WAMC Lesson Plan

Name(s): Ellen Garr
Lesson Title: 7-1 Tax Tables, Worksheets and Schedules
Date: 6/26/14
Text: Cengage Financial Algebra
Lesson Length: 2 (45 minute) periods

Domain: Algebra and Functions

Big Idea (Cluster): Creating Equations; Building Functions

Common Core State Standards:

Algebra-Creating Equations A-CED
Create equations that describe numbers or relationships

Algebra-Reasoning with Equations and Inequalities A-REI
Solve equations and inequalities in one variable

Functions-Build Functions F-BF
Build a function that models a relationship between two quantities

Mathematical Practice(s):
- M5: Use Appropriate Tools Strategically
- M7: Look for and Make Use of Structure

Content Objectives:	Language Objectives:
• Express tax schedules algebraically • Compute federal income taxes using a tax table and tax schedules	
Vocabulary: • Income tax • Taxable income • IRS • Sales tax • Filing status	Connections Prior to Learning • Writing linear equations • Determine piecewise functions • Using inequalities • Reading tables • Calculate percentages
Questions to Develop Mathematical Thinking: • Who pays taxes? • Why do we have to pay taxes? • Do we pay more taxes now than people have in the past?	Common Misconceptions: • I am too young and still live at home so I don't have to pay taxes • I get paid in cash so I don't have to report it • Income from my hobby isn't taxable

Assessment (Formative and Summative):

Formative:
- Determining Tax Payment
- Tax Calculation quiz

Summative:
- When Did We Pay the Most Taxes? Lab

Materials
- Textbooks
- Tax Payer Scenarios

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- Tax Calculation Quiz
- Historic Tax Tables
- When Did We Pay the Most Taxes? Lab Worksheet

Instruction Plan:

Launch: Have students answer the following questions in their journal.

Day 1:
What is the purpose of taxes?

What types of taxes are there?

Discuss answers with your table group.

Day 2:
What are the different filling statuses?

Do they all pay the same percentage of income in tax?

Share your answers with your elbow partner.

Explore: During the first day the concept of taxes and how they are calculated will be explored in the following activities:

Determining Tax Payment

1. Students will complete this assignment in their journals but may work together if they wish.
2. Students will be given a series of tax payer scenarios and determine three things for each using the textbook – section 7-1 for definitions and tax table appendix:
   - What filing category they should use
   - What income line they need to look in to find taxes
   - The amount of tax they will pay
3. Do problems 4 and 5 expressing answers as interval notations
4. Discuss how to use tax tables and ask what would happen if the taxable income was more than $100,000?

Tax Calculation Quiz – Use only if enough time. If not, hold until next day and use question from #4 as an exit task.

When Did We Pay the Most Taxes? Lab – Use historic tax tables to examine tax percentages on incomes since the 1800's and analyze the changes.

When I observe students:

- Monitor understanding by asking questions
- Check on following directions

Questions to Develop Mathematical Thinking as you observe:

Answers:

Summarize:

Career Application(s):

-

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21st Century Skills and Interdisciplinary Themes:

21st Century Interdisciplinary themes (Check those that apply to the above activity.)

☐ Global Awareness ☐ Financial/Economic/Business/Entrepreneurial Literacy ☐ Civic Literacy
☐ Health/Safety Literacy ☐ Environmental Literacy

21st Century Skills (Check those that students will demonstrate in the above activity.)

LEARNING AND INNOVATION

Creativity and Innovation
☐ Think Creatively
☐ Work Creatively with Others
☐ Implement Innovations

Critical Thinking and Problem Solving
☐ Reason Effectively
☐ Use Systems Thinking
☐ Make Judgments and Decisions
☐ Solve Problems

Communication and Collaboration
☐ Communicate Clearly
☐ Collaborate with Others

INFORMATION, MEDIA & TECHNOLOGY SKILLS

Information Literacy
☐ Access and Evaluate Information
☐ Use and manage Information

Media Literacy
☐ Analyze Media
☐ Create Media Products

Information, Communications and Technology (ICT Literacy)
☐ Apply Technology Effectively

LIFE & CAREER SKILLS

Flexibility and Adaptability
☐ Adapt to Change
☐ Be Flexible

Initiative and Self-Direction
☐ Manage Goals and Time
☐ Work Independently
☐ Be Self-Directed Learners

Social and Cross-Cultural
☐ Interact Effectively with Others
☐ Work Effectively in Diverse Teams

Productivity and Accountability
☐ Manage Projects
☐ Produce Results

Leadership and Responsibility
☐ Guide and Lead Others
☐ Be Responsible to Others

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WAMC Lab Template

Math Concept(s): When Did We Pay the Most Taxes? Lab
Source / Text: IRS website; Cengage Financial Algebra
Developed by: Ellen Garr E-Mail: egarr@colsd.org
Date: Summer In-service 2014

Attach the following documents:

Lab Instructions:
Use the taxpayer assigned to calculate taxes paid if living in different years

Student Handout(s):
A variety of taxpayer descriptions and taxable income so not all students are using the same one
A copy of historic tax calculation descriptions

Rubric and/or Assessment Tool

Short Description (Be sure to include where in your instruction this lab takes place):

The purpose of this lab is to help students see that tax serves a very definite purpose and does not continually go up. Students will use one taxpayer with a set taxable income and filing status. This taxpayer will be moved through a variety of years calculating tax due and percentage of income each represents.

Lab Plan

Lab Title: When Did We Pay the Most Taxes?

Prerequisite skills:

- Writing linear equations
- Determine piecewise functions
- Using inequalities
- Calculate percentages

Lab objective: Observe the consistency and changes in taxes paid.

Standards:

CCSS-M:

- A-REI
- F-BF

Standards for Mathematical Practice:

- M5: Use Appropriate Tools Strategically
- M7: Look for and Make Use of Structure

State Standards addressed (2008 Washington State Mathematics Standards):

-

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Reading:

-

Writing:

-

Leadership/21st Century Skills:

21st Century Interdisciplinary themes (Check those that apply to the above activity.)

☐ Global Awareness ☐ Financial/Economic/Business/Entrepreneurial Literacy ☐ Civic Literacy
☐ Health/Safety Literacy ☐ Environmental Literacy

21st Century Skills (Check those that students will demonstrate in the above activity.)

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Social and Cross-Cultural
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Teacher Preparation: (What materials and set-up are required for this lab?)

Materials

- Taxpayer descriptions
- Historic tax tables

Set-Up Required:

- None

Lab Organization Strategies:

Grouping/Leadership/Presentation Opportunities:

-

Cooperative Learning:

-

Expectations:

- Each student will work on their own taxpayer

Timeline:

- 45 minutes

Post Lab Follow-Up/conclusions:

Discuss real world application of learning from lab

- Everyone pays taxes. Why?

Career Applications

-

Optional or Extension Activities

-

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When Did We Pay the Most Taxes?

Susan is a single woman who works as a registered nurse in a small town in eastern Washington. She has no children but she does help in schools whenever she can. Her taxable income is $46,234, which includes her income from her nursing, and the interest she has earned on her savings.

How much do you think Susan will need to pay in taxes? Do you think the taxes she paid this year will be the same or different as she travels back through time? Explain your answer.

Using the Historic Tax Rate Tables calculate Susan's taxes for ten different years starting with 2013 and ending with 1862. For each year you choose determine her tax payment and the percentage of her taxable income this represents:

Year 1: 2013 Tax Paid: _____ Percent of Income: _____

Year 2: _____ Tax Paid: _____ Percent of Income: _____

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Year 3: _____ Tax Paid: _____ Percent of Income: _____

Year 4: _____ Tax Paid: _____ Percent of Income: _____

Year 5: _____ Tax Paid: _____ Percent of Income: _____

Year 6: _____ Tax Paid: _____ Percent of Income: _____

Year 7: _____ Tax Paid: _____ Percent of Income: _____

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Year 8: _____ Tax Paid: _____ Percent of Income: _____

Year 9: _____ Tax Paid: _____ Percent of Income: _____

Year 10: 1862 Tax Paid: _____ Percent of Income: _____

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How did Susan's taxes change over the years? Did the percentage of her income change?

Based on these results, when do you think would be the best time to be paying taxes?

What do your think may have caused any changes you observed?

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TAX PAYERS NEED TO KNOW WHAT THEY WILL PAY

For each taxpayer determine:

- What filing category they should use
- What income line they need to look in to find taxes
- The amount of tax they will pay

Scenario 1
Single person.
No dependents; cannot be claimed as a dependent.
Taxable income is $46,234.

Scenario 2
Single person.
1 dependent.
Taxable income is $66,578.

Scenario 3
Married Couple living together.
3 dependents.
Two incomes of $48,889 and $67,453

Scenario 4
Married Couple, living apart.
0 dependents.
Two incomes of $54,487 and $37,480

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Name: _____ Date: _____

Tax Calculation Quiz

Use the tables below to calculate the tax for each filing status for each of the taxable incomes listed:

a. $400,000
b. $201,102
c. $108,962
d. $106,00

Section A—Use if your filing status is Single. Complete the row below that applies to you.

Taxable income. If line 43 is—	**(a)** Enter the amount from line 43	**(b)** Multiplication amount	**(c)** Multiply (a) by (b)	**(d)** Subtraction amount	**Tax.** Subtract (d) from (c). Enter the result here and on Form 1040, line 44
At least $100,000 but not over $183,250	$	× 28% (.28)	$	$ 6,706.75	$
Over $183,250 but not over $398,350	$	× 33% (.33)	$	$ 15,869.25	$
Over $398,350 but not over $400,000	$	× 35% (.35)	$	$ 23,836.25	$
Over $400,000	$	× 39.6% (.396)	$	$ 42,236.25	$

Section B—Use if your filing status is Married filing jointly or Qualifying widow(er). Complete the row below that applies to you.

Taxable income. If line 43 is—	**(a)** Enter the amount from line 43	**(b)** Multiplication amount	**(c)** Multiply (a) by (b)	**(d)** Subtraction amount	**Tax.** Subtract (d) from (c). Enter the result here and on Form 1040, line 44
At least $100,000 but not over $146,400	$	× 25% (.25)	$	$ 8,142.50	$
Over $146,400 but not over $223,050	$	× 28% (.28)	$	$ 12,534.50	$
Over $223,050 but not over $398,350	$	× 33% (.33)	$	$ 23,687.00	$
Over $398,350 but not over $450,000	$	× 35% (.35)	$	$ 31,654.00	$
Over $450,000	$	× 39.6% (.396)	$	$ 52,354.00	$

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Section C—Use if your filing status is Married filing separately. Complete the row below that applies to you.

Taxable income. If line 43 is—	**(a)** Enter the amount from line 43	**(b)** Multiplication amount	**(c)** Multiply (a) by (b)	**(d)** Subtraction amount	**Tax.** Subtract (d) from (c). Enter the result here and on Form 1040, line 44
At least $100,000 but not over $111,525	$	× 28% (.28)	$	$ 6,267.25	$
Over $111,525 but not over $199,175	$	× 33% (.33)	$	$ 11,843.50	$
Over $199,175 but not over $225,000	$	× 35% (.35)	$	$ 15,827.00	$
Over $225,000	$	× 39.6% (.396)	$	$ 26,177.00	$

Section D—Use if your filing status is Head of household. Complete the row below that applies to you.

Taxable income. If line 43 is—	**(a)** Enter the amount from line 43	**(b)** Multiplication amount	**(c)** Multiply (a) by (b)	**(d)** Subtraction amount	**Tax.** Subtract (d) from (c). Enter the result here and on Form 1040, line 44
At least $100,000 but not over $125,450	$	× 25% (.25)	$	$ 5,497.50	$
Over $125,450 but not over $203,150	$	× 28% (.28)	$	$ 9,261.00	$
Over $203,150 but not over $398,350	$	× 33% (.33)	$	$ 19,418.50	$
Over $398,350 but not over $425,000	$	× 35% (.35)	$	$ 27,385.50	$
Over $425,000	$	× 39.6% (.396)	$	$ 46,935.50	$

How do the different filing status tax payments compare?

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