



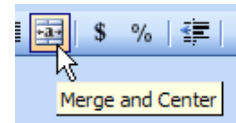
## Microsoft Excel Activity Creating an Amortization Table

An amortization table details all the components of a loan you typically take out for big ticket items such as cars, appliances, and homes. On items such as these you usually take out a loan which requires monthly payments. The dollar amount of loan is called the **principal** and there is always an added **interest charge**. Your entire monthly payment does not go towards paying off the principal, a portion of the payment goes towards paying the interest. The table illustrates the exact dollar amount that goes towards the principal and the interest each month.

Suppose that you borrow \$1600 to purchase a high definition TV. You agree to make 11 monthly payments of \$144.41 and 1 final payment of \$144.45. The annual percentage rate is 15%, compounded monthly.

### Steps to Create an Amortization Table using Microsoft Excel

1. Open Excel
2. Highlight cells A1 – F1, click on the **Merge and Center** icon (on the toolbar) type “Amortization Table”.
3. In cell A2, type” Payment Number”. Enter.
4. Move the cursor to the line that separates columns A and B. The cursor should change to a double arrow. Move the column A border line to the right to change the width of column A to accommodate the title.
5. Cell B2, type “Balance before Payment”. Enter. Change the column width.
6. Cell C2, type “Payment”. Enter. Change the column width.
7. Cell D2, type “Interest Payment”. Enter. Change the column width.
8. Cell E2, type “Principal Payment”. Enter. Change the column width.
9. Cell F2, type “Balance after Payment”. Enter. Change the column width.
10. In cell A3 type the number 1, Enter.
11. Highlight cells A3 – A14. Click on **Edit – Fill – Series**. Click OK. The cells should now be numbered 1 to 12.
12. Highlight cells B3 – F12. Click on **Format – Style – Currency**. Click OK. This will format the cells for currency.
13. In cell B3, type 1600. This is the principle of the loan.
14. In cell C3, type 144.41. This is the monthly payment. Enter.
15. Click on cell C3. Highlight cells C3 – C13. Press **Ctrl-D** to fill the cells with the number 144.41.



16. Click on cell D3. In the Formula Bar enter the following formula *exactly*. ( $=B3*0.15*(1/12)$ ). Enter. The number 20 should appear.
17. Click on cell E3. In the Formula Bar enter the following formula *exactly*. ( $C3 - D3$ ). The number 124.41 should appear.
18. Click on cell F3. In the Formula Bar enter the following formula *exactly*. ( $B3 - E3$ ). The number 1475.59 should appear.
19. Click on cell B4, the equals sign, and then cell F3. Return. The number 1475.59 from cell F3 should appear in cell B4.
20. Click on cell D3. Drag down to highlight cell D4. Press Ctrl-D to fill down. The number 18.44 should appear in cell D4.
21. Click on cell E3. Drag down to highlight cell E4. Press Ctrl-D to fill down. The number 125.97 should appear.
22. Click on cell F3. Drag down to highlight cell F4. Press Ctrl-D to fill down. The number 1349.62 should appear.
23. In cell B5, paste the number 1349.62 from cell F4.
24. Click on cell D3. Highlight cells D3 to D14. Fill down by pressing Ctrl-D. The number 16.87 should appear in cell D5. Ignore the marks in the other cells.
25. Click on cell E3. Highlight cells E3 to E14. Fill down. The number 127.54 should appear in cell E5. Ignore the 144.41's in the other cells.
26. Click on cell F3. Highlight cells F3 to F14. Fill down. The number 1222.09 should appear in cell F5. Ignore the (144,41)'s.
27. Click on B4. Highlight and fill down to cell B14. Note how all of the numbers change.
28. Enter the number 144.45 in cell C14.
29. Click on File, then "Save As". File name should be last name and period, example "smith1".

### Questions:

1. What is the total amount in payments?
2. What is the total amount paid in interest?
3. Subtract the amount paid in interest from the total in payments. What does this number represent?
4. The monthly payment is the same each month, but the principle payment is different each month. Explain why this amount changes.