Course Topics:

I. **MS Excel Overview**

II. **Review of Pasting and Editing Formulas**

III. **Formatting Worksheets and Cells**

IV. **Creating Templates**

V. **Moving and Navigating Worksheets**

VI. **Protecting Sheets**

VII. **Working with Charts**

VIII. **Comments**

IX. **Previewing and Printing**

Section 1 – Microsoft Excel Overview

What is Microsoft Excel?

Microsoft Excel is a **spreadsheet** program, which means that it is primarily used to create and edit numbers and text in cells. A **cell** is the intersection of a column and a row and can contain an unlimited amount of characters.

Computerized spreadsheets have many advantages over the old paper spreadsheets. Formatting is much easier, and Excel can perform calculations on spreadsheet data that would be impossible on a paper sheet! Spreadsheets are contained in a file called a **workbook**. Microsoft Excel includes many helpful features to enhance the text and layout of spreadsheets.

Remember these keyboard commands:

- **Ctrl+Home – first active cell**
- **Ctrl+End – last active cell**
- **Arrow keys - next active cell**
- **Enter – moves down**
- **Tab - moves right**
- **(Shift key is a modifier)**

Section 2 – Review of Pasting and Editing Formulas

1. Open the file "**Introduction – Level2.xls**" (in the "**Training/Excel**" folder). Click the Grades Tab to view this worksheet and then select cells **J4:J6.**

   Click+Drag to select the range of cells.

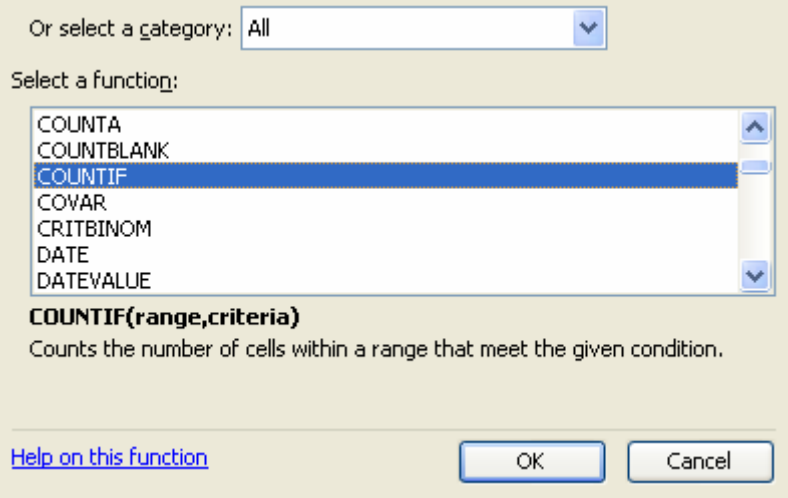
1. Delete the whole range of cells by clicking on the **Delete** key.

2. Click in cell **J4**, and then on the Insert Function key ( ).

Select the **Function Category** of "**All**" and choose the **Function Name** of "**COUNTIF**".

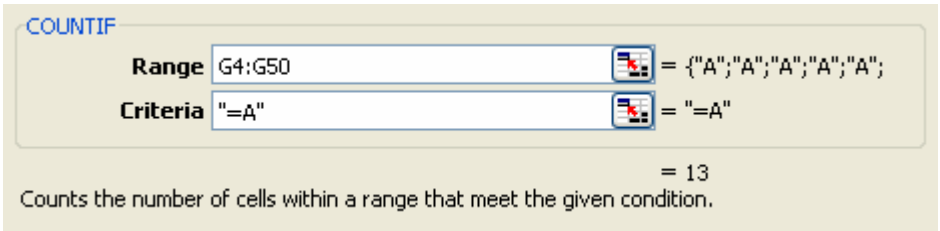
NOTE: **COUNTIF** will count the number of cells within a range that meet the given criteria.

3. Click **OK**.



4. Click on the **collapse** button ( ) for "**Range**" to reduce the dialog box out of the way and drag-select the range of cells for this function:

5. Choose **G4:G50** (use the **drag-up** technique) and click back on the (**expand**) button to see the formula and continue editing it.



6. In the field called "**Criteria**" type **"=A"** Click **OK**.

   The cell now shows a **derived** number, rather than a **static** number.

7. Use the **AutoFill** function to fill cells **J5** and **J6** with this function.

   Note that **J5** and **J6** are filled with slightly different formulas.

8. Click on **J5**, go to the **formula bar** and change the **Range** to "**G4:G50**", and the **Criteria** to "**=B**". Click on **J6** and change the **Range** to "**G4:G50**", and the **Criteria** to "**=C**"

9. **Autofill** the highlighted "B" grade in **column G** both above and below, so that all of the letter grades are now formulae and formatted.

10. **Save** the document.

> **NOTE:** You have now changed the data in cells J4:J6 and in column G from **simple static data** (entered in from the keyboard) to **calculated** (or derived) values. This is important, because if anything in your worksheet changes about any of the student's scores, these numbers will be **automatically updated**.

Section 3 – Formatting Worksheets and Cells

To give data or text a consistent look, we can use a collection of formats such as font, alignment, patterns, and underlines, and apply this group of formats to a range of data as a **style**. Other times, we want to apply a format that will make it clear that the number is a currency value, etc.

Changing the Font

1. Click on the "**Grades**" Worksheet. Select **Column A (Last Name)**.

2. Click the **Font down arrow** on the Formatting Toolbar and **change the font to Georgia**.

3. Click the **Font Size down arrow** and **change the size** of the text to **11**.

4. Click the **Bold** button to bold the text.

5. Click the ***Italic*** button to italicize the text.

6. Click away from the selection to view the results.

Aligning the Text

1. Select **Column F (Overall Grade)**.

2. Click the **Center button**  on the Formatting Toolbar to center the text in the column.

3. To keep the numbers readable when centered, choose **Format > Cells**. Then, in the Category of **Number**, set "**Decimal places:**" to **2**.

Merging and Centering Text

1. **Drag-select** cells **A1:D1**. Notice that the cell A1 "English 101 – Spring Semester" spills into the next cells. The A3 "Last Name" cell does not, because there is data right next to it in cell B3.

2. Click the **Merge and Center** button  on the Formatting Toolbar.

   The two cells are merged into one, and the text is centered in the new large cell. **There is no longer a B1, C1 or D1**.

3. Text can also be centered using a formatting technique known as "**center across selection**" by clicking **Format > Cells**, the **Alignment** tab, then selecting (under Text Alignment) **Horizontal: Center Across Selection**, rather than the merge-and-center function. In this case, cells **B1, C1 or D1 still exist.**

4. **Save** the workbook.

Applying Currency Style

To give the numbers a standard look, we will apply dollar signs to the first and last rows of numbers of our Checkbook sheet.

1. Click on the "**Checkbook**" tab. Select only cells **B5**, **B16** and **B18**.

   Note: Use **Ctrl+click** to select multiple non-contiguous cells.

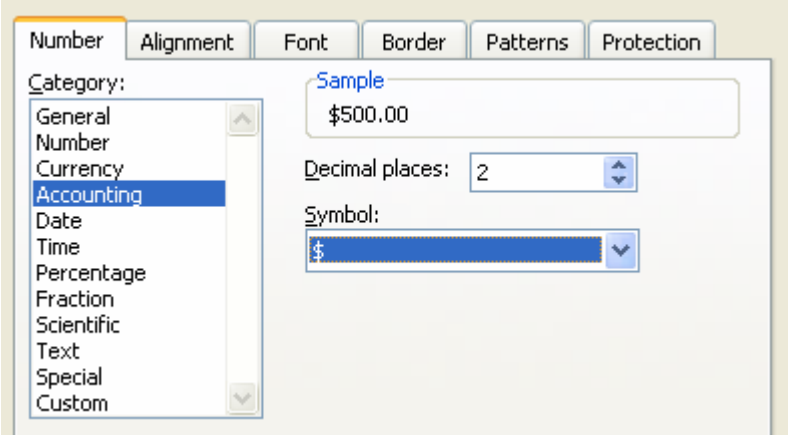
2. Click the **Currency Style** button  on the Formatting Toolbar.

   Currency style with dollar signs is applied to the selected cells.

Applying Accounting Style

1. In the checkbook sheet, **Drag-select B3:B16**.
2. Choose **Format > Cells**.

   The Format Cells dialog box appears. If necessary, choose the **Number** tab.
3. Select the **Accounting** category from the list.



4. Click the **Symbol** down arrow, then choose "**$**" as the symbol.
5. Click **OK**.

   Accounting format is applied to the cells, with the dollar signs.

Applying a Custom Style

1. In the **Checkbook** sheet, select cells **A5:B5**.
2. Choose **Format > Style.**
3. Enter the name "**My Style**" in the **Style Name** box.
4. Click on **Modify** and select:
   - a **Number** style of "**Accounting**,"
   - a **Font** style of "**Bold,**"
   - a **Border** of "**Below**," and
   - a **Pattern** of "**light gray**"

Click **OK** to go back to the main Style window, and then click on the **Add** button, then on **OK**. We now have a style that we can apply again ***within this document***.

5. Select (**Ctrl + Click**) **A10:B10**, **A16:B16**, and **A18:B18** and choose **Format > Style.**
6. From the pull down list, Select "**My Style**" and click **OK**.

7. **Save** the document.

> **NOTE**: Deleting the style (**Format > Style**, **Delete** button) would also delete the formatting anywhere it is applied within the worksheet!

Using AutoFormat

AutoFormats are **pre-set table formats** that allow you to quickly and consistently format the look of your spreadsheets. They can also be used to ensure that all spreadsheets produced by a particular department or area look similar. For instance, the Accounting Department may specify that all its spreadsheets should use the "Accounting 2" format.

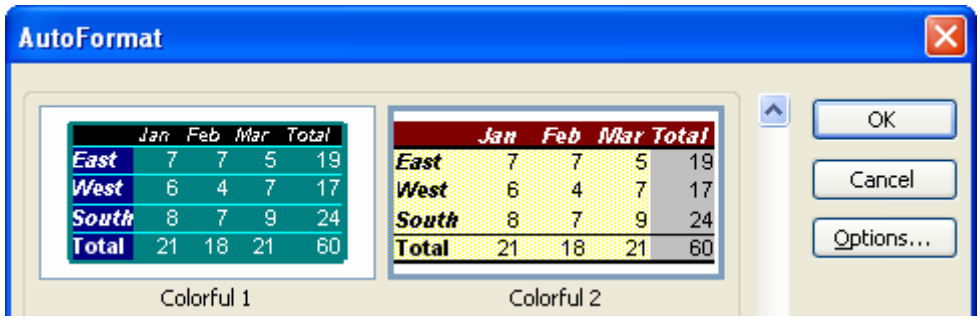
1. Click on the **Grades** sheet tab, select cells **A3:G50** (the entire table).

   You can also choose **Edit > Go to** and type **A3:G50**.

2. Choose **Format > AutoFormat**. The AutoFormat dialog box appears.

3. Click on several samples, and click on the **Options** button to see how you can select/deselect which elements to be formatted.

> **NOTE**: If you do not wish to override current font, color, or alignment settings with an AutoFormat, but you do wish to use the other features, click the **Options** button on the AutoFormat dialog box, which allows you to select or de-select elements to be formatted. You can also set the AutoFormat and then manually change just those cells you want to affect to another setting.



4. Select the "Colorful 2" format, and click OK. The AutoFormat is applied to the selected cells.

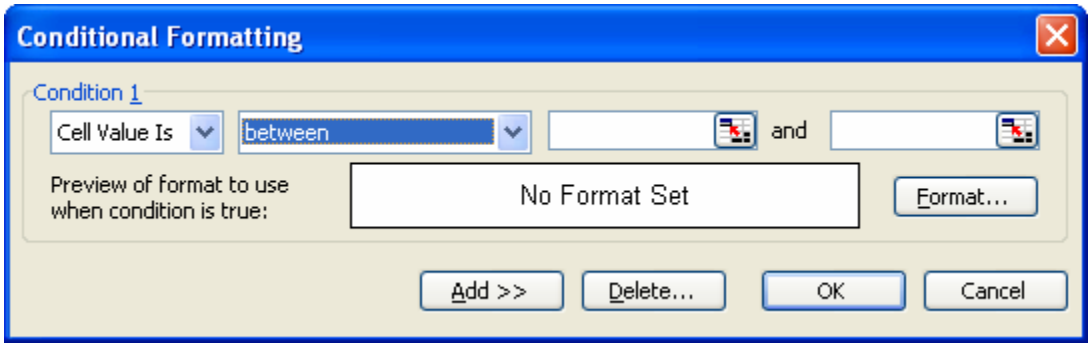
3	Last Name	First Name	Prelim	Mid-Term	Final	Overall Grade
4	Benko-Wylie	Mari	98	100	100	99.50 A
5	Acarese	Chris	97	98	98	97.75 A
6	Cruz	Sherrie	86	100	100	96.50 A
7	Corley	Charlotte	85	98	98	94.75 A
8	Polly	Tom	82	98	98	94.00 A
9	Bagby	Karen	96	93	93	93.75 A

Using Conditional Formatting

Conditional format is a format, such as cell shading or font color that Excel automatically applies to cells if a **specified condition** is true. For example, you can automatically **highlight** the departments that are meeting the revenue quota in green and use red to call attention to expenses that are over budget. This **color coding** makes it easy for anyone to scan the information and quickly find areas that need attention.

1. **Drag-select** cells **E4:E50**, which are the scores for the Final Exam.
2. Choose **Format > Conditional Formatting**.

   The Conditional Formatting dialog box displays.



3. Verify that the **Condition 1** selection says, "**Cell Value Is**".
4. Click the second down arrow (currently "**between**") and select "**less than**".
5. Click in the third field and type "**80**".
6. Click the **Format** button on the dialog box.

   The Format Cells dialog box displays.

7. Click the **Color down arrow** and change the **font color** to **Red**.
8. Click **OK** to close the Format Cells dialog box.

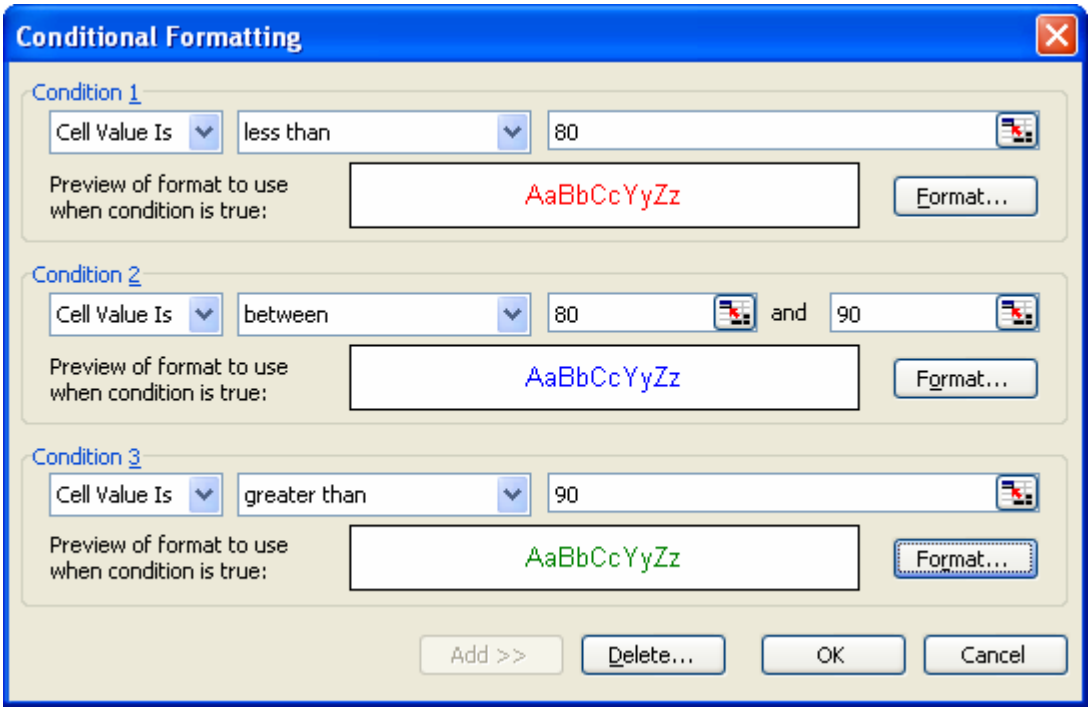
   The Conditional Formatting dialog box displays again.

9. Click the **Add >>** button to add a **second condition**.

10. Repeat Steps 3-9, setting **Condition 2**: "**Cell Value Is… between… 80… 90… Format Cells… Color: Blue**".

11. Repeat Steps 3-8, setting **Condition 3**: "**Cell Value Is… greater than… 90… Format Cells… Color: Green**".

    (DO NOT click the **Add>>** button after setting **Condition 3**.)



12. Click **OK** to close the Conditional Formatting dialog box.

    The conditional formatting is applied to the selected cells. Click away from the selection to view the results.

11. **Save** the workbook.

    The conditional formatting is applied to the selected cells. Click away from the selection to view the results.

    At this point you have a **quick visual reference** as to how each student did on the final exam versus their final grade by viewing the color coded grades.

    Note: Even if a grade is changed or copied/moved to another cell location ***after*** conditional formatting is applied, the formatting **will carry over**.

Section 4 – Creating Templates

A "template" is a model on which worksheets are based. Use templates for worksheets that have common elements, such as wording, colors, and formulas in the same cells from one worksheet to another.

1. **Open** the file called, "**Bagels 1**".

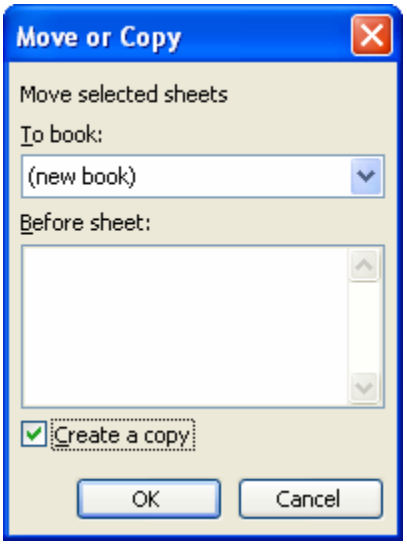
   The Bagels 1 workbook displays.

2. **Right-click** the **Sales** sheet tab.

   The Sales worksheet is selected, and a shortcut menu displays.

3. Select **Move or Copy**.

   The Move or Copy dialog box displays.



4. Click the "**To book**" **down arrow** and choose "**(new book)**", then click the option box to "**Create a copy**".

   Specifies that the selected sheet will be copied to a new workbook.

5. Click **OK**.

   Creates a new workbook called Book2 that contains only the Sales worksheet.

6. Choose **File > Save As**.

7. Click the "**Save as type**" **down arrow**, and select "**Template (*.xlt)**".

   Excel automatically switches to the Templates folder on your computer. The file will be saved with an ".xlt" extension.

8. **Double-click** in the **File** name entry box to highlight the current name.

9. Type "**[Your Name]'s Sales**" to rename the template workbook.

10. Click the **Save** button to save the template.

11. **Important**: **Close** the [Your Name]'s Sales template workbook!

Creating a New Document from a Template

Since we have created a new template from the Bagels 1 document, we can **open a new document**, and choose the new **template** as a starting point.

1. Click **File > New**

2. In the New Workbook box, under **Templates**, choose "On My Computer."

3. The Templates window opens, select the **[Your Name]'s Sales template**, then click OK.

   A new worksheet is created using the template you created from the Bagel's 1 worksheet.

Section 5 – Moving / Inserting & Navigating Worksheets

Inserting Worksheets

1. **Right-click** the **Sales** sheet tab in the Bagels 1 workbook, and select **Insert** from the shortcut menu.

   The Insert dialog box displays, showing a list of available templates.

2. **Double-click** the "**[Your Name]'s Sales**" icon.

   A new sheet tab called "Sales (2)" is inserted before the Sales worksheet.

3. **Save** the workbook (**File > Save**).

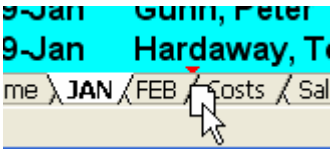
Moving Worksheets

Worksheets can be moved individually, or they can be selected and moved in groups. To select a range of sheets, click the first sheet and then use **Shift+Click** to select the last sheet in the range. To select non-contiguous sheets, use **Ctrl+Click**.

1. Click the **JAN** sheet tab.

   The JAN sheet is selected.

2. **Drag-and-drop** the **JAN** sheet **to the right** of the **FEB** sheet.



A red down arrow indicates the proposed placement of the sheet, and the worksheet is moved to the new location.

3. **Drag-and-drop** the **JAN** sheet back **to the left** of the **FEB** sheet.

   The JAN sheet returns to its proper location.

4. Use **Ctrl+Click** to select the **JAN**, **FEB**, **Sales(2)**, and **Sales** sheet tabs.

   All four sheets are grouped together and selected. **Ctrl + Click** also **deselects** a sheet.

5. **Drag-and-drop** any one of the selected sheets **in front of** the **Income** sheet.

   All four sheets move **as a group** to the new location.

6. **Save** the workbook.

Hiding Columns and Rows

Why would you want to hide rows or columns? One reason is to be able to see only a specific area of a very big spreadsheet. Another is to selectively hide multiple rows and columns before you create a chart.

1. Make sure you are still in the **Bagels1** workbook.
2. **Click** on the **JAN** sheet tab.
3. **Drag-select** column headers **D-F**.
4. Choose **Format > Column > Hide**.

   Columns D, E, and F are hidden.

5. **Drag-select** row headers **8 -13**.
6. Choose **Format > Row > Hide**.

   Rows 8,9,10, 11,12, and 13 are hidden.

Unhiding Columns and Rows

1. **Drag-select** column headers **C and G**.
2. Choose **Format > Column > Unhide**.

The hidden columns are displayed again.

3. **Drag-select** row headers **7 and 14**.
4. Choose **Format > Row > Unhide**.

   The hidden rows are displayed again.

   NOTE: if the column(s) or row(s) are hidden so that you cannot select them, choose **Edit > Go To**, and type the name of a cell in the first hidden column or row. Then choose **Format > Column (or Row) > Unhide** as usual.

Freezing Panes

It is sometimes useful to "freeze" cells so they stay in place while you scroll through a long worksheet.

1. Click on the **JAN** sheet tab to select it.
2. Press **Ctrl+Home** to jump to cell **A1**.
3. Click the **heading** for **Row 8** to select the entire row.
4. Choose **Window > Freeze Panes**.

   The cells **above** row 8 are locked in place.

5. Click anywhere below **Row 8** to ensure that the **Pane Line** appears **at the top** of **Row 8**.
6. **Scroll down and up** in the spreadsheet to test the Freeze Panes feature.
7. To unfreeze panes, select the frozen area, then choose **Window > Unfreeze Panes**.

	A	B	C	D	E	F	G
1	ECC Bagel Company Sales						
2			January, 1999				
3				Items			
4		Revenue:		Sold:	Plain	Egg	Onion
5		$12,250		350	158	94	98
6							
7	Order	Date	Customer	Plain	Egg	Onion	Total
50	1042	29-Jan	Ferschbak, Fern	1	-	-	$35
51	1043	29-Jan	Fluegelhorner, June	-	2	-	$70
52	1044	30-Jan	Savalas, Terrence	-	-	1	$35
53	1045	31-Jan	Densch, Ann	13	8	-	$735
54	1046	31-Jan	Storyville, Telusa	2	-	-	$70

Section 6 – Protecting Sheets

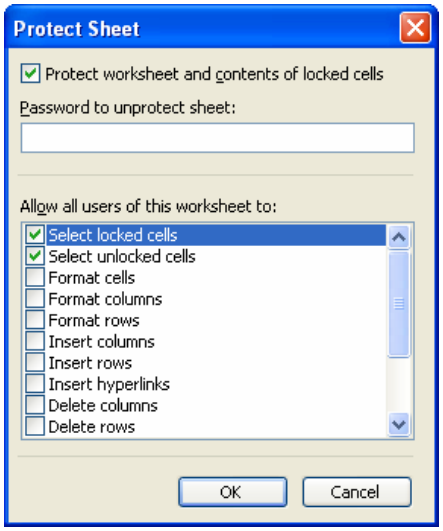
It may be necessary to protect the contents of a worksheet or the layout of a workbook. To understand protection, you must first understand that when you protect a sheet, **all cells are locked by default**.

1. Choose **Tools > Protection > Protect Sheet**.

   The Protect Sheet dialog box displays, showing the actions users will be allowed to perform after the worksheet is protected.

2. Click **OK**. Now try to change or make an entry to any cell on the worksheet

   An error message displays.



All of the cells are locked. But, what if we want only parts of the sheet to be locked, so that others can input information in only certain cells? In this case, you must **first unlock the cells you do not want to protect** (**Tools > Protection > Unprotect Sheet**).

1. On the JAN sheet, choose **Edit > Go to**, and type "**b8:f100**" in the **Reference** box and click on **OK**.

   Cells B8:F100 are selected.

2. Choose **Format > Cells**.

   The Format Cells dialog box displays.

4. Click the **Protection** tab.

5. **Uncheck** the "**Locked**" option box to unlock these cells. Review the note at the bottom of the card that reminds you to protect the sheet to make locking or unlocking effective.

6. Click **OK** to close the dialog box.

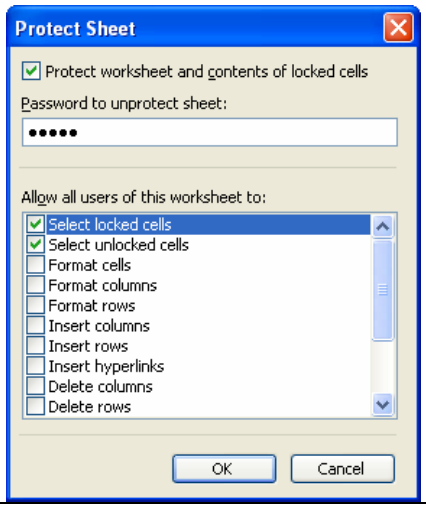
   The selected cells are unlocked, and therefore will remain editable.

7. Choose **Tools > Protection > Protect Sheet**.

   The Protect Sheet dialog box displays, showing that users will only be allowed to select locked and unlocked cells when protected.

8. In the **Password** field, type "**bagel**" and click **OK**.

   A second password box displays.



9. Type the password again to verify it, and click **OK**.

   The password is confirmed, and the dialog box closes. The sheet is now protected.

Testing Protection

1. **Double-click** cell **B5** to edit it.

   An error warning displays stating that the cell has been locked and cannot be changed unless the sheet protection feature is removed.

2. Click inside cell **B9**, type "**3/3/05**", and **TAB** to the next cell.

   Because this cell was unlocked, it can be edited.

3. **Delete** the entry in cell **B9**.

Changing Protection

1. Choose **Tools > Protection > Unprotect Sheet**.

   The Unprotect Sheet dialog box prompts for the password.

2. Type the password, "**bagel**" and click **OK**.

   The worksheet can now be modified, or new selections of cells can be locked or unlocked.

3. **Save** the workbook.

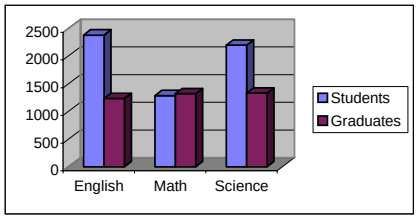
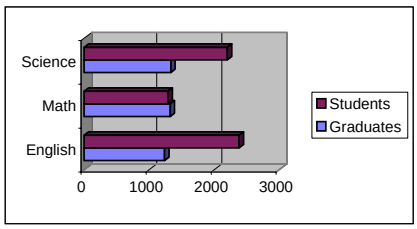
Section 7 – Working With Charts

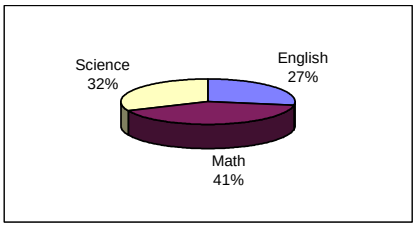
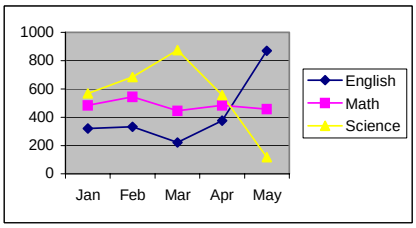
Why Create Charts?

It is said that "A picture is worth a thousand words." In Excel terms, a chart is worth a thousand cells of data. Charts help focus attention on major data points… in effect, the chart tells a story about the data.

Determining Chart Types

We use **three basic chart types** (actually four, but the first two do the same thing). The type of chart you create is determined by the data and the story you are trying to tell about it.

Purpose	*Chart Type*
Bar Chart or Column Chart: **Compare items one to another across categories**	 *Column Chart*  *Bar Chart*

Pie Chart: Compare items as parts of a whole	
Line Chart: Compare performance over time	

Using the Chart Wizard

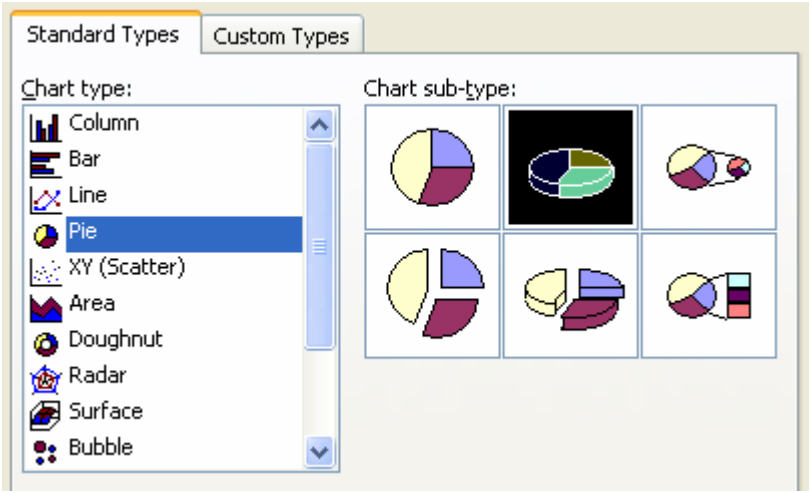
1. Open the "**Introduction Level 2**" workbook, click on the "**Grades**" sheet and select cells **I4:J6**.

   We will create a pie chart to show the distribution of A, B, and C's.

2. Click the **Chart Wizard button**  on the Standard Toolbar.

   The Chart Wizard displays. The Chart Wizard builds your chart in four steps.

3. Choose **Pie** in the **Chart type** list, then click the **3-D Pie** in the subgroup.



4. Click the **Next** button to go to the next step.

5. Verify that the data range reads, "**=Grades!$I$4:$J$6**" and that the option, "**Series in: Columns**" is selected, then click **Next**.

6. Type the Chart title: "**Distribution of Grades**", then click **Next**.

7. Verify that the option, "**As object in Grades**" is selected, then click the **Finish** button.

   The completed chart is placed on the spreadsheet.

Moving and Resizing Charts

1. Click on the spreadsheet **away from the pie chart**, then move the mouse **over the white area of the chart** until the tool tip below the mouse reads, "**Chart Area**".

2. Click to **select** the chart.

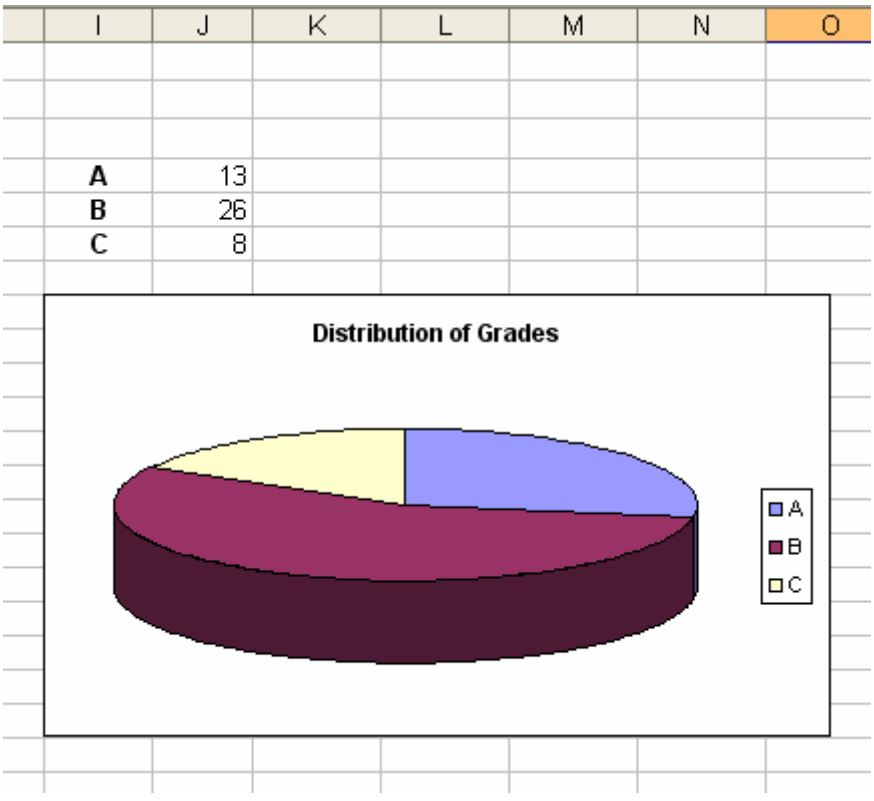
   The chart is selected, sizing handles appear on the chart, and the Chart Toolbar displays.

3. Making sure the pointer is still on the **Chart Area**, **click-and-drag** the entire chart until its upper-left corner is at cell **I8**.

   The chart moves to a new beginning point.

4. Use one of the **corner sizing handles** to **resize** the chart.

   The chart is resized but stays proportional.



5. **Save** the workbook.

> **NOTE**: When the chart is selected with sizing handles, you can **copy and paste** the chart into other applications, such as MS Word, or print just the chart without the spreadsheets.

Section 8 – Comments

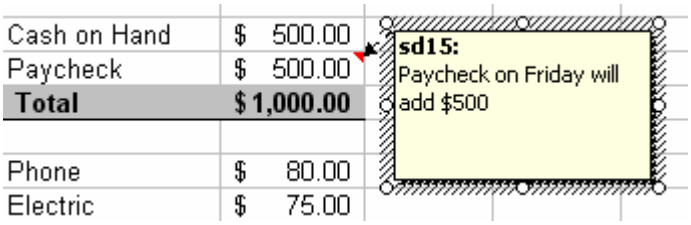
Adding Cell Comments

Suppose you receive your next paycheck on Friday and you would like to add a note in your Checkbook sheet to remind yourself that the amount in your checkbook will be changing.

1. Click on the **Checkbook** sheet tab.
2. **Right-click** cell **B4** ("500").
3. Select **Insert Comment** from the pop-up list.

   A comment box displays with your user name as the comment writer.

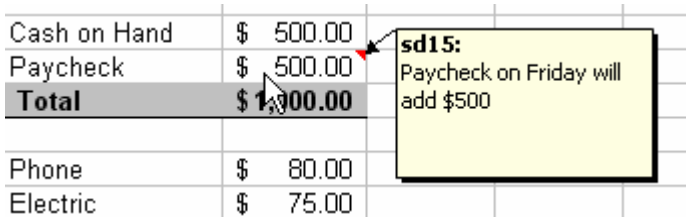
4. Type "**Paycheck on Friday will add $500**", then **click outside of the cell**. **DO NOT press Enter**, as this will only create a new blank line in the comment box.



Viewing Comments

1. **Pause** the mouse pointer over cell **B4**.

   The comment displays.



You can also have the comment **stay on the screen** by right clicking and selecting **Show / Hide comments**. With this view active, you also have the option in page setup to print your comments as displayed on the sheet.

To hide the comment, right click again and choose **Hide comment**.

Printing Comments

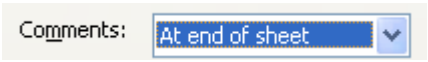
The Comments feature in Excel is a useful tool when you are sharing spreadsheets with multiple users. Each user can type their own comments in a cell, or if they wish to add to an existing comment, they can edit the existing comment (see the next section). If you have sent a spreadsheet to other people and wish to print their comments so you can update your spreadsheet all at once,

1. Choose **File > Page Setup**. (Don't use Print Preview's Page Setup.)

   The Page Setup dialog box displays.

2. Click on the **Sheet** tab.

3. Click the **Comments** down arrow and select "**At end of sheet**".



4. Click **OK** to finalize the setting.

   When printed, the spreadsheet will include an extra sheet listing the cell location, comment writer, and comment for each commented cell on the spreadsheet.

Editing Comments

1. **Right-click** the cell containing the comment.

2. Select **Edit Comment** from the pop-up list.

   The comment box appears

3. Change the text to "**Paycheck on Friday will add $800**", and then **click outside** of the comment box.

   The comment is revised.

   NOTE: You can also change the **size** and **location** of a comment.

Deleting Comments

1. **Right-click** the cell containing the comment.

2. Select **Delete Comment** from the pop-up list.

   The comment is deleted.

3. **Save** the workbook.

Section 9 – Previewing and Printing

Previewing

1. Click on the "**Grades**" Worksheet
2. Click the **Print Preview** button  on the toolbar.

   The Print Preview screen displays the spreadsheet in full page view as it will appear when it prints. Note that the standard toolbar changes to a preview toolbar.

2. Move the mouse over the page to display the **Zoom Pointer** (magnifying glass). **Click anywhere** on the page to **zoom to 100%** view of that portion of the page.

   The Zoom Pointer changes to a normal cursor.

3. **Click again** to **zoom back out** to full page view.

Adjusting the Setup

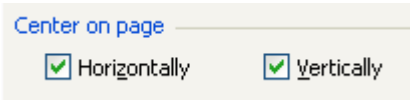
To make the spreadsheet fit properly on one page, it may be necessary to adjust the setup.

1. With the Print Preview active, click the **Setup** button on the Toolbar.

   The Page Setup dialog box displays. Click the Page tab, if necessary.

2. Change the **page orientation** to **Landscape**.

3. In the Scaling area, **Adjust to: 65% of normal size**, or force it to **Fit to: 1 page wide by 1 page tall**.
4. Click the **Margins tab**.
5. Click inside the boxes at the bottom left to center the spreadsheet on the page **horizontally** and **vertically**.



6. Click the **OK** button to close the dialog box.
7. View the results of these changes.

Repeating Rows and Columns across Multiple Pages

Sometimes, you can't shrink an entire spreadsheet onto only one page. Repeating row or column names on every page of a multi-page document makes it easier to read. *This is a "Freeze Pane" function translated for print!*

1. Open **Bagels 1** and click on the **JAN** tab.

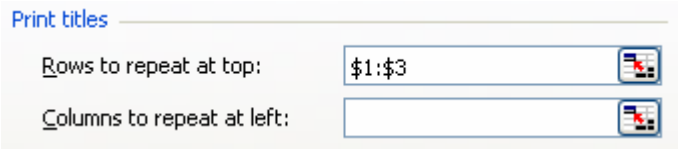
1. Click on **Print Preview** to see that the document is **3** pages long.

2. **Close** the Print Preview view.

3. Go to **File > Page Setup**, then click on the **Sheet** tab. (**Don't use the Print Preview to get there.*)

5. Click on the **collapse** button next to **Rows to repeat at top:**, (under **Print Titles**) and select the **first three rows**.

5. Click on the **expand** button to re-open the Rows to Repeat dialog box.



6. View the results by clicking on the **Print Preview** button.

7. Click the **Close** button on the Preview Toolbar.

Setting Print Areas

Sometimes, you want to tell Excel to print only a certain range of cells.

1. Open the file "**Introduction – Level2.xls**" (in the "**Training/Excel**" folder on the desktop). Click on the "**Checkbook**" sheet and select cells **A13:B16**.

2. Choose **File > Print Area > Set Print Area**.

   The selected cells are set as the only area to be printed.

13	Utilities Total	$	180.00
14	Auto	$	250.00
15	Rent	$	350.00
16	**Total**	$	**780.00**

You will notice a "fence" around the cells selected to print.

3. Click the **Print Preview** button ( ) and view the results of setting the print area.

Clearing Print Areas

1. **Click anywhere** in the spreadsheet.
2. Choose **File > Print Area > Clear Print area**.

   The print area is cleared.

Printing the Chart Only

Sometimes, you want to tell Excel to print only the chart. Simply select the chart and go to **File > Page Setup**. Click on the **Chart** tab to choose your print options, the click the **Print** button.

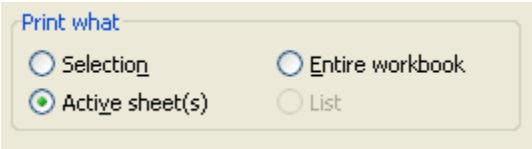
Print Using the Print Dialog Box

Rather than clicking the Print button on the Standard Toolbar, use the **File > Print** method. This forces the Print dialog box to display, so that you can select options other than the default options for printing.

1. Choose **File > Print**.

   Most of these options you are used to seeing in other programs, but there is one that results in choices that are unique to spreadsheets:

2. Click in the "**Print what**" section to change what will be printed.

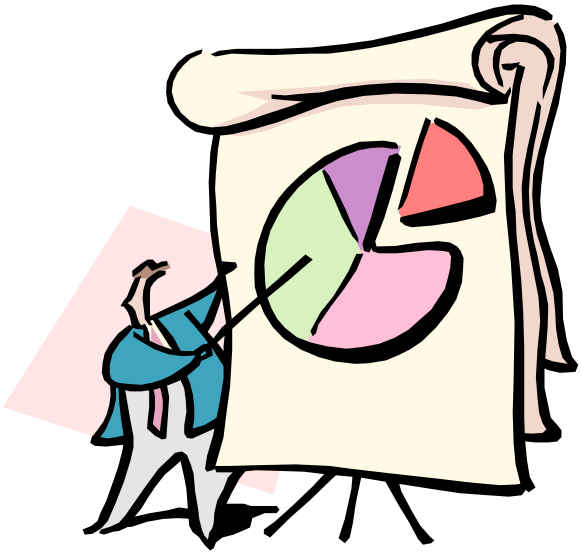


If you have selected a range of cells and choose "**Selection**," only the selected cells will print. This option saves you from having to set a new print area for a one-time change.

If you have activated one or more worksheet tabs, you can print only those sheets by selecting "**Active sheets**" (the default). You can also print all sheets in the workbook by selecting "**Entire workbook.**"

Excel 2003

Level 2



LaTonya Motley

Trainer / Instructional Technology Specialist
Staff Development
660-6452