



Manhattan Center for Science and Math High School

Mathematics Department Curriculum

Content/Discipline **Financial Algebra Term 2**

<http://mcsportal.net>

Marking Period 1

**Topic and Essential Question**

**Unit 7** – (1) Who pays taxes? (2) How can we graph tax schedules? (3) Why is our take-home pay lower than our salary? (4) How do taxpayers report their income to the government? (5) What is the difference between tax evasion and tax avoidance? (6) How do we use Form 1040 and Schedules A and B to report our income? (7) What tax software packages are available on the Internet and how do we use them?

Unit/Topics **Unit 7** – Income Taxes

SWBAT/Objectives Content (“Know”):

**Unit 7**

1. Student will be able to understand property tax, sales tax, and income tax
2. Students will be able to understand tax schedules
3. Student will be able to understand the information on a pay stub, W-2 form, and 1099 form
4. Students will be able to understand the difference between a tax credit and a tax deduction

Skills (“Do”):

**Unit 7**

1. Students will be able to express tax schedules algebraically
2. Students will be able to compute federal income taxes using a tax table and tax schedules
3. Students will be able to construct income tax graphs using compound equations
4. Students will be able to complete Form 1040EZ and Form 1040A
5. Students will be able to file Form 1040 with itemized deductions

**Vocabulary/Key Terms**

**Unit 7** - Internal Revenue Service (IRS), married filing separately, head of household, property tax, sales tax, income tax, taxable income, single, married filing jointly, flat tax, tax bracket, progressive tax system, regressive tax schedule, gross pay, net pay, paycheck, Form W-2, Form 1099, Form W-2, withholding tax, tax-deferred contribution, Form 1040EZ, Form 1040A, Form 1040, dependent, exemption, itemize, standard deduction, Form 1040, Schedules B-Interest and Dividend Income, Schedule A-Itemized Deductions, tax credit, tax avoidance, tax evasion

<b>Assessments:</b>	Uniform Test/Quiz Classwork Homework
<b>Common Core Standards:</b>	<b>Unit 7</b> - F-IF1, F-IF2, F-IF7b, F-IF8, F-BF1a, A-CED3, A-SSE1, F-BF1
<b>Differentiated Instruction:</b>	<ul style="list-style-type: none"> <li>• Flexible grouping</li> <li>• Cooperative Learning</li> <li>• Visual Learning – SMART Board, White board</li> <li>• Visual and interactive questions using the Smart board</li> <li>• Students have an option to view additional videos, tutorials, interactive practice problems online</li> </ul>
<b>ELLs:</b>	<i>English Language Learners</i> are paired with students who are fluent in English, and given extra time. Vocabulary is pronounced several times and accompanied by alternative words or phrases that are simplified. Visual aids, including pictures, Smartboards, and manipulatives, help students make clear connections to the text.
<b>SWDs:</b>	<i>Students with Special Needs</i> are grouped with helpers and given instructions or assessments with simplified language or extra time. Color-coding on the Smartboard help illustrate steps required to solve a problem. Hands-on activities are provided to help construct student learning.
<b>High-Achievers:</b>	<i>Gifted/Honor students</i> are given challenge problems during lessons, homework, and summative assessments, which earn extra credits. They are expected to complete the whole worksheet, and are given challenge (e.g. open-ended) problems that develop higher-level thinking.
<b>Resources/Books</b>	Advanced Algebra with Financial Applications by Robert Gerver and Richard Sgroi Class website

Homework: Per Teacher



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Marking Period 2

**Topic and Essential Question**

**Unit 8** – (1) How much will it cost to run the utilities in your home? (2) How much do electronic utilities cost to use? (3) How can you visualize your budget? (4) How do you plan for expenses, reduce debt, and grow savings?

**Unit 9** – (1) How can we save for our retirement? (2) How does the government help us finance our retirement? (3) What is deferred compensation? (4) What are the advantages of purchasing financial protection for our loved ones?

Unit/Topics

**Unit 8** – Prepare a Budget

**Unit 9** – Planning for Retirement

SWBAT/Objectives

Content (“Know”):

**Unit 8**

5. Student will be able to understand cost of electronic utilities
6. Students will be able to understand a budget sheet
7. Students will be able to understand a cash flow chart
8. Students will be able to understand a frequently budget plan
9. Students will be able to understand a year-long expense budget plan

**Unit 9**

10. Students will be able to understand retirement investments
11. Students will be able to understand the benefits paid by Social Security
12. Students will be able to understand how benefits are computed
13. Students will be able to understand advantages and disadvantages of different types of life insurance

Skills (“Do”):

**Unit 8**

6. Students will be able to compute the cost of electric, gas, oil, and water for the home
7. Students will be able to compute the cost of using specific appliances for specific length of time
8. Students will be able to compute the time it takes an energy- saving appliance to pay for itself

9. Students will be able to compute the cost of cell phone calls, text messaging, Internet service, and cable television
10. Students will be able to create and use a budget check-off matrix
11. Students will be able to visualize and interpret a budget using a pie chart, a bar graph, a line graph, and a budget line graph
12. Students will be able to develop a cash flow chart
13. Students will be able to prepare a budget sheet

### Unit 9

14. Students will be able to calculate future values of retirement investments that are both single deposit and periodic
15. Students will be able to calculate an employer's matching contribution to a retirement account
16. Students will be able to compare the tax savings by making contributions to pre-tax retirement savings accounts
17. Students will be able to compute federal income tax on benefits that are paid under Social Security
18. Students will be able to calculate pension benefits using various formulas
19. Students will be able to calculate pension benefits during and after vesting periods
20. Students will be able to compute the cost of different types of life insurance

### Vocabulary/Key Terms

**Unit 8** – utility, meter, watt, cubic foot, previous reading, present reading, volume, electronic utilities, budget matrix, pie chart, line graph, bar graph, sector, cash flow, assets, liabilities, cash flow, net worth

**Unit 9** – retirement, individual retirement account (IRA), 401K, 403b, pre-tax dollars, after-tax investments, tax-deferred, Social Security benefit, full retirement age, Social Security statement, Social Security credit, lump-sum payment, pension, vested, single life annuity, Consumer Price Index, cost of living, beneficiary, premium, face value, term life insurance, cash value

### Assessments:

Uniform Test/Quiz  
Classwork  
Homework

### Common Core Standards:

**Unit 8** - N-Q1, N-Q2, A-SSE1a, A-SSE1b, A-SSE1a, F-IF4, F-IF5, F-IF7a, F-IF7b, N-VM6, A-REI10, F-BF1  
**Unit 9** - F-IF8b, A-SSE1, A-CED3, F-BF1, S-MD1, S-MD2, S-MD4, S-MD5

### Differentiated Instruction:

- Flexible grouping
- Cooperative Learning
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Marking Period 3

**Topic and Essential Question**

**Unit 10** – (1) How do we find a place to live? (2) How much space do I want? How much space do I need? (3) What do we need to know about mortgages? (4) What will the American dream cost us? (5) How do we purchase a house? (6) How do we decide on home location? Should we rent, buy, or live with relatives?

Unit/Topics **Unit 10** – Independent Living

SWBAT/Objectives Content (“Know”):

**Unit 10**

14. Student will be able to understand the relationship between square footage and monthly rent
15. Student will be able to understand the research that is necessary before you purchase a home

Skills (“Do”):

**Unit 10**

21. Students will be able to calculate the affordability of a monthly rent
22. Students will be able to determine lease signing costs
23. Students will be able to calculate moving expenses
24. Students will be able to compute the perimeter and the area of a polygon
25. Students will be able to compute areas of irregular regions
26. Students will be able to compute volumes of rectangular solids
27. Students will be able to compute the monthly cost of paying for a house
28. Students will be able to estimate closing costs
29. Students will be able to create an amortization table for a fixed rate mortgage
30. Students will be able to create an amortization table for a fixed rate mortgage with extra payments

Vocabulary/Key  
Terms

**Unit 10** – apartment, tenant, landlord, lease, expire, evict, single-family income, square footage, application deposit, security deposit, floor plan, area, congruent, perimeter, volume, market value, property tax, real estate tax, down payment, mortgage, foreclose, recurring costs, closing, attorney fee, title, points, transfer tax, amortization table

<b>Assessments:</b>	Uniform Test/Quiz Classwork Homework
<b>Common Core Standards:</b>	<b>Unit 10</b> - A-CED2, A-CED3, A-REI6, S-ID6a, S-ID6c, S-ID8, G-C5, G-MG3, A-SSE1, A-CED3, A-APR6, F-BF1
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