## Earning Simple Interest

Student Worksheet
Name:

Simple Interest Formula:

## Earning Interest

1. If you deposit $\$ 100$ into an account that earns $2 \%$ interest for 1 year
a. How much interest will you earn?
b. How much money will you have total?
2. Find the amount of time it will take to earn $\$ 10$ in simple interest if you deposited $\$ 100$ into an account that earns $2 \%$ interest.
3. You have $\$ 600$ in a savings account and the bank is offering an interest rate of $2.7 \%$.
a. Write a simple interest equation that represents this situation and simplify it.
b. In your equation, identify the independent and dependent variables.
c. Using this equation, calculate how long you would need to keep your money in the account to earn $\$ 145.80$ in interest.
d. Calculate how long you would need to keep your money in the account to double your savings.
4. You put $\$ 300$ dollars of birthday money into a savings account with an interest rate of 3.2\%,
a. how much interest will you earn after:

| Time spent in <br> account (years) | Interest earned |
| :---: | :---: |
| 1 |  |
| 2 |  |
| 5 |  |
| 10 |  |
| 20 |  |
| 50 |  |

b. In the space below, graph the interest earned. Put time on the $x$-axis and the interest earned on the $y$-axis. Be sure to label the graph and axes.
[Before you graph, make sure to identify:
Variable quantity:
Lower Bound:
Upper Bound:
Interval: ]
c. Draw a line to connect the points you have graphed.
d. In a sentence, describe what happens to your savings throughout this time period.
5. You put $\$ 5,000$ into a CD that pays $4 \%$ for 1 -year. Calculate the interest.

## Paying Interest

6. If you borrow $\$ 10,000$ for a one-year term to buy a car and the simple, annual interest rate is $5 \%$ :
a. How much money will you pay in interest?
b. How much money will you pay to the lender in total after one year?
7. If you borrow the same amount of money, $\$ 10,000$, at the same annual interest rate of $5 \%$ but want to pay it back over a term of two years and the total principal is due at the end of year two,
a. How much money will you pay in interest over the term of the loan?
b. At the end of the two years, how much money will you end up paying back to the lender?
c. How much interest will be accrued during the first year?
d. How much interest will be accrued during the second year?
e. What are the advantages and disadvantages of a loan with a term of one year compared to a term of two years?
8. What is something that you might want to take out a loan to buy? (Sample answers: start a business, attend school, buy a car, buy a house, etc)
a. What is the estimated principal you will need to borrow? (students may use the internet to estimate the cost of buying a specific car or starting a small business)
b. Investigate some common interest rates for this loan (use computer or the teacher can provide this).
c. How long are you likely to need to pay this money back?
d. Calculate the simple interest owed associated with paying this loan over the course of:
9. One year
10. Two years
11. Five years
12. Ten years
