

**Activity Name:** Money Matters**Objective:**

Students will demonstrate the ability to explore a compound investment during a 5-year period. Students will use the TVM function of the Casio fx-9860 as well as the graphing application along with the table application.

**Getting Started:**

Gaining financial knowledge can be very empowering. As students mature, they will have a greater need and urgency to become more financially aware as well as to be responsible for their individual financial needs and goals. They will want to purchase a car, buy a home, take nice vacations, raise a family, and support themselves. Having a basic understanding of financial calculations can increase one's confidence and awareness. This activity, using the Casio fx-9860, will help foster that understanding and perhaps encourage students to think about their personal financial health and well being.

**Activity:**

How much is a lot of money? Think about this question for a minute and answer it seriously. Survey other students in your class, family members, teachers, and other adults as to what they believe is a lot of money. Don't be surprised if your answers range from one dollar to a billion dollars. Peoples' understanding of a lot of money is clearly defined based upon an individual's personal experience and relationship with money. So, how much money are you going to need in order to live comfortably when you get older? How much money are you going to need in order to maintain your lifestyle when you retire? It's never too early to start thinking about these things and being more knowledgeable about financial matters can certainly help you obtain your personal financial goals.

Think about the following questions. Use these as a way to begin a discussion with your class. Then, answer the sample questions that follow and use the Casio fx-9860 to help you calculate the answers.

- If you found \$100 on the street and were able to keep it, would you spend it or save it?
- When you receive money as a gift, are you more inclined to spend it or save it and why?
- Upon receiving a paycheck from your employer, what do you do with that money? Calculate a percentage of that paycheck that goes towards some type of savings.
- Make a list of your personal financial goals. What are some of the things that you want to do with money?

**Calculator Notes:**

Note: Always check the SETUP menu prior to beginning any financial calculations. For example, in most cases, you want to determine the end value of an investment or loan as well as have the days set to 365.

**To Calculate Simple Interest:**

- From the Main Menu, press the “TVM” (Time Value Money) application.
- Press “F1” for Simple Interest.
- Enter the amount of days the investment is being held. (Note: An easier way to do this is to simply enter the number of years times 365. The fx-9860 will automatically calculate the total number of days.
- Once you have entered the number of days, the interest rate, and the principal (enter the principal as a negative value), press “F1” to calculate the Simple Interest. Press “F2” to calculate the Simple Future Value, which will give you the total amount of the investment (Principal + Interest).

**To Calculate Compound Interest:**

- From the Main Menu, press the “TVM” (Time Value Money) application.
- Press “F2” for Compound Interest.
- Enter the necessary information to solve the problem.
- Use the Function Keys to solve for such things as the Number of Days or Months, Principal, Future Value, Payment, or Interest Rate.

**Sample Problems:**

1. Determine the future value of an initial investment of \$500 that gains simple interest for 3 years at 1.25% interest.
2. On your 15<sup>th</sup> birthday, you receive a gift of \$1,000. You decide to save that money and place it into an account that yields an interest rate of 5.75% compounded annually. If you never add any money to that account, how much money will this investment yield when you are 65 years old?
3. Calculate the principal needed to produce a future value of \$10,000 in 2 years, compounded monthly at a rate of 4%.
4. You have purchased a new car valued at \$22,000. You make a down payment of \$1,500 and have secured a loan rate of 5.9% for 5 years. What will your monthly car payment be?
5. Refer to question 4, how does the loan payment change if the interest rate is lowered to 2.9% over 5 years?

**Answers:**

1. The future value of this investment will be \$518.75.
2. The future value of this investment will be \$16,368.87.
3. The principal must be \$9,802.31.
4. The loan payment will be \$479.22 per month.
5. The loan payment will be \$405.65 per month.

**Extension:**

Use the Casio fx-9860 to calculate various investment scenarios such as savings plans and mortgage payments. This application can be used during a unit that focuses on exponential growth and decay. Have students research particular cars they would like to buy and explore the various loan possibilities and payment plans for purchasing that car. Furthermore, any life skills course can use these applications to discuss the financial matters, which deal with everyday personal business matters.