

# Intermediate Microsoft Excel 2010

## ABOUT THIS CLASS

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This class is designed to continue where the **Microsoft Excel 2010 Basics** class left off. Specifically, we will cover additional ways to organize data as well as how to create different types of charts. It is impossible in these two hours to become totally proficient using Microsoft Excel, but it is my hope that this class will provide added skills to further launch you into this exciting world!

### Course Objectives

By the end of this course, you will be able to

- ✓ Manage multiple workbooks.
- ✓ Freeze panes.
- ✓ Sort and filter data.
- ✓ Use the Text-to-Columns feature to organize data from single to multiple cells.
- ✓ Create basic charts (clustered column, pie, etc.).
- ✓ Create PivotTables and PivotCharts.

This booklet will serve as a guide as we progress through the class, but it can also be a valuable tool when you are working on your own. Any class instruction is only as effective as the time and effort you are willing to invest in it. I encourage you to practice soon after class. There will be additional computer classes in the near future, and I am always available for questions during Tech Tuesdays (call to confirm the time).

**Cody Yantis**, Technology Services Librarian



## Managing Workbooks

In Excel Basics, we learned how to manage multiple **worksheets**. Let's look at how to manage multiple **workbooks**. Excel uses the term workbook for a file. The term worksheet refers to an individual spreadsheet within a workbook. A workbook can contain multiple worksheets, each have their own tab. It is possible to have multiple workbooks (.xlsx files) open concurrently.

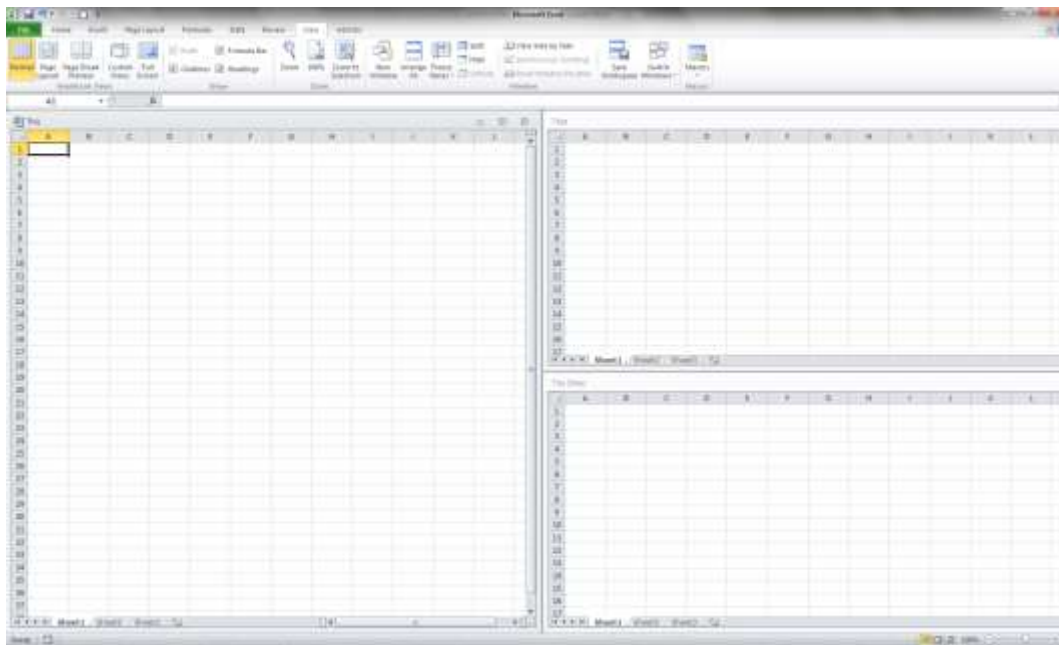
### Switching Between Open Workbooks

1. Open Excel and create two additional new workbooks. To create a new workbook click **File > New > Blank Workbook**.
2. Save the workbooks. Let's name them: **This, That,** and **The Other**.
3. Select the **View tab > Window group > Switch Windows**.
4. In the menu that appears, you will see a listing of the workbooks that are open.
5. Click the file that you want to bring to the foreground. The file that was in the foreground remains open, but is now in the background.

### View Multiple Open Workbooks

1. Select **View tab > Window group > Arrange All**.
2. Select **Tiled** and click **OK**.

All three windows are now arranged in such a way that you can view and edit them all at once:



## Freezing Panes

While we're in the **View tab**, let's learn how to **freeze panes**. When working with large or complex worksheets, scrolling can sometimes become a problem. Freezing panes allows you to keep specific rows and/or columns visible as you scroll.

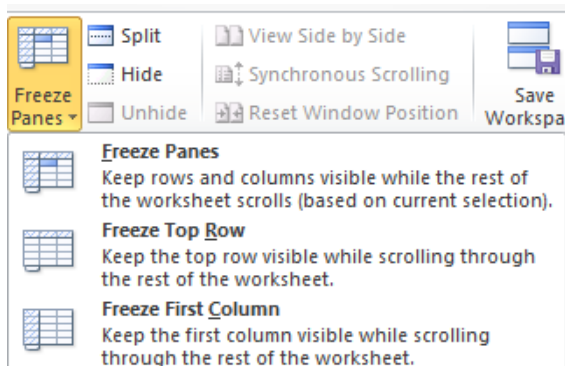
To enable this option:

- ✓ **Select View tab > Window group > Freeze Panes**

You can then select which panes you wish to freeze: all cells (**freeze panes**), the top row (**freeze top row**), or the first column (**freeze first column**).

To turn off this option:

- ✓ **Select View tab > Windows group > Freeze Panes > Unfreeze Panes**



## Organize that Data! Using the Data Tab

### Sorting

Information can be sorted into alphabetical or numerical order, ascending or descending. Excel can change the row numbers that related information appears in while also keeping items together.

#### **Exercise 1. Sorting by multiple levels**

1. Open the workbook on your desktop titled **Sorting and Filtering**.
2. Highlight the entire data selection (A1:C7).
3. Click **Data tab > Sort & Filter > Sort**.
4. Make sure that **My data has headers** is checked (it should be, as that's the default).
5. Select **Last** in the **Sort by** drop down menu.
6. Click **Add Level**.
7. Select **First** in the **Then by** drop down menu.
8. Click **Add level**.
9. Select **Title** in the second **Then by** drop down menu.

10. Click **OK**.



The entire selection will then sort by your parameters.

**Tip:** If you have data in multiple and corresponding columns but only highlight one column and click **Sort**, Excel will ask you if you want to expand your sort to include the entire selection. This helps to avoid sorting one column but not another, which often results in skewed data.

## Filtering

You can filter to select records that match specific criteria. This gives a temporary view of data without physically removing anything. Let's filter our list of names by **title** so that only the **Ms.** entries are listed.

### Exercise 2. Filtering

1. In the **Sorting and Filtering workbook**, highlight the entire data selection (A1:C7).
2. Click **Data tab > Sort & Filter > Filter**. Notice that down arrow buttons appear above each column.
3. Click on the down arrow button above the **Title** column.
4. Uncheck the box next to **Mr.**
5. Click **OK**.



Notice that only the **Ms.** entries are now displayed:

1	Last	First	Title
4	Phillips	Mary	Ms.
5	Smith	Sandra	Ms.
7	Williams	Shirley	Ms.

To **unfilter**, click **Data tab > Sort & Filter > Filter**.

**Tip:** Notice in the above screenshot, that the cell numbers are not ordered. This is an indication that, when filtering, you are not deleting data, but merely hiding data (in this case, all of the Mr. entries).

### Text to Columns

If you have entered or copied some text into a single column, you can use the **Text to Columns** command to portion it out into adjacent columns (make sure these columns are blank before proceeding).

#### *Exercise 3. Text to Columns (Space Delimiting)*

1. Open the **Text to Columns** workbook on your desktop.
2. Notice that Column A has first and last names in each cell. We're going to split the first and last names into different cells and columns.
3. Highlight Column A.
4. Click **Data tab > Data Tools > Text to Columns**.
5. Select **Delimited** and click **Next**.
6. Check **Space**. Notice that a preview of your data is displayed below. Click **Next**.
7. The data is already formatted in terms of data type, so then click **Finish**.

Notice that your first and last names are now split into different columns!

#### *Exercise 4. Text to Columns (Comma Delimiting)*

1. Notice that Column D has last then first names separated by a comma in each cell. We're going to split the first and last names into different cells.
2. Highlight Column D.
3. Click **Data tab > Data Tools > Text to Columns**.
4. Select **Delimited** and click **Next**.
5. Check **Comma**. Notice that a preview of your data is displayed below. Click **Next**.
6. The data is already formatted in terms of data type, so then click **Finish**.

Notice that, again, your first and last names are now split into different columns!

**Tip:** to remove that unwanted space in front of the first name from our comma delimited group:

1. Highlight the column.
2. Click **Ctrl-H** ("Find and Replace").
3. In the **Find What** field, enter a space.
4. Leave **Replace With** field blank and click **OK**.





The spaces are removed! You can use Ctrl-H to find any type of data and replace it with something (or nothing) else! (**Added Tip:** The **Clean** and **Trim** functions will perform a similar task, in addition to removing other unnecessary data [html, etc.] )

## Charts

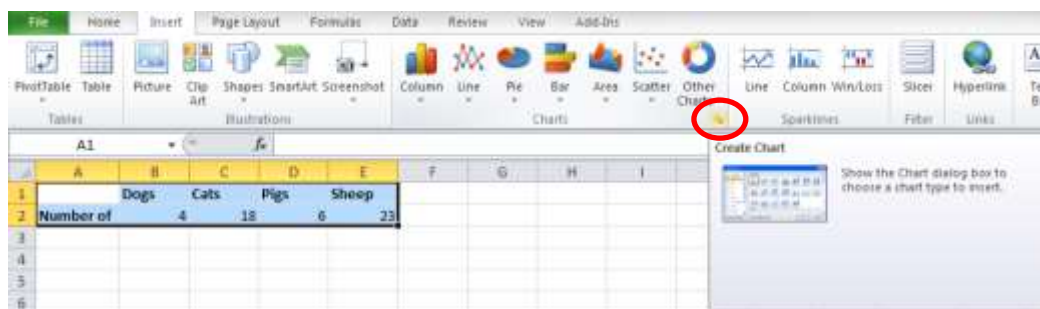
There are numerous ways to render data visually into charts. In general, if you have organized your data in a way that can be easily interpreted by Excel, the program can automatically convert this data into a chart. Let's start by creating a basic **Clustered Column** chart.

### Exercise 5. Creating a Clustered Column Chart

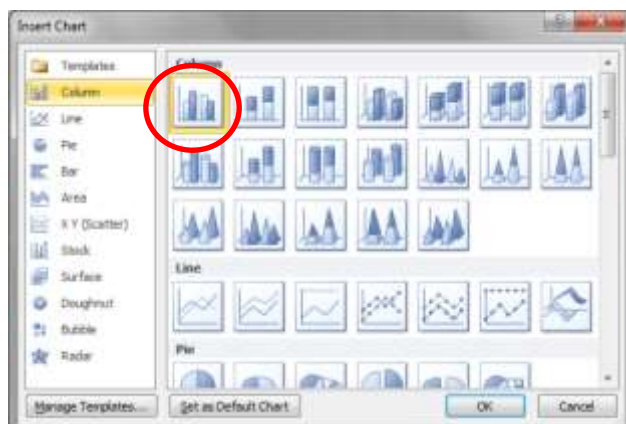
1. Open the **Chart Data** workbook on your desktop.
2. Notice that there are two points of data (type and number of animals), which have been organized into rows and columns:

	A	B	C	D	E
		<b>Dogs</b>	<b>Cats</b>	<b>Pigs</b>	<b>Sheep</b>
<b>Number of</b>		4	18	6	23

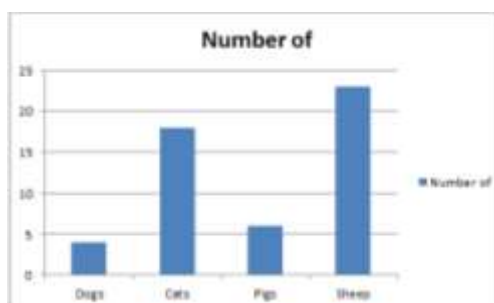
3. Highlight the entire data selection (A1:E2).
4. Click **Insert Tab > Charts > Create Chart:**



5. Select **Clustered Column** and then click **OK:**



A basic clustered column will then display:



### Formatting Tips:

1. You can **change the chart style** by clicking on the chart and then: **Chart Tools > Design Tab > Chart Styles** and then selecting a different style.
2. You can change the chart type by clicking on the chart and then: **Chart Tools > Design Tab > Type** and selecting a different chart type (for instance, a pie or a line chart). If you find a chart type that you really like, you can set it as your default:
  - ✓ Click: **Chart Tools > Design Tab > Type**.
  - ✓ Select the chart type.
  - ✓ Click on **Set as Default Chart**.

### PivotTables & PivotCharts

When you have multiple or fluid data categories and/or when you have data that hasn't already been organized, the easiest way to turn this into a chart is to create a **PivotTable**, which can then be quickly converted into a **PivotChart**. A PivotTable interactively allows for quickly summarizing large amounts of data. You can rotate its rows and columns to see different summaries of the source data, filter the data by displaying different pages, or display the details for areas of interest. PivotCharts are associated with PivotTables and provide graphical representations of the same information.

Use a PivotTable when you want to compare related totals, especially when you have a long list of figures to summarize and you want to compare several facts about each figure. Because a PivotTable is interactive, you can change the view of the data to see more details or calculate different summaries. This gives a customized perspective on the data without having to change anything in the range of cells it is based on.

### Exercise 6. Creating a PivotTable & PivotChart

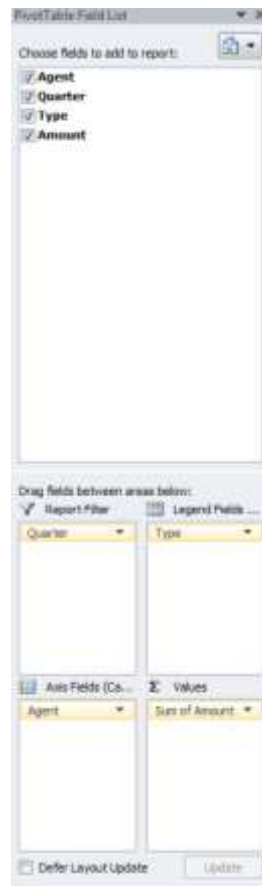
In this exercise, we will take raw data based on four agents at an insurance company and look at their sales over the course of a year for three different product types. The existing data was entered in such a way that it is somewhat redundant and hard to draw conclusions from readily. By placing it into a PivotTable with an associated chart, we can easily streamline this into useful information and quickly manipulate it into multiple views to help us draw conclusions.

1. Open the **Pivot Data** workbook on your desktop.
2. Select the range that encompasses the headings and data (A1:D26).
3. Select **Insert tab > Tables > PivotTable drop-down > PivotChart:**



4. Confirm that you accurately selected the correct data by clicking **OK**.
5. The **Pivot Table Field List** box will then appear. This is how you determine which data is displayed in which field in the PivotTable.
6. Check all four fields to **add to report**.
7. Then drag:
  - a. **Quarter** to: **Report Filter**.
  - b. **Type** to: **Legend Fields**.
  - c. **Agent** to: **Axis Fields**.
  - d. **Amount** to: **Values Field**. (**Tip:** Excel deduces that this is where you will want **Amount**, since it's the last remaining field. Thus, you may not need to move it.)





You will then have a PivotTable and PivotChart that has organized and displayed the information based on the criteria we selected:



## Editing Your PivotTable & Chart

Below are some tips for editing your PivotTable and PivotChart:

1. To **rearrange the chart's orientation** on the spreadsheet, just click and drag it.
2. Edit the appearance and style of the chart by clicking on the Pivot Chart and then selecting from different chart styles (**PivotChart Tools > Design tab > Chart Styles**):



3. You can **edit the PivotChart parameters** at any time by clicking on the PivotChart (at which point the **Pivot Table Field List** will reappear).
4. You can also **reorganize the data** via the dropdown menus above the data columns and on the PivotTable. This is the interactive element of the PivotTable (putting the “pivot” in PivotTable!).
  - a. For instance, all quarters (**First** through **Fourth**) are currently displayed. If you wish to view the data by quarter, click on the down arrow menu labeled **Quarter** on the table or chart, and select the quarter you wish to view. You can do the same for each agent.

**Congratulations!** You've completed the **Intermediate MS Excel 2010** class. Please take a moment to fill out this online survey. Your feedback is very important to the Library!

**<http://btop.lrs.org/survey/pcc/74/computer/>**

