



## Mathematics for Data and Financial Literacy Year at a Glance

### Scope and Sequence 2023 - 2024

**Please Note:** All standards in the state course description are designed to be learned by the end of the course. This guide represents a recommended timeline and sequence to be used voluntarily by teachers for planning purposes. Specific question regarding when content will be addressed in a specific course are best answered by the individual teacher.

### Course Resources

#### **Publisher Resource:**

Financial Algebra: Advanced Algebra with Financial Application Tax Code, National Geographic Learning Cengage (Clever – use your active directory; does not support Internet Explorer)

#### **Supplemental Resources:**

[Khan Academy](#) (does not support Internet Explorer)

### **In Mathematics for Data and Financial Honors, instructional time will emphasize five areas:**

- (1) extending knowledge of ratios, proportions and functions to data and financial contexts;
- (2) developing understanding of basic economics and accounting principals;
- (3) Determining advantages and disadvantages of credit accounts and short and long term loans;
- (4) Developing an understanding of planning for the future through investments, insurance and retirement plans and
- (5) Extending knowledge of data analysis to create and evaluate reports and make predictions.



## Mathematics for Data and Financial Literacy Year at a Glance

### Quarter 1 (August 10 – October 13)

#### **Unit 1 Banking Services**

Students will explain how a checking account works and reconcile checking accounts by hand and with technology. They will understand and solve problems involving savings accounts earning simple interest and compounded interest. They will graph, interpret, and calculate future values of a periodic deposit and investment and calculate present values of both single deposit and periodic deposit investments.

#### **Unit 2 Consumer Credit**

Students will identify types of lending institutions and calculate financing charges for installment purchases, daily balance of a credit card, as well as finance charges on a credit card from the average daily balance. They will calculate the interest rates on loans (including student loans) to determine daily balance on an account as well as compute interest and monthly payments on a loan.

### Quarter 2 (October 17 – December 21)

#### **Unit 3 Prepare a Budget**

Students will create budgets where they account for the cost of water, gas, electric, phone, cable, internet, etc. They will calculate energy savings and create and interpret graphs of various cost functions. They will develop and interpret cash flow charts and frequency budget plans. Students will identify the difference between essential and discretionary expenses. They will create and interpret frequency distribution tables and calculate measures of center and spread for data. They will compute z-scores and find areas under a curve. They will graph bivariate data, interpret patterns and fit a linear regression line to a scatterplot.

#### **Unit 4 Independent Living**

Students will understand the relationship between rental costs and income and calculate the initial as well as the ongoing costs of moving. They will compare the monthly costs of owning a home versus renting as well as identify the costs that are associated with owning a home that are not present when renting.



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### Quarter 3 (January 8 – March 8)

#### **Unit 5 Employment Basics**

Students will be able to calculate paycheck amounts based on annual salary, tax deductions, hourly pay, overtime, weekly/biweekly earnings as well as commission-based pay. Students will learn about Medicare withholdings and social security as well as employment benefits and their affect on take-home pay.

#### **Unit 6 Income Taxes**

Students will use tax tables to calculate federal income tax. They will graph and interpret tax graphs based on tax tables and compensation information. They will be able to identify the components of a W-2, 1099, and 1040 and fill out these forms. They will differentiate between a tax deduction and tax credit and be able to file an IRS 1040 using all income and income adjustments as well as itemized deductions.

#### **Unit 7 Automobile Ownership**

Students will learn about car ownership and the cost associated with it, include the out-of-pocket cost, monthly payments and interest rates, insurance coverage and its costs as well as comparing cost of ownership between different vehicles. They will also learn how to reduce their losses when investing in automobiles using formulas and calculations, including the distance formula and linear/exponential depreciation.

### Quarter 4 (March 19 – May 24)

#### **Unit 8 Planning for Retirement**

Students will explain how to maximize income during retirement and calculate amounts from various sources such as social security, investments, and pensions.

#### **Unit 9 The Stock Market**

Students will calculate financial responsibility and business ownership based on ratios and percentages. They will use stock data to follow the daily progress of a stock as well as create and interpret stock bar charts and candlestick charts. They will explain how data is smoothed and calculate simple moving averages. They will explain the purchase of a stock portfolio and evaluate its worth over time.

#### **Unit 10 Modeling a Business**

Students will describe the slopes of the supply and demand curves and find the point of equilibrium. They will write, graph, solve, and interpret expense and revenue functions and determine the maximum profit.