Financial Algebra Unit 3-5 Lesson Plan

Text: *Financial Algebra* by Robert Gerver and Richard Sgroi
Unit number and title: Unit 3-5 Compound Interest Formula
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Short Description:
Calculating compound interest using the simple interest method is tedious when there are numerous period. This unit will cover how to use the power of mathematics to turn this long procedure into a relatively small amount of work.

LESSON PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Essential Question**
  What are the advantages of using the compound interest formula?

- **Lesson Objectives**
  The student can:
  1. Become familiar with the derivation of the compound interest formula.
  2. Make computations using the compound interest formula.

- **Statement of pre-requisite skills needed**
  Skills taught in:
  Unit 3-3 Savings Accounts
  Unit 3-4 Explore Compound Interest

- **New Vocabulary:**

Compound Interest Formula	This relates principal, interest rate, the number of times interest is compounded per year, and the number of years the money will be on deposit to give the ending balance.
Annual Percentage Rate (APR)	The interest rate paid per year or charged per year.
Annual Percentage Yield (APY)	The simple interest rate that would be required to give the same dollar amount of interest that the compounding gave.

- **State Standards addressed:**
  Math: 1.1.4; 1.2; 2.2.2; 3.3.2
  Algebra 1: A1.1.A;; A1.1.E; A1.3.B; A1.7.C
  Algebra 2: A2.1.A; A2.1.C; A2.8.A; A2.8.B; A2.8.C; A2.8.D; A2.8.E; A2.8.F
  Reading: 1.2.2; 2.1.4; 2.1.5; 2.3.4
  Common Core Standards: Algebra – Seeing Structure in Expressions A-SSE;
  Functions – Interpreting Functions F-IF

- **Set-up information (Remind students to follow these basic rules.)**
- Be Prepared to work
- No Teasing
- Proper Computer Usage

- **Teacher Assessment of student learning (scoring guide, rubric)**

Informal Assessments:

1. Walk around
2. Thumbs up or down
3. Homework

Formal Assessments:

1. End of Unit test

- **Summary of learning**

1. Introduce the vocabulary to the students.
   a. Give the vocabulary list without definitions
   b. Give the definitions to the vocabulary list
   c. Discussion about each term of the vocabulary
2. Ask:
   a. What are the advantages of using the compound interest formula?
   b. How difficult would it be for a bank to do daily compounding for thousands of customers?
3. Work on Examples to Strengthen skills
   a. Example 1, page 144
   b. Example 2, page 145
   c. Example 3, page 146
   d. Example 4, page 147
4. Check for Understanding
   a. Check Your Understanding 1, page 145
   b. Check Your Understanding 2, page 145
   c. Check Your Understanding 3, page 146
   d. Check Your Understanding 4, page 147
5. Extend Your Understanding
   a. Extend Your Understanding 1, page 145
   b. Extend Your Understanding 2, page 146
   c. Extend Your Understanding 3, page 147
6. Assess with Applications

REACHING ALL LEARNERS – Differentiated Instruction for students with

Developing Knowledge	On-level Knowledge	Advanced Knowledge
☐ Needs help working Example 1, page 144 (Group work)	☐ Able to work Example 1, page 144 without assistance	☐ Able to create additional problems like Example 1, page 144
☐ Needs help working Example 2, page 145 (Group work)	☐ Able to work Example 2, page 145 without assistance	☐ Able to create additional problems like Example 2, page 145
☐ Needs help working Example	☐ Able to work Example 3, page	☐ Able to create additional

3, page 146 (Group work)	146 without assistance	problems like Example 3, page 146
☐ Needs help working Example 4, page 147 (Group work)	☐ Able to work Example 4, page 147 without assistance	☐ Able to create additional problems like Example 4, page 147
☐	☐ Able to work the Check Your Understanding problems, pages 144-147	☐ Able to work and explain the Check Your Understanding problems, pages 144-147
☐	☐	☐ Able to work the Extend your Understanding on pages 145-147
☐ Exit Slip consisting of answering the question: How does today's class relate to me?	☐ Exit Slip consisting of answering the question: How does today's class relate to me?	☐ Exit Slip consisting of answering the question: How does today's class relate to me?

- **Optional activities**
  Hands-on Labs

- **Career Applications**

Banker	Venture Capitalist	Economist
Builder	Investor	Insurance Agents
Real Estate Agents	Lawyer	Doctor
Teacher	Laborer	

- **Evaluation of Lesson Plan**

  What went well?

  What did not go as well as planned?

  What would I keep and what would I toss? Why?

  How well did the students master the skills? Will we need to review this in order for them to remember the information long-term?