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## Finances & Algebra Too!

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# AVD Project Outline

## Finances & Algebra Too!

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### Overview

The focus of this project is to provide an application-based approach to teaching algebra 2. Students will study algebraic concepts and functions through the lens of personal finance. After each unit of study, students will complete a financial application project that will go into each student's "financial" portfolio.

### Units

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#### Unit #1: Preparing a Budget

Students will choose a career and develop a personal budget. They will look at typically expenses by most consumers today, chart out a budget, and analyze cash flow. *Math topics:* domain and range, linear equations and inequalities, graphing equations, and system of equations.

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#### Unit #2: Modeling a Business

Students will mathematically model a business by looking at supply and demand, fixed and variable expenses, breakeven analysis, and profit equations. *Math topics:* domain, range, linear equations, and quadratic equations.

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#### Unit #3: Banking Services & Credit

Students will investigate banking services such as checking and saving accounts and investing. Also, students will examine consumer credit such as credit cards and loans. *Math topics:* exponential functions, natural logarithms, and compound interest.

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#### Unit #4: Automobile Ownership

Student will explore auto ownership. They will consider purchasing a hybrid and a traditional gas engine auto. *Math topics:* rational equations, measures of central tendencies, and exponential modeling.

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#### Unit #5: The Stock Market & Planning for Retirement (Coming Soon)

Students will investigate stock market data such as simple moving average, transaction fees, stock splits, and dividend income. Also, students will research retirement planning by looking at pensions, life insurance, and social security benefits. *Math topics:* probability and data interpretation, exponential functions, and logarithmic functions.

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August – December 2012

Brynes High School

Student Fellow: Jonathan Foster

HS Teacher: Charlene Frazier

Wofford Faculty: Dr. Anne Catlla

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### Goals

- Students will learn about investments, credit, auto and home expenses, insurance, income tax, and household budgeting while gaining confidence in working with common algebraic functions.
- Students will develop more advanced problem solving skills by working with authentic financial problems.
- Students will learn life skills that will prepare them for future financial independence in adulthood.

### Texts

Charles, R., Kennedy, D., & Hall, B. (2012). *Algebra 2*. Boston: Pearson Education, Inc.

Gerver, R., & Sgroi, R. (2011). *Financial Algebra*. (1st ed., Vol. 1). Mason, OH: South-Western Educational Publishing.

### Standards

The following standards come from the Common Core Standards: ([http://ed.sc.gov/agency/programs-services/190/documents/CCSSI\\_MathStandards.pdf](http://ed.sc.gov/agency/programs-services/190/documents/CCSSI_MathStandards.pdf))

- N.VM.6,8
- A.CED.1,2,4
- A.REI
- F.IF.1,4,6
- F.LE.4
- S.ID.2,4

