

Area/Skill - Mathematics	Cognitive Skill Level - Application	Correlation to Framework - 05.11/05.16	Lesson Number - 34
<p><b>Activity Title - Calculating Interest</b></p> <p><b>Goal/Objective</b></p> <p>Students will be able to calculate interest on a bank account or loan.</p> <p><b>Lesson Outline</b> <b>Introduction</b></p> <p>Interest is used in many areas of life. Interest is the cost associated with borrowing money. Banks give us interest for borrowing our money and then charge us money (interest) when we borrow money for a car, boat, or a house. The formula for figuring interest is <math>i = prt</math>, where <math>i</math> = interest, <math>p</math> = principal (amount borrowed), <math>r</math> = rate (percent to be paid), and <math>t</math> = time (how long the money will be borrowed).</p> <p><b>Activity</b></p> <p>Have students find the interest on a loan for \$3,000 at a rate of 9% for four years. Show students how to convert the percentage rate to a decimal by moving the decimal two places to the left (<math>9\% = .09</math>). The formula becomes <math>I = \\$3,000 \times .09 \times 4</math>. The interest paid on the borrowed money is \$1,080</p> <p><b>Debriefing/Evaluation Activity</b></p> <p>Have students create their own interest problems. Have them solve the problems and explain to the class how they solved the problem. Discuss if the ability to figure interest amounts is a skill that is necessary in real-life. Have the students justify their answers.</p>		<p><b>Materials/Texts/Realia/Handouts</b></p> <ul style="list-style-type: none"> <li>• Paper and pencils</li> <li>• Calculators</li> <li>• Chart paper/board and markers</li> <li>• Newspapers</li> </ul>	
<p><b>Real-Life Connection</b></p> <p>Distribute newspapers to the class and have the students turn to the classified section. Have the students find a car that they wish to purchase. Give them a rate and time of loan that would be available to them. Using this information, have the students calculate the interest that they would pay for the money that they have borrowed.</p>		<p><b>Extension Activity</b></p> <p>Have students find the difference in interest that they will pay when the principal is the same, but the rate differs by 1% and then by 2%.</p> <p><b>ESE/ESOL Accommodations</b></p> <p>Allow students to use calculators.</p> <p>Provide students with a simple graphic organizer on which the formula is printed. Have students insert the correct numbers into the formula.</p> <p>Orally discuss each of the steps required to solve an interest problem prior to students calculating interest.</p>	

## GED 2002 Teachers' Handbook of Lesson Plans

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### Activity Title - Calculating Interest

#### Introduction

*Say:* Interest is used in many areas of life. Interest is the cost associated with borrowing money. Almost everyone borrows money to pay for something at some time in his/her life. Banks give us interest for borrowing our money and then charge us money (interest) when we borrow money for a car, boat, or a house. The formula for figuring interest is  $i = prt$ , where  $i$  = interest,  $p$  = principal (amount borrowed),  $r$  = rate (percent to be paid), and  $t$  = time (how long the money will be borrowed). It's important to know how much one pays in interest when borrowing money.

#### Main Activity

*Say:* Let's look at what a loan actually costs us when we have to borrow money and pay it back with interest. Pretend for a moment that there is something that you want to purchase - maybe it's a new television or a new computer or even that used motorcycle that you saw in your neighbor's driveway. Let's say that you want to borrow \$3,000 from the bank and pay it back over a four year period. The current interest rate is 9%.

*Ask:* How much would you pay in interest? How much would the total repayment cost be?

Have students calculate the interest and the total repayment cost. Remind students to convert the percentage rate to a decimal by moving the decimal two places to the left ( $9\% = .09$ ). The formula becomes  $I = \$3,000 \times .09 \times 4$ . The interest paid on the borrowed money is \$1,080

*Ask:* What would be the difference in your repayment cost if the interest rate was 8%?  $7\frac{1}{2}\%$ ? 7%? Does a half percentage point make a difference?

#### Debriefing/Evaluation Activity

*Say:* As you can see, borrowing money isn't free. It is important to always first calculate the interest that you will pay for borrowing money before you sign the loan papers. It's also wise to find the lowest interest rate when borrowing money and the highest interest rate when banks are borrowing money from you, which is what occurs when you place your money in a savings account or money market account.

#### Follow-up Lessons/Activities

Distribute newspapers to the class. *Say:* Turn to the classified section of the newspaper and select a car that you would like to own. The price of the car is called the principal. Next, we will check the current interest rates on used and new car loans. Using that rate, calculate how much interest you will pay on the car if you borrow the money for three years, four years, and five years.

*Ask:* What would be possible reasons for people borrowing money for longer periods of time? At higher interest rates? Discuss the rationale for different rates and different time periods.