

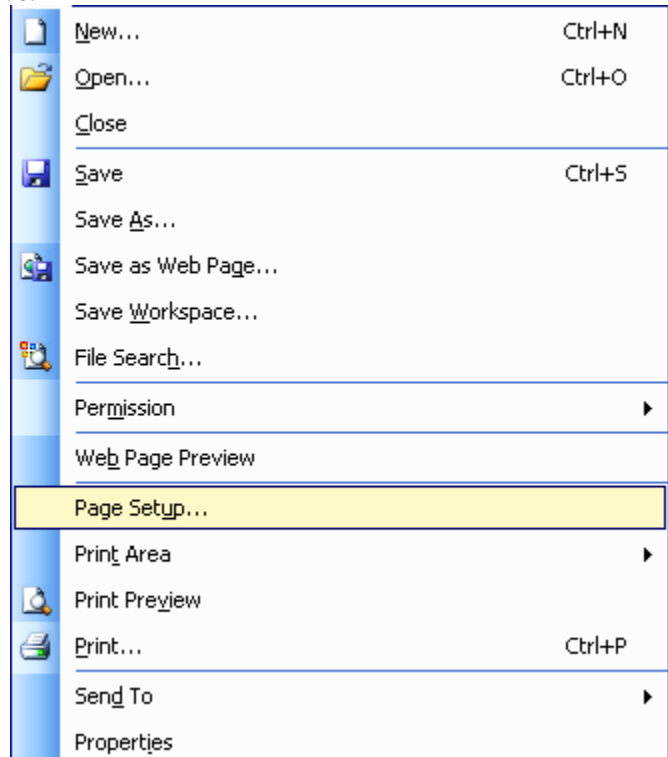
Working with an Excel Database

What this lesson covers

You will open an Excel workbook, do a page setup (which includes setting page margins and headers and footers) and manipulate a spreadsheet database.

Open a workbook

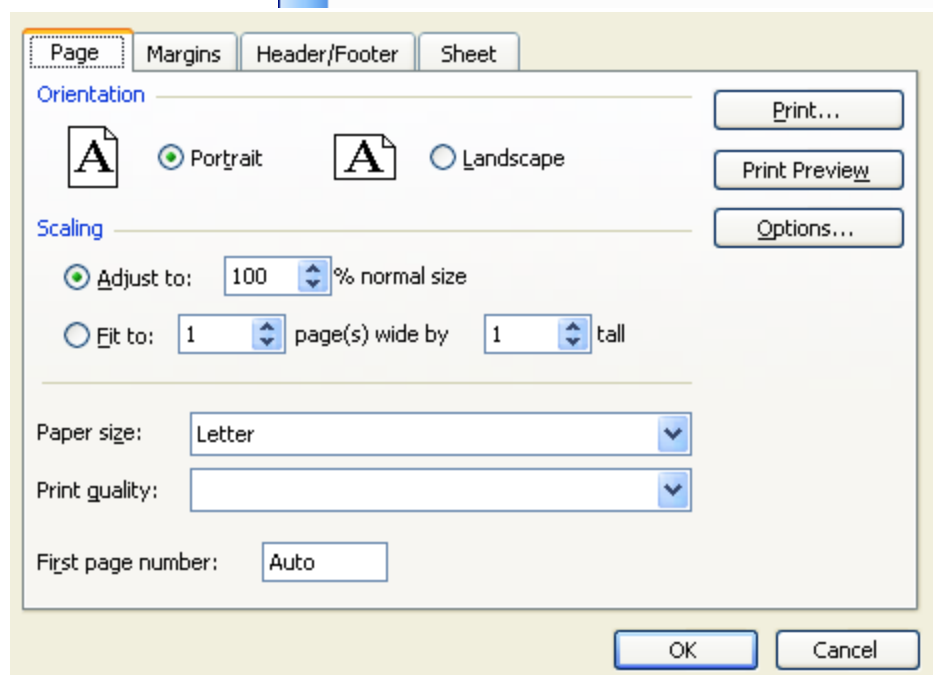
1. Start MICROSOFT EXCEL 2003.
2. Pull down the FILE menu and choose OPEN.
3. In the OPEN dialog LOOK IN box, select the Floppy A drive.
4. See the file, CHABOT COLLEGE DIRECTORY. Click on the file to select it and then click the OPEN button (or double-click on the file to open it).
5. Look at the *Excel 2003* spreadsheet. Note the MENU bar, the STANDARD toolbar, and the FORMATTING toolbar. Their uses are similar to the other *Office 2003* programs.
6. You see a sample table that will be explained and manipulated as a database.



Do Page Setup

Set up the spreadsheet page

1. Pull down the FILE menu.
2. Choose PAGE SETUP.
3. Click on the PAGE tab.
4. Choose PORTRAIT (the tall orientation) for this lesson. You also have the choice of LANDSCAPE (the wide orientation). If you have data in an Excel file that is spread over several columns and too wide for portrait, and you want those columns to print together on a page, you should use LANDSCAPE orientation. PORTRAIT is the default orientation.
5. Leave the SCALING set to start with 100%, and then after you have finished your spreadsheet and adjusted your margins and column widths, you can use PAGE BREAKPREVIEW to adjust the scaling automatically. This will be explained in this exercise.
6. This is the place where you set your paper size. The default is 8.5 by 11 inches.
7. Click OK.



Do Page Margins

1. In PAGE SETUP on the FILE menu, click on the MARGINS tab.
2. On MARGINS dialog: Notice on the screen picture at the right,

the left and right margins are set to 0.75 inch each, and the top and bottom margins at 1 inch each, with the header and footer set at 0.5 inches from the edge of the page.

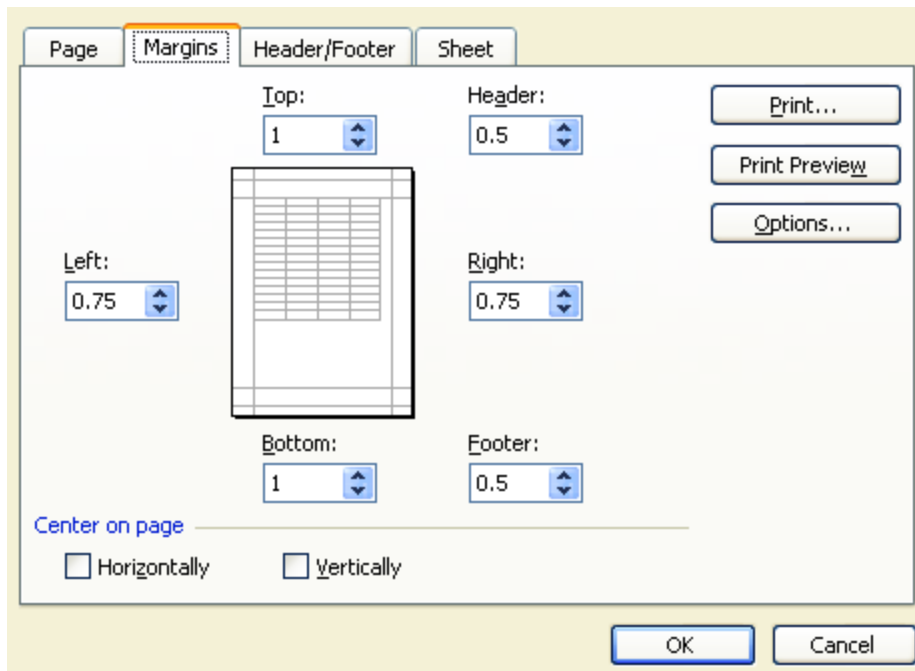
3. When you look at the spreadsheet and see where the page breaks are, you see that the columns at the right are not included on page 1, and so you should adjust your left and right margin settings.

4. Set LEFT MARGIN at 0.5 inches and RIGHT MARGIN at 0.5 inch.

5. When setting the top and bottom margins, you need to consider your header and footer. If you have only one line in your header and footer, then you could reduce the top and bottom margins. Set TOP MARGIN at 0.75 inches and BOTTOM MARGIN at 0.75 inch.

6. Leave the Header position set at 0.50 inch and click HORIZONTALLY in the CENTER ON PAGE section.

7. Click OK.

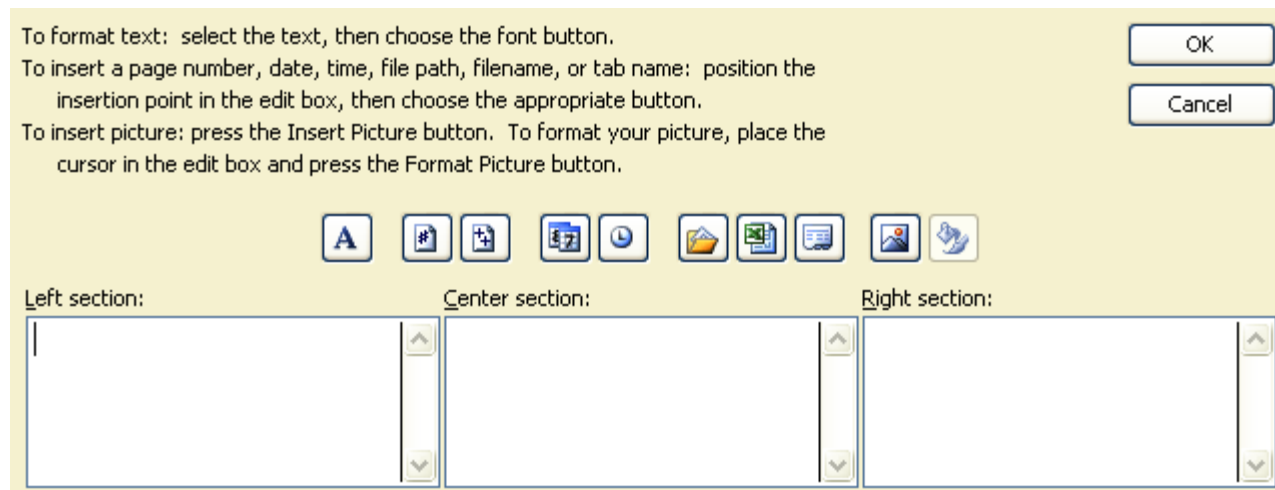


Do Headers/Footers

1. On the PAGE SETUP dialog, click on the HEADER/FOOTER TAB to show the HEADER/FOOTER panel.

2. Click on CUSTOM HEADER.

3. In LEFT SECTION, CENTER SECTION, and RIGHT SECTION type whatever you want to appear at top left, top center,



and top right of your page.

4. Click OK to approve CUSTOM HEADER.

5. For FOOTER, Click on CUSTOM FOOTER.

6. You will see a CUSTOM FOOTER dialog identical to the CUSTOM HEADER dialog.

7. Note the buttons that are available in both the CUSTOM HEADER and CUSTOM FOOTER dialogs. From left to right, they provide the following capabilities:

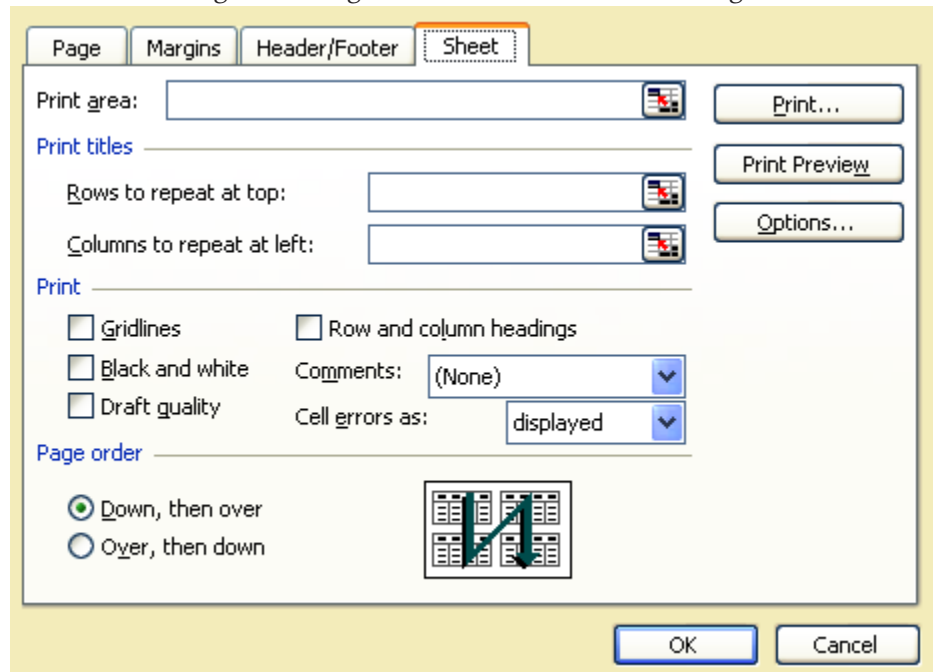
- The **text button** (with the letter A) allows you to format any text you have entered in a header or footer. You select the text and then click on the text button.
- The **page number button** (with the # sign) inserts at the insertion point a code that will produce a page number on the printed page.
- The **number of pages button** inserts at the insertion point a code that produces the number of pages. You may want to print the page number followed by the number of pages, such as Page 1 of 20.
- The **date button** inserts at the insertion point a code that prints the current date.

- The **time button** inserts at the insertion point a code that prints the current time.
 - The **file path button** inserts at the insertion point a code that prints the file path.
 - The **filename button** inserts at the insertion point a code that prints the name of the file.
 - The **tab name button** inserts at the insertion point a code that prints the name of the spreadsheet tab.
 - The **insert picture button** inserts at the insertion point a code that prints a picture.
 - The **format picture button** is used to format your picture.
8. Click OK to approve HEADER/FOOTER CUSTOM dialog and OK again at the HEADER/FOOTER dialog.

Do Sheet Setup

You may have a spreadsheet that will print on more than one page. If you want your column or row titles (labels) to print on each page, follow these steps:

1. On the PAGE SETUP dialog, click on the SHEET tab.
2. On SHEET DIALOG, there are four sections: PRINT AREA, PRINT TITLES, PRINT, and PAGE ORDER.
3. When you select the print area, you must consider whether you will have rows at top and/or columns at left repeat on each page. If you want your column headings to repeat at the top of your data columns on each page, then you must omit the row or rows you want to repeat when you select the print area of the spreadsheet. This is the part of the spreadsheet that does not include the label row.
4. To select the PRINT AREA, click on the red, white, and blue button at the right of the text box (this minimizes the window). Then click on the upper left cell of the range you want to include in the print area, hold down the SHIFT key, and then click on the lower right cell of the print range. When the correct print range is shown in the text box, click on the button at the right of the text box to maximize the window.
5. Under PRINT TITLES, click on the icon at the right of the text box opposite ROWS TO REPEAT AT TOP to minimize the window. Then select the label cells you want to repeat. Click on the icon at the right of the text box to maximize the window.
6. Under PRINT, click GRIDLINES if you want them to print. Click ROW AND COLUMN HEADINGS if you want column letters and row numbers to print. Usually you do not want row and column headings to print.
7. Under PAGE ORDER, you can specify the order in which you want your pages to print if your spreadsheet spans more than one page in width.
8. When satisfied with SHEET dialog, click OK.



Working with an Excel Database

What is an Excel Database

An Excel database is a list of persons or entities, addresses, telephone numbers, and/or any information you want to place in a table format. Each row has the complete information about each person or entity, and each column represents a category, such as first name, last name, street address, room number, city, state, zip, etc. Other types of spreadsheet tables could keep track of information such as office supplies, cost, date ordered, date received, amount on hand, etc.

Guidelines for creating a spreadsheet database

Create one spreadsheet database (or list) per worksheet. Some of the tools used to manipulate information in lists, such as filtering, can be used on only one list at a time.

	A	B	C	D	E
1	Chabot College Directory				
2					
3	Department	Fname	Lname	Title	Room
4	Academic Services	Kaaren	Krueg	Executive Assistant	212
5	Academic Services	Ron	Taylor	Vice President	214
6	Admissions and Records	Judy	Young	Director	192
7	AmeriCorps	Vanessa	Cormier	Manager	3300
8	Arts and Humanities	Gene	Groppetti	Dean	744
9	Arts and Humanities	Karen	Hashimoto	Administrative Assistant	1125
10	Bookstore	Kathleen	Kaser	Manager	3800
11	Bookstore	Wayne	Nakano	Assistant Manager	3800
12	Business and Information Technology	Minta	Peterson	Instruction Technology Coord	132
13	Business Services	Robert	Curry	Vice President	223
14	Business Services	Alice	Hsu	Accounting Specialist	207
15	Business Services	Rosie	Mogle	Program Assistant	221
16	Business Services	Greg	Rees	Business Office Coordinator	207
17	Business Services	Rosalie	Woergoetter	Staff	140
18	Career/Transfer Center	Lora	Bongard	Program Assistant	146
19	Children's Center	Diana	Curl	Manager	3500

The Excel file given you contains a partially completed Chabot College directory. See above a screen picture of a part of this table. You label the columns with the categories, and each column label must be unique. Use the first row of the table for column labels. If you need to use more than one word as a label, place the column label in a single cell and format the cell to word-wrap the label. Excel allows only one row of labels in a list. Excel uses the labels to locate and categorize data. It's a good idea to distinguish the labels from the data by formatting the cells with a border, or using a different format on the labels to set them apart from the data.

Separate the column labels from a worksheet title, if you have one. Make sure there is at least one blank row between a title (in this case, "Chabot College Directory") and the column labels.

Avoid blank rows and columns within the list. There can be individual blank cells in a list. However, there can be no completely blank rows or columns in a list of data.

Column calculations should be separated from the list. Calculations below your list should be separated from the list by using at least one blank row between the list and the calculations.

Separate the list from other worksheet data. Include blank columns and blank rows between the list and other data on the worksheet. Excel uses these blank columns and rows as the "boundary" of the list.

Delete a row

1. Place your cursor in a cell in Row 4.
2. Pull down the EDIT menu and choose DELETE.
3. You see a window where you have these choices: SHIFT CELLS LEFT, SHIFT CELLS UP, ENTIRE ROW, or ENTIRE COLUMN.
4. Click ENTIRE ROW and then click the OK button.
5. Click on the UNDO icon on the STANDARD toolbar (or use the keyboard shortcut Ctrl-Z) to restore the row.

Note: If you want the entire row deleted when you choose the EDIT > DELETE command, click on the row number to highlight the entire row first.

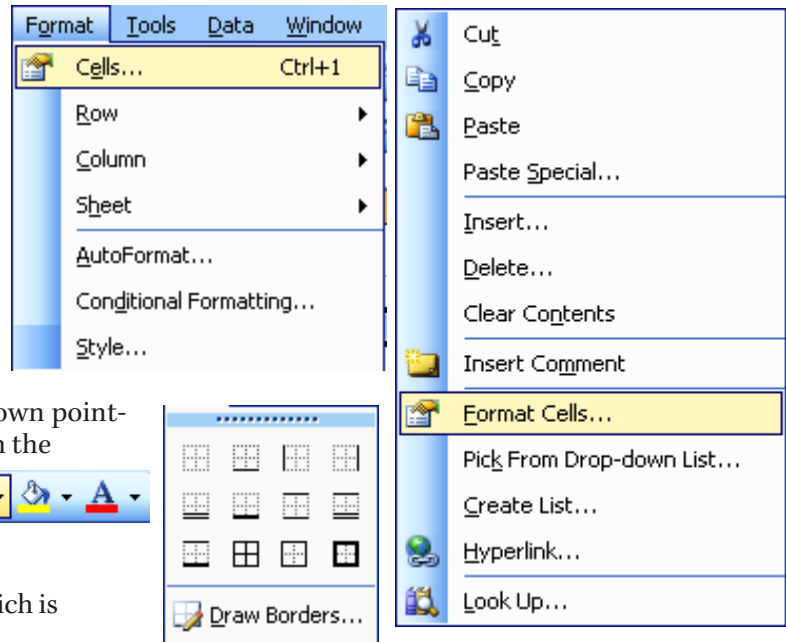
Insert a row

1. With your cursor in a cell in Row 5, pull down the INSERT menu and choose ROWS.
2. Notice that a blank row is inserted just above the row that contained your insertion point.
3. Now undo this command. The blank row disappears.
4. To insert more than one row, highlight the number of rows you want inserted, with the top row of the selected range just below where you want the multiple rows inserted, and repeat the Step 1 command.

Format Label Row

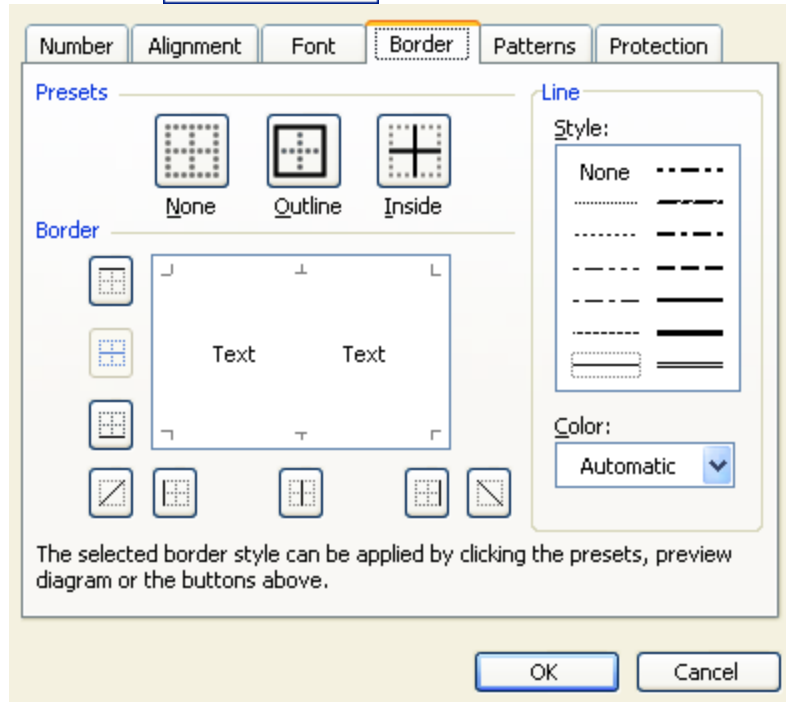
1. Select the cells that contain the column labels.
2. Click on the CENTER icon
3. Click on the FORMAT menu
4. Click on CELLS
5. Click on BORDERS
6. Click on OUTLINE, then click OK

Note: Alternately, you could, after you have selected the cells you wish to format, right-click on the selection and select **FORMAT CELLS** from the drop-down context menu (pictured at far right), or you could click on the little down pointing arrow at the right of the **BORDERS** button on the **FORMATTING** toolbar and select **OUTLINE**.



Format the Spreadsheet Table

1. Select the table (excluding the label row which is already formatted) either by dragging or as follows: Click in the upper left cell, then hold down the SHIFT key and click in the lower right cell.
2. Click on the FORMAT menu
3. Click on CELLS and then on BORDERS, or see Note above for an alternate method.
4. Click on desired line style, then click on vertical line
5. Click on desired line style, then click on horizontal line
6. Click on OUTLINE.
7. Click the OK button.



Size Column Widths

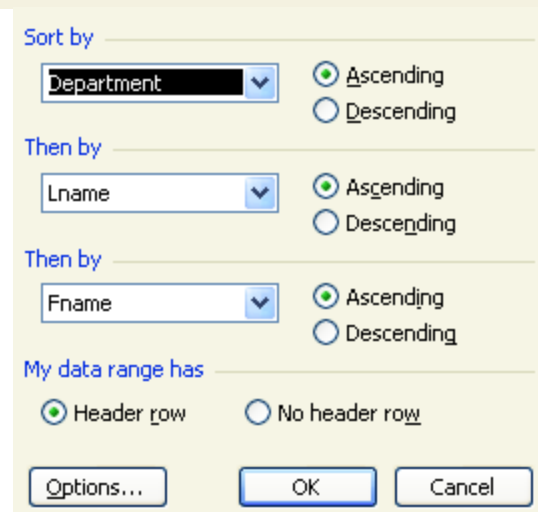
1. Highlight the spreadsheet database table.
2. Click to drop down the FORMAT menu.
3. Click on COLUMN
4. Click on **AUTOFIT SELECTION**. The columns are widened to accommodate the longest line in each column.

Note: A quick method for auto adjusting one column width is to double-click on the column line.

Sort the Spreadsheet Database

You can sort on Column names or titles. If the columns have no titles, then the columns are identified by the column letter (column A, column B, etc.). If there are labels (titles), then the columns are identified by those names. See the screen picture of this dialog at the right.

1. Select the entire spreadsheet.
2. Click on the DATA menu.
3. Click on SORT.
4. Sort on Label (ascending or descending) for primary sort.
5. Sort on Label (ascending or descending) for a secondary sort.
6. In the section entitled **MY LIST HAS**, select **HEADER ROW**. This refers to the column labels, not what we usually think of as a header.



Save the Spreadsheet Database

1. Use the FILE, SAVE AS command
2. Specify the A: drive, name your file, and click on SAVE.

Printing a spreadsheet

Before printing, you want to make sure that Excel will break the pages so that the information you want to stay together will be on one page. You will do this with the PAGE BREAK PREVIEW feature.

Page break preview

Use the PAGE BREAK PREVIEW feature to see whether all your columns will print on the page, and if not, make an adjustment in this view. This will automatically change the scaling.

1. Pull down the VIEW menu and choose PAGE BREAK PREVIEW.
2. See the view change, with the spreadsheet outlined with a solid line and a double line indicating where the page will break. It shows that the last column will not print on the same page as the rest of the spreadsheet.
3. Place your cursor over the dotted line and drag this line to the solid line at the right.
4. Change the view of your spreadsheet back to NORMAL.
5. If you wish, you can use the PAGE SETUP command on the FILE menu, and look at the PAGE panel to see that Excel has adjusted the scaling for you automatically. See the Scaling panel screen picture at the right.
6. Use the FILE > PRINT PREVIEW command to make sure your spreadsheet will print the way you want.

Department	First Name	Last Name	Title	Room	Phone
Academic Services	Karen	Kruetz	Executive Assistant	212	723-662
Academic Services	Ron	Taylor	Vice President	214	723-662
Admissions and Records	Judy	Young	Director	192	723-679
AmeriCorps	Vanessa	Cormier	Manager	3300	723-721
Arts and Humanities	Gene	Groppetti	Dean	744	723-680
Arts and Humanities	Karen	Hashimoto	Administrative Assistant	1129	723-682
Bookstore	Kathleen	Kaser	Manager	3800	723-632
Bookstore	Wayne	Nakano	Assistant Manager	3800	723-632
Business and Information Technology	Minta	Peterson	Instruction Technology Coordinator	132	723-662
Business Services	Robert	Curry	Vice President	223	723-661
Business Services	Alice	Hsu	Accounting Specialist	207	723-7123
Business Services	Rozie	Mogel	Program Assistant	221	723-638
Business Services	Greg	Rees	Business Office Coordinator	207	723-661
Business Services	Rosalie	Woergetter	Staff	140	723-6716
Career/Transfer Center	Lora	Bongard	Program Assistant	146	723-672
Children's Center	Diana	Curl	Manager	3505	723-748
Counseling	Katrin	Hampton	Assessment Specialist	1840	723-672
Counseling	Tram	Vo-Kumamoto	Counseling/Instructor	180	723-7512
Counseling and Guidance	Denise	Noldon	Dean	144	723-6711
DSPS	Kathleen	Allen	Counselor/Coordinator	2405	723-680
EOPS	Rachel	Acimino	Counselor/Coordinator	215	723-672
Financial Aid	Kathryn	Lingmeyer	Director	110	723-7104
Grant Development Office	Kathleen	Schaefer	Staff	231	723-6811
Health, P.E. and Athletics	Deborah	Narcisso	Instructor	2600	723-720
Institutional Research	Carolyn	Arnold	Coordinator	235	723-636
Institutional Research	Rajinder	Samra	Research Analyst	233	723-663
Language Arts	Debra	Kling	Administrative Assistant	702	723-680
Library	Barbara	Lawrence	Technician III	115	723-676
Library	Jim	Matthews	Coordinator	117	723-677
Media Services	Frank	Franco	Staff	219	723-703
Media Services	Steve	Piatetsky	Director	130A	723-675
President	Robert	Carlson	President	204B	723-664
Puente	Ramolin	Parada	Counselor/Coordinator	120C	723-7120
Safety and Security	Jack	Bishop	Staff	235	723-636
Safety and Security	Sarah	Black	Security Comm. Dispatcher	2304A	723-632
Science and Math	Sarah	Johnke	Dean	2203	723-683
Science and Math	Alice	Lo	Administrative Assistant	2203	723-683
Social Sciences	Suzanne	Blackman	Staff	789	723-663
Social Sciences	Tency	Franco	Administrative Assistant	779	723-667
Special Programs	Victoria	Baltran	Administrative Assistant	205	723-631
Special Programs and Services	Gerald	Shimada	Dean	209	723-635
Special Programs and Services	Gerald	Shimada	Dean	209	723-635

Scaling

- Adjust to: % normal size
 Fit to: page(s) wide by tall

Print the Spreadsheet

1. Pull down the FILE menu.
2. Choose the PRINT command.
3. Note the bottom part of the PRINT DIALOG depicted here.
4. Under Print range, you can choose to print all or print certain pages.
5. Under PRINT WHAT you can click on SELECTION (if you have selected the portion of the data you want to print); or ACTIVE SHEET(S), or ENTIRE WORKBOOK. For this exercise, you will choose ACTIVE SHEET.

Printer

Name: HP LaserJet 5/5M PostScript Properties...

Status: Idle

Type: HP LaserJet 5/5M PostScript Find Printer...

Where: LPT1:

Comment:

Print to file

Print range

All

Page(s) From: To:

Print what

Selection Entire workbook

Active sheet(s) List

Copies

Number of copies:

Collate

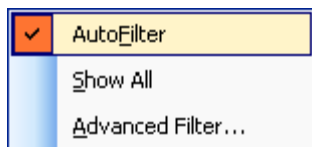
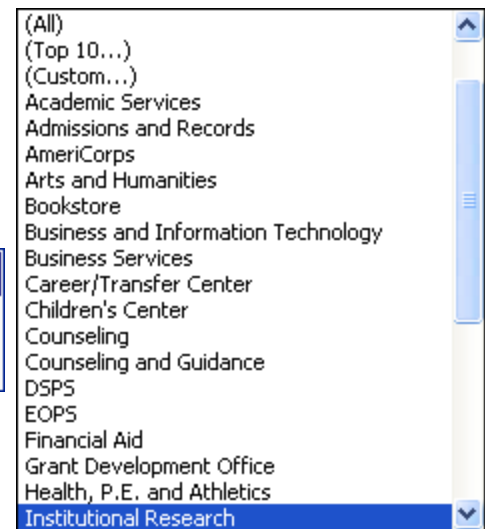
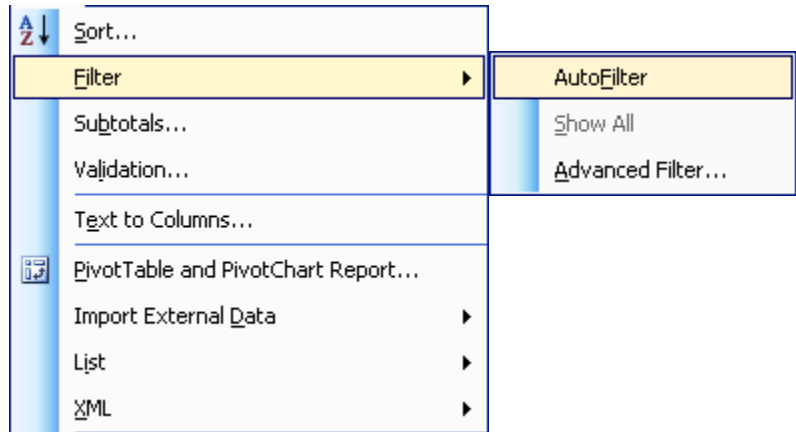
Preview
OK
Close

- The next setting is to indicate the NUMBER OF COPIES. You will leave it at one copy.
- Click the OK button to print your spreadsheet.

Using the AutoFilter

When you use the AUTOFILTER in Excel, you display only those records in the spreadsheet database that meet certain criteria. You can apply filters to only one list (database) on a worksheet at a time.

- Click any cell in the database table.
- Pull down the DATA menu.
- Point to FILTER and then click AUTOFILTER.
- To display only the rows that contain a specific value, click the arrow in the column that contains the data you want to display. See the screen picture of the Department list at the right.
- Click the value.
- If you want to apply an additional condition based on a value in another column, repeat steps 4 and 5 in the other column. The only filters available for the other column are the values visible in the filtered list.
- To turn off AUTOFILTER, pull down the DATA menu and click AUTOFILTER. See the screen picture of the checked AutoFilter. Click to remove the check, which turns off AutoFilter.



Working with Ranges

Select a Range of Cells

Mouse: Position the mouse pointer on the first cell you want to select. Press and hold the mouse button as you drag the mouse pointer from the first cell in the range to the last cell in the range of cells you want to select. A better method may be to select the first cell in the range and then hold down the SHIFT key when you click the last cell in the range. Using either method, the cells you select will be highlighted in black, with a heavy border surrounding the cells. The first cell in the selection will not be highlighted in black to indicate that it is the active cell of the range—the first cell where data will be entered.

Keyboard: Use the arrow keys on your keyboard to position the active cell indicator (the heavy border around the cell) on the first cell in the range of cells you want to select. Hold down the SHIFT key while you use the arrow keys to extend the range. The cells you select will be highlighted in black, with a heavy border surrounding the cells. The first cell in the selection will not be highlighted in black to indicate that it is the active cell of the range—the first cell where data will be entered.

Select Several Ranges of Cells

Mouse: To select several ranges, you can use the dragging method previously described for selecting a single range. Select the first range of cells, and then hold down the CTRL key as you select each additional range. Each individual range will become highlighted as it is selected.

Keyboard: Select the first range using the keyboard method previously described. Next, press SHIFT+F8 once, which will cause ADD to appear in the status bar; this is a keyboard indicator that you can add another range to the selection. Then use the arrow keys to move the active cell to the beginning of the next range. Hold down the Shift key and use the arrow keys to select the next range. Each time you want to highlight another range, you will have to begin with the SHIFT+F8 key combination.

Using Range Names

Range names are names that you give to one or more cell references that describe the cell or range. These names can be used to move around a large worksheet or workbook, to select only part of a worksheet for printing, and in formulas.

A descriptive name in the formula makes it easier to understand the formula. For example, the formula =AVERAGE(2002Sales) is easier to identify than =AVERAGE(B6:F16).

A range name can be no longer than 255 characters. Use a letter or an underscore for the first character in a range name—the remaining characters can be letters, numbers, periods, and underscores. Range names cannot contain spaces. Use the underscore or periods to separate words.

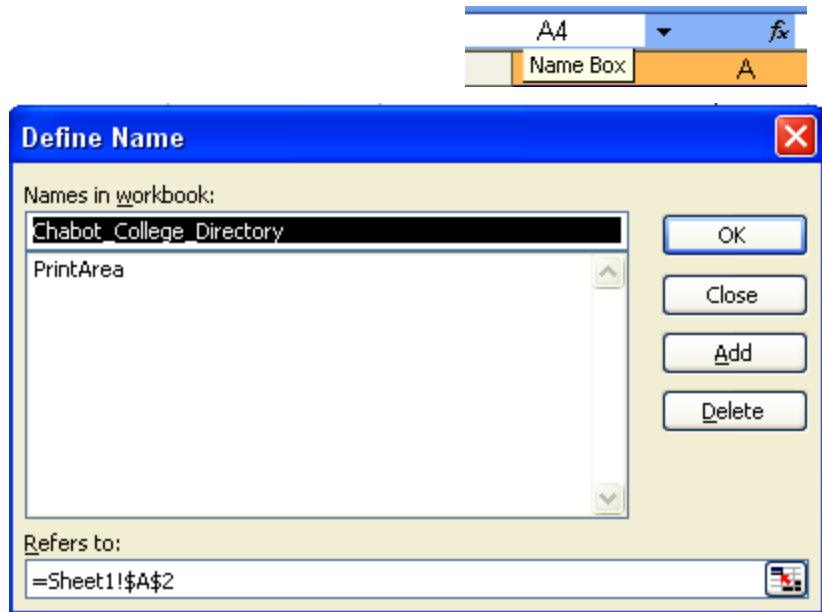
Names can contain uppercase and lowercase letters, though Excel does not distinguish between them. Therefore, you cannot create two names—Expenses and expenses—in a workbook, even if they are for different worksheets in the workbook.

Range names that are the same as a cell reference, such as F11 or B52, are not allowed. If you must have a name that is like a cell reference, use an underscore as the first character of the name.

Range names are absolute cell references. An absolute cell reference is useful especially in formulas to “freeze” the cell references.

Create a Range Name

1. Select the cell or cells you want to name.
2. Click the NAME BOX on the left side of the FORMULA BAR. See a screen picture of the NAME BOX. It contains the name of the current cell which, in the picture is Cell A4. The NAME BOX is at the left of the bar just beneath the Formatting toolbar.
3. Type the range name, using the guidelines above, and then press ENTER.
4. There is no limit to the number of range names you can create in a workbook.
5. If you want to delete a range name or modify the cell range identified by a RANGE NAME, click the INSERT menu to drop it down and select NAME, then DEFINE.
6. See the DEFINE NAME dialog, pictured here.



Print a selection using a range name

By default, Excel prints the entire active worksheet. If you routinely need to print only a portion of a worksheet, use a range name to identify the portion you want to print:

1. Click on the little arrow at the right of the NAME BOX.
2. The list of range names displays.
3. Select the range name you want. The cells in the range will be highlighted.
4. Choose the PRINT command on the FILE MENU.
5. The PRINT dialog box is displayed.
6. From the PRINT WHAT area of the dialog box, choose SELECTION.
7. To preview the range before you print, choose PREVIEW. To print the range without previewing it, choose OK.

Note: If you choose the PRINT button on the toolbar, your entire worksheet is printed, not just the range you have selected. This is because the default setting in the PRINT WHAT area of the PRINT dialog box is to print your entire worksheet.

Miscellaneous tips for working with Excel

Types of data in Excel

There are two types of data used in Excel—constant values and formulas. Constant values include text, numbers, dates, and time (essentially everything but formulas). Formulas are calculations, the results of which appear in the cells; the formula that calculates the result appears in the FORMULA BAR.

Keyboard shortcuts to enter current date or time

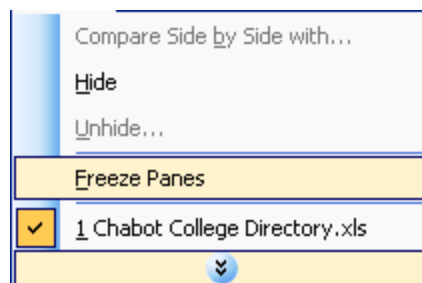
Following are keyboard shortcuts you can use to enter the current date or time. To enter the current date, press and hold the CTRL key, and then type a semicolon (CTRL+;). To enter the current Time, press and hold the CTRL and SHIFT keys simultaneously, and then type a semicolon (CTRL+SHIFT+;). The current date and time are based on your computer's internal clock.

Renaming Worksheets

Providing useful worksheet names is easy. You can change the names of the worksheet tabs as follows: Double-click the tab you want to rename; the current name will be highlighted. Type the new name, and press ENTER. A worksheet name can contain no more than 31 characters (a space is counted as a character). Uppercase, lowercase, and mixed case are permitted in worksheet names. You cannot use a name more than once in a workbook.

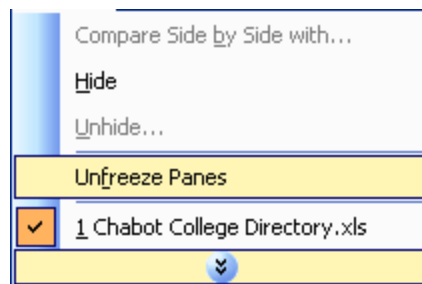
Freezing and Unfreezing Row and Column Headings

With large worksheets, scrolling to the right or scrolling down to see additional data causes the headings, or labels, to roll off the screen. It is possible, by using the FREEZE PANES command on the WINDOW menu, to freeze row and column headings. The headings will always appear on-screen, even when you scroll to see additional data. Freezing panes affects only the screen display, and has no impact on how the worksheet appears when printed. Freezing is a permanent part of the worksheet. When you save the file, the headings remain frozen until you unfreeze the panes.



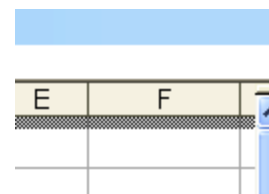
The cell you select—the active cell—is the key to where the freezing takes place. Freezing always takes place above and to the left of the active cell. Use the following guidelines for freezing panes:

- 1. Freeze one or more columns.** Select the cell in row 1 that is in the column immediately to the right of the column(s) you want to freeze. For example, to freeze columns A and B, select cell C1.
- 2. Freeze one or more rows.** Select the cell in column A that is in the row immediately beneath the row(s) you want to freeze. For example, to freeze rows 1-3, select cell A4.
- 3. Freeze both columns and rows.** Select the cell immediately to the right and beneath where you want the freezing to take place. For example, to freeze column A and rows 1-4, select cell B5. After you have selected the appropriate cell, choose WINDOW, FREEZE PANES. A darkened border appears where the panes have been frozen. These borders are for display purposes only and do not appear when you print the worksheet. You may not be able to see the borders if you have used border formatting.
- 4. Unfreeze rows or columns.** Choose WINDOW, UNFREEZE PANES. You do not have to select a particular cell to unfreeze panes.



Split the window to view two parts of a sheet at the same time

At the top of the vertical scroll bar or at the right end of the horizontal scroll bar, point to the split bar. When the pointer changes to a split pointer, drag the split bar down to the position you want. See at the right the split bar which is just above the up arrow of the vertical scroll bar. Notice that when you split a sheet in this way, both areas that are split contain scroll bars so that you can scroll the sheet in either window.



Restore a split window to a single pane

To restore a window split into two scrollable areas, double-click any part of the split bar that divides the panes.