EconEdLink: *Simple Interest* Name _____

When you borrow money from a bank, the amount you borrow is called the **Principal, P.** The amount you pay for the use of the money you borrowed is called the **Interest, I.** The amount of interest you pay depends on the amount you borrow, the interest rate in percent, and the **Time**, **T**, or length of time you borrow the money in years.

In this worksheet, you will learn how to calculate simple interest using a building blocks method that proceeds from simple calculations to complex.

Building Block 1 (Basic formula)

Amy Ni wants to borrow, $450.00 at 6% for 2 years. Find the interest in dollars that Amy will have to repay and the total amount, principal plus interest Amy will repay.

Amy will use the formula: I = (P)(R)(T) to find the interest in dollars she will repay. Amy knows that 6% = 6/100 or .06. Thus, I = P R T equals (450)(.06)(2) or $54.00. Amy will pay back $504.00 when the loan is due. *(Note that 2 years was not expressed as 24 months!)* To multiply by 24 would have been saying that Amy had the loan for 24 years.

Practice Set #1

Calculate the amount of interest and the amount to repay in the table below.

No	Principal	Rate	Time	Interest	Amount to Repay
Ex.	$450.00	6%	2	$54.00	$504.00
1	$4500.00	9%	6		
2	$800.00	5%	3		
3	$3,000.00	10%	5		
4	$9,500.00	12%	2		
5	$1,000.00	10%	1		
6	$45,280.00	14%	2		

Building Block 2 (When Time is less than a year)

When the time of the loan is less than a year, Time has to be expressed as parts of a year. Taylor Price needs to borrow $300 for 6 months. If the interest rate is 6% how much will Taylor pay in interest? How much will Taylor repay?

Taylor will use the formula: I = (P)(R)(T) to find the interest she will pay. But first, she will convert six (6) months as a fraction of a year. There are 12

months in a year, so Taylor will have the loan for 6/12 or ½, or .5 of the year. Thus, Taylor will multiply $300 * .5 * .06 to find that she will owe $9.

Practice Set #2

What fraction of a year are the following times, assuming there are **360** days in a year?

1. 180 days _____
2. 90 days _____
3. 365 days _____
4. 3 months _____
5. 9 months _____

Practice Set #3

Complete the table below.

	Principal	Rate	Time	Interest
i.e.	$300.00	6%	6 months	$9
1	$4500.00	9%	180 days	
2	$800.00	5%	90 days	
3	$3,000.00	10%	365 days	
4	$9,500.00	12%	3 months	
5	$1,000.00	10%	9 months	
6	$45,280.00	14%	6 months	

Building Block 3 (Correctly calculating the interest rate in percent)

Students often have trouble expressing the interest rate as a decimal to use in their calculations. This building block is intended to eliminate that mistake. To convert the interest rate as a percent to decimal, simply divide by 100 as the following examples show.

Interest Rate As a Percent	Divide by 100	Interest Rate As a Decimal
10%	10/100	.10
6%	6/100	.06
6.25%	6.25/100	.0625
125%	125/100	1.25

The interest rate might include fractions. If the interest rate contains a fraction, convert the fraction to a decimal as shown in the following table. For example, ¼ = .25. This makes sense when you think that there are four quarters in a dollar.

Interest Rate With Fraction	Interest Rate As a Decimal
6 ¼	6.25
6 ½	6.50
6 ¾	6.75

Practice Set #5

Complete the table below:

	Principal	Rate	Time	Interest
i.e.	$300.00	6%	6 months	$9
1	$4500.00	9 ¼%	180 days	
2	$800.00	5 ½%	90 days	
3	$3,000.00	10 ¾%	365 days	
4	$9,500.00	12 ¼%	3 months	
5	$1,000.00	10 ¾%	3 years	
6	$45,280.00	14 ¼%	1 year	

Practice Set # 6

	Principal	Rate	Time	Interest
i.e.	$300	6%	6 months	$9
1	$700	8 ¼	4 years	
2	$2000	10 ¼	45 days	
3	$845	6 ½	7 months	
4	$5,125	3	9 years	
5	$2,250	5 ½	165 days	