

# Idaho Computation Standards and Learning Indicators

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## Computation Comp\_1: Demonstrate Knowledge of Mathematical Foundations for All Computational Skills and Concepts

### Comp\_1.1 Apply basic mathematical operations to solve problems.

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| Lrn_Ind_ID | Learning Indicator  |
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| Comp_1.1.1 | Determine the correct mathematical process to use for various problem situations and use formulas when appropriate                                    |
| Comp_1.1.2 | Select and use appropriate tools when solving problems (e.g., paper, pencil, manipulatives, calculators, computer numerical keypad, and spreadsheets) |
| Comp_1.1.3 | Define and use appropriate mathematical symbols for given problems  |
| Comp_1.1.4 | Round numbers for estimation and other purposes   |
| Comp_1.1.5 | Estimate and then calculate answers to problems using addition, subtraction, multiplication, and division   |
| Comp_1.1.6 | Compare computed result with estimated result to determine the reasonableness of the solution   |
| Comp_1.1.7 | Explain relationships between mathematical processes  |
| Comp_1.1.8 | Communicate understanding of problems through oral and written assessment   |

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## Computation Comp\_2: Demonstrate Knowledge of Number Relationships and Operations

### Comp\_2.1 Solve problems containing whole numbers, decimals, fractions, percents, ratios, and proportions.

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| Lrn_Ind_ID | Learning Indicator  |
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| Comp_2.1.1 | Solve problems that involve whole numbers, decimals, and fractions including use of appropriate conversions when necessary (e.g., fractions to decimals or decimals to fractions)               |
| Comp_2.1.2 | Solve problems that involve percents, ratios, and proportions including use of appropriate conversions when necessary (e.g., decimals to percents, percents to decimals, or ratios to percents) |

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## Computation Comp\_3: Demonstrate Knowledge of Patterns, Functions, and Algebra

### Comp\_3.1 Use algebraic operations to solve problems.

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| Lrn_Ind_ID | Learning Indicator   |
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| Comp_3.1.1 | Recognize, describe, and predict patterns of data                              |
| Comp_3.1.2 | Construct and solve an algebraic equation for a given problem                  |
| Comp_3.1.3 | Solve for the unknown variable in an equation                                  |
| Comp_3.1.4 | Apply the order of operations principle when using mathematical processes      |
| Comp_3.1.5 | Identify multiple applications for using algebraic equations to solve problems |

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## Computation Comp\_4: Demonstrate Knowledge of Measurements

### Comp\_4.1 Use common international standards of measurement in solving problems.

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| Lrn_Ind_ID | Learning Indicator  |
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| Comp_4.1.1 | Identify standard American units of measurement and show relationships (e.g., length, volume, weight, currency, and time) |
| Comp_4.1.2 | Identify standard metric units of measurement and show relationships (length, volume, and weight)                         |
| Comp_4.1.3 | Determine units of time and show relationships (e.g., days to months, elapsed time, or interest conversion periods)       |
| Comp_4.1.4 | Identify currency measurements for countries other than U.S.  |
| Comp_4.1.5 | Solve problems using various types of measurements (e.g., ruler and yard stick)   |
| Comp_4.1.6 | Estimate and convert American units of measurements (length, volume, and weight) to metric measurements and vice versa    |
| Comp_4.1.7 | Estimate and convert the American dollar to the currency of other countries and vice versa                                |

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# Idaho Computation Standards and Learning Indicators

## Computation Comp\_5: Demonstrate Knowledge of Statistics and Probability

### Comp\_5.1 Analyze and interpret data using common statistical procedures.

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- Comp\_5.1.1 Construct, read, and interpret tables, charts, and graphs
- Comp\_5.1.2 Make inferences about data from tables, charts, and graphs
- Comp\_5.1.3 Estimate and calculate measures of central tendency (mean, median, mode)
- Comp\_5.1.4 Use probability concepts to represent and solve problems involving uncertainty
- Comp\_5.1.5 Calculate frequency distributions
- Comp\_5.1.6 Calculate standard deviations

## Computation Comp\_6: Demonstrate Knowledge of Problem-Solving Applications

### Comp\_6.1 Use mathematical terminology and procedures to analyze and solve business problems for such areas as taxation.

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- Comp\_6.1.1 Compute individual income taxes
- Comp\_6.1.2 Calculate property tax, assessed value, or the tax rate when one of the three variables is unknown

### Comp\_6.2 Use mathematical procedures to analyze and solve business problems for savings and investment.

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- Comp\_6.2.1 Calculate the purchase price of a stock transaction
- Comp\_6.2.2 Compute compound interest and the resulting compound amount at the maturity date for savings and investments
- Comp\_6.2.3 Calculate price of a bond given a recent bond quotation
- Comp\_6.2.4 Compute rates of return for various instruments and compare to make decisions
- Comp\_6.2.5 Calculate the amount, compound interest, and present value for a simple annuity
- Comp\_6.2.6 Determine and verify periodic payment required to finance a sinking fund and prepare a sinking fund schedule
- Comp\_6.2.7 Determine total amount deposited and interest earned on a sinking fund
- Comp\_6.2.8 Determine periodic payment, interest, and total amount required to pay to amortize a loan (e.g., mortgage)
- Comp\_6.2.9 Prepare a simplified amortization schedule
- Comp\_6.2.10 Calculate earnings per share
- Comp\_6.2.11 Determine current yield on a bond

### Comp\_6.3 Use mathematical procedures to analyze and solve business problems for payroll records.

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- Comp\_6.3.1 Calculate gross earnings (e.g., salary, hourly rate, commission, or production)
- Comp\_6.3.2 Calculate payroll withholdings, other deductions, and net earnings
- Comp\_6.3.3 Maintain payroll register and individual earnings record
- Comp\_6.3.4 Complete the employer's quarterly federal tax return, which includes the calculations for employee and employer taxes

### Comp\_6.4 Use mathematical procedures to analyze and solve business problems for cash management.

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- Comp\_6.4.1 Maintain check records (e.g., check register and deposit slips)
- Comp\_6.4.2 Calculate income and expenses for a given time period

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Comp\_6.4.3 Calculate fixed and variable costs, analyze data, and estimate the projected total income and total expenses for a given time period

Comp\_6.4.4 Reconcile the bank statement with the check register

Comp\_6.4.5 Reconcile and replenish a petty cash fund and a cash drawer

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### Comp\_6.5 Use mathematical procedures to analyze and solve business problems for financial statements.

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Comp\_6.5.1 Calculate net sales, cost of goods sold, gross profit, operating expenses, and net profit for the income statement

Comp\_6.5.2 Calculate total assets, liabilities, and owner's equity for the balance sheet

Comp\_6.5.3 Calculate the cash flow and determine cash sufficiency for a given period of time

Comp\_6.5.4 Calculate the change in equity for the statement of change of owner's equity or retained earnings statement

Comp\_6.5.5 Calculate the distribution of profit/loss to the proprietor, partners, or stockholders

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### Comp\_6.6 Use mathematical procedures to analyze and solve business problems for credit management.

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Comp\_6.6.1 Using the simple interest equation  $I=PRT$ , solve for one of the variables and find maturity value

Comp\_6.6.2 Calculate the bank discount and the proceeds on a discounted note

Comp\_6.6.3 Determine the outstanding amount for installment purchases

Comp\_6.6.4 Determine the finance/additional charges, the periodic payment, the total cost, and the APR on an installment contract

Comp\_6.6.5 Compare cash price to installment price in order to make a purchase decision

Comp\_6.6.6 Calculate the effects of early payoff of an installment plan

Comp\_6.6.7 Calculate the present value of a simple interest loan

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### Comp\_6.7 Use mathematical procedures to analyze and solve business problems for purchases.

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#### Lrn\_Ind\_ID Learning Indicator

Comp\_6.7.1 Calculate the total purchase price given the number of units and unit price

Comp\_6.7.2 Calculate the net business purchases with discounts and purchase returns and allowances

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### Comp\_6.8 Use mathematical procedures to analyze and solve business problems for sales.

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#### Lrn\_Ind\_ID Learning Indicator

Comp\_6.8.1 Determine the dollar amount of cost, markup, or sales price when one of the three variables is unknown

Comp\_6.8.2 Determine the dollar amount of markdown, regular selling price, or reduced price when one of the three variables is unknown

Comp\_6.8.3 Calculate the total sales and the sales tax for a sales transaction

Comp\_6.8.4 Compute net sales with sales/returns allowances and sales discount

Comp\_6.8.5 Compute the percent of markup when based on the cost or when based on the selling price

Comp\_6.8.6 Compute the percent of markdown given the regular selling price and the reduced price

Comp\_6.8.7 Calculate the operating profit or loss, the absolute loss, and the breakeven point

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### Comp\_6.9 Use mathematical procedures to analyze and solve business problems for inventory records.

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#### Lrn\_Ind\_ID Learning Indicator

Comp\_6.9.1 Determine inventory valuation according to different plans (e.g., LIFO, FIFO, specific identification, and weighted average)

Comp\_6.9.2 Determine cost of goods sold for a given period using different inventory valuation methods

Comp\_6.9.3 Determine gross profit for a given period using different inventory valuation methods

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**Comp\_6.10** Use mathematical procedures to analyze and solve business problems for depreciation, cost recovery, and depletion.

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Comp\_6.10.1 Calculate the depletion of natural resources

Comp\_6.10.2 Calculate book value

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