



Hour 9

Changing the Look of Values

The topics covered in this hour include the following:

- What formats are available
- How to choose a number style
- How to work with decimal places
- How to design custom numeric formats
- How to format conditionally
- How to hide zeros
- How to work with dates

During this hour you get all the information you need on how to format numbers—from finding out what number formats are available in Excel to choosing number styles, working with decimal places, designing your own number formats, using conditional formatting, hiding zeros, and working with dates.

At the end of this hour, you'll be a pro at formatting numbers with Excel's formatting tools, making your numbers clearer to read and understand.

What Formats Are Available?

Numeric values are usually more than just numbers. They often represent dollar values, dates, percentages, or some other value. You can select the format type that appears as a real value in the Format Cells dialog box. To narrow the list of formats, first select a category in the Category list, then specify the number of decimal places. The default number of decimal places is two.

Excel lets you display numeric values in many ways. Formatting a number means changing the way it is displayed. You can format the number 500 to look like currency, in which case it's displayed as \$500.00. You can even specify as many decimal places as you want to display.

You can choose from four currency styles:

- Currency with negative numbers preceded by a minus sign
- Currency with red negative numbers
- Currency with negative numbers enclosed in parentheses
- Currency with red negative numbers enclosed in parentheses

Excel's preformatted number formats are listed in Table 9.1.

TABLE 9.1 Excel Number Formats

<i>Number Format</i>	<i>Sample Number</i>	<i>What It Does</i>
General	4500	Default number format. Has no specific number format. With General format, you can type a number with a decimal point, dollar sign, comma, percent sign, date, time, or fraction in a cell. Excel automatically displays the value with the format you entered.
Number	4,500.50	Used for general display of numbers. The default Number format is two decimal places and negative numbers are black preceded by a minus sign. You can display the number of decimal places, whether you want a comma for a thousand separator, and negative numbers in red or black, preceded by a minus sign or enclosed in parentheses.
Currency	\$4,500.50	Used for general monetary values. The default Currency format is two decimal places, with a dollar sign, and negative numbers are black preceded by a minus sign. You can display the number of decimal places, whether you want a dollar sign, and negative numbers in red or black, preceded by a minus sign or enclosed in parentheses.

TABLE 9.1 continued

<i>Number Format</i>	<i>Sample Number</i>	<i>What It Does</i>
Accounting	\$4,500.00	Used for aligning dollar signs and decimal points in a column. The default Accounting format is two decimal places and a dollar sign. You specify the number of decimal places and whether you want a dollar sign.
Percentage	85.6%	The default Percentage format is two decimal places and a percent sign. Multiplies the value in a cell by 100 and displays the result with a percent sign.
Fraction	1/4	The default Fraction format is up to one digit on either side of the slash. Used to display the number of digits you want on either side of the slash and the fraction type such as halves, quarters, eighths, and so on.
Scientific	4.50E+03	The default Scientific format is two decimal places. Used to display numbers in scientific notation.
Text	278MC99	Used to display both text and numbers in a cell as text. Excel displays the entry exactly as typed.

Choosing a Number Style

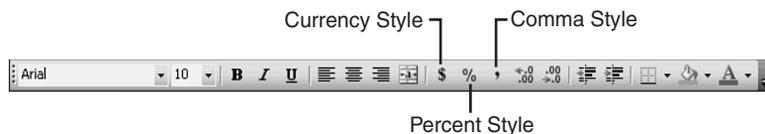
After you decide on a suitable number format, you can choose a number style using either of two methods:

- Click the number style buttons on the Formatting toolbar.
- Choose Format, Cells and select a number style from the Format Cells dialog box.

Using the Toolbar to Change Number Formats

The Formatting toolbar offers several tools for changing number formats. Figure 9.1 shows the Formatting toolbar and the number style tools you use in this hour.

FIGURE 9.1
Number style tools on
the Formatting toolbar:



The following To Do exercise shows you how to use the Formatting toolbar to change number formats in the Sales workbook, Summary sheet. Your job is to format the numbers. If the workbook isn't open now, open it before you start the exercise.

▼ To Do



To Do: Change Number Formats Using the Formatting Toolbar

1. Select the cells in which you want to display commas; in this case, select cells B4:B8.
2. Click the Comma Style button on the Formatting toolbar. Excel applies the Comma Style, displaying no commas, and two decimal places.
3. Select cell B9.
4. Click the Currency Style button on the Formatting toolbar. You should see the dollar sign, a comma, and two decimal places in the selected cell.



If any cells display number signs, you can widen the column to display the numbers. Double-click the column border to the right of the column letter for the column you want to adjust.

Using the Format Cells Dialog Box

Instead of using the number style tools on the Formatting toolbar, you can select a value's format type in the Format Cells dialog box. That way, you can get a number format to look exactly the way you want it.

The next To Do exercise steps you through changing the number format for a range of cells using the Format Cells dialog box. You start by entering a column of numbers, so that you can format them in the Sales workbook.

To Do: Use the Format Cells Dialog Box to Change Number Formats

▼ To Do

1. Click cell C6, type **275**, and press Enter. In cell C7, type **195.50**, and in cell C8, type **1000**.
2. Select the cells in which you want to display commas; in this case, select cells C4:C8.
3. Click the Format menu and choose Cells. The Format Cells dialog box opens.



To quickly display the Format Cells dialog box, press Ctrl+1.



4. Click the Number tab. On the left is a list of number format categories. On the top right is a Sample box, where Excel shows you what a sample number would look

- ▼ like formatted with that type. Also, you should see a description of the selected number category at the bottom of the dialog box.

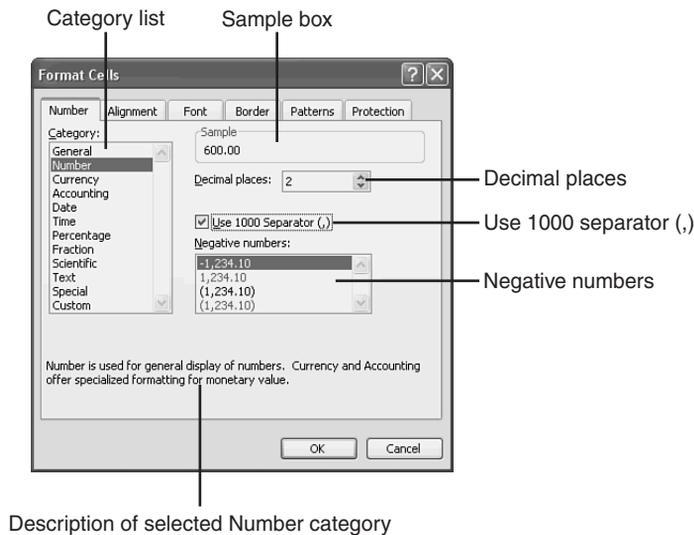


You can also change the number format of a cell by using the shortcut menu; select the cell, click the right mouse button on the cell to display the shortcut menu, and then choose Format Cells.



5. Click Number in the Category list. On the right, you see a number in the Sample box, the Decimal Places box, the Use 1000 Separator (,) check box, and a list of negative number formats. You need a 1000 separator, which is the comma.
6. Click the Use 1000 Separator (,) check box. A check mark appears in the box, indicating you want to format your numbers with commas (see Figure 9.2).

FIGURE 9.2
Number format options in the Format Cells dialog box.



7. Click OK. You should see commas and two decimal places in the selected cells.
8. Select the cell in which you want to display a dollar sign; in this case, select cell C9.
9. Press Ctrl+1 to open the Format Cells dialog box.
10. On the Number tab, click Currency in the Category list. On the right, you see a number in the Sample box, the Decimal Places box, a Symbol drop-down list, and a list of negative number formats. The default Currency options is suited to what you want.





If you select zero decimal places, Excel rounds the value to fit this format. For example, if you enter 5.5 in a cell, Excel rounds this number to 6 when formatting to zero decimal places.



11. Click OK. You should see dollar signs, commas, and two decimal places in the selected cell. Click any cell to deselect the range.



If you want to format a number with the Euro, choose Currency, click the Symbol drop-down arrow, and select Euro (≠123) or Euro (123≠).

Working with Decimal Places

All of Excel's number formats use either two or zero decimal places. The exception is General format, which uses as many places as needed for a value. You can establish a fixed number of decimal places or let Excel automatically round numbers for you. The following sections examine both ways to work with decimal places.

Establishing a Fixed Number of Decimal Places

To establish a fixed number of decimal places, use a numeric format other than General format. Two tools on the Formatting toolbar enable you to change the number of decimal places for numbers. The tools are Increase Decimal (its icon contains .0 and .00 with a left arrow) and Decrease Decimal (its icon contains .0 and .00 with a right arrow). Here's how these tools work:

- Click the Increase Decimal button each time you want to move the decimal point one place to the left.
- Click the Decrease Decimal button each time you want to move the decimal point one place to the right.

In the To Do exercise, you change the number of decimal places from two to zero for numbers in the Sales workbook.

To Do

To Do: Specify Decimal Places

1. Select the cells in which you want to decrease decimal places for numbers with commas; in this case, select cells B4:C8.
2. Click the Decrease Decimal button on the Formatting toolbar. Excel moves the decimal point one place to the right. Notice that the number of decimal places for numbers in the selected cells has changed from two to one.



- ▼ 3. Click the Decrease Decimal button on the Formatting toolbar again and click any cell to deselect the range. The number of decimal places for the numbers is now zero, showing whole numbers.
4. Select cells B9:C9.
5. Click the Decrease Decimal button on the Formatting toolbar twice. Excel moves the decimal point two places to the right. Notice that the number of decimal places for numbers in the selected cells has changed from two to zero, displaying whole numbers.
- ▲ 6. Click any cell to deselect the range.



To repeat the number format change in another cell, select the Repeat Format Cells option from the Edit menu or press the F4 (Repeat) key. By the way, you can repeat any format command in another cell by using the F4 key.

Rounding Numbers

Excel can store up to 15 decimal places for a value. Many of Excel's preformatted format settings round numbers to two decimal places. For instance, if you enter the value \$50.768 into a cell, Excel displays \$50.77. Excel uses a dollar format to display the value with two decimal places and a dollar sign.

Remember that the value in the cell has not been changed. The value is merely displayed to look like it has been changed. The cell's actual value is still 50.768, and any references to this cell's value receive the value 50.768. Therefore, formatted values are not rounded at all; they only appear to be rounded.

To round numbers, use the Increase Decimal and Decrease Decimal tools on the Formatting toolbar.

Designing Custom Numeric Formats

In addition to using Excel's preformatted number format settings, you can create your own formats. Here's how it goes: Choose the Custom category on the Number tab in the Format Cells dialog box. You'll see format codes in the Type list on the right. Choose one of the codes as a starting point for the custom format you want to design. Then make your changes to the existing code you selected.

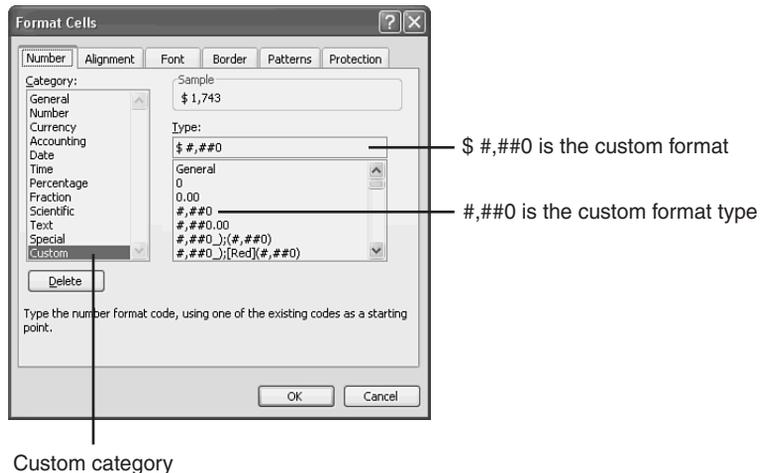
The next To Do exercise gives you a chance to create a custom numeric format. Using the Summary sheet in the Sales workbook, create a custom format that displays a dollar sign followed by one space with commas and zero decimal places.

To Do: Create Your Own Numeric Format

▼ To Do

1. Select the cell that contains the number you want to format; in this case, select cell B9.
2. Choose Format, Cells. The Format Cells dialog box appears.
3. Click the Number tab.
4. In the Category list, click Custom.
5. In the Type list box, choose #,##0. The code displays in the Type text box. This entry is a starting point for designing your custom format.
6. In the Type text box, click before the first #, and type \$ followed by a space. Excel shows you a formatted sample number in the Sample box, as shown in Figure 9.3. This custom number format displays a dollar sign followed by a space with commas and zero decimal places. This custom format is stored at the bottom of the Type list.

FIGURE 9.3
A custom format in the
Format Cells
dialog box.



You can reuse all modified custom number formats within a worksheet without retyping them. Excel stores all customized formats at the bottom of the Type list. That way, you can select them over and over. However, if you create a custom format for one workbook, you have to re-create the format for other workbooks.

- ▼ 7. Click OK. Excel applies the custom format to the number you selected.
- ▲ 8. Click any cell to deselect the range.

Formatting Conditionally

You probably are asking yourself, “What is formatting conditionally?” Formatting conditionally lets you apply special formatting settings that take effect when the contents of a cell meet specified conditions. For instance, if the values fall below a specific number, you can show those values in bold pink, and if the values are greater than a specific number, you can display those values in bold blue. Excel’s Conditional Formatting command helps you easily format your values based on specific conditions.

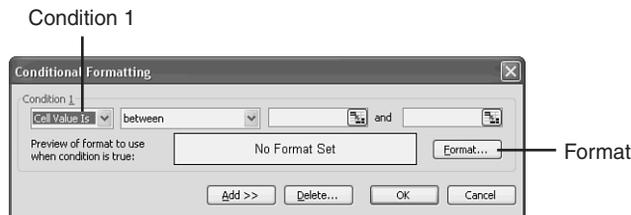
In the upcoming To Do exercise, you step through the process of setting up conditional formatting for values on the Summary sheet in the Sales workbook.

To Do: Format Values Conditionally

▼ To Do

1. Select the cells that contain the values you want to format conditionally; in this case, select cells B4:B8.
2. Choose Format, Conditional Formatting. The Conditional Formatting dialog box pops open, as shown in Figure 9.4. You should see boxes for setting up Condition 1 and the Format button for specifying the format for the values.

FIGURE 9.4
The Conditional Formatting dialog box.



3. In the Condition 1 area, leave the Cell Value Is option. In the next box, choose Less Than, and type **500** in the last box.
4. Click the Format button. The Format Cells dialog box appears.
5. In the Font Style list, choose Bold, and select the pink color patch in the Color palette.
- ▼ 6. Click OK.

- ▼ 7. Click the Add button.
 8. In the Condition 2 area, leave the Cell Value Is option. In the next box, choose Greater Than, and type **500** in the last box.
 9. Click the Format button. The Format Cells dialog box appears.
 10. In the Font Style list, choose Bold, and select the blue color patch in the Color palette.
 11. Click OK to close the Format Cells dialog box. Click OK again to confirm your conditional formatting choices. Click any cell outside of the selected range. Excel displays numbers less than 500 in bold pink and numbers greater than 500 in bold blue.
- ▲

Hiding Zeros

Worksheets are often cluttered with zeros as a result of calculations or information that hasn't been entered. Formulas frequently display a zero when referenced cells are blank. These zeros can make a worksheet confusing.

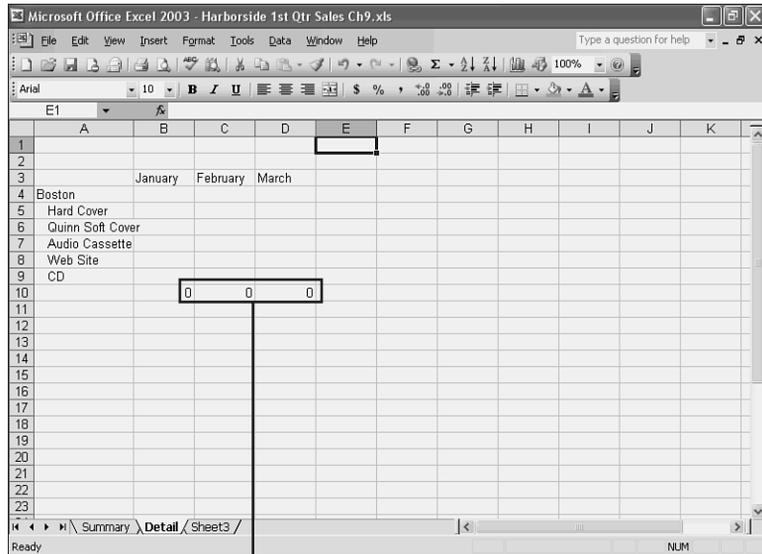
If you enter the sum formula in row 10 on the Detail sheet in the Sales workbook, the formulas produce unwanted values of zero (see Figure 9.5). This worksheet shows several columns where data has not been entered. Therefore, the cells with the formulas that total the empty columns produce zeros. In this case, you might want to suppress the zeros.

There are a couple of ways to hide zeros in a worksheet:

- Use the Tools, Options command to hide all values of zero in the worksheet. In the Options dialog box, click the View tab (see Figure 9.6). In the Window Options section, click the Zero Values check box to remove the check mark, which hides all zeros on the worksheet.
- Create a custom number format in the Format Cells dialog box to hide zeros in a range of cells.

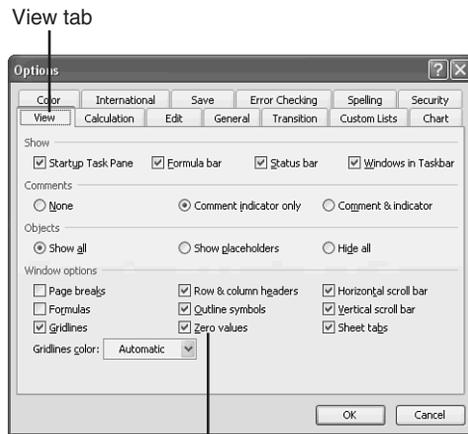
The To Do exercise coming up walks you through hiding zeros in a range of cells on the worksheet. Use the Summary Sheet of the Sales workbook to see how it works.

FIGURE 9.5
Formulas that produce unwanted values of zero.



Unwanted zeros

FIGURE 9.6
Zero Values option in the Options dialog box.



Zero values

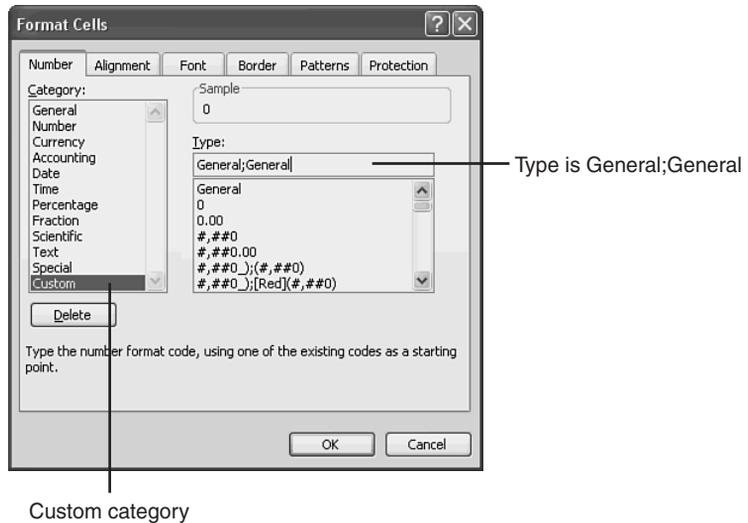
To Do: Hide Zeros in a Range of Cells

1. Select the range that contains the zeros you want to hide; in this case, select cells B10:D10.
2. Choose Format, Cells. The Format Cells dialog box appears.
3. Click the Number tab.



- ▼ 4. In the Category list, click Custom.
5. In the Type text box, the General category appears, which is the type you want. Click after the l in General and type a semicolon (;) followed by General and another semicolon (;) See Figure 9.7.

FIGURE 9.7
Format Cells dialog box, hiding zeros.



6. Click OK.
- ▲ 7. Click any cell to deselect the range. The zeros are hidden in the selected range.

Working with Dates

Dates and times are actually numeric values that have been formatted to appear as dates and time. You can change the way Excel displays the date and time if you want.

The Date and Time categories are in the Category list on the Number tab in the Format Cells dialog box. You can use the Date format to display date and time serial numbers as date values with slashes or hyphens. The default Date format is the month and day separated by a slash; for example, 7/2. To display only the time portion, use the Time format.

The Time format lets you display date and time serial numbers as time values with hours, minutes, seconds, AM, or PM. The default Time format is the hour and minutes separated by a colon; for example, 11:00. You can perform calculations on the time values. To display only the date portion, use the Date format.

Understanding Date and Time Formats

Excel offers a wide variety of date and time formats, which are listed in Table 9.2.

TABLE 9.2 Excel's Date and Time Formats

<i>Date/Time Format</i>	<i>Sample Date/Time</i>
m/d	7/2
m/d/yy	7/2/98
mm/dd/yy	07/02/98
d -mmm	2-Jul
d -mmm -yy	2-Jul-98
dd -mmm -yy	02-Jul-98
mmm -yy	Jul-98
mmm -yy	July-98
mmm d,yyyy	July 2, 1998
m/d/yy h:mm	7/2/98 7:30
m/d/yy hh:mm	7/2/98 19:30
hh:mm	13:35
h:mm AM/PM	1:35 PM
h:mm:ss AM/PM	1:35:50 AM

Changing Date Formats

After you figure out which date and time format you want to use, you can change the dates using the Format Cells dialog box.

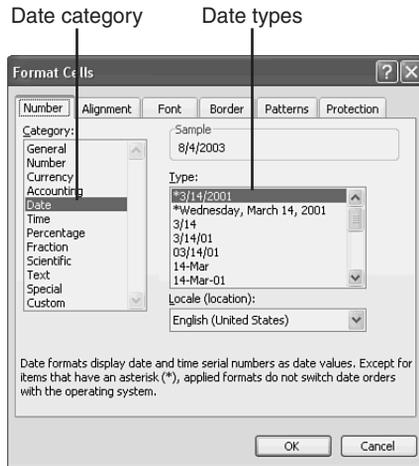
In the To Do exercise, you need to format the date on the Summary sheet in the Sales workbook.

To Do: Change a Date Format

▼ To Do

1. Click the Summary sheet tab. Select the cell that contains the date you want to format; in this case, select cell A12.
2. Click the Format menu and choose Cells. The Format Cells dialog box opens.
3. Click the Number tab.
4. Click the Date category in the Category list. On the right, you see a date in the Sample box and a list of date types (see Figure 9.8).

▼
FIGURE 9.8
Date format options in the Format Cells dialog box.



5. In the Type list, click the seventh date format (Mar-01) in the list. In the Sample box, Excel shows you what a sample date would look like formatted with that type.
- ▲ 6. Click OK. You should see the formatted date in the selected cell.

Creating Custom Date Formats

If Excel doesn't have a preformatted date format that suits your needs, you can create your own date format. To do so, choose the Custom category on the Number tab in the Format Cells dialog box. Excel displays format codes in the Type list on the right. Choose one of the date format codes as a starting point for your custom date format. Then make your changes to the format you selected.



You can reuse all modified custom date formats within a worksheet without retyping them. Excel stores all customized date formats at the bottom of the Type list. That way, you can select them again and again. However, if you create a custom date format for one workbook, you have to re-create the format for other workbooks.

Summary

Congratulations! You've done a nice job of working through all the formatting exercises in this hour. Now that you have text formatting (refer to Hour 8, "Changing the Appearance of Text") and numeric formatting under your belt, you're probably ready for

adding pizzazz to your worksheets with borders, colors, and fills, which is explained in the next hour.

Q&A

- Q When I selected two decimal places, why did the numbers display with # signs?**
- A** If any cell displays number signs (#), you can widen the column to display the numbers. Double-click the column border to the right of the column letter for the column you want to adjust.
- Q Does Excel have a fast way to display the Format Cells dialog box?**
- A** Absolutely. Press Ctrl+1.
- Q I like using a shortcut menu for making changes to my worksheet. Can I format numbers with a shortcut menu?**
- A** Yes. You're in luck! Select the cells you want to format and then click the right mouse button in one of the selected cells. Your shortcut menu should appear. Then choose Format Cells.
- Q Does Excel have a shortcut for applying the same number format in various places throughout a large worksheet?**
- A** Certainly. You can repeat a number format change in another cell by selecting Repeat Format Cells from the Edit menu or by pressing the F4 (Repeat) key. Either way, you save time and keystrokes.
- Q After I created a custom numeric format in one workbook, why couldn't I use it in another workbook?**
- A** You can reuse all modified custom numeric formats within a worksheet without retyping them. Excel stores all customized formats at the bottom of the Type list. That way, you can select them over and over. However, if you create a custom format for one workbook, you have to re-create the format for other workbooks.