Name:

EST. 1899
United for Literacy
Littératie Ensemble

Why ‘Interest’ Should Interest You?

Introductory Practice

Part 1. Graphic Organizer

Fill in the information from the lesson.

Simple Interest	Compound Interest
Growth:	**Growth:**
Formula and Variables:	**Formula and Variables:**
Additional Notes (Optional):	**Additional Notes (Optional):**

Part 2. Practice Questions

Using the information from the graphic organizer, answer the questions below.

1. a) You decided to invest in a 5-year government bond. The face value of the bond, or the principal, is $100. The annual interest rate (called coupon rate) is 3%. It is a simple interest rate. What is the future value of your bond? Show your calculation.

   b) How much did you earn in interest?

2. a) Your friend also decided to invest. They deposited $1,500 into a GIC with an annual interest rate of 4.5%, compounding annually. This GIC matures after 5 years. What is the future value of their GIC? Show your calculation.

   b) How much did your friend earn in interest?

3. Jorge is planning on starting his own business selling art prints. He needs a specialized printer for his products, currently priced at $750. He has two purchasing options:

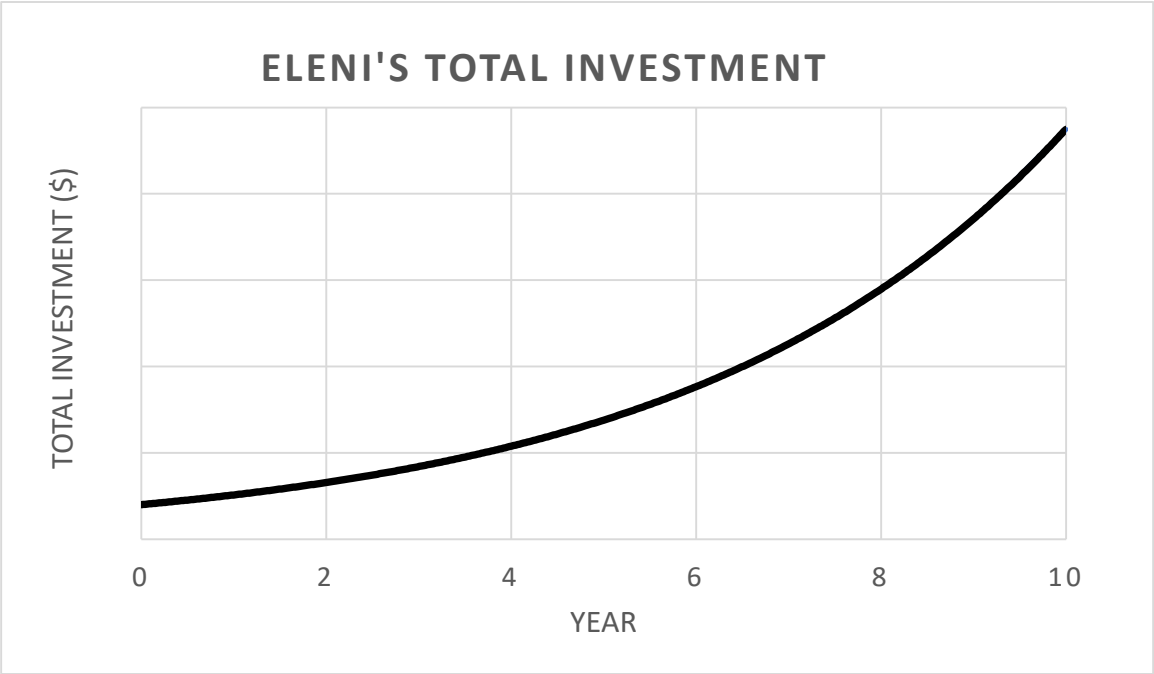
A. He can purchase the printer on his credit card, which charges an **APR*** of 19.99% compounded daily.
B. He can take out a small business loan of $750, which charges him a 9% annual simple interest rate.

Annual Percentage Rate (APR): *The interest rate for credit cards and some loans are called an APR. The APR includes interest and fees. Some institutions charge hefty fees! The APR gives credit card users and borrowers a better idea of what they will really pay.*

Which option should Jorge choose? Show your calculations for options A and B after one year. Then, explain your rationale.

4. Eleni invested her money in a portfolio, but she is not sure whether she is earning simple or compound interest. At the end of each year, she graphed the final amount to determine the growth of her investment. Eleni did this for 10 years.

   Looking at her graph below, is she earning simple or compound interest? **Explain.**



5. Mr. Torres invested $1,000 in a government bond that earns simple interest. Sketch a graph to show the growth of Mr. Torres' investment.

Why “Interest” Should Interest You?

Introductory Practice: Tier 1 (Teacher’s Copy)

Part 2. Practice Questions

Question 1a) :

$$A = P(1 + rt)$$
$$A = \$100\big(1 + (0.03)(5)\big)$$
$$\boldsymbol{A = \$115}$$

Question 1b) :

$$I = A - P$$
$$I = \$115 - \$100$$
$$\boldsymbol{I = \$15}$$

Question 2a) :

$$A = P(1 + i)^n$$
$$A = \$1{,}500\left(1 + \frac{0.045}{1}\right)^5$$
$$\boldsymbol{A = \$1{,}869.27}$$

Question 2b) :

$$I = A - P$$
$$I = \$1{,}869.27 - \$1{,}500$$
$$\boldsymbol{I = \$369.27}$$

Question 3:

Option A

$$A = P(1 + i)^n$$
$$A = \$750\left(1 + \frac{0.1999}{365}\right)^{365}$$
$$A = \$915.91$$

Option B

$$A = P(1 + rt)$$
$$A = \$750\big(1 + (0.09)(1)\big)$$
$$A = \$817.50$$

Student explanation will vary. **Jorge should choose Option B.**

Question 4:

Eleni’s investment yields compound interest. The graph shows exponential growth, which can only happen with compound interest.

Question 5:

Student’s graph will vary. **It should show a linear growth.**