Section 3--Savings

Title of Lesson/Subject: ***Calculating Interest on Savings***

Prepared by:

Contact Information
E-mail address: **Phone:**

Time Allotment: 45 minute class periods

Grade Level: Business Math Class (10^{th} grade)

ND Standards Competencies:

Key Economic Concepts:

Brief Description:

Learner Objectives:

***** Learners will be able to explain how banks are able to pay a depositor interest on his savings account.
* Learners will be able to calculate simple and compound interest.

Introduction:

Materials Needed:

1. Overhead and transparencies
2. Computer and Internet
3. White board and dry erase markers

Audio/Visual Equipment Needed:

Lesson Outline:

To Do: Instructor will discuss with students how saving works, explaining that it is all about interest. Your money can work for you…every day. That is a good deal for you!

To Say: Banks will pay you interest on the money that you deposit with them. Why do they pay you interest? Because they use your money to make more money for themselves. They do this by using your money to loan to someone else and charge them a higher interest on the loan than they pay you for your deposit.

To Say: For example, the bank may pay you interest of 5% on your deposit of $1000. So you would receive $50 in interest. They take your $1000 and borrow it to someone else at 9% interest. The bank then receives $90 in interest from the borrower. $90 minus $50 equals $40 in profit to the bank. In turn everyone is happy. You are saving money, someone got to borrow money he needed, and the bank profited. (Use white board to illustrate).

To Do: Instructor will use overhead to explain definitions of two kinds of interest, simple and compound. (See Overhead 1-A).

Resources:

Activities: Two Kinds of Interest (attached)

Application/Assignment:

Evaluation Plan:

Two Kinds of Interest

Simple interest is calculated on the amount of money you deposit.

Compound interest is more powerful.

Compound interest is calculated on your deposits plus any interest you've already earned.

So that $35 interest the bank paid you last quarter now becomes part of your new total, and you earn interest on that money too. Your money is growing all by itself. And you don't have to do anything but keep your money in the bank. It's that easy!!

Overhead 1-A

To Say: Students will discuss with the teacher any questions they have about saving and simple and compound interest and include any personal saving experiences they have had with saving money for themselves.

To Do: Instructor will use overhead and transparency to show two examples of how saving just a little can add up. Instructor will stress to pay yourself first. (See overhead 1-B)

Example 1:

Save this each week	At % interest	In 10 years you'll have
$7.00	5%	$4,720
$14.00	5%	$9,440
$21.00	5%	$14,160
$28.00	5%	$18,880
$35.00	5%	$23,600

Example 2:
If you invest $1,000 each year ($19.20 per week)

Interest Rate	5 yrs.	10 yrs.	15 yrs.	20 yrs.
5%	$5,525	$12,578	$21,578	$33,065
6%	$5,637	$13,181	$23,276	$36,786
7%	$5,751	$13,816	$25,129	$40,995
8%	$5,867	$14,487	$27,152	$45,762
9%	$5,985	$15,193	$29,361	$51,160
10%	$6,105	$15,937	$31,772	$57,257
11%	$6,228	$16,722	$34,405	$64,203
12%	$6,353	$17,548	$37,279	$75,052

Overhead 1-B

To Do: Instructor will use overhead and transparency to explain how to calculate simple and compound interest. (Overhead 1-C)

To Do: Students will complete a worksheet figuring simple and compound interest on their calculators. (Worksheet and key are located at www.practicalmoneyskills.com under students activities)

Then students will use the compounding calculator to see for themselves how compounding interest gives you great results. Students will use the compounding calculator at: www.themint.org/tryit/compoundingcalculator.php

Students can use real life examples to practice with the compounding calculator.

Assessment:
Students will be assessed by interaction and observance while completing their worksheet.

Reinforcement:

- Teacher will review the answers, and, as needed, show the calculations on the board or on the overhead.
- Teacher will reemphasize how the interest rate and the method of calculation can affect how much money grows.

How Simple and Compound Interest are Calculated

Simple interest calculation

- **Dollar Amount x Interest rate x Length of Time (in years) = Amount Earned**

Example

- If you had $100 in a savings account that paid 6% simple interest, during the first year you would earn $6 in interest.

  $**100 x 0.06 x 1 = $6**

- At the end of two years you would have earned $12.
- The account would continue to grow at a rate of $6 per year, despite the accumulated interest.

Overhead 1-C

Compound Interest Calculation

- Interest is paid on original amount of deposit, plus any interest earned.

(Original $ Amount + Earned Interest) x Interest Rate
x Length of Time = Amount Earned

example

- If you had $100 in a savings account that paid 6% interest
  compounded annually, the first year you would earn $6.36
  in interest.

$100 x 0.06 x 1 = $6

$100 + $6 = $106

- With compound interest, the second year you would earn
  $6.36 in interest.

The calculation the second year would look like this:

$106 x 0.06 x 1 = $6.36

$106 + 6.36 = $112.36

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Overhead 1-C (continued)

Write the answers to the following questions in the blanks provided. Use the space below each problem to show how you arrived at your answers.

1. If you put $200 in a savings account that paid 5.5% simple interest each year, how much interest would you earn in five years?

2. If you put $150 in a savings account that paid 6% compounded yearly, how much interest would you earn in five years?

3. If you put $25 each month into a savings account that paid a simple interest rate of 6.5% each year, how much would you have in your account at the end of two years?

4. If you put $10 each week into a savings account that paid 6% interest compounded yearly, how much money would you have in your account after three years? (Hint: Use Save a Million Calculator.)