Lab Framework

Text:CORD
Unit number and title: Unit B Naming Numbers in Different Ways

Short Description: **Purchasing a Car Using Percents (Interest Rates) and different loan terms**

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Lab Title
Buying a Car Using the Amortization Schedule in Excel

LAB PLAN

TEACHER: Teacher Prep/ Lesson Plan

- **Lab Objective**
  Understanding how percent of interest matters in the purchase price
  Interest verses payment amount
  Payment amount correlates to loan term length

- **Statement of pre-requisite skills needed**:
  - Basic computer skills
  - Internet search abilities
  - Calculator experience

- **Vocabulary**

Interest	**Extra amount the lender charges for borrowing money**
Purchase Price	**Final price the item is sold for or will cost to buy**
Payment Amount	**Fractional amount paid each cycle of the loan**
Amortization Schedule	**The process which figures out the total loan amount including monthly payment, interest charged, principle paid and remaining balance**
Loan Term	**Length of time money will be borrowed**
Down Payment	**Amount paid at the onset of the loan to lower balance owed**
Optional Payments	**Extra payments made outside the normal monthly amounts**
Principal	**The amount of monthly payment which applies toward the reduction of the loan balance**
Balance	**Amount left to pay on the loan**

- **Materials List**
  A computer with Microsoft Word and Excel loaded
  Paper, Pencil, Printer, Calculator

Internet Service

- **State Standards addressed**
  Math: M1.1, M1.2, M1.8A, M1.8B**,** M2.1
  Reading: R2.2

Set-up information

Randomly call about 5 students up to the chalk board to write down the maximum amount they feel they could afford to buy a car for. Write their names by the amounts they write.

Then pick one or two of the totals from the board. Show them step by step how much their payments would be, if they purchased a car for that amount, using the amortization schedule in Excel. Do this several times to make sure they understand it.

Tell them they are then to go into the internet and pick out their three favorite cars, copy a picture of the vehicle (point to the picture and right mouse click, copy – then open word and right mouse click and paste) each one. Print these pictures and hold onto them until the end of the lesson. UNDER EACH PICTURE WRITE DOWN THE MAKE/MODEL/YEAR AND THE ASKING PRICE FOR EACH CAR. LIKE THIS: i.e. Chevy Silverado pick-up – 2003 - $18,000.00.

Write purchase price also in the table below where indicated.

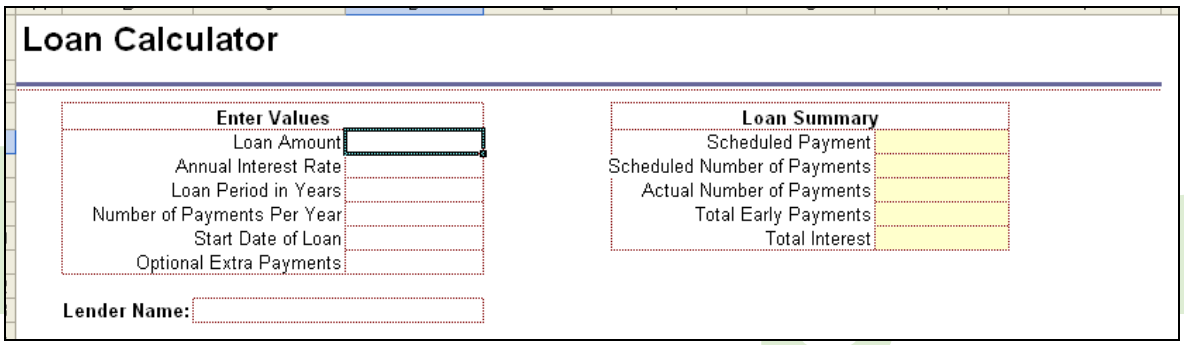
Directions: Open Excel and then click:
File
New
Installed Templates
Loan Amortization
Create
Using the amounts from the table below, fill in the amortization schedule (see Loan Calculator image below)

Vehicle Number	**One (1)**			**Two (2)**			**Three (3)**		
Amount Borrowed									
Annual Interest Rate equals	5.9%	6.75%	8.5%	5.9%	6.75%	8.5%	5.9%	6.75%	8.5%
Loan period in years equals	3	5	8	3	5	8	3	5	8
Number of payments per year	12			12			12		

IN SUMMARY:

1. Figure how much your **favorite, second favorite, and least favorite vehicle** would cost. Place the purchase price in the table and use these amounts to figure your amortization loan calculator for the three different interest rates and loan terms(listed in table above).
2. *Be sure to change the loan period to match the interest according to the table too*

3. Print only **page one** of the amortization loan calculator at the different rates
4. Attach to the picture of the vehicle you copied from the internet.



Teacher Assessment of student learning

1. Does each student have one picture and three amortization schedules attached listing three different interest rates and loan terms?
2. Are the students able to explain the information contained in each amortization sheet?
3. Do they know the difference between interest and principal?
4. Where does the amortization schedule show how many months the loan will take to be paid in full?
5. Is there a "best" way to pay for an installment loan? Explain your beliefs, back them up with evidence.
6. Is it always a good idea to buy an item on an installment loan? When would this not be a good idea?

Summary of learning

Questions to ask: You could either have the students answer orally or in written form.

1. What have you learned from this exercise?
2. What are three ways you could keep your payment affordable?
3. Name a benefit of saving to buy a new car instead of a used car?
4. What would be a disadvantage?
5. How does interest play a role in buying a car?
6. Should you shop around for a better interest rate?

7. How would you do that?
8. What other purchases could you apply this knowledge to?

Optional activities

Using the information above you can extend the lesson and have the students make a graph or chart of the different interest rates and loan periods and how much money could be saved by getting a shorter term loan, lower interest rate, or buying a cheaper car?

Variation Options: Have students find their own current interest rates for car loans (shop different lenders):

Suggested sites:
www.secuwa.org (go to site and write down daily car loan rates)
www.becu.org (go to site and write down fixed car loan rates)

Career Applications

Banking Careers, Home Mortgage lenders, Auto Sales Persons, Real Estate Brokers