BORROWING MONEY

While it usually is a good idea to wait until you have saved up enough money to make buy something, sometimes it makes sense to borrow money and then pay it back over time. For example, you might want to buy a vehicle so you can transport tools for your job. Or you might need to pay for some schooling or training like an apprenticeship to help you with your career. Perhaps the biggest purchase you will make in your life would be a house or condo. If you waited until you had saved enough money for that, you would probably never buy it!!

Borrowing money and paying it back according to the arrangements you have made also helps to build up your credit rating. This allows you to borrow more at a later date when you might want to make a bigger purchase – remember that condo

There are different ways and places to borrow money. Usually we think of a **loan** when we think of borrowing money. A loan is a fixed amount of money that you borrow all at once. It is paid back over a specified term and interest is included in what you pay back. This length of time required to pay the loan back is called the **amortization period**. You will usually sign an agreement with your bank or credit union to make this a contract.

Other ways to borrow money include a line of credit, overdraft protection, and payday loans. A bank **line of credit** is a preapproved loan that lets you borrow on as needed up to a certain limit. Interest is charged but only on the money you use and only when you use it. It is similar to a credit card.

Overdraft protection is an agreement with your financial institution that allows you to withdraw more money from your account than you have in it, up to an agreed limit. The bank will cover the extra you have taken out, but you must repay. Interest is charged and it is usually at a higher rate like credit cards. Just like a line of credit, you only get charged if you use this service.

Some loans are secured with **collateral**, an item of value promised by the borrower that will be surrendered if the loan is not paid. This often is a car or property. Whichever type of loan you take out, if you do not make your payments as agreed in your contract, you are said to be in **default**, and legal action can be taken against you.

Example 1: Oscar borrowed $3500 from his bank to purchase a mountain bike. The loan has an annual interest rate of 8.25% and an amortization period of 2 years.
  a) What is Oscar's monthly payment?
  b) Calculate the total amount Oscar will pay over 2 years.
  c) Calculate the finance charge on the loan.

Solution: To complete this question, you must use the *Personal Loan Payment Calculator* on the next page. This gives the monthly payment information for each $1000 borrowed based on the interest rate and the term of the loan.

a) From this section of the chart, you can see that for 2 years at an interest rate of 8.25%, Oscar will have to pay $45.34 a month for each $1000 he borrows.

PERSONAL LOAN CALCULATOR: MONTHLY PAYMENT PER 1000.00 BORROWED (INTEREST COMPOUNDED MONTHLY)					
Interest rate (%)	Term in years				
	1	2	3	4	5
8.00	86.99	45.23	31.34	24.41	20.28
8.25	87.10	45.34	31.45	24.53	20.40
8.50	87.22	45.46	31.57	24.65	20.52

To calculate Oscar's monthly payment, divide the amount of the loan by $1000 and multiply it by $45.34.

  monthly payment = $3500 ÷ $1000 × $45.34 = $158.69
  Oscar's monthly payment is $158.69

b) To calculate the total amount that Oscar will pay over 2 years, multiply his monthly payment by the number of months he is making that payment.

  2 years = 24 months (2 × 12 months in a year)
  Total paid over 24 months = $158.69 × 24 = $3808.56
  Oscar paid a total of $3808.56 for the bike over 2 years.

c) The **finance charge** is the difference between the cash price of $3500 and the amount that Oscar paid for the bike by taking out a loan. This represents the extra or interest that Oscar paid for the privilege of paying the loan off over 24 months.

  finance charge = $3808.56 - $3500 = $308.56

PERSONAL LOAN CALCULATOR: MONTHLY PAYMENT PER 1000.00 BORROWED (INTEREST COMPOUNDED MONTHLY)					
Interest rate (%)	Term in years				
	1	*2*	*3*	*4*	*5*
3.00	84.69	42.98	29.08	22.13	17.97
3.25	84.81	43.09	29.19	22.24	18.08
3.50	84.92	43.20	29.30	22.36	18.19
3.75	85.04	43.31	29.41	22.47	18.30
4.00	85.15	43.42	29.52	22.58	18.42
4.25	85.26	43.54	29.64	22.69	18.53
4.50	85.38	43.65	29.75	22.80	18.64
4.75	85.49	43.76	29.86	22.92	18.76
5.00	85.61	43.87	29.97	23.03	18.87
5.25	85.72	43.98	30.08	23.14	18.99
5.50	85.84	44.10	30.20	23.26	19.10
5.75	85.95	44.21	30.31	23.37	19.22
6.00	86.07	44.32	30.42	23.49	19.33
6.25	86.18	44.43	30.54	23.60	19.45
6.50	86.30	44.55	30.65	23.71	19.57
6.75	86.41	44.66	30.76	23.83	19.68
7.00	86.53	44.77	30.88	23.95	19.80
7.25	86.64	44.89	30.99	24.06	19.92
7.50	86.76	45.00	31.11	24.18	20.04
7.75	86.87	45.11	31.22	24.29	20.16
8.00	86.99	45.23	31.34	24.41	20.28
8.25	87.10	45.34	31.45	24.53	20.40
8.50	87.22	45.46	31.57	24.65	20.52
8.75	87.34	45.57	31.68	24.77	20.64
9.00	87.45	45.68	31.80	24.89	20.76
9.25	87.57	45.80	31.92	25.00	20.88
9.50	87.68	45.91	32.03	25.12	21.00
9.75	87.80	46.03	32.15	25.24	21.12
10.00	87.92	46.14	32.27	25.36	21.25

ASSIGNMENT 8 – FIXED TERM LOANS

1) Joe takes out a loan for $7800 at 4% interest for 5 years. What will his monthly payment be? Use the *Personal Loan Calculator* on p.25.

2) Marie is buying a new snowmobile that costs $11 500.00. She will take a loan from her bank at 4.75% for 4 years.
   a) Calculate Marie's monthly payment.

   b) Calculate the total amount Marie will pay for the loan over the 4 years.

3) Tim wants to buy a used car that costs $3900.00. He can get a loan at 3.25% for 3 years from his bank.
   a) What will his monthly payment be?

   b) What is the total amount Tim will pay for the loan over the 3 years?

4) Alan wants to buy a customized mountain bike that costs $3500. He has saved $1200 toward the cost.
   a) How much will Alan need to borrow from the bank to buy his bike?

   b) Alan can get a loan at 5.5% for 2 years from his bank. What will his monthly payment be for this loan?

c) What is the total amount Alan will pay for the loan over the 2 years?

d) How much will Alan pay in total for his bike?

5) Bruce takes out a $7300 loan and is offered two choices for repayment.

      Option1: 5.75% per year for 3 years
      Option 2: 7.00% per year for 2 years

a) Calculate the monthly payment for each loan option.

b) What is the total cost for each loan option?

c) Which loan would you recommend Bruce choose? Explain your answer.

PAYDAY LOANS

You have probably seen "stores" or TV commercials where you can borrow money without going to a bank of other financial institution. This type of short-term loan is often called a **payday loan** because the term is usually only until your next pay day. These are usually not a good idea as they charge very high rates of interest and it is compounded daily. Many people get into a lot of financial trouble thinking these loans can get actually get them out of trouble.

Example 1: Teresa's car payment of $450.00 is due in 3 days and she does not have enough money to pay it. She went to a payday loan store for a loan. She had to repay the store $536.80 within 14 days.
   a) What is the daily interest rate for the loan?
   b) What is the annual interest rate of the loan?

Solution:
a) Calculate the interest paid, and use the simple interest formula with time in days.
   Teresa paid $536.80 - $450.00 = $86.80 in interest

   I = $86.80 P = $450.00 r = ? t = 14 days
   $r = I \div (P \times t) \times 100$
   $r = 86.80 \div (450.00 \times 14) \times 100$
   $r = 1.38\%$
   The daily interest rate is 1.38%

b) To calculate the annual or yearly interest rate, multiply the daily interest rate by the number of days in a year – 365 days.

   1.38% × 365 = 503.7%
   The yearly interest rate is 504%. WOW!!!
   This is why payday loans are **_not_** a good idea.

Example 2: Chris borrowed $125.00 from a payday loan store and agreed to repay it in 25 days at an interest rate of 1.20% per day. How much will Chris have to repay?

Solution: Use the simple interest formula using the interest rate as a daily rate and the term in days.

   I = ? P = $125.00 r = 1.20% ÷ 100 = 0.012 t = 25 days
   $I = Prt$
   $I = 125.00 \times 0.012 \times 25 = \$37.50$

Now add the interest to the amount that Chris borrowed to get the total amount.
   $A = P + I$
   $A = \$125.00 + \$37.50 = \$162.50$
   Chris will have to repay a total of $162.50 to the loan store.