

Simple Interest

I Can calculate simple interest and the total value of an account after any period of time. I understand and can apply the equation $I = Prt$.

Step It Out

- 1** Big Money Bank loans \$12,000 to Carlotta. This initial amount borrowed is called the **principal**.

Carlotta has to repay the loan to the bank at a rate of 5.5% simple interest per year over 8 years. What is the total amount of interest she will have to pay on her loan?

- A. Find the amount of simple interest I that Carlotta must pay after one year.

Simple interest, I

$$= \text{Principal, } P \cdot \text{Annual interest rate, } r$$

$$= \boxed{} \cdot \boxed{}$$

$$= \boxed{}$$

Carlotta must pay \$ _____ in interest after one year.

- B. Calculate the total interest Carlotta must pay over the 8 years of the loan.

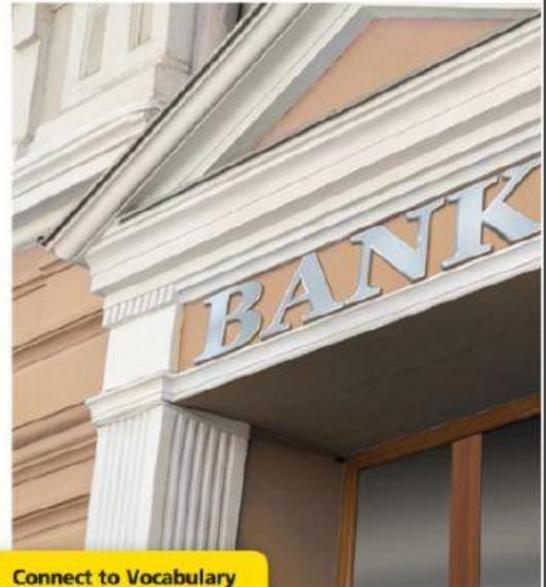
Interest paid over 8 years

$$= \text{Interest paid in one year} \cdot \text{Number of years}$$

$$= \boxed{} \cdot \boxed{}$$

$$= \boxed{}$$

Over 8 years Carlotta will pay _____ in simple interest on her loan.



Connect to Vocabulary

Simple interest is a fixed percent of the principal. It is calculated using the formula $I = Prt$, where P represents the principal, r the rate of interest, and t the time.

- 2** Emilio opens a savings account at his local credit union with a \$5,000 deposit. The account will pay 2.5% simple interest per year. How does Emilio's account grow over time?

- A.** Find the amount Emilio's account earns in interest each year.

Simple interest for 1 year

$$= P \cdot r$$

$$= \boxed{} \cdot 0.025 = \boxed{}$$

Emilio's account earns _____ per year in interest.

- B.** Write an equation for the amount of interest I Emilio's account earns in t years.

$$I = P \cdot r \cdot \boxed{}$$

$$I = \boxed{} t$$

- C.** How much interest will be added to Emilio's account after 12 years? Show your calculation.

$$I = \boxed{} t$$

$$I = \boxed{} \cdot \boxed{} = \boxed{}$$

- 3** Melanie deposits \$8,200.00 in a bank account paying 4.4% simple interest. How much money will be in her account after 5 years and 6 months?

- A.** Find the amount Melanie's account earns in interest in 5.5 years.

$$I = P \cdot r \cdot t$$

$$I = 8,200 \cdot \boxed{} \cdot \boxed{}$$

$$I = \boxed{}$$

The amount of interest in 5.5 years is \$_____.

- B.** Find the total amount in Melanie's account after 5.5 years.

Total amount

$$= P + I$$

$$= \boxed{} + \boxed{} = \boxed{}$$

Melanie's account will contain \$_____ after 5 years and 6 months.



If you borrow money from a bank, you will have to pay interest. But if you open a savings account, the bank may pay you interest.