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**Access Mathematics for Data and Financial Literacy**

**(#7912120)**

[MA.912.AR.1.1](https://www.cpalms.org/PreviewStandard/Preview/15555): Identify and interpret parts of an equation or expression that represent a quantity in terms of a mathematical or real-world context, including viewing one or more of its parts as a single entity.

**Clarifications**

*Clarification 1:*Parts of an expression include factors, terms, constants, coefficients and variables.

*Clarification 2:*Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.AR.1.AP.1](https://www.cpalms.org/PreviewAccessPoint/Preview/18279) | Identify a part(s) of an equation or expression and explain the meaning within the context of a problem. |  |  |  |
| EssentialUnderstandings | Understand the following concepts and vocabulary: equation, expression, add (+), subtract (-), multiply (x), divide ($÷$), equal (=), Greater than (>), Less than (<), unknown (x), variables, and real-world contextUnderstand in a problem with real world context, the variables have meaning within the context of the problem.Ex. Distance Problem Distance Formula: d=rt (d = distance, r = rate, t = time)Ex. Interest ProblemInterest Formula: I = Prt (I = interest, P = principal, r = rate, t = time in years)Ex. Match items from a problem with variables (e.g., In the expression 6x + 7y, students explain that Bill had 6 times as many apples and 7 times as many oranges as Sam, with x representing the number of apples and y representing the number of oranges)  |  |  |  |
| Resources: |  |  |  |  |

[MA.912.AR.1.2:](https://www.cpalms.org/PreviewStandard/Preview/15556) Rearrange equations or formulas to isolate a quantity of interest.

**Clarifications**

*Clarification 1:* Instruction includes using formulas for temperature, perimeter, area and volume; using equations for linear (standard, slope-intercept and point-slope forms) and quadratic (standard, factored and vertex forms) functions.

*Clarification 2*: Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.AR.1.AP.2](https://www.cpalms.org/PreviewAccessPoint/Preview/18387) | Rearrange an equation or a formula for a specific variable. |  |  |  |
| EssentialUnderstandings | * Understand the following concepts and vocabulary: variable, symbol, equation, multivariate equation, add (+), subtract (-), multiply (x), divide (÷), equal (=), unknown, formulas,
* Understand when rearranging an equation, isolate for variable of interest.

Ex. d=rt (d = distance, r = rate, t = time)Solve for t* Understand algebraic rules (e.g., what you do to one side of the equation you must do to the other).

Ex. Distance Formula: d=rt (d = distance, r = rate, t = time)Solve for t.$$d=rt$$Divide r on both sides.$$\frac{d}{r}=\frac{rt}{r}$$$$\frac{d}{r}=t$$Ex. Interest Formula: I = Prt (I = interest, P = principal, r = rate, t = time in years) Solve for P$$I=Prt$$Divide rt on both sides.$$\frac{I}{rt}=\frac{Prt}{rt}$$$$\frac{I}{rt}=P$$ |  |  |  |
| Resources: |  |  |  |  |

[MA.912.AR.2.5:](https://www.cpalms.org/PreviewStandard/Preview/15569) Solve and graph mathematical and real-world problems that are modeled with linear functions. Interpret key features and determine domain constraints in terms of the context.

**Clarifications:**

*Clarification 1*: Key features are limited to domain, range, intercepts and rate of change.

*Clarification 2*: Instruction includes the use of standard form, slope-intercept form and point-slope form.

*Clarification 3*: Instruction includes representing the domain, range and constraints with inequality notation, interval notation or set-builder notation.

*Clarification 4*: Within the Algebra 1 course, notations for domain, range and constraints are limited to inequality and set-builder.

*Clarification 5*: Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.AR.2.AP.5](https://www.cpalms.org/PreviewAccessPoint/Preview/18292) | Given a mathematical and/or real-world problem that is modeled with linear functions, solve the mathematical problem, or select the graph using key features (in terms of context) that represents this model. |  |  |  |
| EssentialUnderstandings | * Understand the following related vocabulary: *x*-axis, *y*-axis, labels, scales, domain, linear function, y-intercept (b), slope (m), graph, add (+), subtract (-), multiply (x), divide ($÷$), equal (=), linear, variable
* Understand key features of a linear function (can include domain, range, y-intercept, or slope).
* Understand that if the slope is positive, the line on the graph rises upward from left to right.
* Understand that if the slope is negative the line on the graph will fall downward from left to right.
* Understand that if the slope is zero, the line on the graph is horizontal.
* Understand that if the slope is undefined, the line on the graph is vertical.
* Understand the slope is the rise over the run.
* Understand the y-intercept is where the line crosses the y-axis.
* Understand that the domain is all the x-values.
* Understand that the range is all the y-values.
* Understand the slope (rate of change) and y-intercept (if the equation is in y-intercept form, $y=mx+b, $the constant (b) is where the line crosses the y-axis) from a real-world problem
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| Resources: |  |  |  |  |

[MA.912.AR.5.7:](https://www.cpalms.org/PreviewStandard/Preview/15592) Solve and graph mathematical and real-world problems that are modeled with exponential functions. Interpret key features and determine constraints in terms of the context.

**Clarifications:**

*Clarification 1*: Key features are limited to domain; range; intercepts; intervals where the function is increasing, decreasing, positive or negative; constant percent rate of change; end behavior and asymptotes.

*Clarification 2*: Instruction includes representing the domain, range and constraints with inequality notation, interval notation or set-builder notation.

*Clarification 3*: Instruction includes understanding that when the logarithm of the dependent variable is taken and graphed, the exponential function will be transformed into a linear function.

*Clarification 4*: Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
|  [MA.912.AR.5.AP.7:](https://www.cpalms.org/PreviewAccessPoint/Preview/18315)  | Given a mathematical and/or real-world problem that is modeled with exponential functions, solve the mathematical problem, or select the graph using key features (in terms of context) that represents this model. |  |  |  |
| EssentialUnderstandings | * Understand the following terms and vocabulary: *x*-axis, *y*-axis, *x*-value, *y*-value, left, right, increase, decrease, growth, decay, exponential function, exponential, standard form, graph, constant, common ratio, initial value, definable point, properties of exponents.
* Understand and use the properties of exponents to simplify algebraic expressions.
* Understand when given the exponential equation $y=ab^{x}$ the variable *a* represents the initial value and the variable *b* represents the ratio between the *y*-values ($a\ne 0,b\ne 1,and b>0)$
* Understand that an exponential function that represents growth will quickly increase from left to right.
* Understand that an exponential function that represents decay will quickly decrease from left to right.
* Understand that growth can be represented by a pandemic, rabbits, mice, fleas, population, etc.
* Understand that decay can be represented by radioactive materials, population, something that cools (coffee, soup), etc.
* Understand when a graph of the exponential function crosses the *y*-axis at a definable point the *y*-intercept is the initial value variable *a*
* Understand that the standard form of an exponential function that represents growth is $y=a(1+r)^{x}$ where a is the initial value (a > 0), r is the rate of growth (r > 0), x is time.
* Understand for exponential growth, as x increases, y grows exponentially.
* Understand that the standard form of an exponential function that represents decay is $y=a(1-r)^{x}$ where a is the initial value (a > 0), r is the rate of decay (0 < r < 1), x is time.
* Understand for exponential decay, as x increases, y decreases exponentially
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| Resources: |  |  |  |  |

[MA.912.DP.1.2:](https://www.cpalms.org/PreviewStandard/Preview/15745) Interpret data distributions represented in various ways. State whether the data is numerical or categorical, whether it is univariate or bivariate and interpret the different components and quantities in the display.

**Clarifications:**
*Clarification 1*: Within the Probability and Statistics course, instruction includes the use of spreadsheets and technology.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.DP.1.AP.2:](https://www.cpalms.org/PreviewAccessPoint/Preview/18387) | Given a univariate or bivariate data distribution (numerical or categorical), identify the different components and quantities in the display. |  |  |  |
| EssentialUnderstandings | * Understand the following term and vocabulary: univariate distribution, bivariate distribution, attributes, numerical data, categorical data, characteristics, frequency table, two-way table joint frequency, marginal frequency, margins, measure.
* Understand that categorical data is data that is classified by attributes or characteristics (Ex. Favorite color, type of car, number on a sports jersey)
* Understand that numerical data is data that can be measured (Ex. The number of people who like the color green.)
* Understand that a bivariate distribution can be represented by a two-way table.
* Understand that a univariate distribution can be represented by a frequency table.
* Understand that a two-way table has two types of frequencies: joint frequencies (numbers inside the two-way table) and marginal frequencies (totals in the margins or edge of table)
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| Resources: |  |  |  |  |

[MA.912.DP.2.4:](https://www.cpalms.org//PreviewStandard/Preview/15752) Fit a linear function to bivariate numerical data that suggests a linear association and interpret the slope and y-intercept of the model. Use the model to solve real-world problems in terms of the context of the data.

**Clarifications:**
*Clarification 1*: Instruction includes fitting a linear function both informally and formally with the use of technology.

*Clarification 2*: Problems include making a prediction or extrapolation, inside and outside the range of the data, based on the equation of the line of fit.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.DP.2.AP.4:](https://www.cpalms.org/PreviewAccessPoint/Preview/18390) | Fit a linear function to bivariate numerical data that suggests a linear association and interpret the slope and y-intercept of the model. |  |  |  |
| EssentialUnderstandings | * Understand the following terms and vocabulary: linear function, linear association, data models, linear fit, bivariate numerical data, y-intercept, slope, x-axis, y-axis, steepness, positive, negative, linear model, left, right, upward, downward.
* Understand that a linear association means the data models a line.
* Understand that bivariate data is two numerical values paired with each other (Ex. Ordered pair (-2,3))
* Understand if the data models a linear fit, then a linear function in the form of $y=mx+b$ can be created to fit the data.
* Understand that the linear function may not cross every point given.
* Understand in a linear function the *y*-intercept is represented by the variable *b.*
* Understand in a linear function the *y*-intercept is where the function crosses the y-axis.
* Understand in a linear function, slope is represented by the variable *m.*
* Understand in a linear function, slope measures the steepness of the line.
* Understand in a linear model, if the slope is positive the points on the model will go upward from left to right.
* Understand in a linear model, if the slope is negative the points on the model will go downward from left to right
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| Resources: |  |  |  |  |

[MA.912.DP.3.1:](https://www.cpalms.org//PreviewStandard/Preview/15757) Construct a two-way frequency table summarizing bivariate categorical data. Interpret joint and marginal frequencies and determine possible associations in terms of a real-world context**.**

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.DP.3.AP.1:](https://www.cpalms.org/PreviewAccessPoint/Preview/18394) | When given a two-way frequency table summarizing bivariate categorical data, identify joint and marginal frequencies. |  |  |  |
| EssentialUnderstandings | * Understand the following terms and vocabulary: two-way frequency table, bivariate categorical data, marginal frequencies, joint frequencies, attributes, characteristics, classify.
* Understand that a two-way table has two types of frequencies: joint frequencies (numbers inside the two-way table) and marginal frequencies (totals in the margins or edge of table)
* Understand that categorical data is data that is classified by attributes or characteristics (Ex. Favorite color, type of car, number on a sports jersey)
* Understand that bivariate data has two characteristics or attributes. (Ex. Height and weight)
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| Resources: |  |  |  |  |

[MA.4.DP.3.2:](https://www.cpalms.org/PreviewStandard/Preview/15758) Given marginal and conditional relative frequencies, construct a two-way relative frequency table summarizing categorical bivariate data.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
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| [MA.912.DP.3.AP.2](https://www.cpalms.org/PreviewAccessPoint/Preview/18627) | Given the marginal relative frequencies and a partially completed two-way table, calculate one missing value per row and/or per column. |  |  |  |
| EssentialUnderstandings | Understand the following terms and vocabulary: marginal relative frequencies, frequency, two-way table, marginal frequency, margins, vertical, horizontal, relative frequency, row, column, relative frequency, joint relative frequency, percentage, addition, subtraction, value.Understand that a frequency in a two-way table is the number of times a value appears in a set of data.Understand that a marginal frequency is the values that appear in the margins of a table (vertical and horizontal totals)Understand that a relative frequency is the percentage of the total value from a data set.Understand that a marginal relative frequency is the percentage of the total that appear in the margins of a table.Understand to calculate a missing row or column value, add joint relative frequencies (values inside the table) and subtract that value from the marginal relative frequency |  |  |  |
| Resources: |  |  |  |  |

[MA.912.DP.3.3:](https://www.cpalms.org/PreviewStandard/Preview/15759) Given a two-way relative frequency table or segmented bar graph summarizing categorical bivariate data, interpret joint, marginal and conditional relative frequencies in terms of a real-world context.

**Clarifications:**

***Clarification 1:***  Instruction includes problems involving false positive and false negatives.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.DP.3.AP.3](https://www.cpalms.org/PreviewAccessPoint/Preview/18628) | Given a segmented bar graph summarizing categorical bivariate data, select the interpretation in terms of a real-world context. |  |  |  |
| EssentialUnderstandings | Understand the following terms and vocabulary: segmented bar graph, categorical bivariate data, stacked bars, attributes, characteristics, horizontal, vertical, category.Understand that a segmented bar graph is a chart that compares two or more categories with horizontal or vertical stacked bars.Understand that a stacked bar is a single bar within a bar graph that displays more than one attribute (gender, age group, economic class, etc.)Understand that categorical data is data that is labeled by attributes or characteristics (colors, places, cars etc.)Understand that categorical bivariate data is data collected from two categories (color/gender, height/weight, etc.) |  |  |  |
| Resources: |  |  |  |  |

[MA.912.DP.5.11:](https://www.cpalms.org/PreviewStandard/Preview/15783) Evaluate reports based on data from diverse media, print and digital resources by interpreting graphs and tables; evaluating data-based arguments; determining whether a valid sampling method was used; or interpreting provided statistics.

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
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| [MA.912.DP.5.AP.11](https://www.cpalms.org/PreviewAccessPoint/Preview/18634) | Given a graph representing data, select whether the graph is misleading or not (i.e., scale on x and y axis not consistent, circle graph does not add up to 100%; missing title or title doesn’t represent data; or bar widths on bar graph are inconsistent). |  |  |  |
| EssentialUnderstandings | * Understand the following terms and vocabulary: triangle, opposite side, adjacent side, hypotenuse, sine (sin), cosine (cos), right triangle, ratio, trigonometric ratio, length.
* Understand that a right triangle is a triangle that has one right angle.
* Understand when given an angle on a right triangle, identify the opposite side and the adjacent side.
* Understand when given a right triangle, identify the hypotenuse.
* Understand the trigonometric ratio of sine in a right triangle is $\sin(θ=\frac{length of the opposite side}{length of the hypotenuse})$
* Understand the trigonometric ratio of cosine in a right triangle is $\cos(θ=\frac{length of the adjacent side}{length of the hypotenuse})$
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| Resources: |  |  |  |  |

[MA.912.F.1.2:](https://www.cpalms.org/PreviewStandard/Preview/15622) Given a function represented in function notation, evaluate the function for an input in its domain. For a real-world context, interpret the output.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
|  MA.912.F.1.AP.2 | Given a function represented in function notation, evaluate the function for an input in its domain. |  |  |  |
| EssentialUnderstandings | Understand the following terms and vocabulary: function, function notation, input, domain, x-values, evaluate.Understand that in function notation the $f\left(x\right)=y$Understand that the inputs are the set of *x-*values.Understand that the domain is the set of *x*-values.* Understand that evaluating a function means to plug the x-values into the function
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| Resources: |  |  |  |  |

[MA.912.F.3.2:](https://www.cpalms.org//PreviewStandard/Preview/15354) Given a mathematical or real-world context, combine two or more functions, limited to linear, quadratic, exponential and polynomial, using arithmetic operations. When appropriate, include domain restrictions for the new function.

**Clarifications:**

*Clarification 1*: Instruction includes representing domain restrictions with inequality notation, interval notation or set-builder notation.

*Clarification 2*: Within the Mathematics for Data and Financial Literacy course, problem types focus on money and business.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.F3.AP.2](https://www.cpalms.org/PreviewAccessPoint/Preview/18077) | Given a mathematical and/or real-world context, combine two or more functions, limited to linear, quadratic, and polynomial, using arithmetic operations of addition, subtraction, or multiplication. |  |  |  |
| EssentialUnderstandings | * Understand the following terms and vocabulary: function, linear, quadratic, polynomial, like terms, distributive property, product, sum, difference.
* Understand the following rules:

Sum: $\left(f+g\right)\left(x\right)=f\left(x\right)+g\left(x\right)$Difference:$ \left(f-g\right)\left(x\right)=f\left(x\right)-g\left(x\right)$Product: $\left(f\*g\right)\left(x\right)=f\left(x\right)g(x)$* Understand that when adding two or more functions, add or subtract like terms.
* Understand when subtracting two or more functions, the distributive property will need to be applied to any function that is subtracted then add or subtract like terms.
* Understand when multiplying two or more functions, the distributive property will need to be applied then add or subtract like terms
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| Resources: |  |  |  |  |

[MA.912.FL.1.1:](https://www.cpalms.org/PreviewStandard/Preview/15644) Extend previous knowledge of operations of fractions, percentages and decimals to solve real-world problems involving money and business.

**Clarifications:**

*Clarification 1*: Problems include discounts, markups, simple interest, tax, tips, fees, percent increase, percent decrease and percent error.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.FL.1.AP.1](https://www.cpalms.org/PreviewAccessPoint/Preview/18605) | Solve real-world problems involving money using percentages and decimals. |  |  |  |
| EssentialUnderstandings | * Understand the following terms and vocabulary: discounts, sales tax, tips, addition, subtraction, multiplication, calculator, price, percentage, decimal, rational numbers.
* Understand how to convert from percentage to decimal and decimal to percentage.
* Understand how to add, subtract and multiply rational numbers.
* Understand how to calculate sales tax.
* Understand how to estimate a tip.
* Understand how to calculate a discounted price.
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| Resources: |  |  |  |  |

[MA.912.FL.1.2:](https://www.cpalms.org/PreviewStandard/Preview/15622) Extend previous knowledge of ratios and proportional relationships to solve real-world problems involving money and business.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.FL.1.AP.2](https://www.cpalms.org/PreviewAccessPoint/Preview/18335) | Solve simple real-world problems involving money using ratios or proportions. |  |  |  |
| Essential Understandings | * Understand the following terms and vocabulary: ratio, proportion, addition, subtraction multiplication, division, rational numbers, simplify, cost, quantity.
* Understand how to multiply and divide rational numbers.
* Understand how to solve a proportion.
* Understand how to simplify a ratio.
* Understand how to set up a ratio ( $\frac{cost}{quantity}$ )
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| Resources: |  |  |  |  |

[MA.912.FL.2.2:](https://www.cpalms.org/PreviewStandard/Preview/15895) Solve real-world problems involving profits, costs and revenues using spreadsheets and other technology.

**Clarifications:**

*Clarification 1*: Instruction includes the connection to data.

*Clarification 2*: Instruction includes displaying profits and costs over time in a table or graph and using the graph to predict profits.

*Clarification 3*: Problems include maximizing profits, maximizing revenues and minimizing costs.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
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| [MA.912.FL.2.AP.2](https://www.cpalms.org/PreviewAccessPoint/Preview/18607) | Calculate the profit when given the expenses and revenue from a real-world problem. |  |  |  |
| EssentialUnderstandings | * Understand the following terms and vocabulary: profit, cost, revenue, subtraction, rational numbers.
* Understand which value represents the cost, the profit and the revenue in a real-world problem or spreadsheet.
* Understand how to subtract rational numbers.
* Understand that cost is subtracted from the revenue to determine profit.
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| Resources: |  |  |  |  |

[MA.912.FL.2.4:](https://www.cpalms.org/PreviewStandard/Preview/15897) Given current exchange rates, convert between currencies. Solve real-world problems involving exchange rates.

**Clarifications:**

***Clarification 1:*** : Instruction includes taking into account various fees, such as conversion fee, foreign transaction fee and dynamic concurrency conversion fee.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.FL.2.AP.4](https://www.cpalms.org/PreviewAccessPoint/Preview/18609) | Given current exchange rates, convert between currencies. |  |  |  |
| EssentialUnderstandings | * Understand the following terms and vocabulary: exchange rate, currency, multiplication, division, rational numbers, convert.
* Understand how to multiply and divide rational numbers.
* Understand $c=(a)(b)$

c = money aftera = money you haveb = exchange rate |  |  |  |
| Resources: |  |  |  |  |

[MA.912.FL.2.5:](https://www.cpalms.org/PreviewStandard/Preview/15898) Develop budgets that fit within various incomes using spreadsheets and other technology.

**Clarifications:**

***Clarification 1:*** Instruction includes budgets for a business and for an individual.

*Clarification 2*: Instruction includes taking into account various cash management strategies, such as checking and savings accounts, and how inflation may affect these strategies.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.FL.2.AP.5:](https://www.cpalms.org/PreviewAccessPoint/Preview/18609)  | Given typical monthly expenses (housing, utilities, food, etc.), determine the monthly income needed. |  |  |  |
| EssentialUnderstandings | * Understand the following terms and vocabulary: expenses, income, addition, rational numbers, greater than, less than, monthly.
* Understand how to add rational numbers.
* Understand to determine the monthly income needed, all expenses must be added together.
* Understand that the monthly income must be greater than the monthly expenses.
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| Resources: |  |  |  |  |

[MA.912.FL.2.6:](https://www.cpalms.org/PreviewStandard/Preview/15899) Given a real-world scenario, complete and calculate federal income tax using spreadsheets and other technology.

**Clarifications:**

***Clarification 1:*** : Instruction includes understanding the difference between standardized deductions and itemized deductions.

*Clarification 2*: Instruction includes the connection to piecewise linear functions with slopes relating to the marginal tax rates.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
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| [MA.912.FL.2.AP.6](https://www.cpalms.org/PreviewAccessPoint/Preview/18611) | Given a paycheck, identify the taxes taken out. |  |  |  |
| EssentialUnderstandings | * Understand the following terms and vocabulary: taxes, gross earned income, net income.
* Understand that taxes are taken out of earned income.
* Understand the difference between gross and net income.
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| Resources: |  |  |  |  |

[MA.912.FL.3.1:](https://www.cpalms.org/PreviewStandard/Preview/15650) Compare simple, compound and continuously compounded interest over time.

**Clarifications:**

***Clarification 1:*** Instruction includes taking into consideration the annual percentage rate (APR) when comparing simple and compound interest.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.91.FL.3.AP.1:](https://www.cpalms.org/PreviewAccessPoint/Preview/18350) | Compare simple and compound interest over time. |  |  |  |
| EssentialUnderstandings | * Understand the following terms and vocabulary: rate, interest, principal, time, number of times compounded, percentages, decimals, real numbers, multiplication (x), compound interest, simple interest, variables, formulas, final amount.
* Understand the difference between simple and compound interest.
* Understand that rate $(r)$ is always in decimal form. (Ex. 6% will be expressed in the formula as 0.06.)
* Understand that simple interest is interest paid on the principal only over a period of time. (Ex. Car loans, most bank loans)
* Understand to calculate simple interest use the formula $I=Prt$ (where I = interest, P = principal, r = rate, t = time)
* Understand that in a simple or a compound interest problem, time(t) is in terms of years. (Ex. 3 months: $\frac{3}{12}=t$)
* Understand that compound interest is interest paid on the initial principal plus interest on the interest charged previously. (Ex. Credit cards, savings account)
* Understand to calculate compound interest use the formula $A=P(1+\frac{r}{n})^{nt}$ (where A = final amount, P = principal, r = rate, t = time, n = number of times compounded)
 |  |  |  |
| Resources: |  |  |  |  |

[MA.912.FL.3.2:](https://www.cpalms.org/PreviewStandard/Preview/15651) Solve real-world problems involving simple, compound and continuously compounded interest.

**Clarifications:** Within the Algebra 1 course, interest is limited to simple and compound.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.FL.3.AP.2](https://www.cpalms.org/PreviewAccessPoint/Preview/18351) | Solve real-world problems involving simple and compound interest. |  |  |  |
| EssentialUnderstandings | Understand the following terms and vocabulary: rate, interest, principal, time, number of times compounded, percentages, decimals, real numbers, multiplication (x), compound interest, simple interest, variables, formulas, final amountUnderstand how to convert percentages to decimalsUnderstand how to multiply real numbers with a calculatorUnderstand in equations when variables are side by side with no sign between them it is implied that the values are multiplied (ex. $Prt$ means $(P)(r)(t)$ or P times r times t)Understand that rate $(r)$ is always in decimal form (ex. 6% will be expressed in the formula as 0.06.)Understand that simple interest is interest paid on the principal only over a period of time (ex. Car loans, most bank loans)Understand to calculate simple interest use the formula $I=Prt$ (where I = interest, P = principal, r = rate, t = time)Understand that in a simple or a compound interest problem, time(t) is in terms of years (ex. 3 months: $\frac{3}{12}=t$)Understand that compound interest is interest paid on the initial principal plus interest on the interest charged previously (ex. Credit cards, savings account) * Understand to calculate compound interest use the formula $A=P(1+\frac{r}{n})^{nt}$ (where A = final amount, P = principal, r = rate, t = time, n = number of times compounded)
 |  |  |  |
| Resources: |  |  |  |  |

[MA.912.FL.3.5:](https://www.cpalms.org/PreviewStandard/Preview/15654) Compare the advantages and disadvantages of using cash versus personal financing options.

**Clarifications:**

*Clarification 1*: Instruction includes advantages and disadvantages for a business and for an individual.

*Clarification 2*: Personal financing options include debit cards, credit cards, installment plans and loans.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.91.FL.3.AP.5:](https://www.cpalms.org/PreviewAccessPoint/Preview/18101)  | Select the advantages and disadvantages of using cash versus credit. |  |  |  |
| EssentialUnderstandings | * Understand the following terms and vocabulary: cash, credit card, security breaches, personal information, overspending, convenient, credit, interest payment, fraud, reward points, emergency funds, budget, fees.
* Understand the advantages to using cash can be there are no security breaches, protects your personal information, more difficult to give away than using credit card, no overspending, convenient, etc.
* Understand that the advantages of using a credit card can be that it builds credit, can pay overtime, fraud protection, earn reward points, emergency funds, convenient, way to budget purchases, etc.
* Understand the disadvantages to using cash can be it can be easily lost or stolen, some places don’t except cash, ATM withdrawal fees to get cash, not building credit, can’t make online purchases, etc.
* Understand the disadvantages to using a credit card can be interest and fees can be charged if balance is not paid in full each month, easier to overspend on purchases or make unnecessary purchases, can negatively effect credit scores, etc.
 |  |  |  |
| Resources: |  |  |  |  |

[MA.912.FL.3.6:](https://www.cpalms.org/PreviewStandard/Preview/15655) Calculate the finance charges and total amount due on a bill using various forms of credit using estimation, spreadsheets and other technology.

**Clarifications:**

***Clarification 1:*** : Instruction includes how annual percentage rate (APR) and periodic rate are calculated per month and the connection between the two percentages.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.FL.3.AP.6](https://www.cpalms.org/PreviewAccessPoint/Preview/18613) | Given a bill statement, identify the finance charge, interest rate and total amount due. |  |  |  |
| EssentialUnderstandings | * Understand the following terms and vocabulary: bill statement, finance charge, interest rate, amount due,
* Understand the difference between a finance charge and an interest rate.
 |  |  |  |
| Resources: |  |  |  |  |

[MA.912.FL.3.7](https://www.cpalms.org/PreviewStandard/Preview/15656) Compare the advantages and disadvantages of different types of student loans by manipulating a variety of variables and calculating the total cost using spreadsheets and other technology.

**Clarifications:**

***Clarification 1:* I**nstruction includes students researching the latest information on different student loan options.

*Clarification 2*: Instruction includes comparing subsidized (Stafford), unsubsidized, direct unsubsidized and PLUS loans.

*Clarification 3*: Instruction includes considering different repayment plans, including deferred payments and forbearance.

*Clarification 4*: Instruction includes how interest on student loans may affect one’s income taxes.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.FL.3.AP.7](https://www.cpalms.org/PreviewAccessPoint/Preview/18614) | Given two different student loan options, compare the advantages and disadvantages of each loan’s interest rate, monthly payment and total cost. |  |  |  |
| EssentialUnderstandings | Understand the following terms and vocabulary: interest rate, monthly payment, student loan, total cost, principal, borrower, lender, advantage, disadvantage, percentage, length of loan.Understand that a student loan is money borrowed to fund higher education.Understand that the interest is the amount of additional money the lender receives for loaning the borrower money.Understand that the interest rate is a percentage of the loan amount (principal)Understand that the interest rate, length of loan, and monthly payment determine the total cost of a student loan.Understand that there are advantages and disadvantages to borrowing money (different interest rates, higher and lower monthly payments, length of loan, and total cost). |  |  |  |
| Resources: |  |  |  |  |

[MA.912.FL.3.8:](https://www.cpalms.org/PreviewStandard/Preview/15657) Calculate using spreadsheets and other technology the total cost of purchasing consumer durables over time given different monthly payments, down payments, financing options and fees.

**Clarifications:**

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.FL.3.AP.8](https://www.cpalms.org/PreviewAccessPoint/Preview/18615) | Given the total cost of an item purchased using two different payment plans, calculate the total cost difference of the item between payment plans. |  |  |  |
| Essential Understandings | * Understand the following terms and vocabulary: payment plan, total cost, interest rate, loan amount, principal, length of loan, down payment, monthly payment, subtraction.
* Understand that the payment plan includes interest rate, loan amount (principal), length of loan, possible down payment, and monthly payment.
* Understand that the interest rate, length of loan, possible down payment and monthly payment determine the total cost the item purchased.
* Understand to calculate the total cost difference, subtract the lower amount from the higher amount.
 |  |  |  |
| Resources: |  |  |  |  |

[MA.912.FL.3.9:](https://www.cpalms.org/PreviewStandard/Preview/15658) Compare the advantages and disadvantages of different types of mortgage loans by manipulating a variety of variables and calculating fees and total cost using spreadsheets and other technology.

**Clarifications:**
*Clarification 1:* Instruction includes understanding various considerations that qualify a buyer for a loan, such as Debt-to-Income ratio.

*Clarification 2*: Fees include discount prices, origination fee, maximum brokerage fee on a net or gross loan, documentary stamps and prorated expenses.

*Clarification 3*: Instruction includes a cost comparison between a higher interest rate and fewer mortgage points versus a lower interest rate and more mortgage points.

*Clarification 4*: Instruction includes a cost comparison between the length of the mortgage loan, such as 30-year versus 15-year. Clarification 5: Instruction includes adjustable rate loans, tax implications and equity for mortgages.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.FL.3.AP.9](https://www.cpalms.org/PreviewAccessPoint/Preview/18616) | Given two different mortgage loans, one 15-year and one 30-year, compare the advantages and disadvantages of each loan’s interest rate, monthly payment and total cost. |  |  |  |
| Essential Understandings | * Understand the following terms and vocabulary: mortgage loan, interest rate, monthly payment, total cost, accrue.
* Understand the 30-year mortgage loan accrues more interest which will increase the overall total cost.
* Understand the 15-year mortgage loan accrues less interest which will lower the overall total cost.
* Understand that the 30-year mortgage loan will have a lower monthly payment.
* Understand that the 15-year mortgage loan will have a higher monthly payment.
* Understand the larger the interest rate, the higher the monthly payment, and higher total cost.
 |  |  |  |
| Resources: |  |  |  |  |

[MA.912.FL.3.10](https://www.cpalms.org/PreviewStandard/Preview/15659) Analyze credit scores qualitatively. Explain how short-term and long-term purchases, including deferred payments, may increase or decrease credit scores. Explain how credit scores influence buying power.

**Clarifications:**

*Clarification 1*: Instruction includes how each of the following categories affects a credit score: past payment history, amount of debt, public records information, length of credit history and the number of recent credit inquiries.

*Clarification 2*: Instruction includes how a credit score affects qualification and interest rate for a home mortgage.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.FL.3.AP.10](https://www.cpalms.org/PreviewAccessPoint/Preview/18617) | Identify how short-term and long-term purchases, past payment history, and amount of debt may increase or decrease credit scores. |  |  |  |
| Essential Understandings | * Understand the following terms and vocabulary: short-term purchases, long-term purchases, debt, credit score, on-time payment, credit history, payment history.
* Understand that a higher credit score is better than a lower credit score.
* Understand the more purchases made with credit the lower the credit score.
* Understand that a long-term purchase decreases credit scores.
* Understand that on time payments increase credit scores.
* Understand that the larger amount of debt the lower the credit score.
* Understand that using short-term purchases can create credit history.
* Understand where to find credit scores.
 |  |  |  |
| Resources: |  |  |  |  |

[MA.912.FL.3.11:](https://www.cpalms.org/PreviewStandard/Preview/15660) Given a real-world scenario, establish a plan to pay off debt.

**Clarifications:**

*Clarification 1*: Instruction includes the comparison of different plans to pay off the debt.

*Clarification 2*: Instruction includes pay off plans for a business and for an individual.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
|  [MA.912.FL.3.AP.11](https://www.cpalms.org/PreviewAccessPoint/Preview/18618) | Given several payment plans, with the monthly payment calculated, select the plan that will reduce the debt the quickest. |  |  |  |
| EssentialUnderstandings | * Understand the following terms and vocabulary: principal, monthly payment, payment plan, debt, interest rate, time.
* Understand that the interest rate can affect the monthly payment.
* Understand that the total number of payments can affect the monthly payment.
* Understand the benefits of paying off a debt quicker.
* Understand the parts of a payment plan. (Interest rate, time, principal, payment).
 |  |  |  |
| Resources: |  |  |  |  |

[MA.912.FL.4.1:](https://www.cpalms.org/PreviewStandard/Preview/15662) Calculate and compare various options, deductibles and fees for various types of insurance policies using spreadsheets and other technology.

**Clarifications:**

*Clarification 1*: Insurances include medical, car, homeowners, life and rental car.

*Clarification 2*: Instruction includes types of insurance for a business and for an individual.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.FL.4.AP.1](https://www.cpalms.org/PreviewAccessPoint/Preview/18619) | Compare various options, deductibles and fees for various types of individual insurance policies, such as medical, car and/or homeowners’ insurance |  |  |  |
| EssentialUnderstandings | * Understand the following terms and vocabulary: deductible, fee, insurance policy, claim, coverage, more, less, co-pay, premiums, health history, driving record, car make and model.
* Understand insurance policies offer different types of coverage.
* Understand which insurance policy costs more/less.
* Understand some insurance policies can cost more and offer less coverage.
* Understand that it is best to get the most coverage for the least amount of money.
* Understand that the deductible is paid each time a claim is made.
* Understand there are factors that can affect coverage. (Age, health history, driving record, car make and model, etc.)
 |  |  |  |
| Resources: |  |  |  |  |

[MA.912.FL.4.4:](https://www.cpalms.org/PreviewStandard/Preview/15665) Collect, organize, and interpret data to determine an effective retirement savings plan to meet personal financial goals using spreadsheets and other technology.

**Clarifications:**

*Clarification 1*: Instruction includes students researching the latest information on different retirement options.

*Clarification 2*: Instruction includes the understanding of the relationship between salaries and retirement plans.

*Clarification 3*: Instruction includes retirement plans from the perspective of a business and of an individual.

*Clarification 4*: Instruction includes the comparison of different types of retirement plans, including IRAs, pensions and annuities.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.FL.4.AP.4](https://www.cpalms.org/PreviewAccessPoint/Preview/18622) | Select a retirement savings plan to meet a given personal financial goal. |  |  |  |
| EssentialUnderstandings | * Understand the following terms and vocabulary: retirement, savings plan, financial goal, budget, IRA, pension plan, annuities.
* Understand that a retirement plan is a savings plan for retirement years.
* Understand how to budget for a financial retirement goal.
* Understand there are several different retirement plan options. (IRA, pension, annuities.)
 |  |  |  |
| Resources: |  |  |  |  |

[MA.912.FL.4.5:](https://www.cpalms.org/PreviewStandard/Preview/15666) Compare different ways that portfolios can be diversified in investments.

**Clarifications:**
*Clarification 1*: Instruction includes diversifying a portfolio with different types of stock and diversifying a portfolio by including both stocks and bonds.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.FL.4.AP.5](https://www.cpalms.org/PreviewAccessPoint/Preview/18623) | List an advantage of diversifying investments. |  |  |  |
| EssentialUnderstandings | * Understand the following terms and vocabulary: diversify, investment, risk, asset, economic worth, invest.
* Understand that an asset (cash, certificates of deposit, savings, money market accounts, etc.) is something of economic worth owned by an individual or group.
* Understand that assets can be invested in different ways to reduce risk
 |  |  |  |
| Resources: |  |  |  |  |

[MA.912.FL.4.6:](https://www.cpalms.org/PreviewStandard/Preview/15667) Simulate the purchase of a stock portfolio with a set amount of money, and evaluate its worth over time considering gains, losses and selling, taking into account any associated fees.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
| [MA.912.FL.4.AP.6](https://www.cpalms.org/PreviewAccessPoint/Preview/18624) | Simulate the buying and selling of a single stock and identify its worth over time. |  |  |  |
| EssentialUnderstandings | * Understand the following terms and vocabulary: stock, share, ownership, company, worth.
* Understandthat stock is a share in a company (ownership)
* Understand that a share is a piece of the ownership of a company.
* Understand that shares of stock cost money.
* Understand that the value of stock can increase or decrease over time.
 |  |  |  |
| Resources: |  |  |  |  |

[MA.912.NSO.1.2:](https://www.cpalms.org/PreviewStandard/Preview/15530) Generate equivalent algebraic expressions using the properties of exponents.

**Related Access Points**

| **Name** | **Description** | **Date(s) Instruction** | **Date(s) Assessment** | **Date Mastery** |
| --- | --- | --- | --- | --- |
|  [MA.912.NSO.1.AP.2](https://www.cpalms.org/PreviewAccessPoint/Preview/18271) | Identify equivalent algebraic expressions using properties of exponents. |  |  |  |
| EssentialUnderstandings | Understand the following vocabulary: algebraic expression, exponents, simplest form, variable, base number, integers.Understand addition, subtraction, multiplication, and division of integers.Identify the parts of an algebraic expression.e.g., x7 where x is the base number and 7 is the exponent.Create a model with objects to represent an algebraic expression.e.g., substitute manipulatives or algebra tiles for each “a” e.g., a7 = a × a × a × a × a × a × a = aaaaaaaIdentify expressions with exponents. e.g., (x⁴)(x³)Understand the properties of exponents.* Use the properties of exponents to simplify algebraic expressions
 |  |  |  |
| Resources: |  |  |  |  |

[MA.K12.MTR.1.1:](https://www.cpalms.org//PreviewStandard/Preview/15875) Actively participate in effortful learning both individually and collectively. Mathematicians who participate in effortful learning both individually and with others:

* Analyze the problem in a way that makes sense given the task.
* Ask questions that will help with solving the task.
* Build perseverance by modifying methods as needed while solving a challenging task.
* Stay engaged and maintain a positive mindset when working to solve tasks.
* Help and support each other when attempting a new method or approach.

**Clarifications:**
Teachers who encourage students to participate actively in effortful learning both individually and with others:

* Cultivate a community of growth mindset learners.
* Foster perseverance in students by choosing tasks that are challenging.
* Develop students’ ability to analyze and problem solve.
* Recognize students’ effort when solving challenging problems.

[MA.K12.MTR.2.1:](https://www.cpalms.org//PreviewStandard/Preview/15876) Demonstrate understanding by representing problems in multiple ways.

Mathematicians who demonstrate understanding by representing problems in multiple ways:

* Build understanding through modeling and using manipulatives.
* Represent solutions to problems in multiple ways using objects, drawings, tables, graphs and equations.
* Progress from modeling problems with objects and drawings to using algorithms and equations.
* Express connections between concepts and representations.
* Choose a representation based on the given context or purpose.

**Clarifications:**
Teachers who encourage students to demonstrate understanding by representing problems in multiple ways:

* Help students make connections between concepts and representations.
* Provide opportunities for students to use manipulatives when investigating concepts.
* Guide students from concrete to pictorial to abstract representations as understanding progresses.
* Show students that various representations can have different purposes and can be useful in different situations.

[MA.K12.MTR.3.1:](https://www.cpalms.org//PreviewStandard/Preview/15877) Complete tasks with mathematical fluency.

Mathematicians who complete tasks with mathematical fluency: Complete tasks with mathematical fluency.

* Select efficient and appropriate methods for solving problems within the given context.
* Maintain flexibility and accuracy while performing procedures and mental calculations.
* Complete tasks accurately and with confidence.
* Adapt procedures to apply them to a new context.
* Use feedback to improve efficiency when performing calculations.

**Clarifications:**
Teachers who encourage students to complete tasks with mathematical fluency:

* Provide students with the flexibility to solve problems by selecting a procedure that allows them to solve efficiently and accurately.
* Offer multiple opportunities for students to practice efficient and generalizable methods.
* Provide opportunities for students to reflect on the method they used and determine if a more efficient method could have been used.

[MA.K12.MTR.4.1:](https://www.cpalms.org//PreviewStandard/Preview/15878) Engage in discussions that reflect on the mathematical thinking of self and others.

Mathematicians who engage in discussions that reflect on the mathematical thinking of self and others:

* Communicate mathematical ideas, vocabulary and methods effectively.
* Analyze the mathematical thinking of others.
* Compare the efficiency of a method to those expressed by others.
* Recognize errors and suggest how to correctly solve the task.
* Justify results by explaining methods and processes.
* Construct possible arguments based on evidence.

**Clarifications:**
Teachers who encourage students to engage in discussions that reflect on the mathematical thinking of self and others:

* Establish a culture in which students ask questions of the teacher and their peers, and error is an opportunity for learning.
* Create opportunities for students to discuss their thinking with peers.
* Select, sequence and present student work to advance and deepen understanding of correct and increasingly efficient methods.
* Develop students’ ability to justify methods and compare their responses to the responses of their peers.

[MA.K12.MTR.5.1:](https://www.cpalms.org//PreviewStandard/Preview/15879) Use patterns and structure to help understand and connect mathematical concepts.

Mathematicians who use patterns and structure to help understand and connect mathematical concepts:

* Focus on relevant details within a problem.
* Create plans and procedures to logically order events, steps or ideas to solve problems.
* Decompose a complex problem into manageable parts.
* Relate previously learned concepts to new concepts.
* Look for similarities among problems.
* Connect solutions of problems to more complicated large-scale situations.

**Clarifications:**
Teachers who encourage students to use patterns and structure to help understand and connect mathematical concepts:

* Help students recognize the patterns in the world around them and connect these patterns to mathematical concepts.
* Support students to develop generalizations based on the similarities found among problems.
* Provide opportunities for students to create plans and procedures to solve problems.
* Develop students’ ability to construct relationships between their current understanding and more sophisticated ways of thinking.

[MA.K12.MTR.6.1:](https://www.cpalms.org//PreviewStandard/Preview/15880) Assess the reasonableness of solutions.

Mathematicians who assess the reasonableness of solutions:

* Estimate to discover possible solutions.
* Use benchmark quantities to determine if a solution makes sense.
* Check calculations when solving problems.
* Verify possible solutions by explaining the methods used.
* Evaluate results based on the given context.

**Clarifications:**
Teachers who encourage students to assess the reasonableness of solutions:

* Have students estimate or predict solutions prior to solving.
* Prompt students to continually ask, “Does this solution make sense? How do you know?”
* Reinforce that students check their work as they progress within and after a task.
* Strengthen students’ ability to verify solutions through justifications.

[MA.K12.MTR.7.1:](https://www.cpalms.org//PreviewStandard/Preview/15881) Apply mathematics to real-world contexts.

Mathematicians who apply mathematics to real-world contexts:

* Connect mathematical concepts to everyday experiences.
* Use models and methods to understand, represent and solve problems.
* Perform investigations to gather data or determine if a method is appropriate. • Redesign models and methods to improve accuracy or efficiency.

**Clarifications:**
Teachers who encourage students to apply mathematics to real-world contexts:

* Provide opportunities for students to create models, both concrete and abstract, and perform investigations.
* Challenge students to question the accuracy of their models and methods.
* Support students as they validate conclusions by comparing them to the given situation.
* Indicate how various concepts can be applied to other disciplines.

[ELA.K12.EE.1.1:](https://www.cpalms.org//PreviewStandard/Preview/15201) Cite evidence to explain and justify reasoning.

**Clarifications:**
K-1 Students include textual evidence in their oral communication with guidance and support from adults. The evidence can consist of details from the text without naming the text. During 1st grade, students learn how to incorporate the evidence in their writing.

2-3 Students include relevant textual evidence in their written and oral communication. Students should name the text when they refer to it. In 3rd grade, students should use a combination of direct and indirect citations.

4-5 Students continue with previous skills and reference comments made by speakers and peers. Students cite texts that they’ve directly quoted, paraphrased, or used for information. When writing, students will use the form of citation dictated by the instructor or the style guide referenced by the instructor.

6-8 Students continue with previous skills and use a style guide to create a proper citation.

9-12 Students continue with previous skills and should be aware of existing style guides and the ways in which they differ.

[ELA.K12.EE.2.1:](https://www.cpalms.org//PreviewStandard/Preview/15202) Read and comprehend grade-level complex texts proficiently.

**Clarifications:**
See [Text Complexity](https://cpalmsmediaprod.blob.core.windows.net/uploads/docs/standards/best/la/appendixb.pdf) for grade-level complexity bands and a text complexity rubric.

[ELA.K12.EE.3.1:](https://www.cpalms.org//PreviewStandard/Preview/15203) Make inferences to support comprehension.

**Clarifications:**
Students will make inferences before the words infer or inference are introduced. Kindergarten students will answer questions like “Why is the girl smiling?” or make predictions about what will happen based on the title page. Students will use the terms and apply them in 2nd grade and beyond.

[ELA.K12.EE.4.1:](https://www.cpalms.org//PreviewStandard/Preview/15204) Use appropriate collaborative techniques and active listening skills when engaging in discussions in a variety of situations.

**Clarifications:**
In kindergarten, students learn to listen to one another respectfully.

In grades 1-2, students build upon these skills by justifying what they are thinking. For example: “I think \_\_\_\_\_\_\_\_ because \_\_\_\_\_\_\_.” The collaborative conversations are becoming academic conversations.

In grades 3-12, students engage in academic conversations discussing claims and justifying their reasoning, refining and applying skills. Students build on ideas, propel the conversation, and support claims and counterclaims with evidence.

[ELA.K12.EE.5.1:](https://www.cpalms.org//PreviewStandard/Preview/15205) Use the accepted rules governing a specific format to create quality work.

**Clarifications:**
Students will incorporate skills learned into work products to produce quality work. For students to incorporate these skills appropriately, they must receive instruction. A 3rd grade student creating a poster board display must have instruction in how to effectively present information to do quality work.

[ELA.K12.EE.6.1:](https://www.cpalms.org//PreviewStandard/Preview/15206) Use appropriate voice and tone when speaking or writing.

**Clarifications:**
In kindergarten and 1st grade, students learn the difference between formal and informal language. For example, the way we talk to our friends differs from the way we speak to adults. In 2nd grade and beyond, students practice appropriate social and academic language to discuss texts.

[ELD.K12.ELL.MA.1:](https://www.cpalms.org//PreviewStandard/Preview/8642) English language learners communicate information, ideas and concepts necessary for academic success in the content area of Mathematics.

[ELD.K12.ELL.SI.1:](https://www.cpalms.org//PreviewStandard/Preview/8640) English language learners communicate for social and instructional purposes within the school setting.