluster: Create equations that describe numbers or relationships.

A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems.

A.CED.A.2 Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

A.CED.A.3 Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.

A.CED.A.4 Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.

Cluster: Solve equations and inequalities in one variable.

A.REI.B.3 Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

Cluster: Understand the concept of a function and use function notation.

F.IF.A.2 Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

Cluster: Analyze functions using different representations.

F.IF.C.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.

7b Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.

Cluster: Construct and compare linear, quadratic, and exponential models and solve problems.

F.LE.A.1 Distinguish between situations that can be modeled with linear functions and with exponential functions.

1b Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.

**Washington English Language Arts Standards (Common Core State Standards) - Science and Technology Literacy Standards (Grades 9-10):**

RST.9-10.2 Determine the central ideas or conclusions of a text; trace the text's explanation or depiction of a complex process, phenomenon, or concept; provide an accurate summary of the text.

RST.9-10.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 9-10 texts and topics.

**21st Century Skills**

Students will demonstrate in this course:

**LEARNING & INNOVATION**

**Creativity and Innovation**

- Think Creatively
- Work Creatively with Others
- Implement Innovations

**Critical Thinking and Problem Solving**

- Reason Effectively
- Use Systems Thinking
- Make Judgments and Decisions
- Solve Problems

**Communication and Collaboration**

- Communicate Clearly
- Collaborate with Others

**INFORMATION, MEDIA & 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 & 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