WAMC Lesson Plan

Name(s): Jason Spakousky, Brynne Saskor
Lesson Title: Social Security and Medicare
Date: Summer Conference 2013
Text: Financial Algebra   Lesson Length: 1-50 Min. Class

Domain: Functions
Big Idea (Cluster): Interpret Functions
Common Core State Standards: • CCSS.Math.Content.HSF-IF.B.4 For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries; end behavior; and periodicity.*★ • CCSS.Math.Content.HSF-IF.C.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.★
Mathematical Practice(s): MP.4 Model with Mathematics Able to identify important quantities in a practical situation and map their relationships using such tools as diagrams, graphs, and formulas.

Content Objectives: Students should be able to know what is covered by Social Security and how to calculate FICA . payroll deduction	Language Objectives:
Vocabulary: Social Security FICA Tax Medicare Tax Social Security Tax Maximum Taxable Income Social Security Number	Connections Prior to Learning Calculating Percentages Creating and Graphing Piecewise Functions
Questions to Develop Mathematical Thinking: • Do you think it is fair that we have a maximum taxable income cap on social security? Explain. • Do you think it is fair that we do not have a cap on Medicare? Explain. • How does calculating FICA tax relate to what we have already learned?	Common Misconceptions: • Students will often not understand the employer match. • Students will often not grasp the maximum taxable income cap for SS, but not medicare.

Assessment (Formative and Summative):

Formative
    White board work as a class
    Homework problems (3-8, 12, 15,16)
Summative
    6-5 Quiz

Materials:

WAMC Lesson Plan

- Projector and Internet Access
- Quiz 6-5

Instruction Plan:

Launch: Have students discuss with a neighbor what they know about social security. Select a few students to share with the class.

Watch Short Video about Social Security and Medicare.
http://www.youtube.com/watch?v=PJoIUH1khrk

Read pages 316…What are Social Security and Medicare.

Have students take notes in their journal. Be sure to have students write down the 4 things covered by FICA……Social Security, Medicare, Disability, and Survivors.

Explore:
Reinforce the fact that employers pay a matching amount, that there is a maximum amount taxed for SS, but not for medicare.

Show examples 1-4 on the board along with all check understandings.
Remind them that Example 1 is just like calculating the employer match of a 401k and example 2 is just like all piecewise functions.

Complete problems 3 & 4 as a class to check for understanding.

Allow the remainder of the time for homework (3-8, 12, 15,16)

When I observe students: Check for reasoning and supporting facts when answering questions. I will also see their works as we complete problems 3 & 4 as a class.

Questions to Develop Mathematical Thinking as you observe:
Why do you think that federal government workers (and teachers in Alaska) do not have to pay FICA tax? Is that fair?

- Answers: Do you think it is fair that we have a maximum taxable income cap on social security? Explain.
- Do you think it is fair that we do not have a cap on Medicare? Explain.
How does calculating FICA tax relate to what we have already learned?

Summarize: Have the students write the 4 things that are covered by FICA tax on an exit slip.

Career Application(s):

- Every career.

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	INFORMATION, MEDIA & TECHNOLOGY SKILLS	LIFE & CAREER SKILLS	Productivity and Accountability
Creativity and Innovation		Flexibility and Adaptability	
☐ Think Creatively	Information Literacy	☐ Adapt to Change	☐ Manage Projects
☐ Work Creatively with Others	☒ Access and Evaluate	☐ Be Flexible	☐ Produce Results
☐ Implement Innovations	Information	Initiative and Self-Direction	Leadership and

Critical Thinking and Problem Solving	☐ Use and manage Information	☐ Manage Goals and Time	Responsibility
☒ Reason Effectively	Media Literacy	☐ Work Independently	☐ Guide and Lead Others
☐ Use Systems Thinking	☐ Analyze Media	☐ Be Self-Directed Learners	
☐ Make Judgments and Decisions	☐ Create Media Products	Social and Cross-Cultural	☐ Be Responsible to Others
☒ Solve Problems	Information, Communications and Technology (ICT Literacy)	☐ Interact Effectively with Others	
Communication and Collaboration			
☐ Communicate Clearly	☐ Apply Technology Effectively	☐ Work Effectively in Diverse Teams	
☐ Collaborate with Others			

Personal Finance Quiz- Section 6-5

Name _____
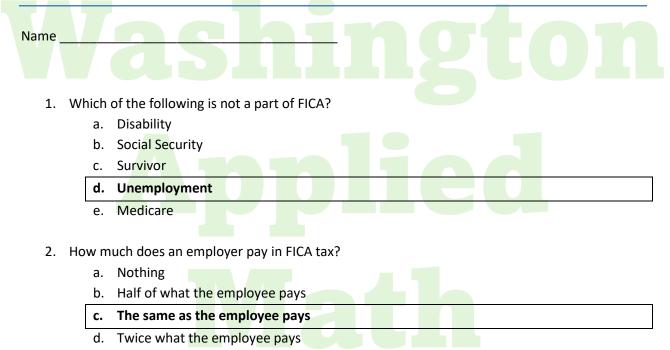
1. Which of the following is not a part of FICA?
   a. Disability
   b. Social Security
   c. Survivor
   d. Unemployment
   e. Medicare

2. How much does an employer pay in FICA tax?
   a. Nothing
   b. Half of what the employee pays
   c. The same as the employee pays
   d. Twice what the employee pays

3. Calculate the FICA tax (which is 7.65%) you would pay in a year if you made $40,000 annually.

4. Calculate the FICA tax you would pay a year if you made $120,000 annually. Use the piecewise function below to assist you. (Let X stand for annual salary)

   $$F(x) \begin{cases} .0765x & X \leq \$106,800 \\ 106,800(.0765) + (X - 106,800)(.0145) & X > \$106,800 \end{cases}$$

Personal Finance Quiz- Section 6-5-KEY

Name _____

1. Which of the following is not a part of FICA?
   a. Disability
   b. Social Security
   c. Survivor
   d. Unemployment
   e. Medicare

2. How much does an employer pay in FICA tax?
   a. Nothing
   b. Half of what the employee pays
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   d. Twice what the employee pays

3. Calculate the FICA tax (which is 7.65%) you would pay in a year if you made $40,000 annually.

   $40,000 * .0765 = $3,060

4. Calculate the FICA tax you would pay a year if you made $120,000 annually. Use the piecewise function below to assist you. (Let X stand for annual salary)

   $$F(x) \begin{cases} .0765x & X \le \$106,800 \\ 106,800(.0765) + (X - 106,800)(.0145) & X > \$106,800 \end{cases}$$

   106,800(.0765) + (120,000 – 106,800)(.0145)
   8170.20 + (13,200 * .0145)
   8170.20 + 191.40 = $8,361.60