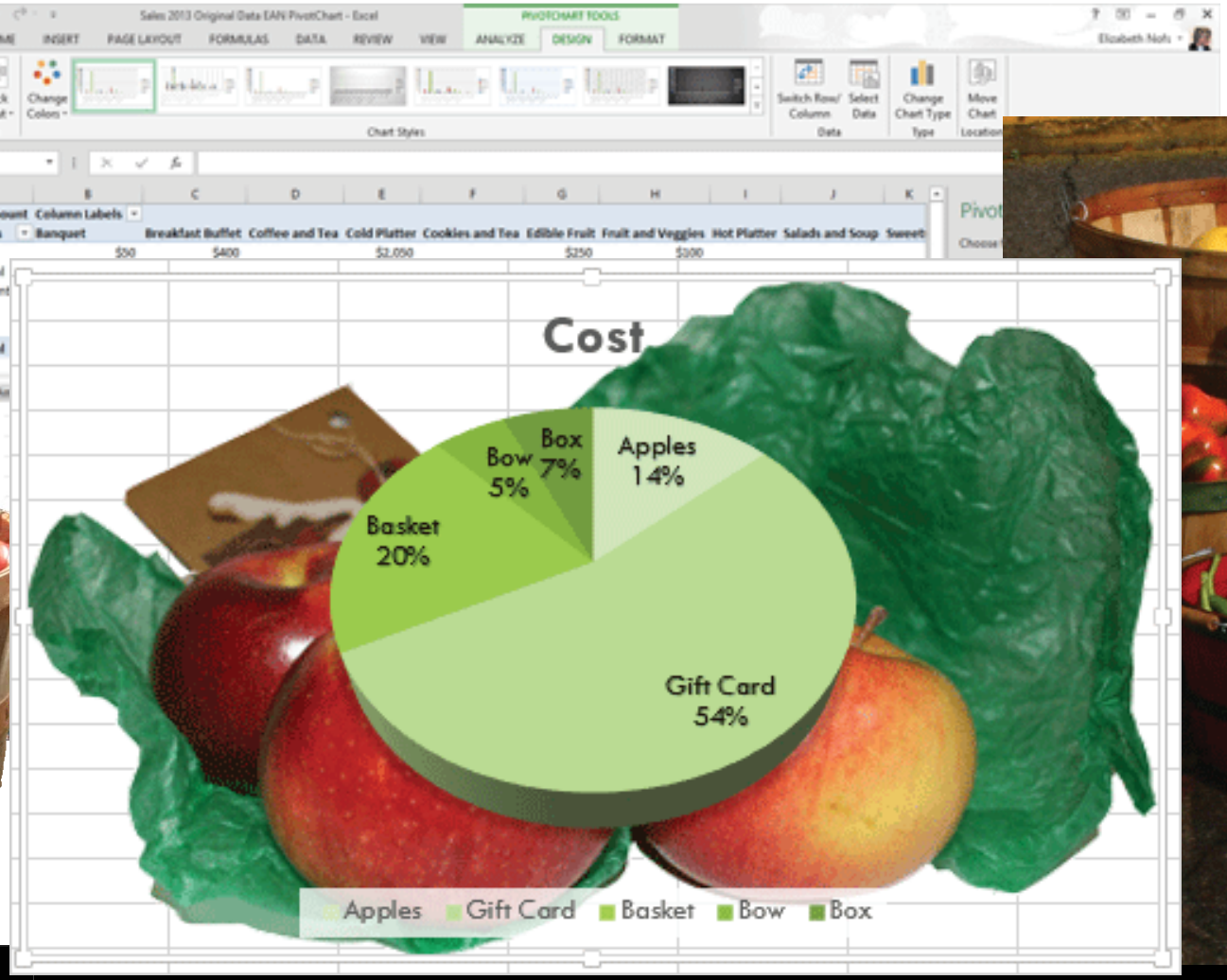
The **Advanced** Guide to

Microsoft Excel 2013

Microsoft Office Specialist Exam 77-427 and 428 Study Guide

another Computer Mama Guide







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another
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Advanced Guide to Microsoft Excel 2013

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Advanced Guide to Microsoft Excel 2013

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Microsoft Office Specialist Certification

What is Microsoft Office Specialist Certification? Microsoft Office Specialist certification validates through the use of exams that you have obtained specific skill sets within the applicable Microsoft Office programs and other Microsoft programs included in the Microsoft Office Specialist Program. The candidate can choose which exam(s) they want to take according to which skills they want to validate.

CertiPort is the premier provider for validating technology skills.

The **Microsoft Office Specialist** tests are offered at authorized testing centers.

For more information on the MOS exam topics or to find a testing center near you please contact: www.certiport.com

What is the Microsoft Office Specialist Certification Program?

The **Microsoft Office Specialist (MOS) Certification Program** enables candidates to show that they have something exceptional to offer – proven expertise in Microsoft Office programs. Recognized by businesses and schools around the world, millions of certifications have been obtained in over 100 different countries. The **Microsoft Office Specialist (MOS) Certification Program** is the only Microsoft-approved certification program of its kind.

The Microsoft Office Specialist Certification Series

Core Certification: Pass any 1 test:
Word 2013 Core: Exam 77-418
Excel® 2013 Core: Exam 77-420
PowerPoint® 2013: Exam 77-422
Outlook® 2013: Exam 77-423
Access® 2013: Exam 77-424

Expert Certification: Pass either test:
Word 2013 Expert Part 1: Exam 77-425
Word 2013 Expert Part 2: Exam 77-426
Excel 2013 Expert Part 1: Exam 77-427
Excel 2013 Expert Part 2: Exam 77-428

Master: Pass 3 required and 1 elective test:
Required
Word 2013 Expert Part 1: Exam 77-425
Excel 2013 Expert Part 1: Exam 77-427
PowerPoint® 2013: Exam 77-422

Elective
Outlook® 2013: Exam 77-423 or
Access® 2013: Exam 77-424

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The Benefits of Certification



For More Information:
www.certiport.com
www.microsoft.com

Why Get Certified?

For employers, the certification provides skill-verification tools that not only help assess a person's skills in using Microsoft Office programs but also the ability to quickly complete on-the-job tasks across multiple programs in the Microsoft Office system. (http://www.microsoft.com/learning/en/us/certification/mos.aspx). Certification proves a certain level of advanced competency with the programs in question. Employers don't have to wonder if the skills stated on the resume are honest and without exaggeration. This can lead to further employment opportunities and increased pay.

A person holding Microsoft Office Certification shows not just a level of skill, but an ability to quickly complete tasks, due to familiarity with the program and it's many time-saving features. The hard work that goes into learning Microsoft Office programs to the level of proficiency necessary for successful completion of the Certification Exams also indicates a desire on behalf of the student to learn and succeed.

The Benefits: Earn More, Find Jobs Quicker

Research indicates that employees with Microsoft Certification earn more and find jobs quicker than those employees without certification. Furthermore, employees with certification report a greater feeling of confidence. These things translate into greater job satisfaction. (http://www.microsoft.com/learning/en/us/certification/mos.aspx)

Research also shows that individuals with certification make up to 12% more than those without certification. In addition, 82% of Microsoft Office Specialists report a salary increase after receiving certification. Managers like the skills proven and the ability demonstrated by those with Microsoft Office Certifications.
http://www.certiport.com/Portal/desktopdefault.aspx?page=common/pagelibrary/mos2003.html

About Our Certification Program



Books in this Series:
Beginning Guide to Microsoft® Excel 2013

Intermediate Guide to Microsoft® Excel 2013

Advanced Guide to Microsoft® Excel 2013

Microsoft Office Specialist (MOS) Certification for Excel 2013
Overview: Our Microsoft Office Specialist certification program for Excel 2013 has three levels of mastery: Beginning, Intermediate and Advanced. In general, the CORE exam topics are demonstrated in the Beginning and Intermediate Guides. EXPERT concepts are included where relevant, with the Advanced Guide only covering EXPERT concepts

Our Approach: In designing these Guides, we found that it made more sense to write the lessons based on the Ribbons and Tasks. For example, the Beginning Guide to Microsoft Excel 2013 shows all of the Chart Tools: CORE and EXPERT. The beginning of each lesson provides an overview of the Ribbons and Tasks covered.

The Beginning Guide to Microsoft Excel 2013 demonstrates the following Ribbons: **Home**, **Formula**, **Insert**, **Picture Tools, Drawing Tool, SmartArt Tools: Design**, **Chart Tools, Chart Tools: Layout: Labels** The lesson activities focus on basic data and formula entry as well as inserting and formatting graphics and charts.

The Intermediate Guide to Microsoft Excel 2013 demonstrates the following Ribbons: **Formulas, Page Layout, Insert**, **Sparkline Tools**. The lesson activities focus on additional formulas as well as page options, finishing with the use of Sparklines.

The Advanced Guide to Microsoft Excel 2013 demonstrates the following Ribbons: **Table Tools, Table Tools, Data**, **PivotTable Tools**: **Design, PivotTable Tools: Options**, **PivotChart Tools: Design**, **PivotChart Tools: Analyze**, **Review**, **Developer.** The lesson activities further explore presentation with advanced Table options as well as PivotCharts and PivotTables, finishing with sharing and form controls.

Course Prerequisites: Students who enroll in Microsoft Office Specialist (MOS) program should have basic computer skills including how to turn on the computer, how to use an Internet browser and how to select commands from a menu. Students should know how to save files and send attachments by E-mail as well.

Microsoft Excel 2013 Study Guide: Advanced Excel

Microsoft Office Specialist (MOS): Exam 77-420 Core for Excel 2013

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Table: Filter Records, Pg 23
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From the Excel 2013 CORE Exam 77-420
5. Create Charts and Objects
5.1 Create a Chart
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Charts: Quick Analysis, Pg 157

5.2 Format a Chart
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Keep going. There's more...



Microsoft Excel 2013 Study Guide: Advanced Excel

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About the Authors

Microsoft Office Specialist (MOS): The Advanced Guide to Microsoft Excel 2013

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Elizabeth is the Computer Mama. She developed the teaching methodology in the Complete Computer Guide series using breakthrough research in gender balanced training. Elizabeth has taught several thousand men and women from government, manufacturing, small business, and education in both online and hands-on classrooms.

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All of my books

are dedicated to

Fr. Paul Cummings

who taught me

computers.

Love, eBeth

How To Use This Guide

Microsoft Office Specialist Certification Training

The Comma Method
Observation is a perceptual strategy that asks: why am I doing this and which tools would be most effective? Each lesson begins with a discussion of the purpose and the objectives.

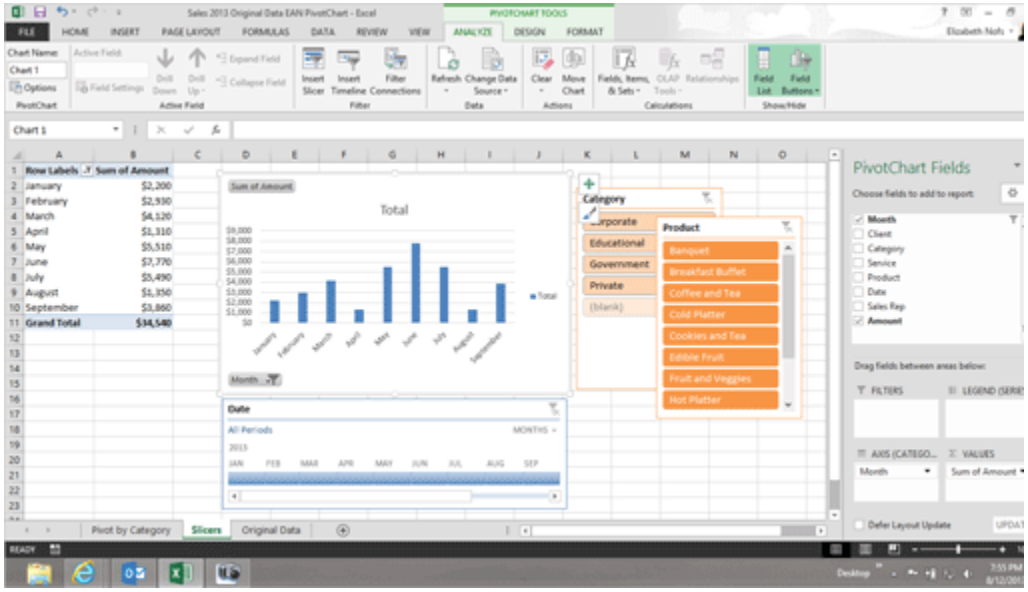
Orientation helps students start at the right place. The screen shots in the *Complete Compute Guides* show the entire window as well as a close up of the particular button or command.

Notation There are "breadcrumbs" above each screen image. Like Hansel and Gretel, the breadcrumbs show the pathway to a button or option. Our notation uses the following convention:
Ribbon->Group->Button->Options

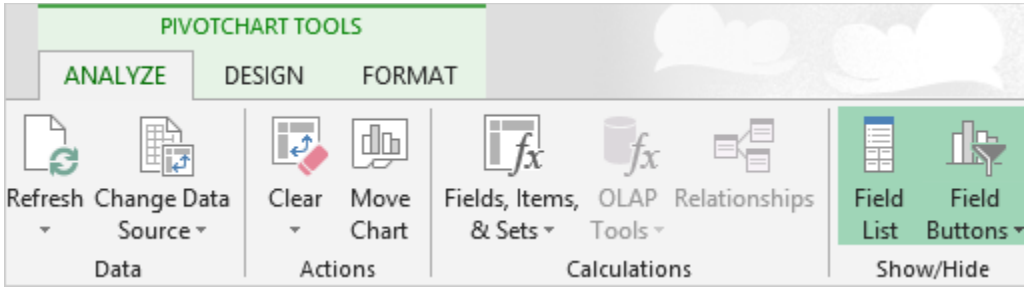
Menu Maps
The Comma Method recognizes that there is a difference in how men and women navigate the menus. Men typically have the ability to see the map first. This method of acquiring knowledge is called *Breadth-first*. [1] Women tend to work with the details first. They learn several commands, such as copy, cut, and paste, then they put those concepts under the label, “edit.” This method of learning is called *Depth-first*.

The Comma Method uses menu mapping to assist men and women to see both the Breadth and the Depth. An example of the menu map is can be seen here.

[1] *Ford, Nigel, Sherry Chen, Matching/mismatching revisited: An Empirical Study of Learning and Teaching Styles. British Journal of Educational Technology v.32 no1 (Jan. 2001)*



PivotChart Tools-> Analyze->Data ->Refresh

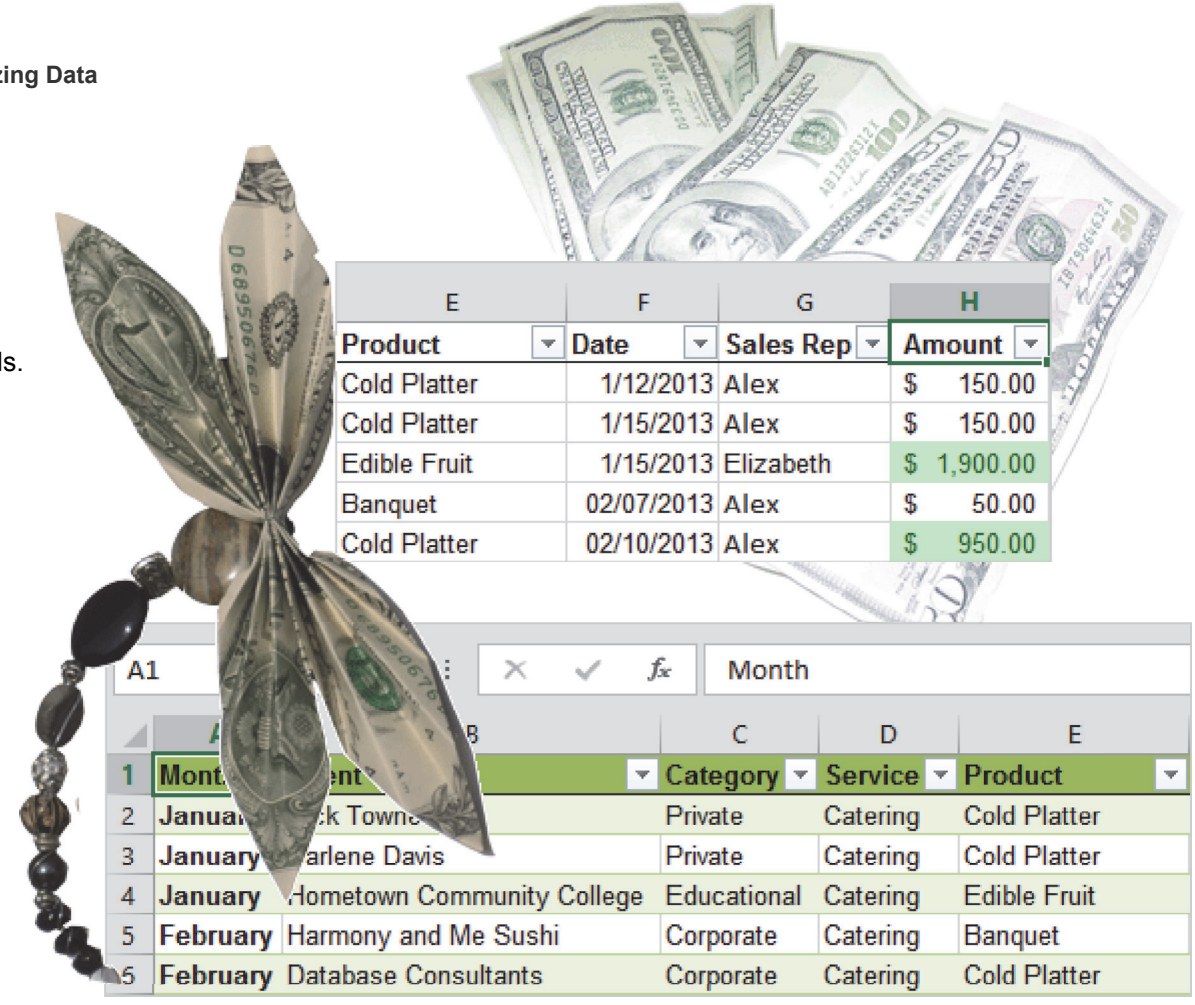


Take One — It Works for Me

Advanced Excel Objectives

In this lesson, you will learn how to:

1. Create a Table.
2. Identify the Header Row with the Table Tools.
3. Locate the Quick Style Formats.
4. Use the Table Tools to add a Total Row.
5. Convert Tables to Text.
6. Convert Text to Tables.



E	F	G	H
Product	Date	Sales Rep	Amount
Cold Platter	1/12/2013	Alex	$ 150.00
Cold Platter	1/15/2013	Alex	$ 150.00
Edible Fruit	1/15/2013	Elizabeth	$ 1,900.00
Banquet	02/07/2013	Alex	$ 50.00
Cold Platter	02/10/2013	Alex	$ 950.00

A1 — Month

	A	B	C	D	E
1	Mont	ent	Category	Service	Product
2	Janua	k Towne	Private	Catering	Cold Platter
3	January	arlene Davis	Private	Catering	Cold Platter
4	January	Hometown Community College	Educational	Catering	Edible Fruit
5	February	Harmony and Me Sushi	Corporate	Catering	Banquet
6	February	Database Consultants	Corporate	Catering	Cold Platter

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Lesson 1: It Works for Me

1. Readings

Read Lesson 1 in the Advanced Excel guide, page 11-44.

Project

A spreadsheet that works with Tables in Excel. This lesson shows how to present data visually, format data as a Table and calculate the Totals.

Downloads

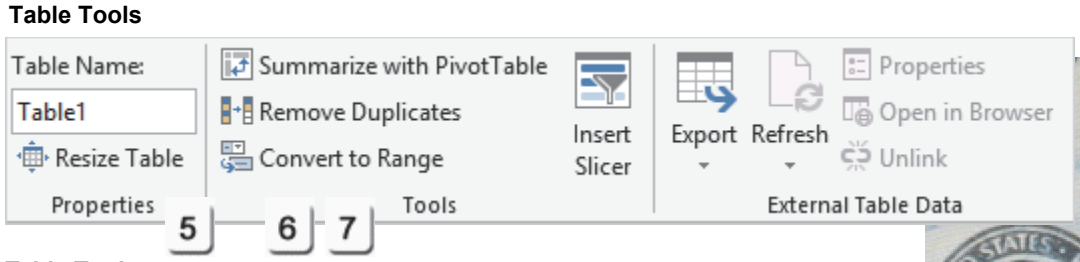
Sales 2013 Original Data.xlsx
Student Records.xlsx

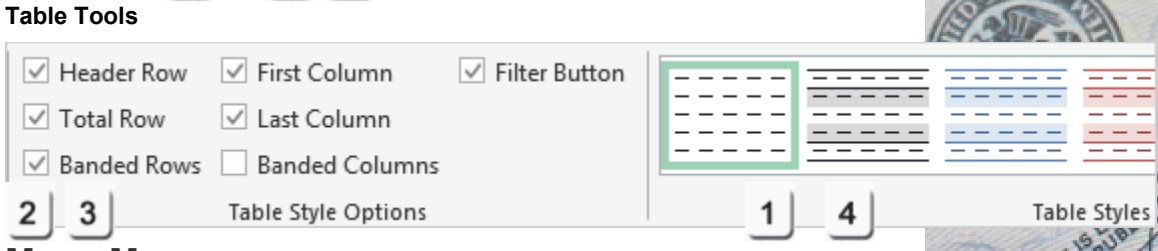
2. Practice

Complete the Practice Activity on page 45.

3. Assessment

Review the Test questions on page 46.



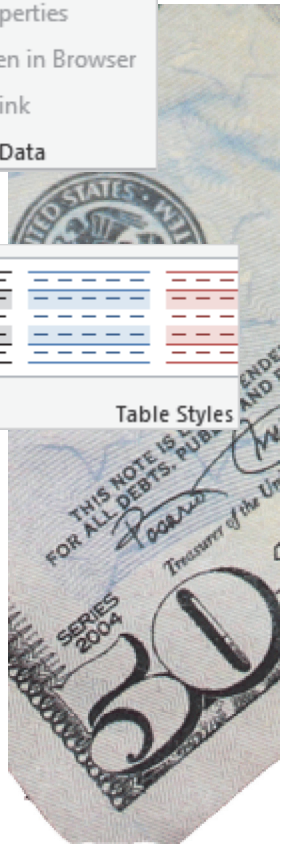


Menu Maps

This lesson demonstrates options on the **Table Tools** Ribbon.

1. Table Tools->Design ->Table Styles, page 24
2. Table Tools->Design ->Table Style Options->Header Row, page 25
3. Table Tools->Design ->Table Style Options -> Total Row, page 27
4. Table Tools-> Design ->Table Styles -> Clear, page 30
5. Table Tools-> Design ->Properties-> Resize Table, page 41
6. Table Tools-> Design ->Tools-> Remove Duplicates, page 42
7. Table Tools-> Design ->Tools-> Convert to Range, page 44

From the **Home** Ribbon
Home -> Conditional Formatting, page 31

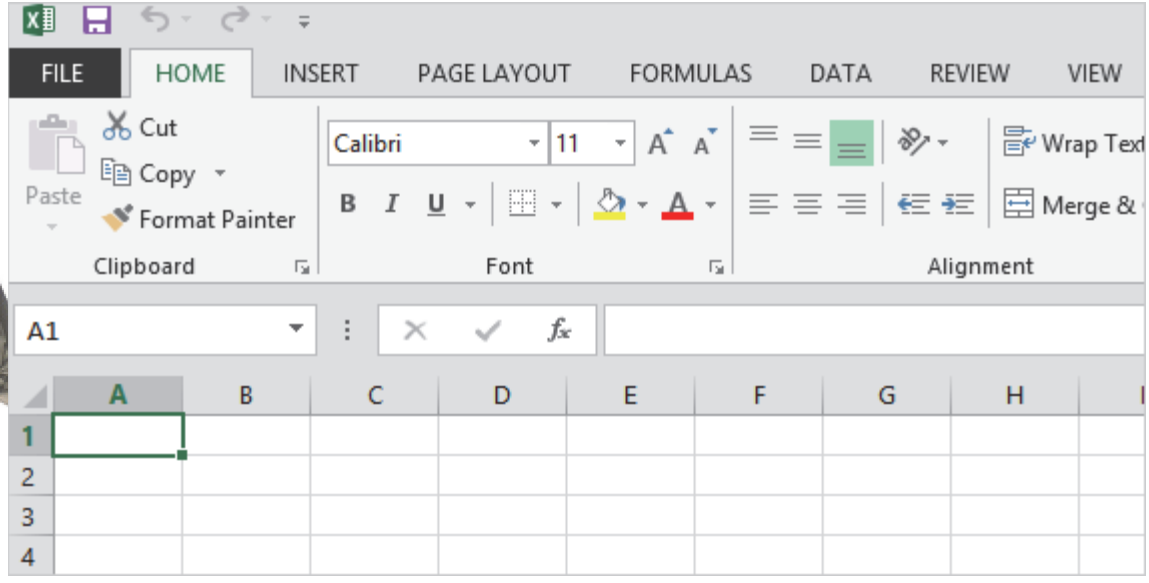




Organizing Data with Tables

One of the unique functions of a computer is to organize information into Rows and Columns. Microsoft Excel does Rows and Columns: specifically **Tables**. Tables can be little reference lists that are named and used in a formula. One good example is a Lookup table. By definition, vLookup has the data in Columns (vertical). Hlookup has the data in Rows (horizontal). The Advanced Guide to Excel begins with **Tables** and **Table Tools**.

Start Microsoft Excel. When the Welcome screen appears, open a new, blank workbook. **What do you see** from the top of the screen? Is there a **Home** Ribbon? And the **Insert**, **Page Layout, Formulas, Data. Review and View** Ribbons as well? Yes. Then you are ready to go.



Take One

Before You Begin

The purpose of this lesson is to investigate the **Table** Options in Microsoft Excel. You can use a spreadsheet that you created or download a sample spreadsheet if you wish.

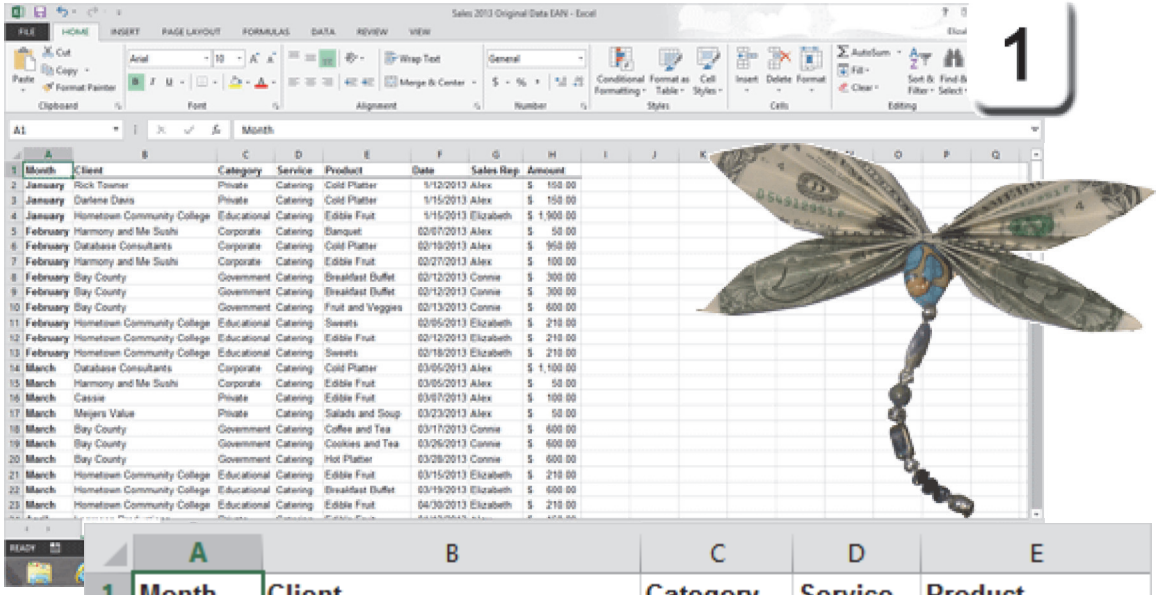
1. Try This: Open a Sample Spreadsheet
Open a sample spreadsheet:
Sales 2013 Original Data.xlsx
Go to the **Original Data** sheet.

What Do You See? This sheet shows the product sales for Charlotte' Website. The first row is BOLD: It is the Header Row. There are many rows of data.

So far, so good. Keep going...

Memo to Self: You do not have to MATCH the numbers shown on these pages. It is more important that you begin with some data and understand the options.

File -> Open



	A	B	C	D	E
1	Month	Client	Category	Service	Product
2	January	Rick Towner	Private	Catering	Cold Platter
3	January	Darlene Davis	Private	Catering	Cold Platter
4	January	Hometown Community College	Educational	Catering	Edible Fruit
5	February	Harmony and Me Sushi	Corporate	Catering	Banquet
6	February	Database Consultants	Corporate	Catering	Cold Platter
7	February	Harmony and Me Sushi	Corporate	Catering	Edible Fruit
8	February	Bay County	Government	Catering	Breakfast Buffet

Still Before You Begin

A good administrator makes a COPY of the data before manipulating it.

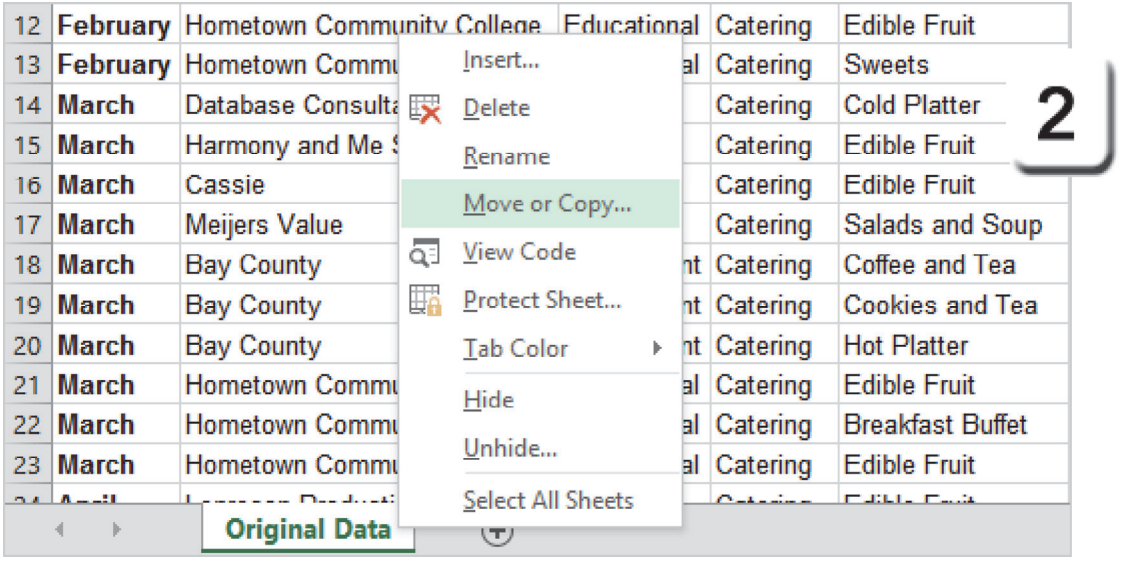
2. Try This: Copy the Spreadsheet
Go to **Home -> Cells -> Format.**
Click on **Move or Copy Sheet.**
A new sheet will be inserted.

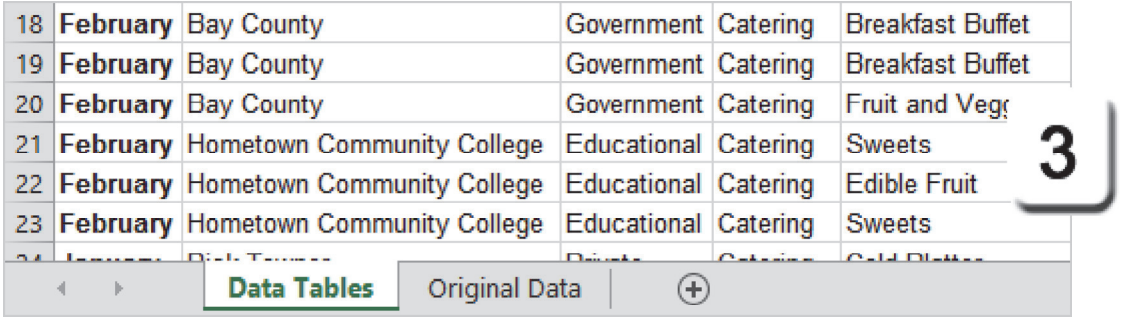
3. Try This: Rename the Worksheet
Click on the **Original Data (2)** tab.
Go to **Home -> Cells -> Format.**
Click on **Rename Sheet.**
The Name in the tab should be highlighted. Type: Data Tables.
Click ENTER on the keyboard.

Keep going...

Memo to Self: You can achieve the same results by right-clicking the tab, as shown.

Home -> Cells->Format->Move or Copy Sheet





Take One

Sort & Filter: A to Z

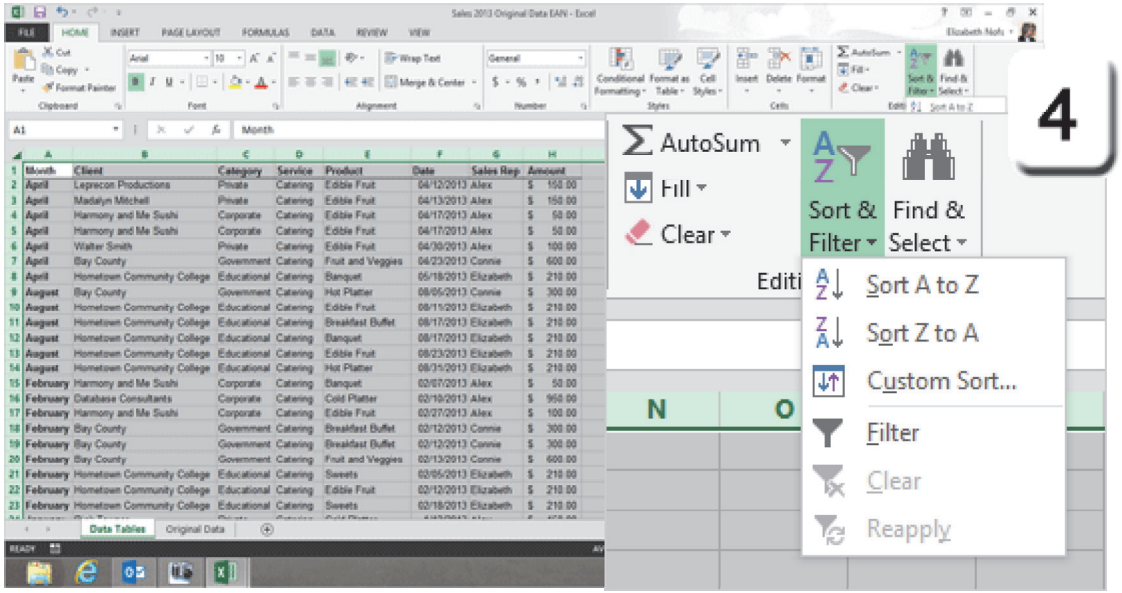
So, here is a list of clients that bought products from Charlotte's Website. The fields in the Header Row include the name, date, product and amount for the sales.

4. Try This: Sort & Filter the Data
Select the entire spreadsheet.
Go to **Home -> Editing->Sort & Filter.**
Select: **Sort A-Z**.

What Do You See? The data is sorted by the first Column. By default, the data is sorted alphabetically. So, the names of the months go from April (A) through September (S)....that's not what most people have in mind.

Try Again: Undo the last step and keep going...

Home -> Editing->Sort & Filter->Sort A to Z





	A	B	C	D	E
1	Month	Client	Category	Service	Product
2	April	Leprecon Productions	Private	Catering	Edible Fruit
3	April	Madalyn Mitchell	Private	Catering	Edible Fruit
4	April	Harmony and Me Sushi	Corporate	Catering	Edible Fruit
5	April	Harmony and Me Sushi	Corporate	Catering	Edible Fruit
6	April	Walter Smith	Private	Catering	Edible Fruit

Exam 77-420 Microsoft Excel 2013
2. Create Cells and Ranges
2.3 Order and Group Cells and Ranges: Sort

Take One

Data: Sort Order

There is another kind of **Sort** that can be found on the **Data** Ribbon. This Sort lets you use one or several criteria. The criteria comes from the names in the Header Row.

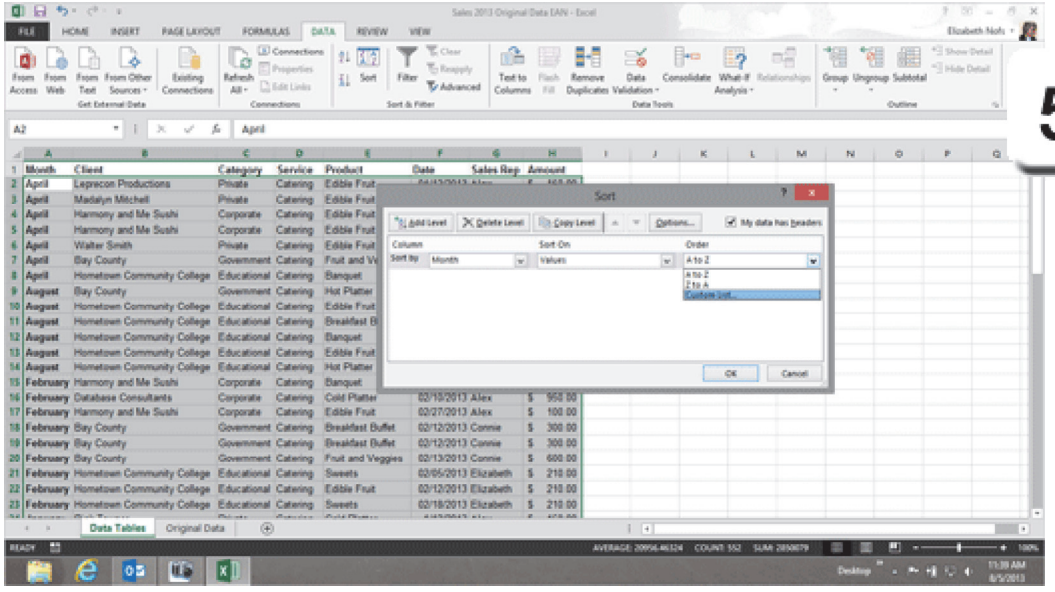
5. Try it: Data Sort
Select the whole spreadsheet.
Go to **Data -> Sort & Filter ->Sort.**



What Do You See? The options include:
Add Level
Delete Level
Copy Level
Options
There should be a check mark for:
My data has headers.

Try This, Too: Edit the Sort Options
Sort by: Month
Sort On: Values
Order: Custom List (Remember, A to Z didn't work for Months.) Keep going...

Data -> Sort & Filter ->Sort



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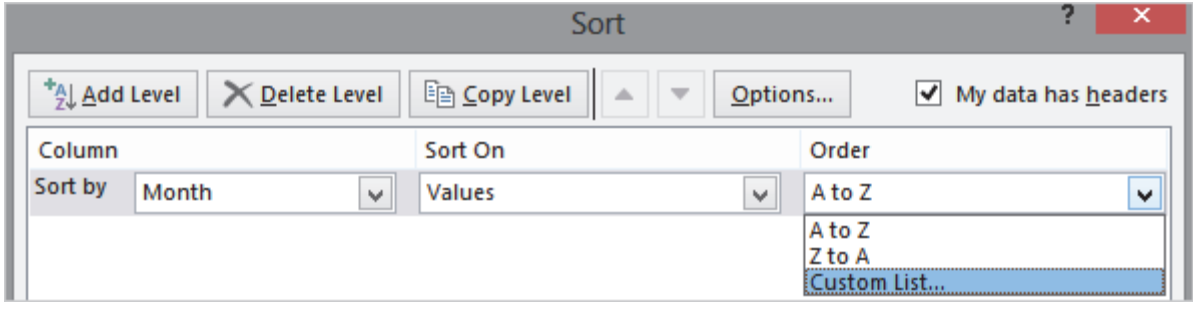


Exam 77-420 Microsoft Excel 2013
2. Create Cells and Ranges
2.3 Order and Group Cells and Ranges: Sort Order

Take One

Data: Custom Sort Criteria

What Do You See? Spreadsheets are used for financials and financials are recorded by date. Spreadsheets like Excel recognize that Months are sorted in calendar order, not alphabetically. Here are the steps:

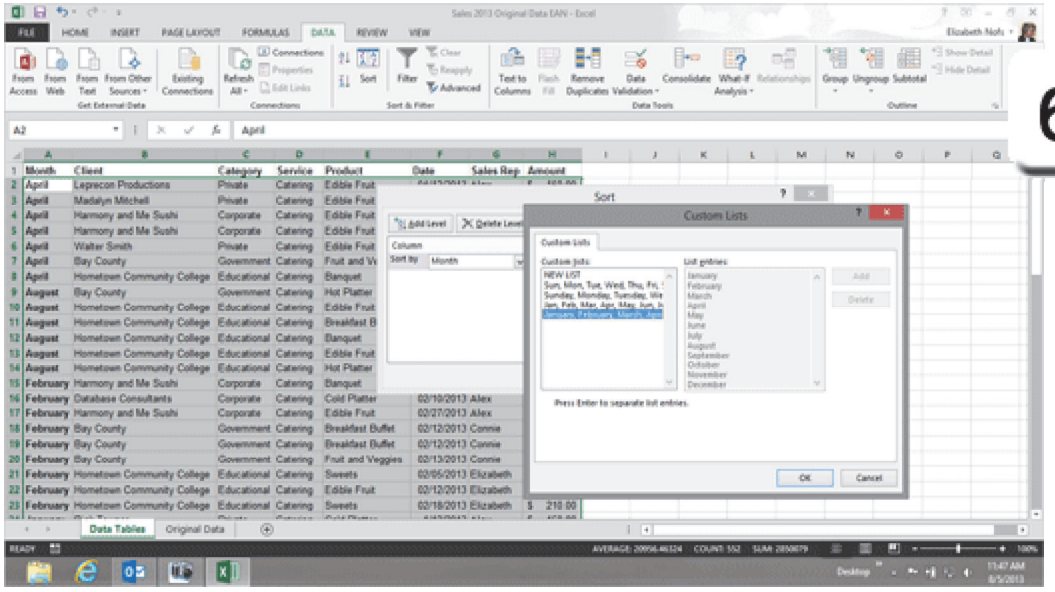
6. Try it: Choose a Custom List
Select the spreadsheet.
Go to **Data -> Sort & Filter ->Sort.**
Go to **Order-> Custom List.**
Select: January, February, March, April...
This is the **List** that matches our data.

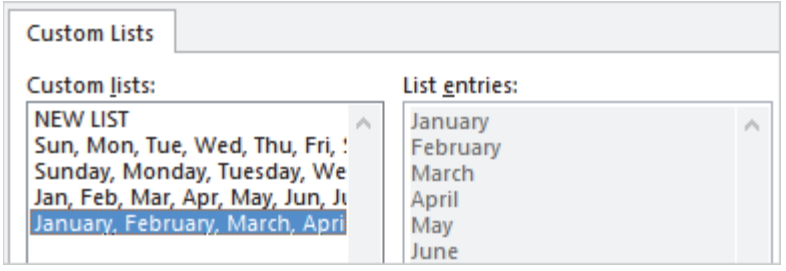
Click **OK**, then **OK** again to save and close both windows. The entire list has been sorted. Not bad, huh?

Keep going...

The Computer Mama sez: In the 1980s, Fr. Paul wanted to sort 550 families on a PDP 11 computer. It took most of the night. Computers are faster now, aren't they?

Data -> Sort & Filter ->Sort-> Order-> Custom List





6

Take One

Data: Sort by Multiple Criteria

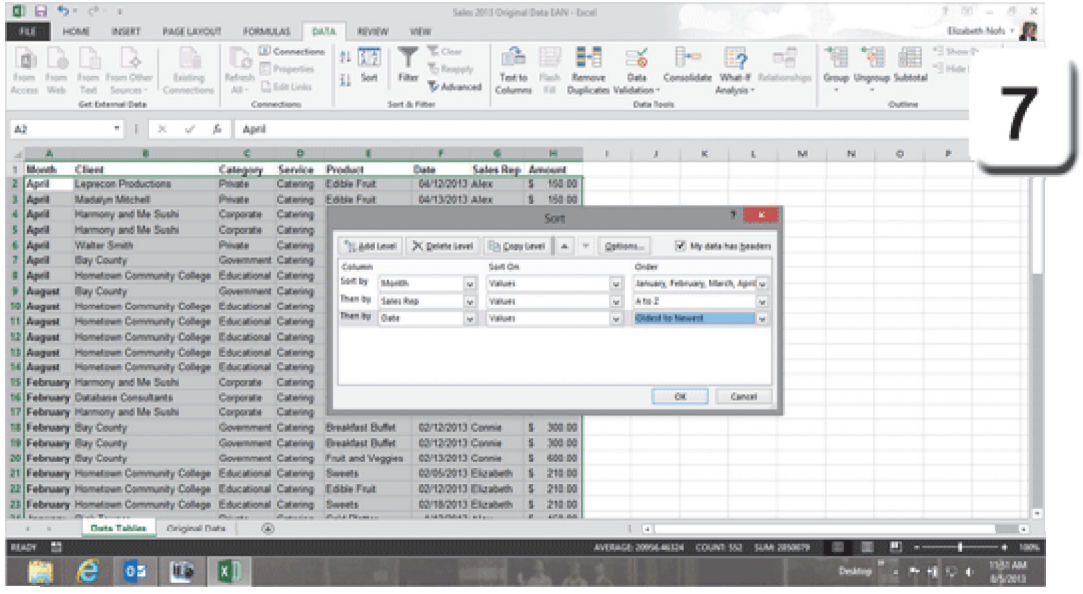
Sometimes, it is useful to **Sort** the information by more than one criteria. Say you wanted to see how much each sales rep sold by month.

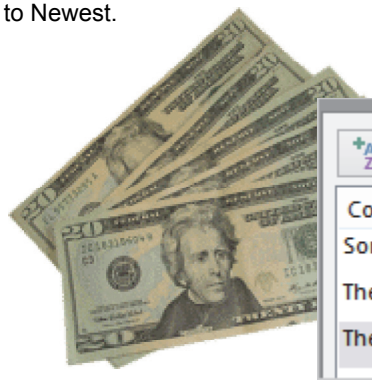
7. Try it: Sort by Multiple Criteria
Select the entire spreadsheet.
Go to **Data -> Sort & Filter ->Sort.**
The **Order** is **Custom:** January, February, March

Click on **Add Level** to add a second Row.
Choose: Sales Rep
The Order is A to Z.

Click on **Add Level** again to add another Row.
Choose: Date
The Order is Oldest to Newest.
Click **OK**.

Data -> Sort & Filter ->Sort-> Add Level

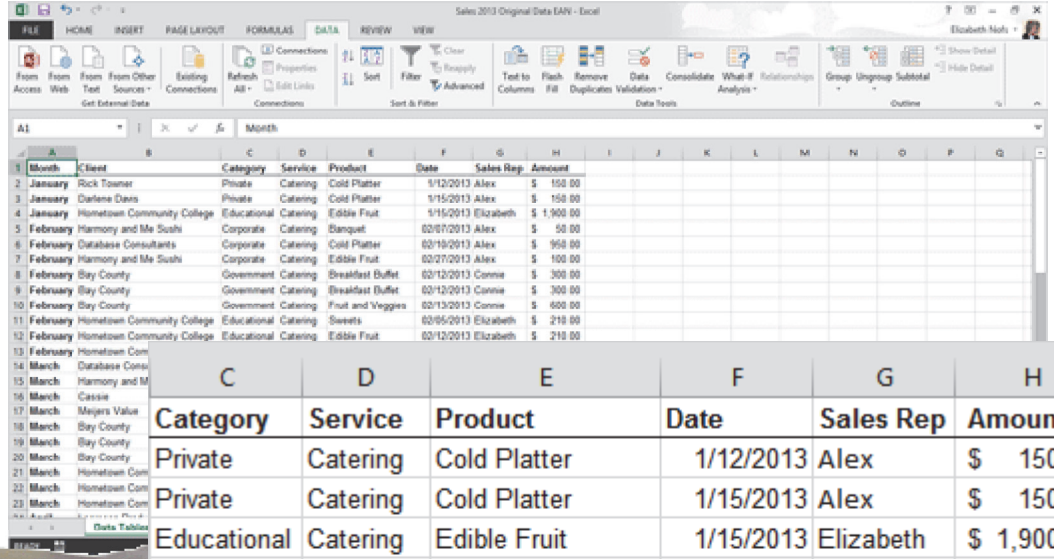




Summary of List Options

What Do You See? The information was sorted to our criteria. However, it is very difficult to read and interpret the data. It all looks the same. This looks like a list with details, details and still more details.

A **Table** is a easy to format and filter. You can also use a Table to calculate numbers in a **Total Row**. Interested? OK, start here...



C	D	E	F	G	H
Category	**Service**	**Product**	**Date**	**Sales Rep**	**Amount**
Private	Catering	Cold Platter	1/12/2013	Alex	$ 150.00
Private	Catering	Cold Platter	1/15/2013	Alex	$ 150.00
Educational	Catering	Edible Fruit	1/15/2013	Elizabeth	$ 1,900.00
Corporate	Catering	Banquet	02/07/2013	Alex	$ 50.00
Corporate	Catering	Cold Platter	02/10/2013	Alex	$ 950.00
Corporate	Catering	Edible Fruit	02/27/2013	Alex	$ 100.00
Government	Catering	Breakfast Buffet	02/12/2013	Connie	$ 300.00
Government	Catering	Breakfast Buffet	02/12/2013	Connie	$ 300.00
Government	Catering	Fruit and Veggies	02/13/2013	Connie	$ 600.00
Educational	Catering	Sweets	02/05/2013	Elizabeth	$ 210.00
Educational	Catering	Edible Fruit	02/12/2013	Elizabeth	$ 210.00

Take One

Format as Table

Rows and Columns can be organized into a **Table**. A Table has Properties that can be formatted much more easily than a **List**. Here are the steps to convert a List into a Table.

1. Try It: Format a Table
Select Cell A1.
Go to **Home->Styles.**
Click on **Format as Table**.
Choose: Table Style Medium 4.

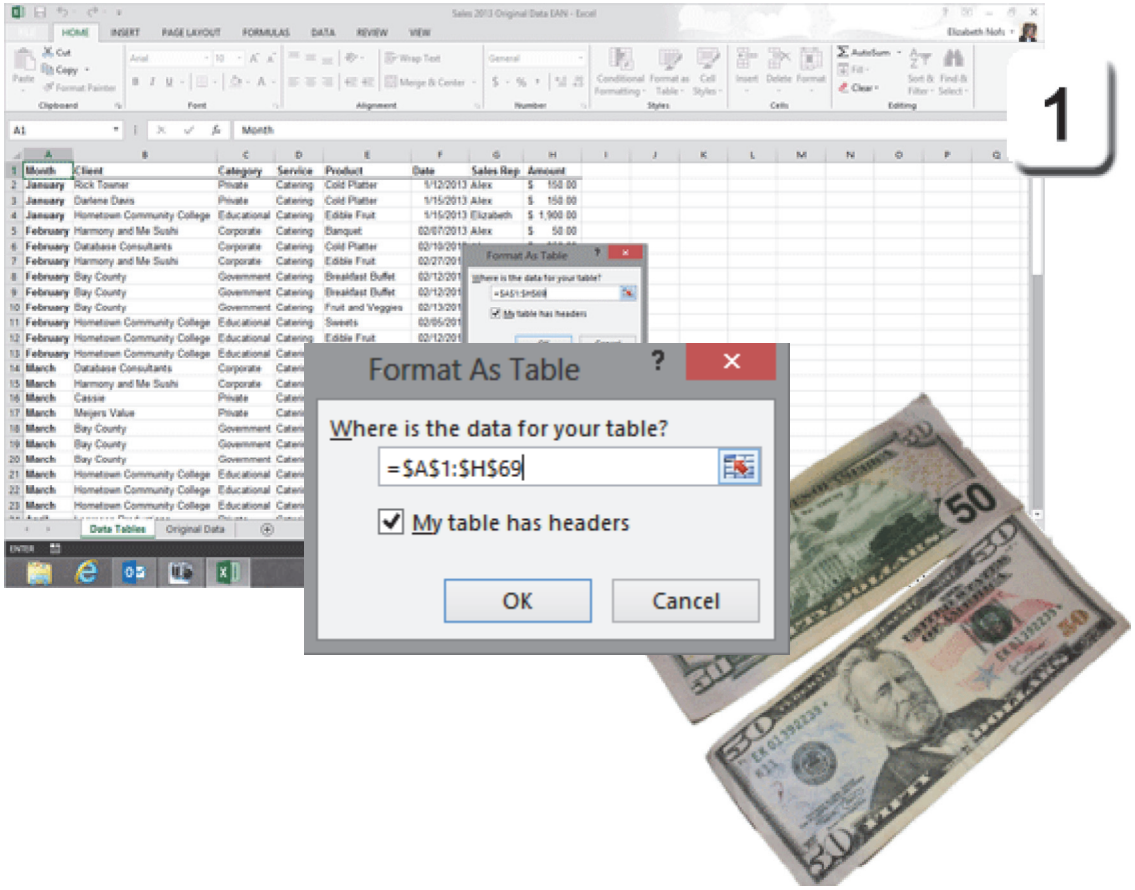
Where is the data for your table?
You will be prompted to select the **Range** for you data. In the example on this page, Excel selected all of the Cells from $A$1:$H$69. The Range is Absolute.

What Else Do You See? There should be a check mark for My table has headers.

Click **OK**.

Keep going, please...

Home->Styles->Format as Table



Take One

Hello, Table!

2. What Do You See? The data has been formatted as a Table. The Header Row is Bold and it has little filters: Drop-down option lists.

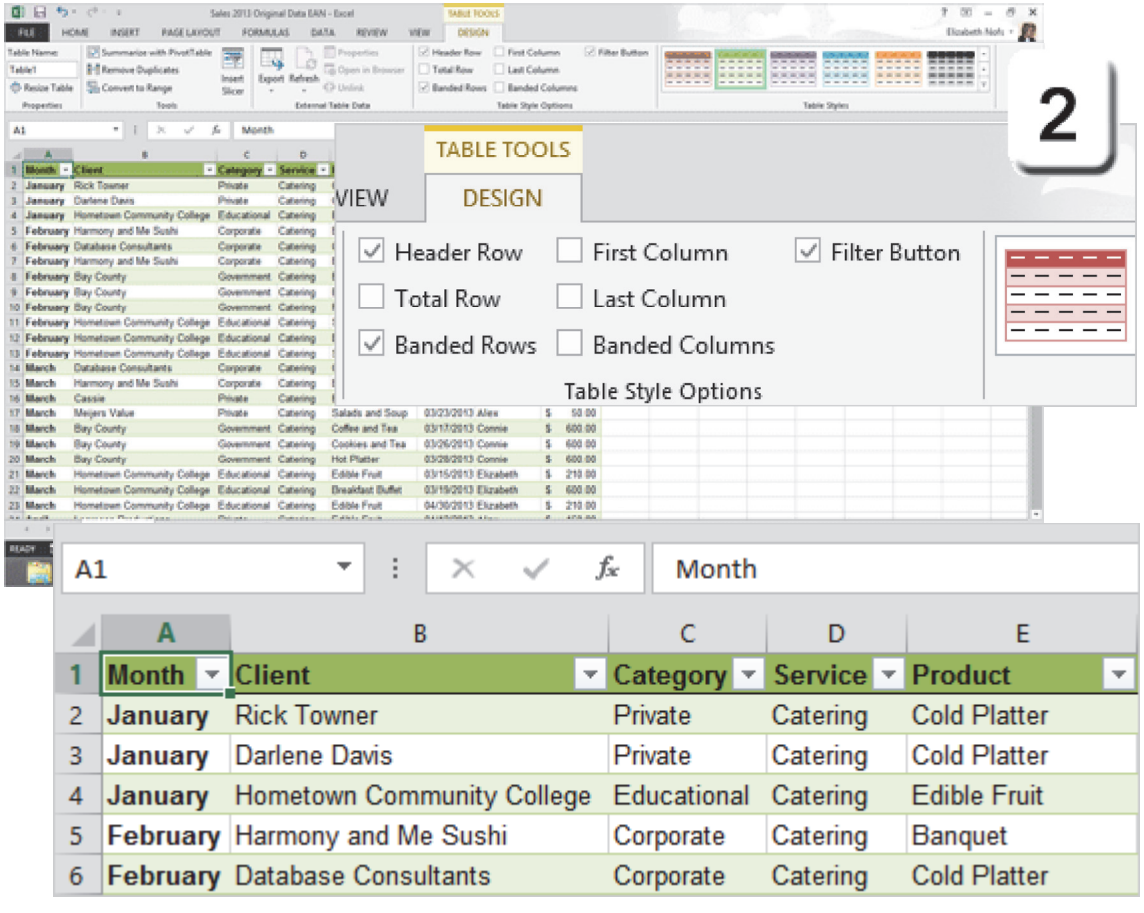
The rows of customer information have been formatted to make the data easier to read.

What Else Do You See? The **Table Tools** should be available.

Keep going...

Where Have You Seen This Before? Microsoft Word has Table Tools, as well. However, Word has two Ribbons: Design and Layout. Microsoft Excel already recognizes Rows and Columns, whereas Word has to define them with the Layout Ribbon.

Table Tools->Design



Use the Header Row

You can use the Header Row to **Sort** and **Filter** the data.

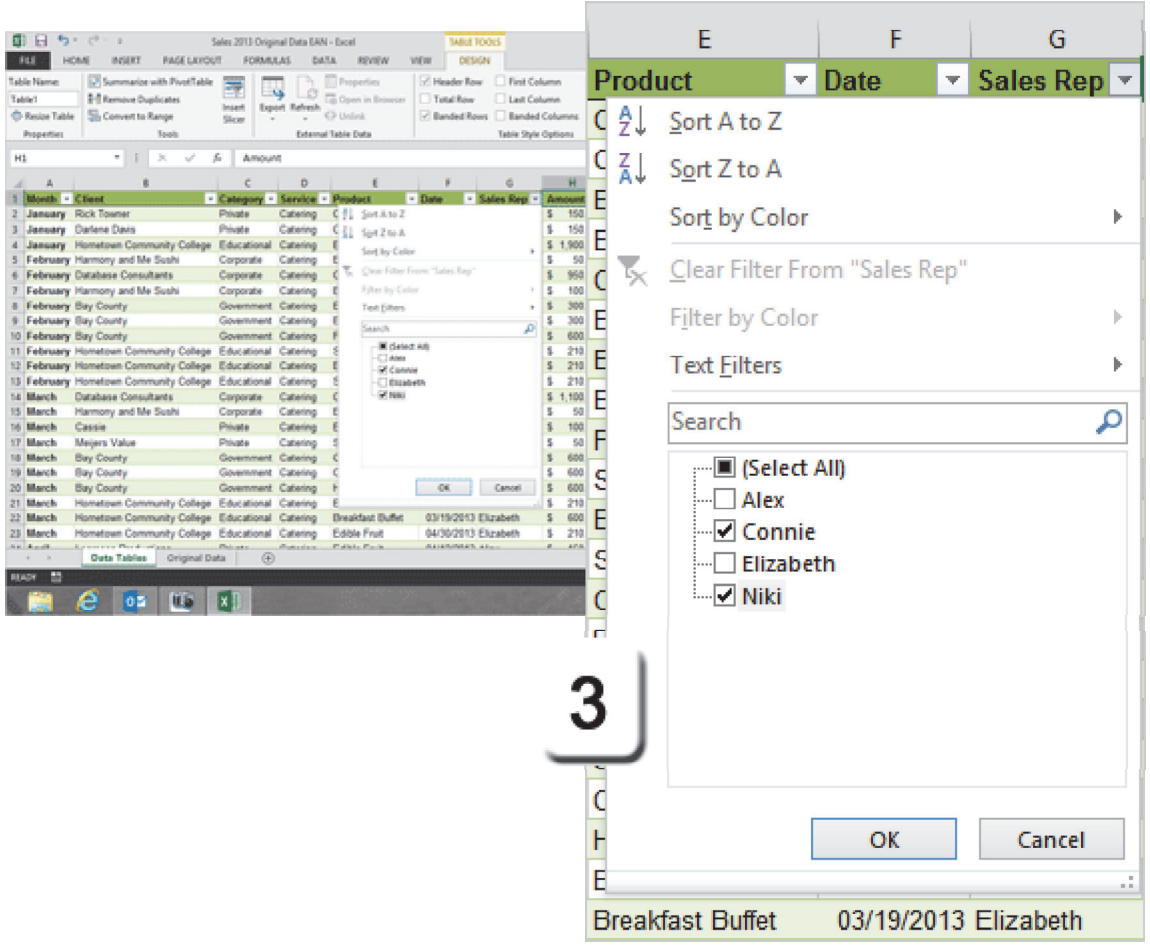
3. Try It: Use the Header Row Filters
Select the **Sales Rep** Filter.
Sort the Column A to Z.

Try This, Too: Filter the Data
Filter the Sales Reps: Connie and Niki.

What Do You See? Only the Rows where Connie or Niki are the Sales Reps are shown. The other rows are hidden.

What Else Do You See? This Table has **Banded Rows**. Does the formatting update when you choose different **Filters**?

Where Have You Seen This Before? The Header Row is used to create Mail Merge Fields in Microsoft Word, too.



Take One

Table Styles

Formatting makes the data easier to read and understand. Microsoft Excel has a library of **Table Styles**. The Styles format the Headers as well as the Columns and Rows.

Before You Begin: Please click anywhere on the Table to select it. The **Table Tools** should be available.

4. Try It: Apply a Table Style
Go to **Table Tools->Design**.
Go to **Table Styles**.
Select a **Quick Style** from the library.

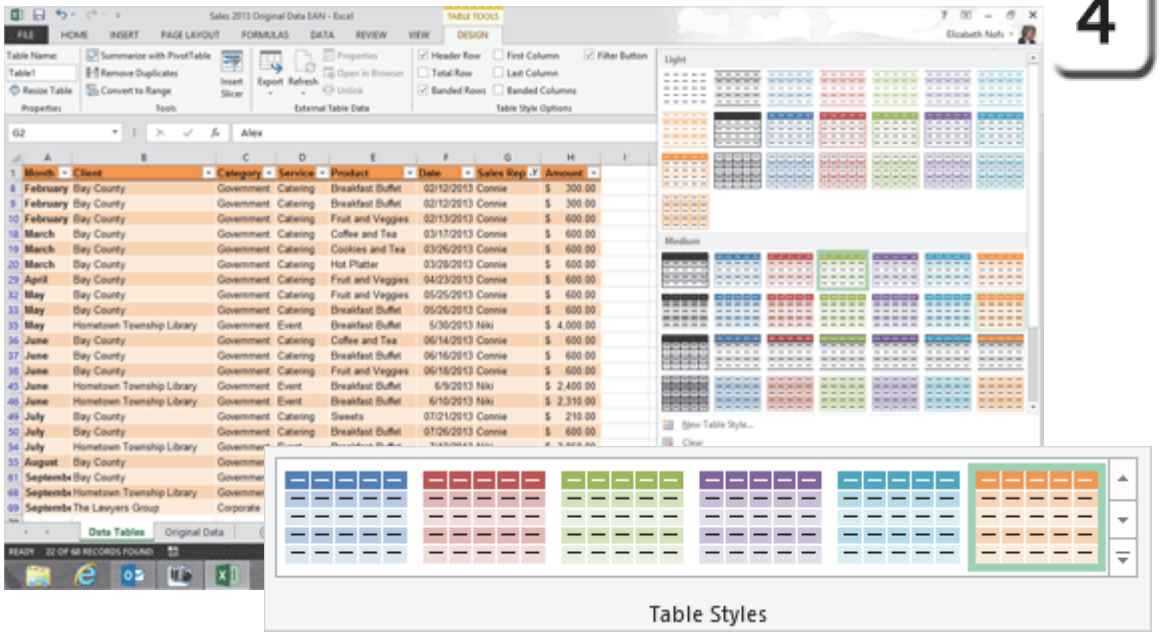
What Do You See? The Table Styles are grouped by Light, Medium and Dark.

What Else Do You See? The Sales Rep data is Filtered. There is a little funnel symbol on the Field.

Keep going...

Table Tools->Design ->Table Styles

4



E	F	G	H
Product	Date	Sales Rep	Amount
Breakfast Buffet	02/12/2013	Connie	$ 300.00
Breakfast Buffet	02/12/2013	Connie	$ 300.00
Fruit and Veggies	02/13/2013	Connie	$ 600.00
Coffee and Tea	03/17/2013	Connie	$ 600.00

Exam 77-420 Microsoft Excel 2013
3. Create Tables
3.2 Modify a Table: Apply Styles to Tables

Take One

Table Style Options

You can use the **Table Style Options** to display the Header Row, Total Row and formatting if you wish.

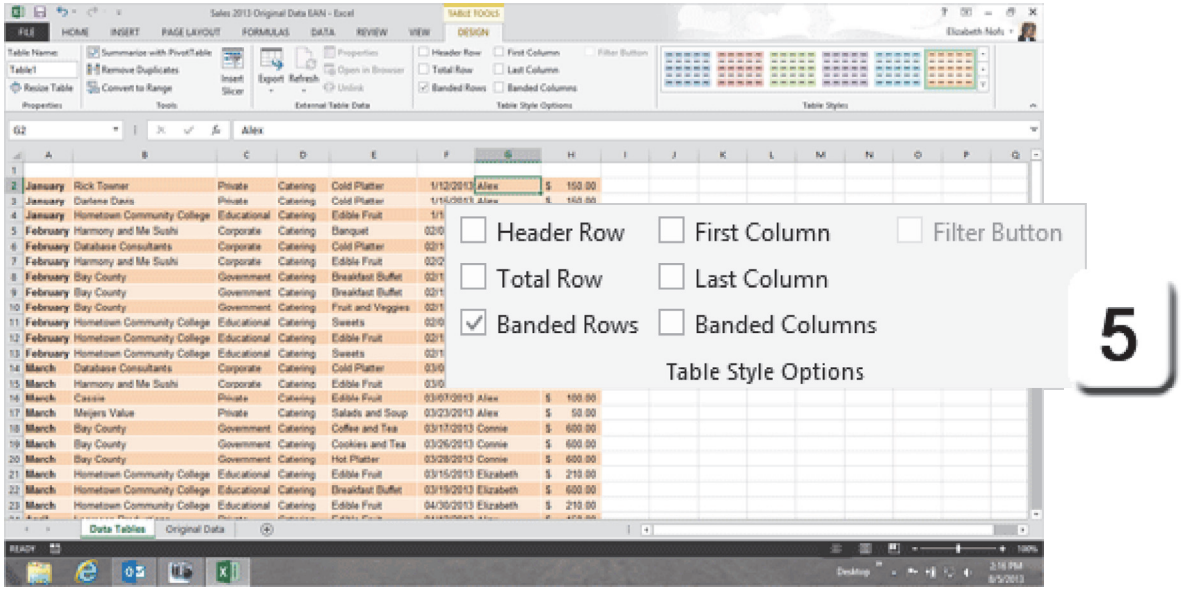
5. Try It: Add or Remove the Header
Go to **Table Tools-> Design**.
Look in the **Table Style Options**.
Uncheck the **Header Row**.

What Do You See? When you turn off the Header Row, the first Row becomes blank. You may also see an error message that warns that turning off the Header Row will change the answer in the Total Row. Yes, it will. The Filter and the Filter button on Sales Rep will be removed when you turn off the Header Row so you should see all four Sales Reps shown in the Total.

Trust But Verify: Turn the Header Row back on, please. The Header and the Filters should be available again.

Memo to Self: The Header Row Field Names are saved in the Table Properties.

Table Tools->Design ->Table Style Options



E	F	G	H
Cold Platter	1/12/2013	Alex	$ 150.00
Cold Platter	1/15/2013	Alex	$ 150.00
Edible Fruit	1/15/2013	Elizabeth	$ 1,900.00
Banquet	02/07/2013	Alex	$ 50.00
Cold Platter	02/10/2013	Alex	$ 950.00

Exam 77-420 Microsoft Excel 2013
3. Create Tables
3.2 Modify a Table: Apply Table Style Options (Header Row)

Take One

Table Style Options

Color is an effective method to indicate which data should get the most attention.

Before You Begin: Please click anywhere on the Table to select it. The **Table Tools** should be available. The **Filter** is off: All of the Sales Reps are selected.

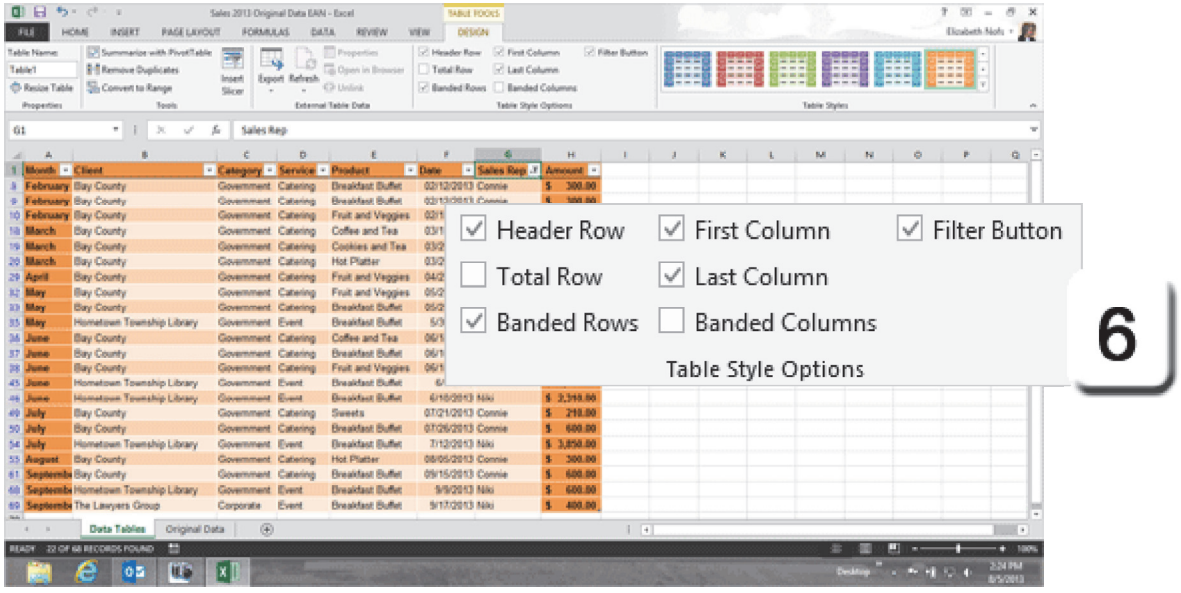
6. Try It: Edit the Table Style Options
Go to **Table Tools->Design.**
Go to **Table Style Options**.
Select: Banded Rows.
Select: First Column and Last Column.

What Do You See? The Table Styles emphasized the first and last columns by formatting the Cells Bold.

The **Banded Rows** make it easier to read across a Row.

You can keep going, there's more...

Table Tools->Design ->Table Style Options



E	F	G	H
Product	Date	Sales Rep	Amount
Cold Platter	1/12/2013	Alex	$ 150.00
Cold Platter	1/15/2013	Alex	$ 150.00
Edible Fruit	1/15/2013	Elizabeth	$ 1,900.00
Banquet	02/07/2013	Alex	$ 50.00

Exam 77-420 Microsoft Excel 2013
3. Create Tables
3.2 Modify a Table: Banded Rows and Columns

">

Take One

Calculate the Totals

Adding a **Total Row** to the Table is as simple as checking the option.

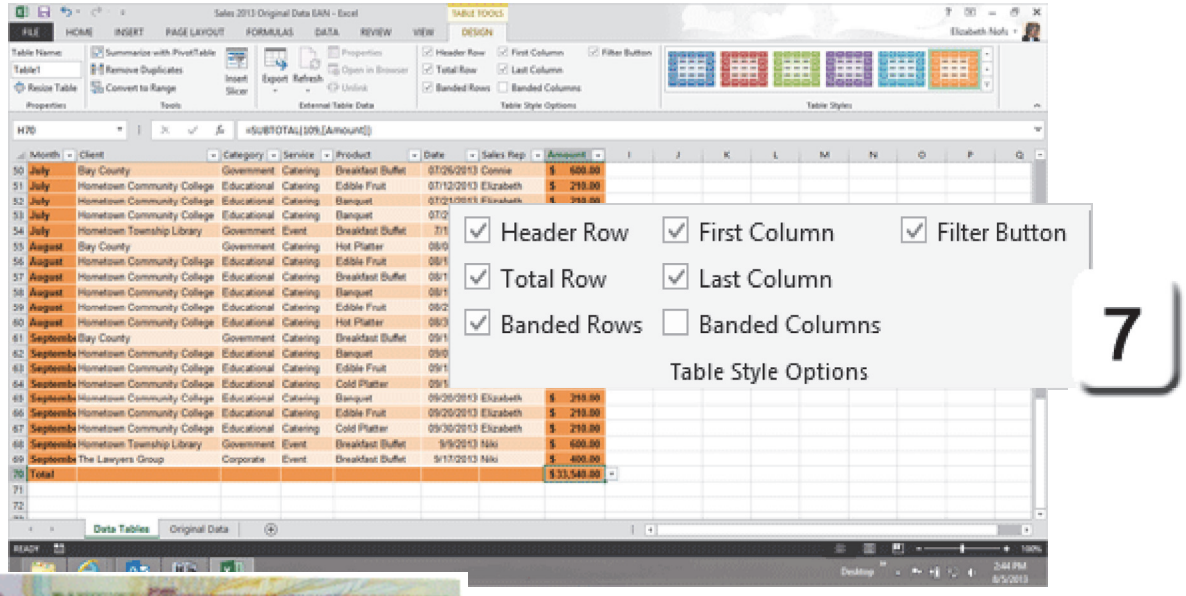
Before You Begin: Click on the Table. The Table Tools should be available.

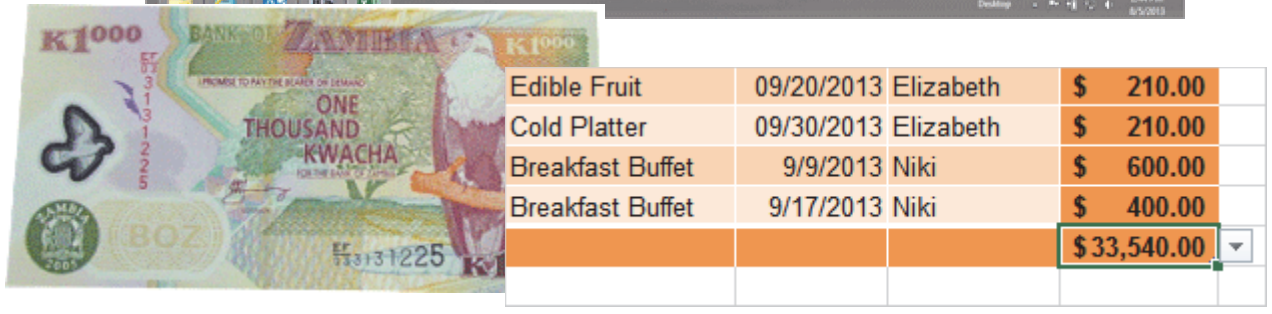
7. Try It: Add a Total Row
Go to **Table Tools->Design.**
Go to **Table Style Options**.
Select: **Total Row**.

What Do You See? By default, the Total Row will be added to the bottom of the Table. Microsoft Excel will insert a formula for your Total: $33,540.00.

Keep going, OK?

Table Tools->Design ->Table Style Options -> Total Row





Exam 77-420 Microsoft Excel 2013
3. Create Tables
3.2 Modify a Table: Insert a Total Row

Table Tools->Design ->Table Style Options -> Total Row

Edit the Total Row

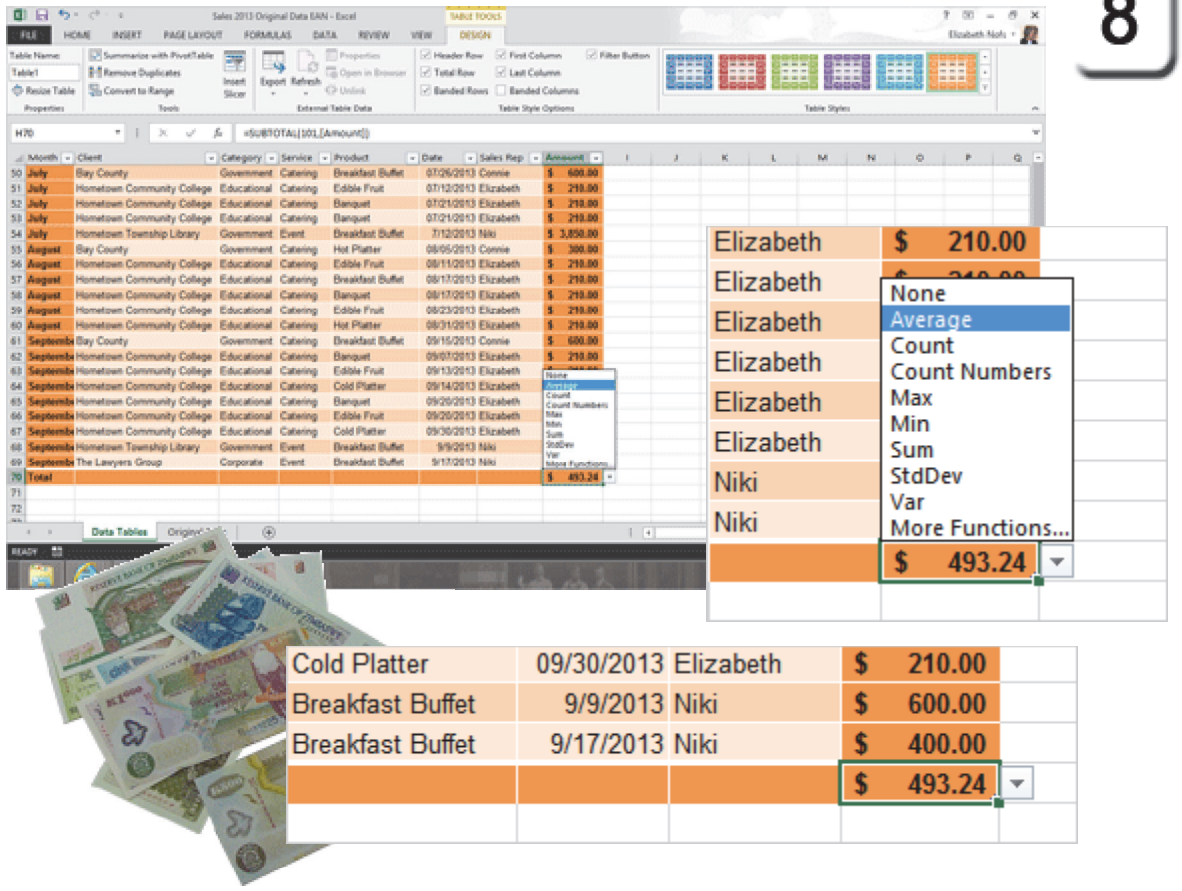
Click on the Total number: It adds the Sum of the Amounts in this Column. You can change the operation from Sum to Average, Count, Max, Min or any of the options available in the extensive library.

8. Try It: Edit the Total Row Function
Select: Cell H70. In this example, it is the Cell with the Total formula.

Select a Function: Average.

What Do You See? The average price will be calculated.

Memo to Self: How would someone know that this is the Average, and not the Sum? Labels, Labels, Labels.



Exam 77-420 Microsoft Excel 2013
3. Create Tables
3.2 Modify a Table: Edit the Total Row

Take One

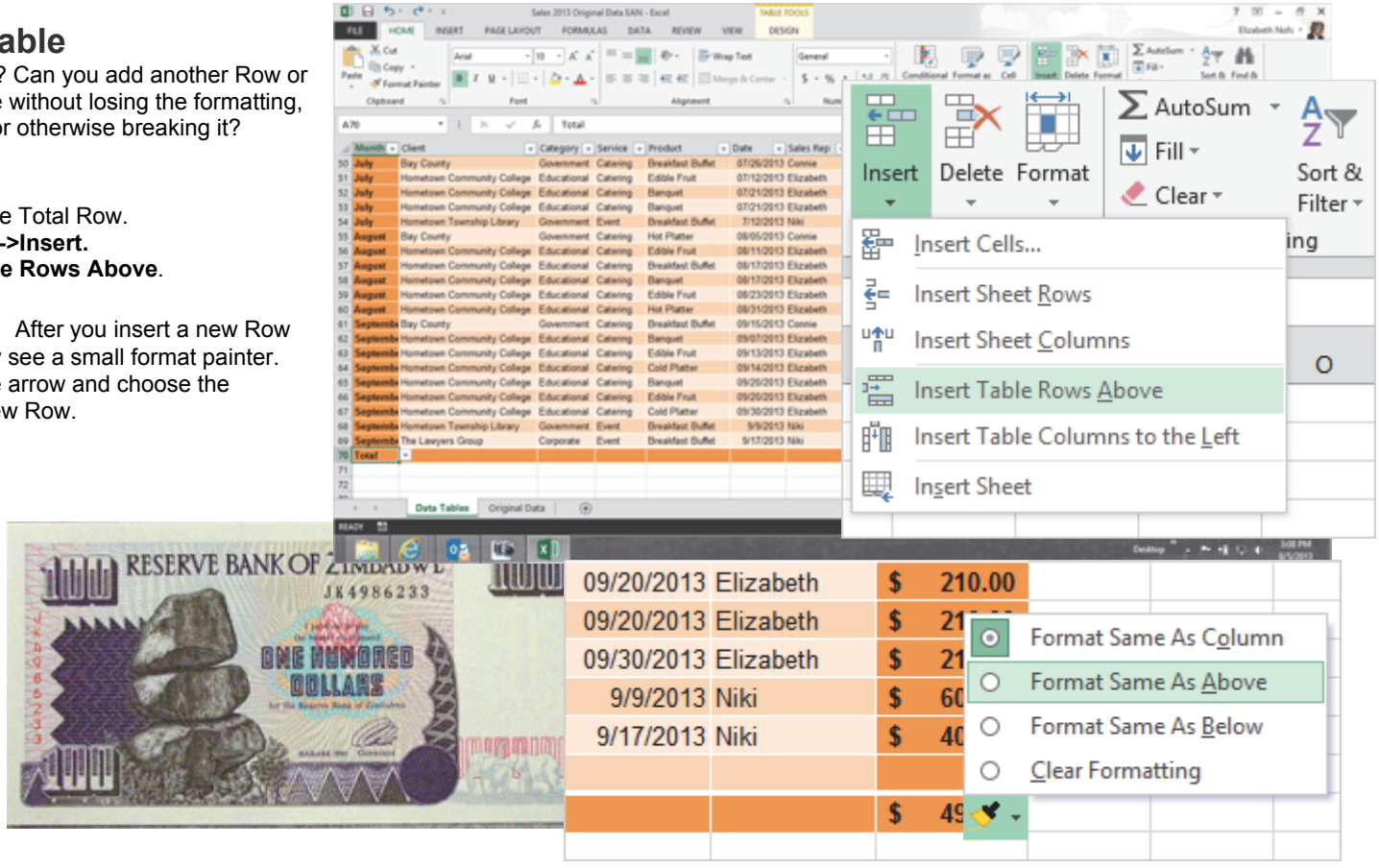
Add to the Table

Is the Table flexible? Can you add another Row or Column to the Table without losing the formatting, totals calculations, or otherwise breaking it?

Try It: Add a Row
Select any Cell in the Total Row.
Go to **Home->Cells->Insert.**
Click on **Insert Table Rows Above**.

What Do You See? After you insert a new Row or Column, you may see a small format painter. You can click on the arrow and choose the formatting for the new Row.

Home->Cells->Insert->Insert Table Rows Above



Take One

Conditional Formatting

People have a hard time reading numbers. You can use color to show trends or make comparisons, say High, Medium, and Low.

Microsoft Excel calls this **Conditional Formatting**. The color depends on the condition, which you can choose.

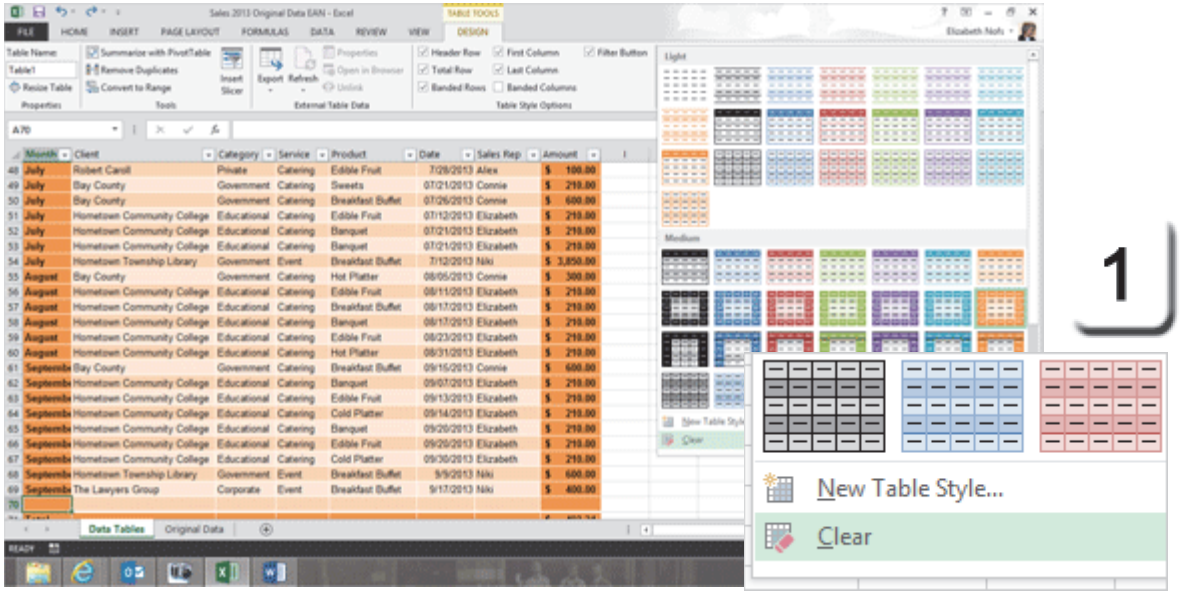
Let's look at the options.

1. Try This: Clear the Styles
Click on the Table. The Table Tools should be available.
Go to **Table Tools->Design**.
Go to **Table Styles -> More->Clear.**

What Do You See? The Table Styles should be cleared.

Keep going...

Table Tools-> Design ->Table Styles -> More->Clear





E	F	G	H
Product	Date	Sales Rep	Amount
Cold Platter	1/12/2013	Alex	$ 150.00
Cold Platter	1/15/2013	Alex	$ 150.00
Edible Fruit	1/15/2013	Elizabeth	$ 1,900.00
Banquet	02/07/2013	Alex	$ 50.00

Exam 77-420 Microsoft Excel 2013
3. Create Tables
3.2 Modify a Table: Remove Styles from Tables

Take One

Conditional Formats

Microsoft Excel has a library of **Conditional Formatting** including Data Bars, Color Sets and Icons.

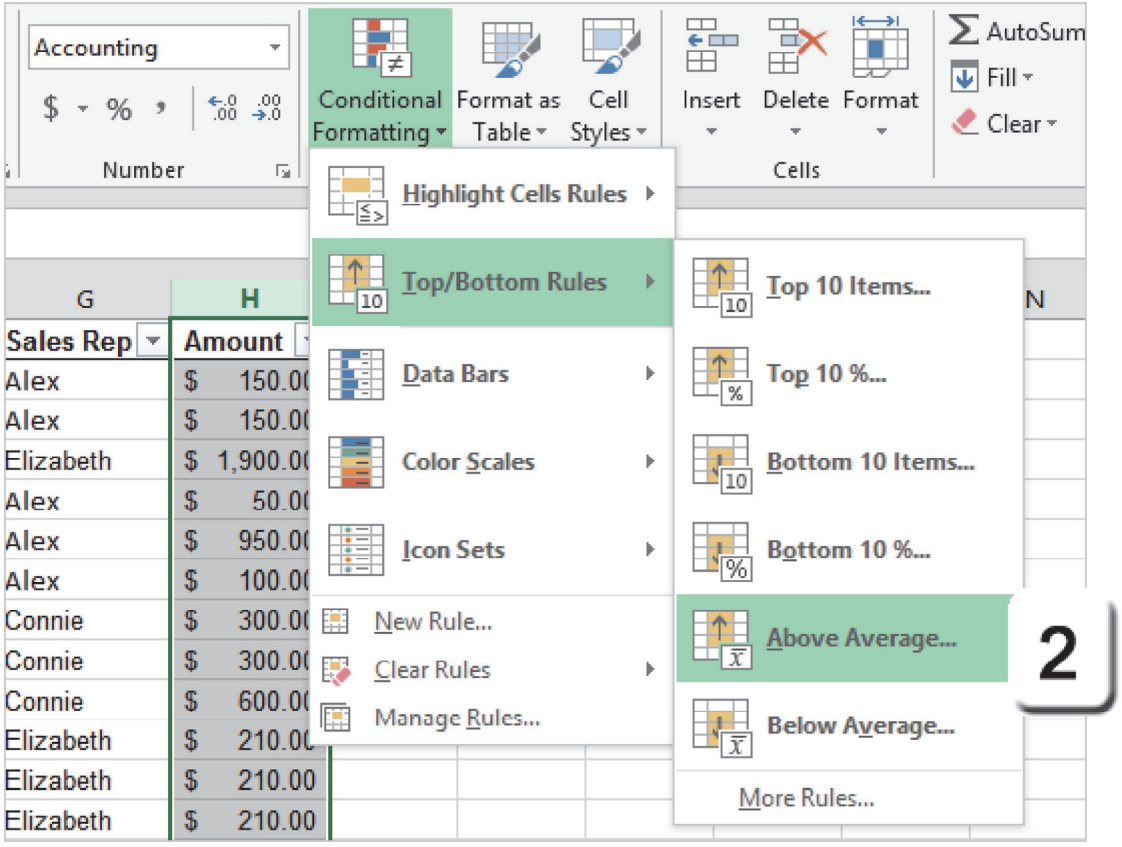
Each of these formats is based on Conditional Formulas, or **Rules**. Let's start with a simple Rule: show me any amount that is above the average.

2. Try It: Above or Below Average?
Select Column H.
In the sample spreadsheet, this is the column with the Amount.

Go to **Home ->Styles.**
Go to **Conditional Formatting**.
Go to **Top/Bottom Rules**.
Select: **Above Average.**

Keep going, you will be prompted...

Home-> Styles-> Conditional Formatting -> Top/Bottom Rules



Take One

Choose the Formatting

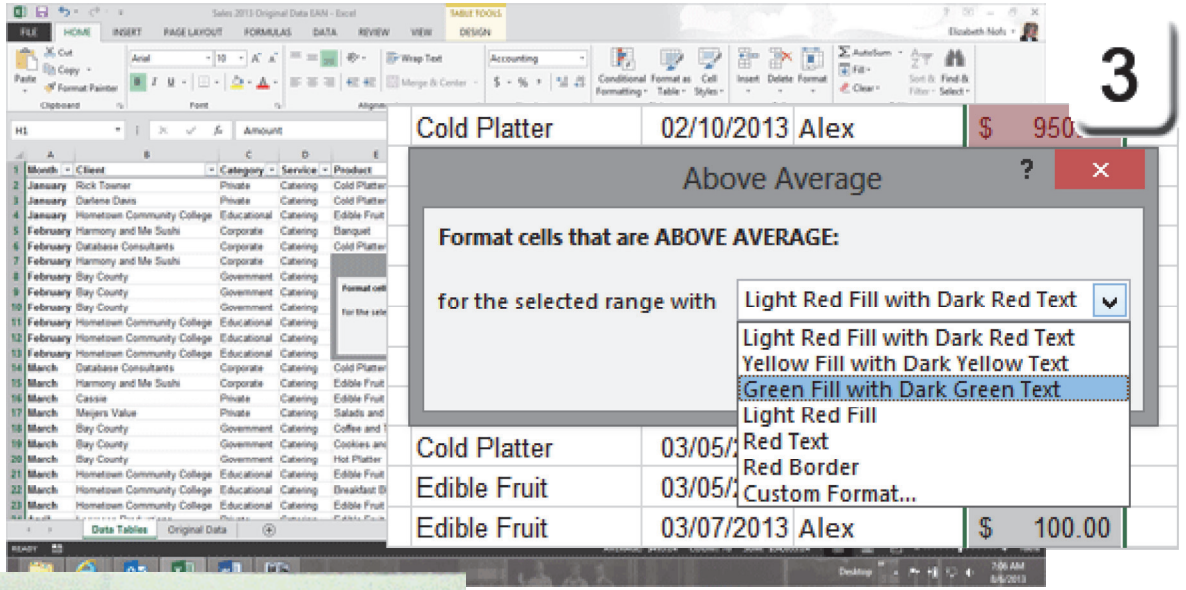
What Do You See? You will be prompted to select the colors when you select a **Top/Bottom** Rule.

In the example on this page, the suggested color is red, which isn't what people expect if the amount is ABOVE the Average.

Green means go: It is used to indicate financial success.

3. Try It: Format Cells
Select Green Fill with Dark Green Text, please. Click **OK**. The Amount in Column H will be formatted Green if it is Above Average.

Home-> Styles-> Conditional Formatting-> Top/Bottom Rules





E	F	G	H
Product	Date	Sales Rep	Amount
Cold Platter	1/12/2013	Alex	$ 150.00
Cold Platter	1/15/2013	Alex	$ 150.00
Edible Fruit	1/15/2013	Elizabeth	$ 1,900.00
Banquet	02/07/2013	Alex	$ 50.00
Cold Platter	02/10/2013	Alex	$ 950.00

Exam 77-427 Microsoft Excel 2013 EXPERT
2. Apply Custom Formats and Layouts
2.2 Apply Advanced Conditional Formatting and Filtering: Apply Rules (Top/Bottom)

More Than One Rule

You can have more than one Conditional Rule formatting your data. In this illustration, there is one color for sales Above Average, and another for the sales Below Average.

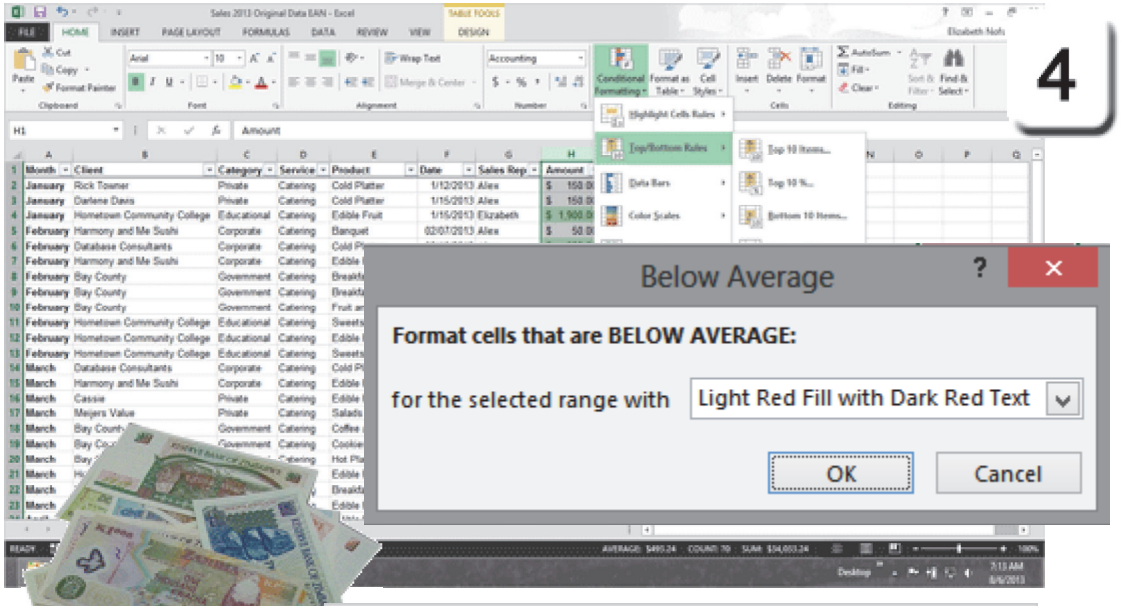
4. Try It: Add Another Rule
Select Column H.
Go to **Home -> Styles.**
Go to **Conditional Formatting**.
Go to **Top/Bottom Rules.**
Select: **Below Average.**

Format Cells: You will be prompted to select a formatting option. Select Light Red Fill with Dark Red Text, please.

What Do You See? Any amount less than the Average is highlighted red with red text. Any amount greater than the Average is formatted green/green.

Keep going...(this is actually fun, isn't it?)

Home-> Styles-> Conditional Formatting -> Top/Bottom Rules



E	F	G	H
Product	Date	Sales Rep	Amount
Cold Platter	1/12/2013	Alex	$ 150.00
Cold Platter	1/15/2013	Alex	$ 150.00
Edible Fruit	1/15/2013	Elizabeth	$ 1,900.00
Banquet	02/07/2013	Alex	$ 50.00
Cold Platter	02/10/2013	Alex	$ 950.00

Take One

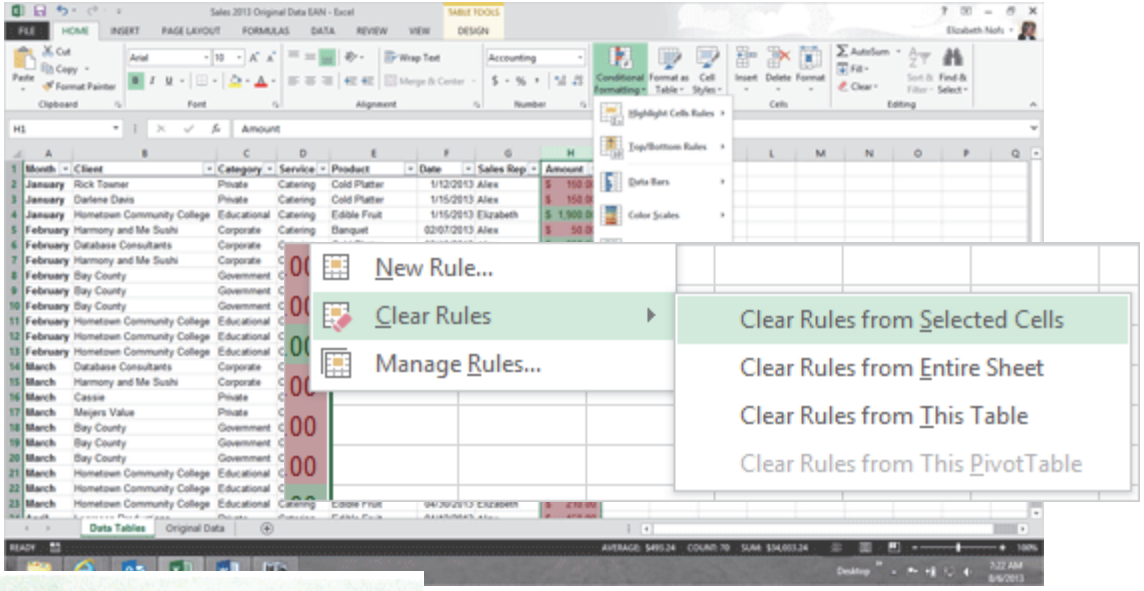
Clear the Rules

The following pages will play with the various Conditional Formatting Rules. After each example, you can **Clear** the Conditional Formatting. Here are the steps.

Try it: Clear the Conditional Formatting
Select Column H.
Go to **Home ->Home -> Styles.**
Go to **Conditional Formatting.**
Go to **Clear Rules.**
Select: **Clear Rules from Selected Cells.**

What Do You See? You can **Clear Rules** from Selected Cells, the Entire Sheet, this Table or from a PivotTable.

Home-> Styles-> Conditional Formatting-> Clear Rules





E	F	G	H
Product	Date	Sales Rep	Amount
Cold Platter	1/12/2013	Alex	$ 150.00
Cold Platter	1/15/2013	Alex	$ 150.00
Edible Fruit	1/15/2013	Elizabeth	$ 1,900.00
Banquet	02/07/2013	Alex	$ 50.00
Cold Platter	02/10/2013	Alex	$ 950.00

Exam 77-427 Microsoft Excel 2013 EXPERT
2. Apply Custom Formats and Layouts
2.2 Apply Advanced Conditional Formatting and Filtering: Clear Rules

Take One

Data Bars

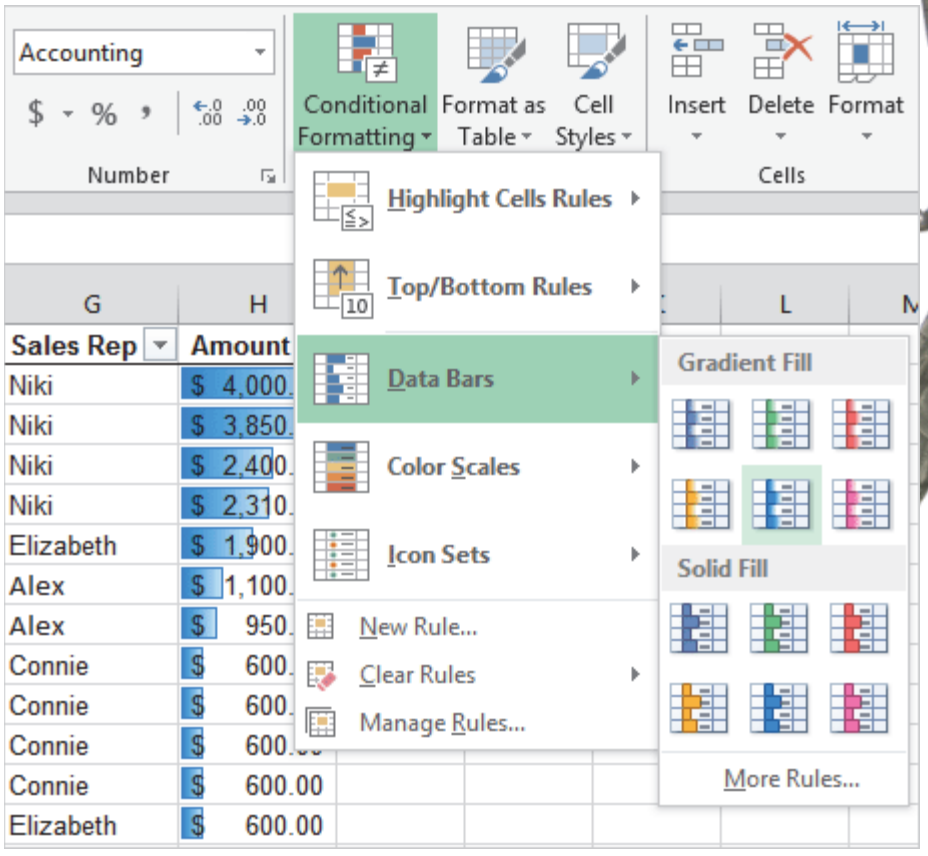
The following exercises demonstrate the various **Conditional Formatting** available in Microsoft Excel. All of these examples will be applied to the H Column, the one with sales data. The Amount has been **Sorted** Descending.

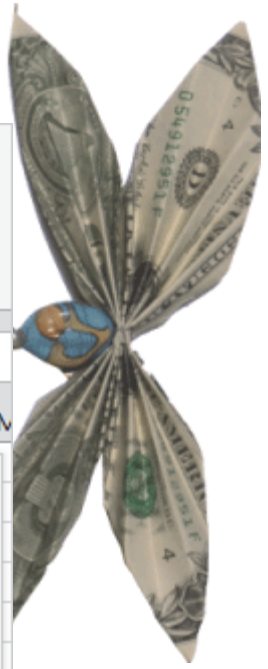
Try It: Format with Data Bars
Select Column H.
Go to **Home -> Styles.**
Go to **Conditional Formatting.**
Select: **Data Bars.**

What Do You See? The cell with the highest value is 100% filled in. The other cells are filled with less than 100%. Excel calculates the percentage.

After each trial, select the H Column.
Go to **Conditional Formatting -> Clear Rules -> From the Selected Cells.**

Home-> Styles-> Conditional Formatting-> Data Bars





Take One

Use Color Scales

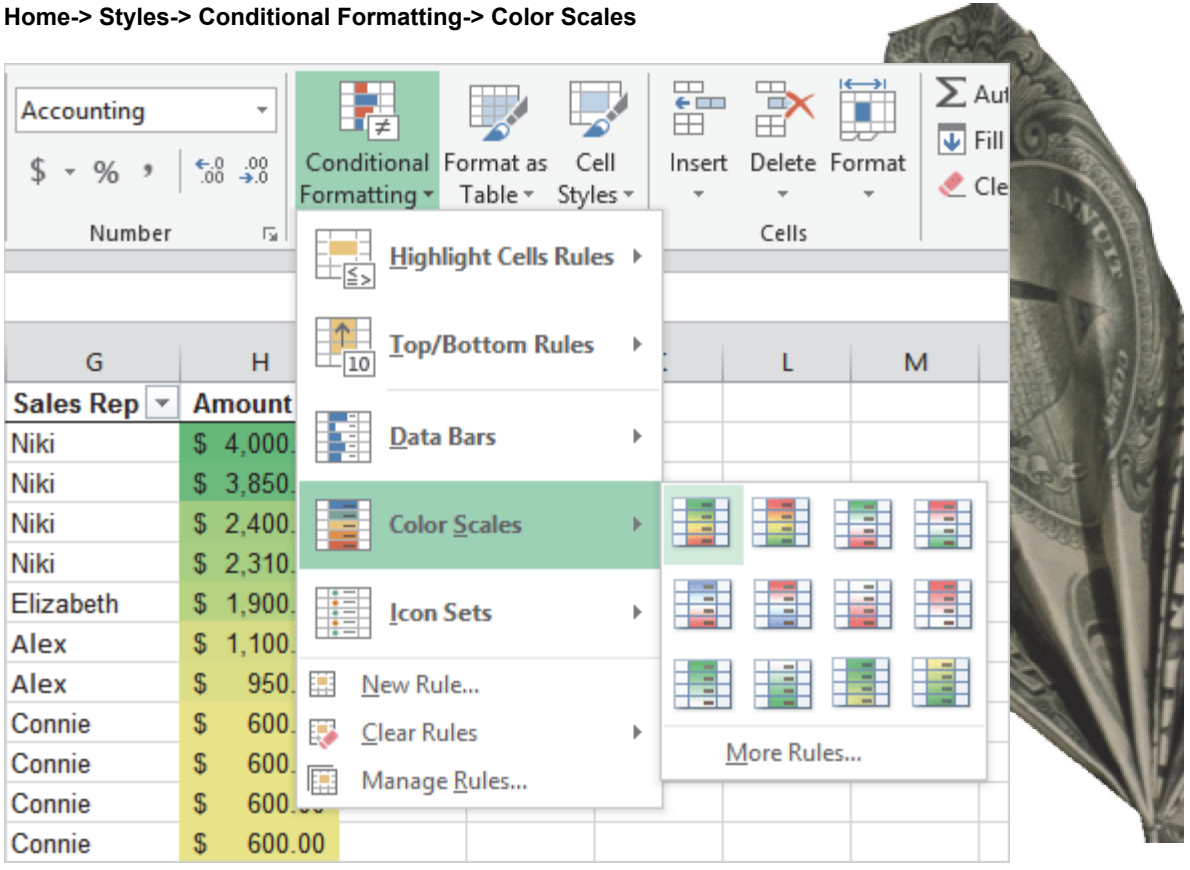
Try It: Format with Color Scales
Select Column H.
Go to **Home-> Styles.**
Go to **Conditional Formatting.**
Select **Color Scales**: You will have a short set of built-in options.

What Do You See? The Color Scales use two colors to indicate the Conditional Formatting. In this example, the highest value is red and the lowest is yellow. Excel compares each amount and formats the Cells accordingly.

Try This, Too: What does it look like if you sort the information by Data Bars? Can you read the numbers through the Cell formatting?

After each trial, select the H Column.
Go to **Conditional Formatting -> Clear Rules -> From the Selected Cells.**

Home-> Styles-> Conditional Formatting-> Color Scales



Exam 77-427 Microsoft Excel 2013 EXPERT
2. Apply Custom Formats and Layouts
2.2 Apply Advanced Conditional Formatting and Filtering: Use Functions To Format Cells

Take One

Use Icon Sets

Try It: Format with Icon Sets
Select Column H.
Go to **Home -> Styles.**
Go to **Conditional Formatting.**
Select **Icon Sets:** Arrows (Colored).

What Do You See? The Icon Sets use a three, four, or five-color scale to format the data.

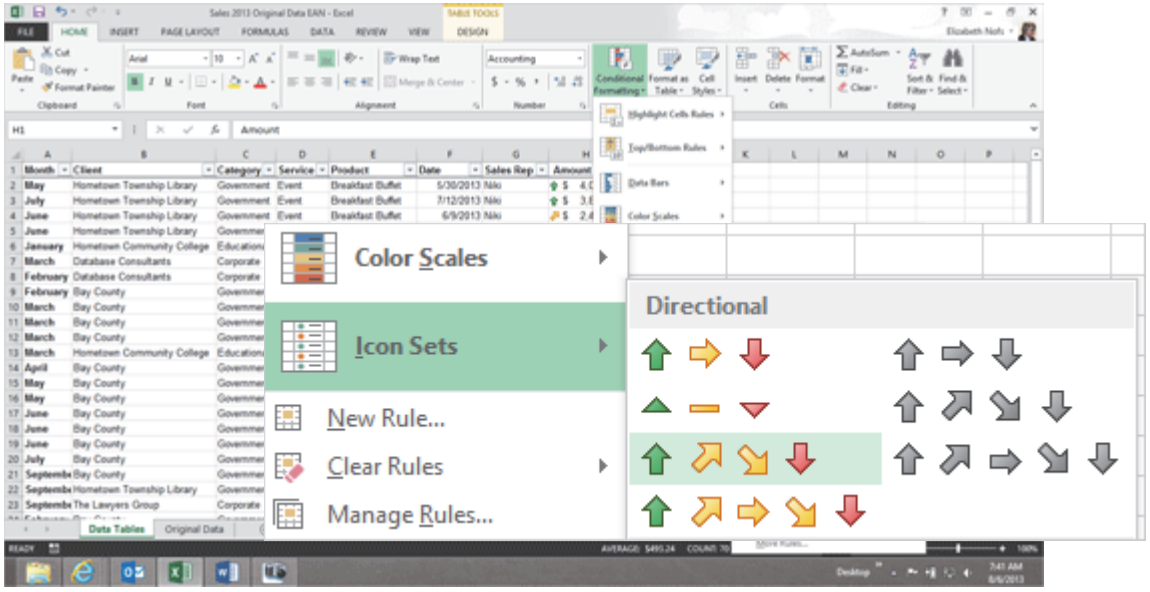
In this example, there are four Directional arrows that represent the percentages of the total Amount in Column H:
100-75%
74-50%
49-25%
25-0%

What Else Do You See? The Conditional Formatting menu also lets you create a **New Rule** or **Manage the Rules**.

Let's investigate where Excel puts the Rules and what tools are available in the **Rules Manager**.

Keep going...

Home-> Styles-> Conditional Formatting-> Icon Sets



E	F	G	H
Product	Date	Sales Rep	Amount
Breakfast Buffet	5/30/2013	Niki	$ 4,000.00
Breakfast Buffet	7/12/2013	Niki	$ 3,850.00
Breakfast Buffet	6/9/2013	Niki	$ 2,400.00
Breakfast Buffet	6/10/2013	Niki	$ 2,310.00
Edible Fruit	1/15/2013	Elizabeth	$ 1,900.00

Take One

The Rules Manager

Before You Begin: In this example, Column H is the Amount, sorted Descending. Column H has the Icon Set Formatting with four (4) arrows.

1. Try It: Use the Rules Manager
Go to **Home -> Styles.**
Go to **Conditional Formatting**.
Click on **Manage Rules**.

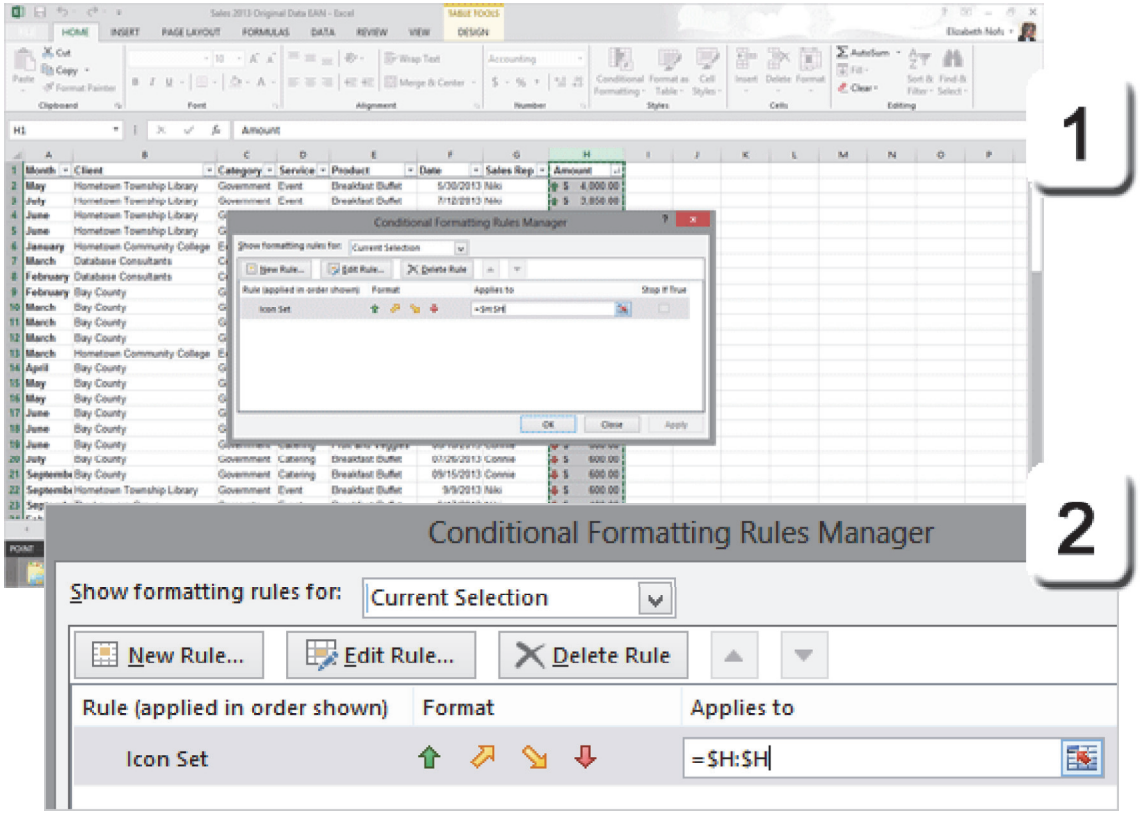


What Do You See? The **Rules Manager** should display a list of the Conditional Formatting. You can add, delete, and edit the Rules here.

2. Try This, Too: Edit the Rule
Click on **Edit Rule**...

Keep going, pleeeeeease...

Home -> Styles->Conditional Formatting -> Manage Rules



Exam 77-427 Microsoft Excel 2013 EXPERT
2. Apply Custom Formats and Layouts
2.2 Apply Advanced Conditional Formatting and Filtering: Manage Conditional Format Rules

Take One

Bend the Rules

3. What Do You See? The **Rule Type** is a list of options. You can use a Rule to identify a cell by the values. The values can be based on the average or the rank. You can also use a formula in a rule.

The **Rule Description** is a tool for defining the values. You can select the formatting **Style** and type in your own **Value** if you wish.

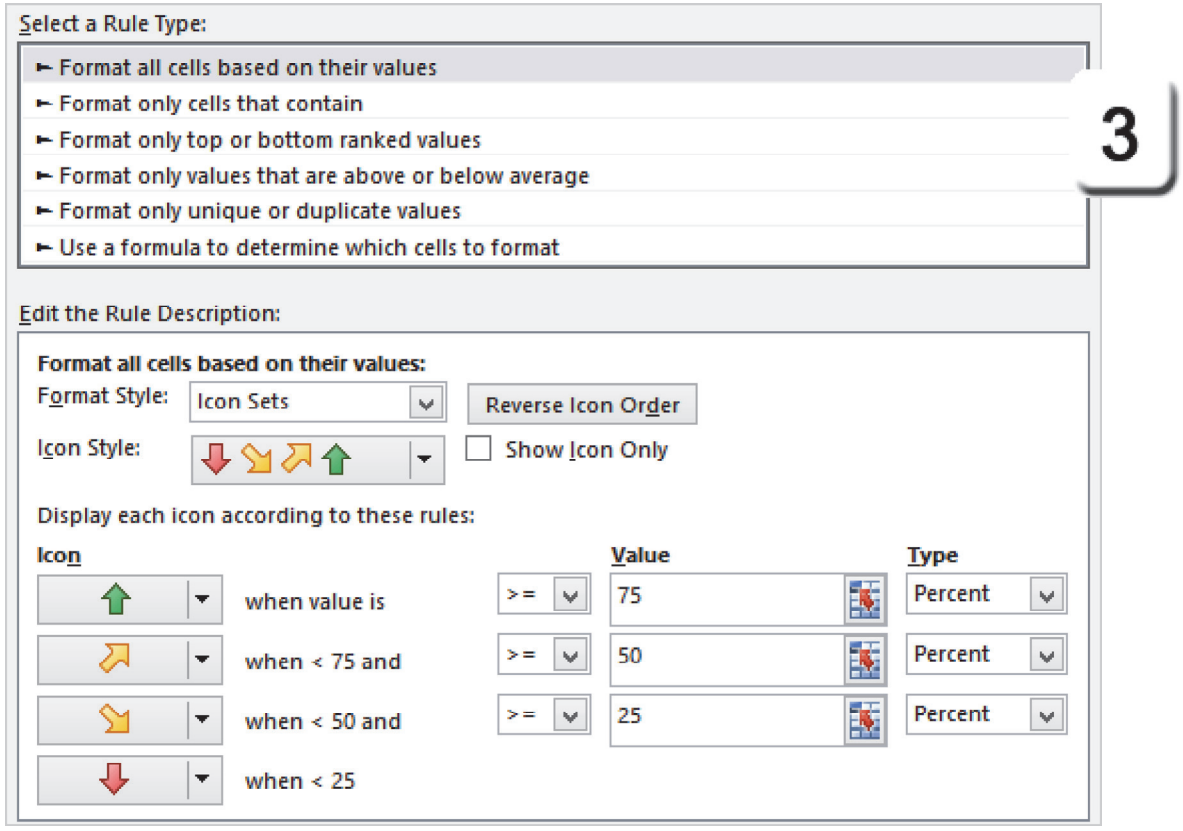
You can edit each part of the Rule Description including the Icons, the values and the colors.

It's kind of fun. Click OK to return to the Rules Manager, and OK, again, to close the Rules Manager.

Very Good!

Keep going...

Home -> Conditional Formatting -> Manage Rules



Take One

Use Rules to Filter the Data

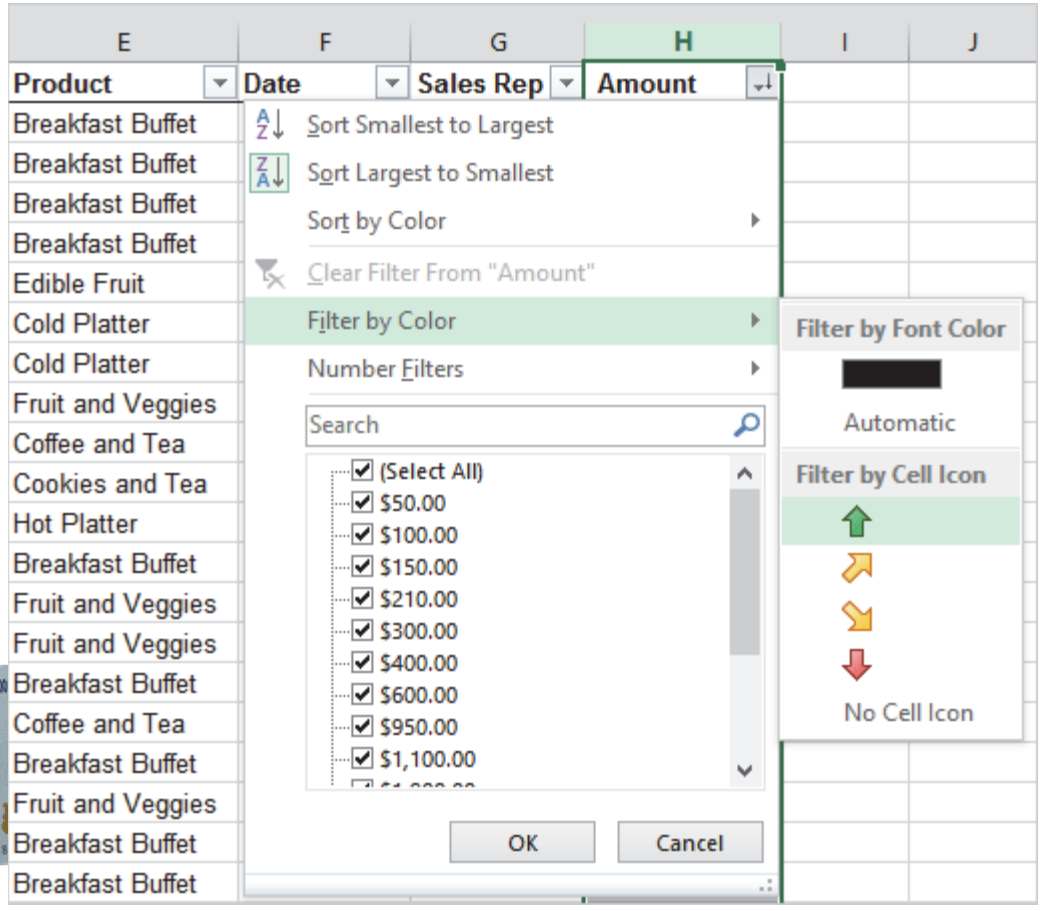
You can use the **Conditional Formatting** to **Filter** the data by Color, Number or criteria.

4. Try This: Use Advanced Filters
Column H was formatted with an Icon Set that has four (4) arrows.
Select Cell H1. The Filter should be available.
Go to **Filter->Filter by Color.**
Click on **Filter by Cell Icon**: Green.

The green arrow is when the value is greater than or equal to 75%. Microsoft Excel will display the Cells with Conditional Formatting in Column H that meet the criteria.



Filter -> Filter by Color



4

Exam 77-427 Microsoft Excel 2013 EXPERT
2. Apply Custom Formats and Layouts
2.2 Apply Advanced Conditional Formatting and Filtering: Create Advanced Filters

Table Tools: Properties

The **Table Tools** include two more groups of options: **Table Properties** and **Table Tools**.

Before You Begin: Review the Properties
The Table Properties include the **Title** and the **Range**. By default, the Title is Table1.

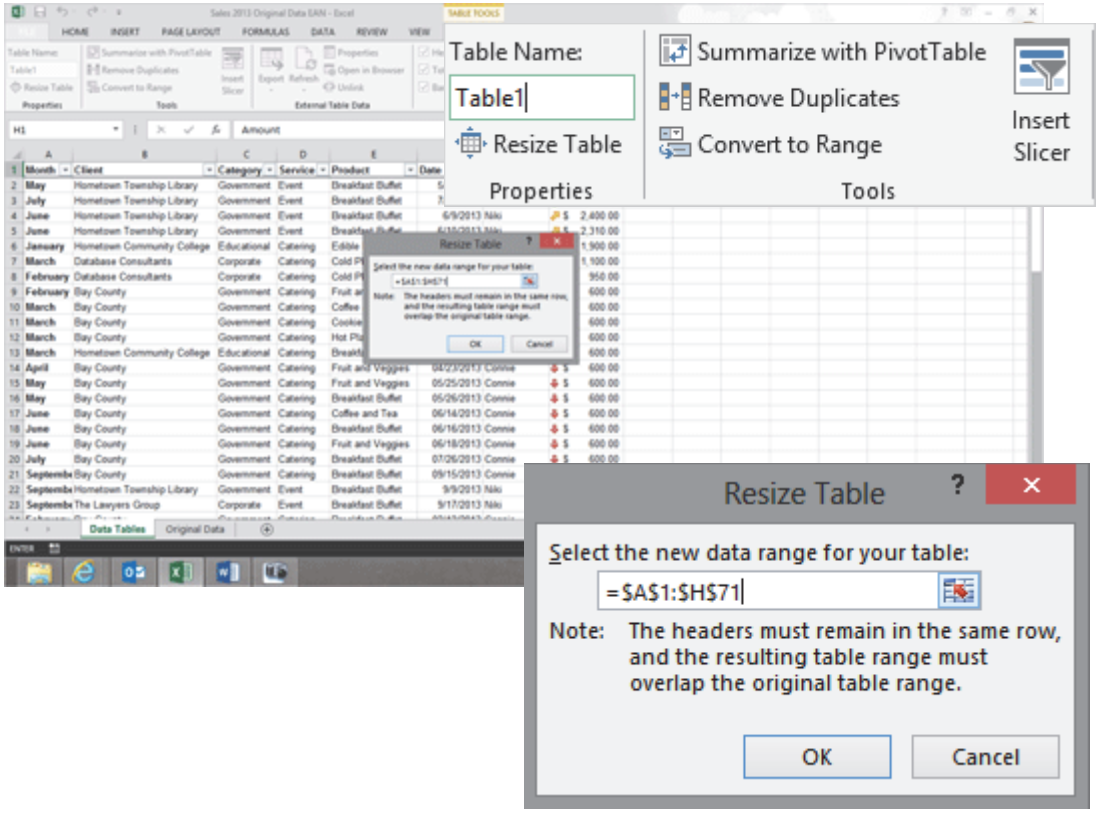
Try it: Resize the Table
The Resize Table button lets you select the Range of Cells. Click anywhere on the Table. The Table Tools should be available.

Go to **Table Tools-> Design ->Properties**
Select **Resize Table.**

What Do You See? Microsoft Excel will outline the Range of the Table. In the example on this page, the Table is =$A$1:$H$71. The Range is in Absolute references.

You can select a new range, but the Header must stay the same.

Table Tools-> Design ->Properties-> Resize Table



Take One

Table: Remove Duplicates

When people enter data into a table or list, it is easy to make a mistake and type a name twice. Duplicates happen. In this example, we will copy and paste a Row, then go through the steps to find the duplicate.

1. Try This: Create the Duplicate
Select Row 69
Go to **Home->Clipboard->Copy**.
Select Cell A70. (In our example, we added a new, blank Row 70 a few pages back.)
Go to **Home->Clipboard->Paste**.

What Do you See? The pasted Cells are a duplicate of the Row that you copied.

Keep going...

Home->Clipboard->Copy

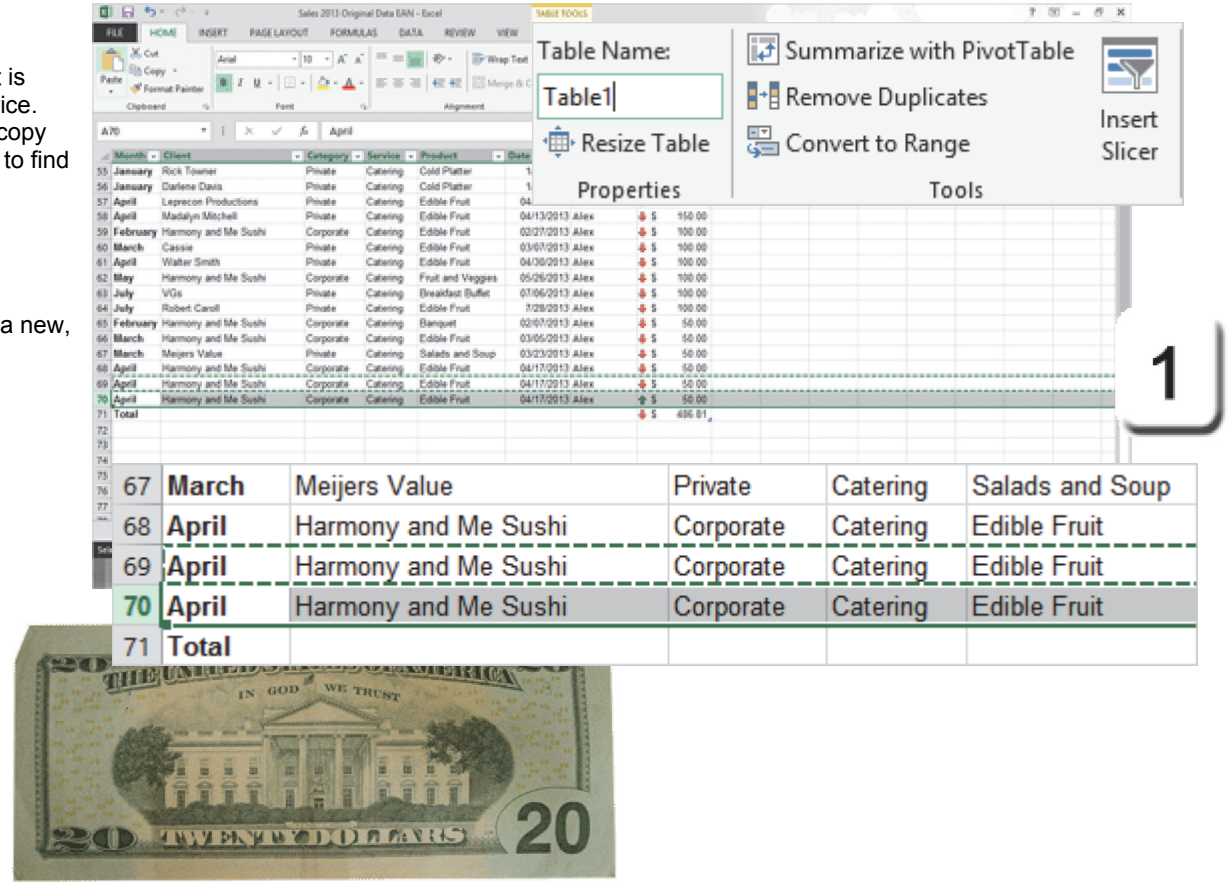


Table: Remove Duplicates

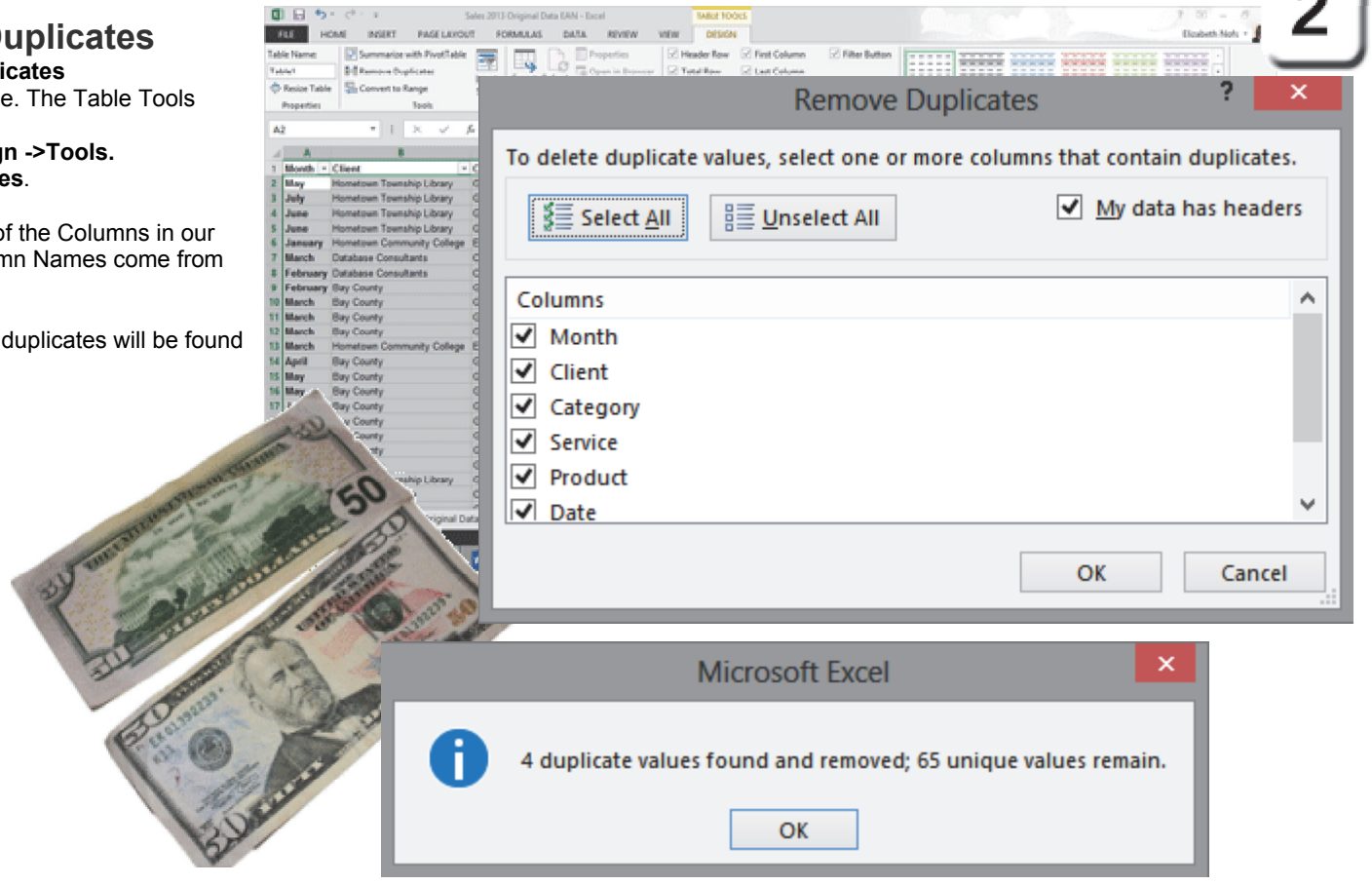
2. Try This: Remove Duplicates
Click anywhere on the Table. The Table Tools should be available.
Go to **Table Tools-> Design ->Tools.**
Click on **Remove Duplicates**.

What Do You See? Each of the Columns in our table is selected. The Column Names come from the Header Row.

When you click on **OK**, the duplicates will be found and removed.

So, that's good, too.

Table Tools-> Design ->Tools-> Remove Duplicates



Convert to Range

This lesson began by creating a Table by selecting a Range of Cells. What if you wanted to remove the Table but keep the data? Here are the steps you can take to convert the table back to a Range, or List.

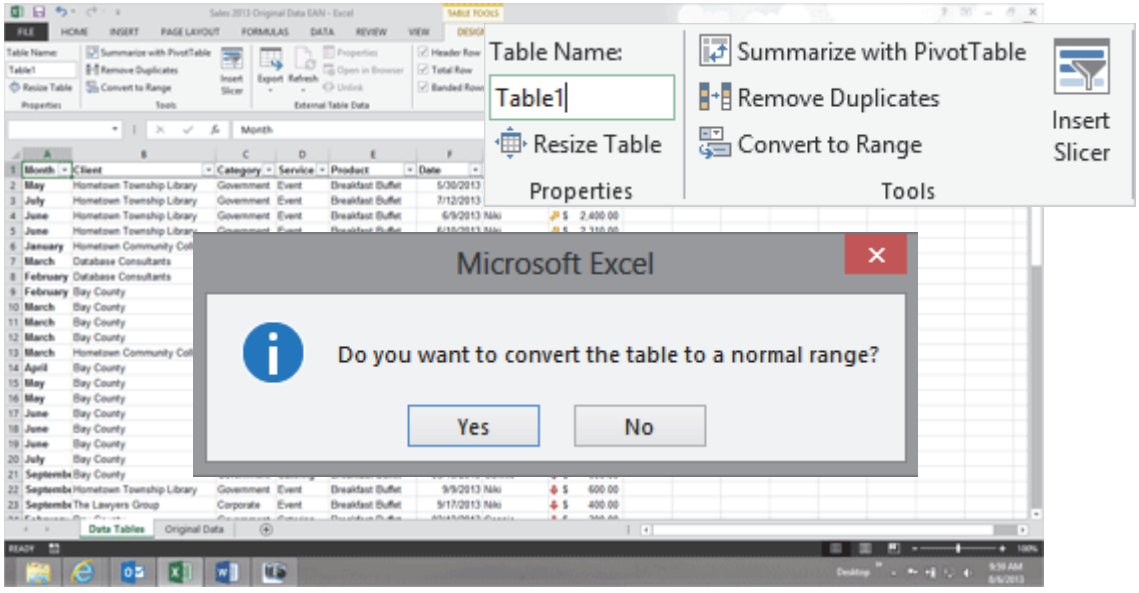
Try it: Convert the Table to a Range
Click anywhere on th.e Table. The Table Tools should be available.
Go to **Table Tools-> Design ->Tools.**
Click on **Convert to Range.**

What Do You See? You will be prompted that the Table will be converted to a normal range. None of the data should be lost when you convert to Range.

The data will still have the Conditional Formatting, however the Filters at the top in the Header Row will be gone.

Done and done. You get the cookie.

Table Tools-> Design ->Tools-> Convert to Range





E	F	G	H
Product	Date	Sales Rep	Amount
Breakfast Buffet	5/30/2013	Niki	$ 4,000.00
Breakfast Buffet	7/12/2013	Niki	$ 3,850.00
Breakfast Buffet	6/9/2013	Niki	$ 2,400.00
Breakfast Buffet	6/10/2013	Niki	$ 2,310.00
Edible Fruit	1/15/2013	Elizabeth	$ 1,900.00

Exam 77-420 Microsoft Excel 2013
3. Create Tables
3.1 Create a Table: Move Between Tables and Ranges (Convert to Range)

Practice Activities



Lesson 1: It Works for Me!

Before You Begin: Download the sample spreadsheet: Student Records.xlsx

Try This: Do the following steps

1. Open the spreadsheet: Student Records.xlsx
2. Delete the columns for Grade and Homeroom Teacher
3. Add the following students to the bottom of the spreadsheet

Student	Percent	Class
Lauren Ball	96	2012
Brandon Ayers	45	2011
Arnold Johnston	78	2012
Brittney Evans	82	2013

4. Sort the Spreadsheet by Class
5. Format with Table Style Light 8 and select “My Table has Headers”
6. Use the Remove Duplicate Tool
7. Apply conditional formatting to the Percent Column, Column B. Create a new rule and select 2 color scale. Pick red for the lowest value and green for the highest value.
8. Save this as YOUR NAME Works for Me Practice

Test Yourself

1. Which of the following is a way to copy a sheet in a workbook?
(Select all correct answers)
a. Home-> Cells-> Format-> Move or Copy
b. Right click the sheet and select Move or Copy
c. Save As-> Copy
Tip: Advanced Excel, page 15

2. When using the sort command on a column of Months, by default, the column is sorted alphabetically, with April first.
a. True
b. False
Tip: Advanced Excel, page 16

3. Where is the Sort command that allows for custom sorting of months?
a. Home-> Sort & Filter-> Custom Sort
b. Data-> Sort & Filter-> Sort-> Custom List
c. Data-> Sort & Filter-> Months
Tip: Advanced Excel, page 18

4. Excel can make tables of data.
a. True
b. False
Tip: Advanced Excel, page 21

5. Which is true about a Total Row in an Excel Table?
(Select all correct answers.)
a. Created by checking Total Row on the Table Tools Ribbon
b. Includes a Summary box with a drop down list of options
c. Can only be used to calculate Sum
d. Can only be used on small tables
Tip: Advanced Excel, page 27, 28

6. Which are true about Conditional Formatting? (Select all correct answers.)
a. Colors or icons are based on rules
b. Command is Home->Styles->Conditional Formatting
c. Includes option for creating custom rules
d. Can only have one rule applied
Tip: Advanced Excel, page 31-33

7. Which commands are on the Table Tools ribbon? (Select all correct answers.)
a. Remove duplicates
b. Convert to Range
c. Insert Rows
Tip: Advanced Excel, page 44

8. The Filters can be used to select any cell (s) with Conditional Formatting applied.
a. True
b. False
Tip: Advanced Excel, page 40

9. Which is a type of Conditional Formatting?
(Select all correct answers.)
a. Icon Sets
b. Color Scales
c. Data Bars
d. Fill & Text Colors
Tip: Advanced Excel, page 31

10. An Excel Table has a library of Table Styles.
a. True
b. False
Tip: Advanced Excel, page 24

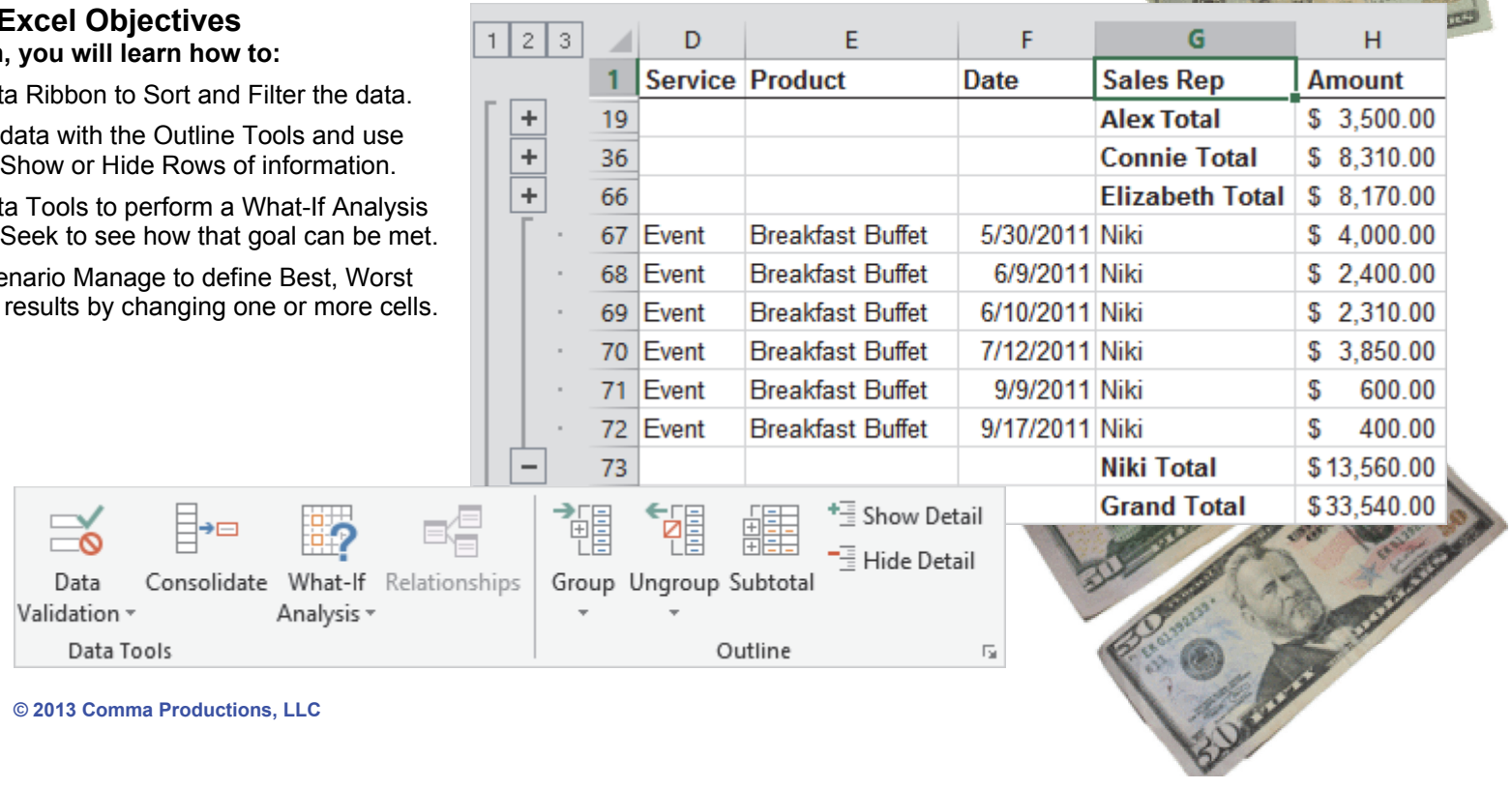


Work Smarter, Not Harder

Advanced Excel Objectives

In this lesson, you will learn how to:

1. Use the Data Ribbon to Sort and Filter the data.
2. Outline the data with the Outline Tools and use the Outline to Show or Hide Rows of information.
3. Use the Data Tools to perform a What-If Analysis and use Goal Seek to see how that goal can be met.
4. Use the Scenario Manage to define Best, Worst and Expected results by changing one or more cells.



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Lesson 2: Work Smarter, Not Harder

1. Readings

Read Lesson 2 in the Advanced Excel guide, page 47-80.

Project

A sample spreadsheet that uses Outlines and What-If Scenarios to analyze the data.

Downloads

Customer Sales 2013.xlsx
Legs Eggs Pigs 2013.xlsx
Brown Bag Lunch Sales Team.xlsx

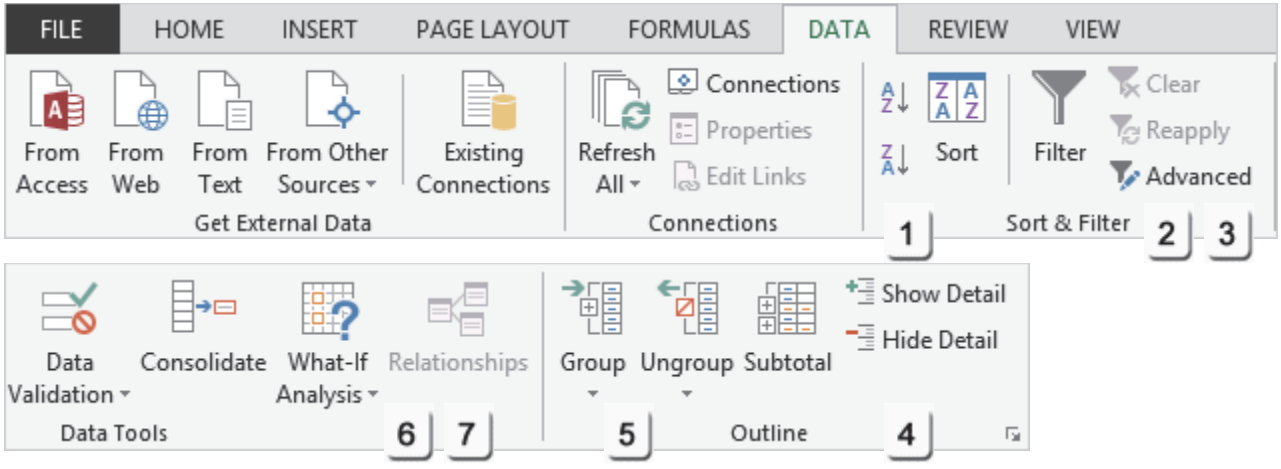
2. Practice

Do the Practice Activity, page 81.

3. Assessment

Review the Test questions, page 82.

Data



Menu Maps

This lesson shows the **Data** Ribbon.

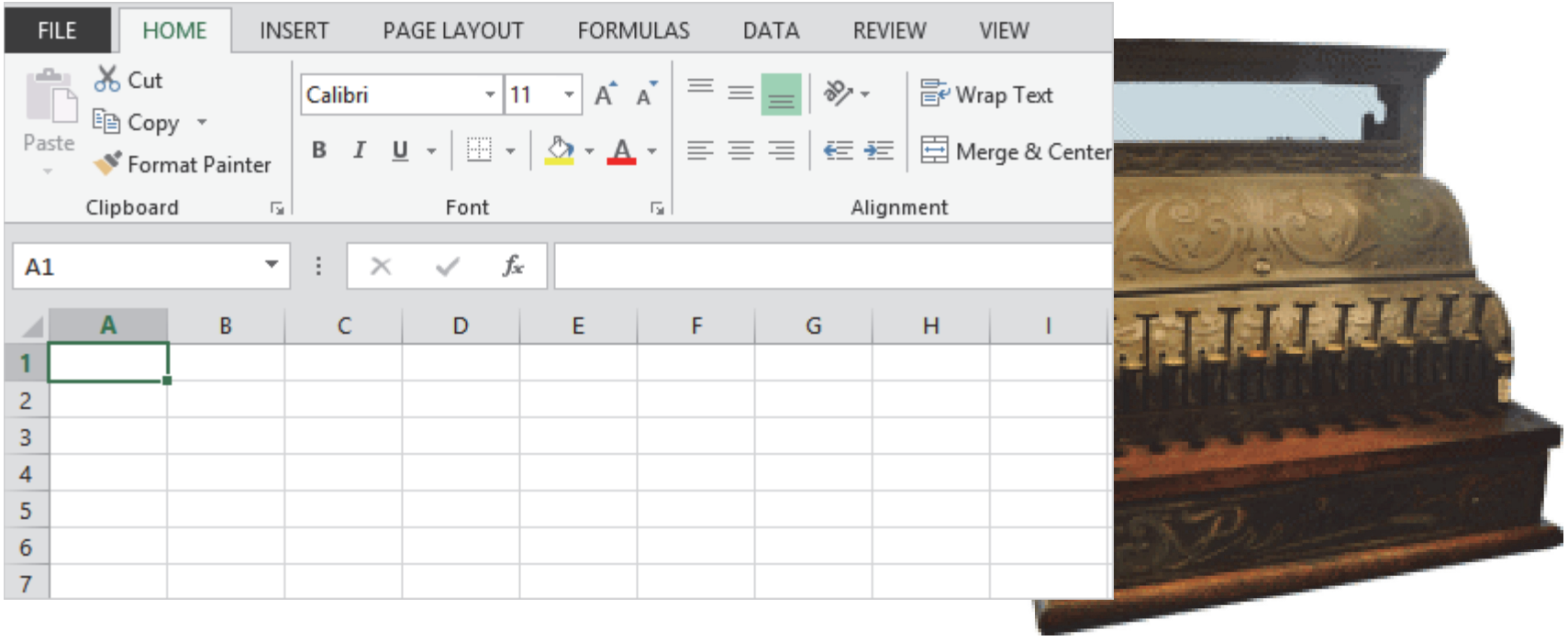
1. Data->Sort and Filter->Sort, page 51
2. Data->Sort and Filter->Filter, page 52
3. Data -> Sort & Filter-> Clear, page 55
4. Data -> Outline-> Subtotal, page 56
5. Data -> Outline-> Subtotal->Group->Group, page 66
6. Data -> Data Tools->What-If Analysis-> Goal Seek, page 69
7. Data -> Data Tools->What-If Analysis-> Scenario Manager, page 71



Work Smarter, Not Harder

Pretend your little company recorded all of their invoices in a financial program. This software allowed you to export that information into Microsoft Excel. You have a lot of questions and Excel can help you analyze the data. Your goal is to look at the sales numbers. The invoices are sorted by month. For each record, can you see who sold what? To whom? For how much?

Start Microsoft Excel. When the Welcome screen appears, open a new, blank workbook. **What do you see** from the top of the screen? Is there a **Home** Ribbon? And the **Insert**, **Page Layout, Formulas, Data. Review and View** Ribbons as well? Yes. Then you are ready to go.



Before You Begin

The purpose of this lesson is to investigate the **Data** Options in Microsoft Excel. You can use a spreadsheet that you created or download a sample spreadsheet if you wish.

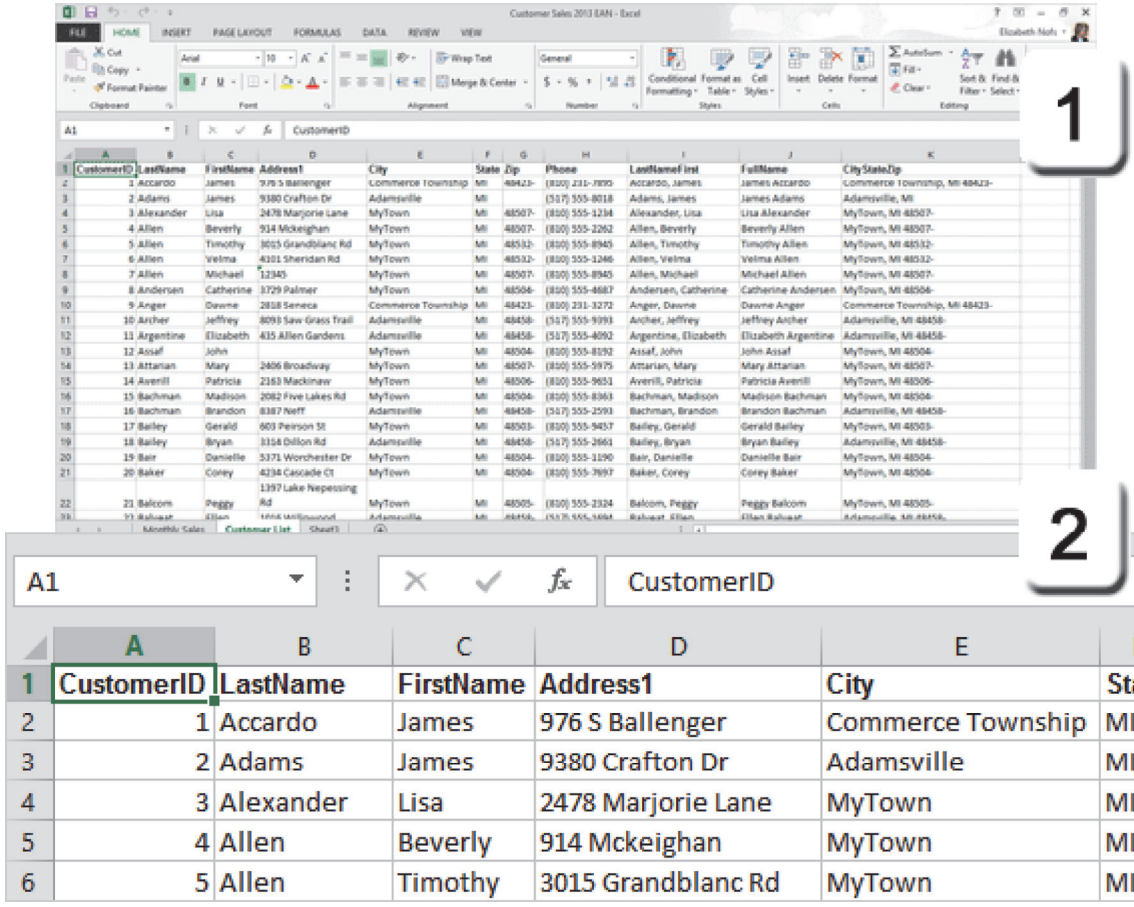
1. Try This: Open a Sample Spreadsheet
Open a sample spreadsheet:
Customer Sales 2013.xlsx
Go to the sheet called: Customer List.

2. What Do You See? This is the Customer List for Charlotte's Website. The first row is BOLD: It is the Header Row. There are many rows of data including Name, Address, Phone. This data came from a database, so Column A includes the unique CustomerID number.

Keep going...

Memo to Self: You do not have to MATCH the numbers shown on these pages. It is more important that you begin with some data and understand the options.

File->Open



	A	B	C	D	E	F
1	CustomerID	LastName	FirstName	Address1	City	State
2	1	Accardo	James	976 S Ballenger	Commerce Township	MI
3	2	Adams	James	9380 Crafton Dr	Adamsville	MI
4	3	Alexander	Lisa	2478 Marjorie Lane	MyTown	MI
5	4	Allen	Beverly	914 Mckeighan	MyTown	MI
6	5	Allen	Timothy	3015 Grandblanc Rd	MyTown	MI

Data: Sort

This lesson will investigate the **Data** Ribbon: Sort, Filter and Subtotal. Each **Data** command adds to your understanding of the numbers. Each option also has its limits: It can only do "so much."

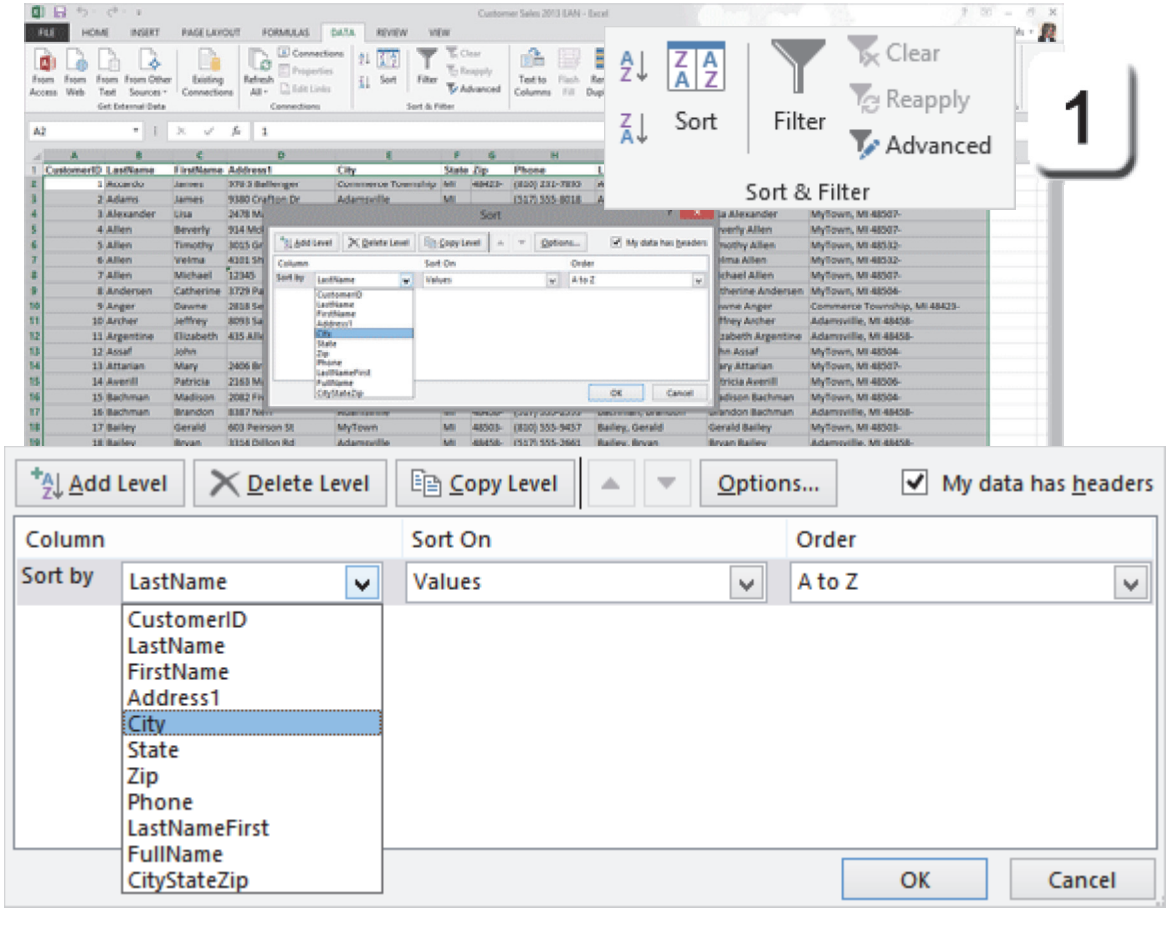
When you **Sort** the data, you can find patterns. For example the customer information might make sense when it is sorted by City.

1. Try This: Sort the Data
Select the entire spreadsheet.
Go to **Data ->Sort and Filter.**
Click on **Sort**. When you are prompted choose:
Sort by: City
Sort On: Values.
Order: A to Z.
Click **OK**.

What Do You See? This Sort organized the customers by one criteria: City.

Keep going...

Data->Sort and Filter->Sort



Exam 77-420 Microsoft Excel 2013
3. Create Tables
3.3 Filter and Sort a Table: Change Sort Order

Data: Filter

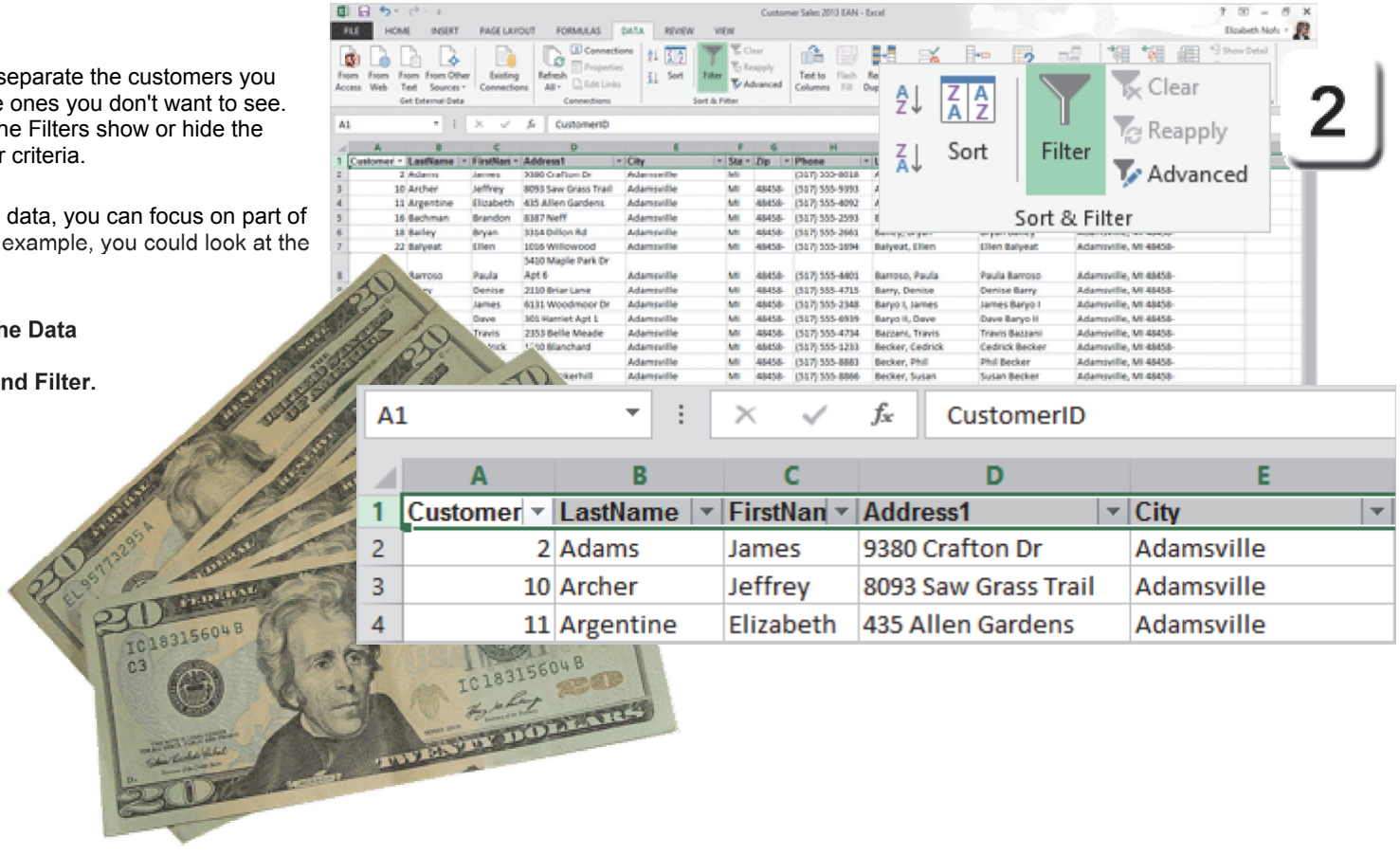
A **Filter** is a way to separate the customers you want to see from the ones you don't want to see. In Microsoft Excel, the Filters show or hide the Rows based on your criteria.

When you **Filter** the data, you can focus on part of the information. For example, you could look at the customers by City.

2. Try This: Filter the Data
Select Row 1.
Go to **Data ->Sort and Filter.**
Click on **Filter**.

Keep going...

Data->Sort and Filter->Filter



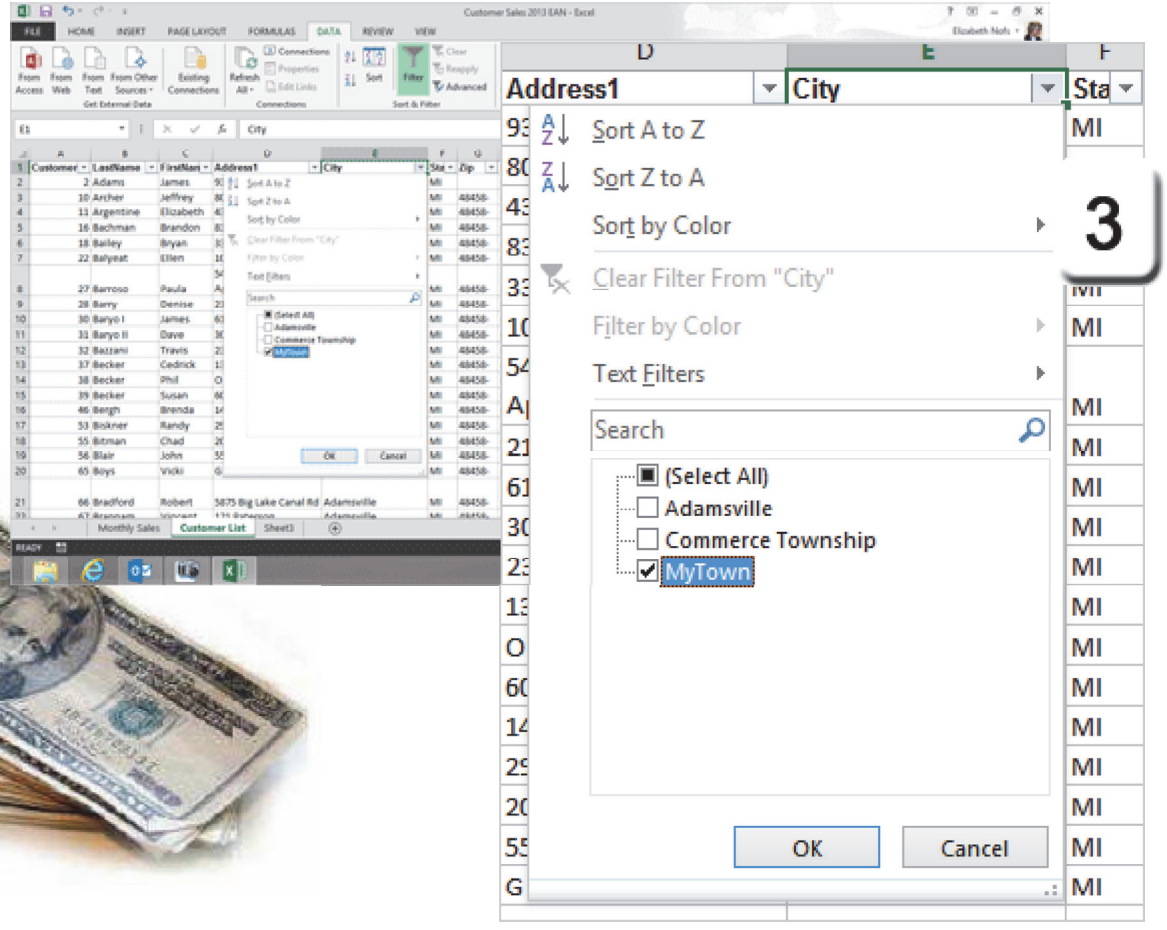
Data: Text Filters

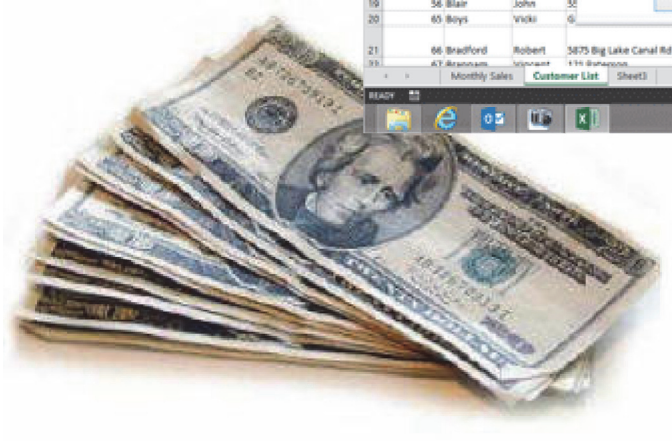
What Do You See? Look at the first row of this spreadsheet. Each of the labels in the Header Row should have little drop-down arrows. These are the filters.

3. Try This: Use an AutoFilter
Click on the City Filter.
Select one city: MyTown.
Click OK to apply the filter.

Keep going, please...

Data -> Sort & Filter-> Filter





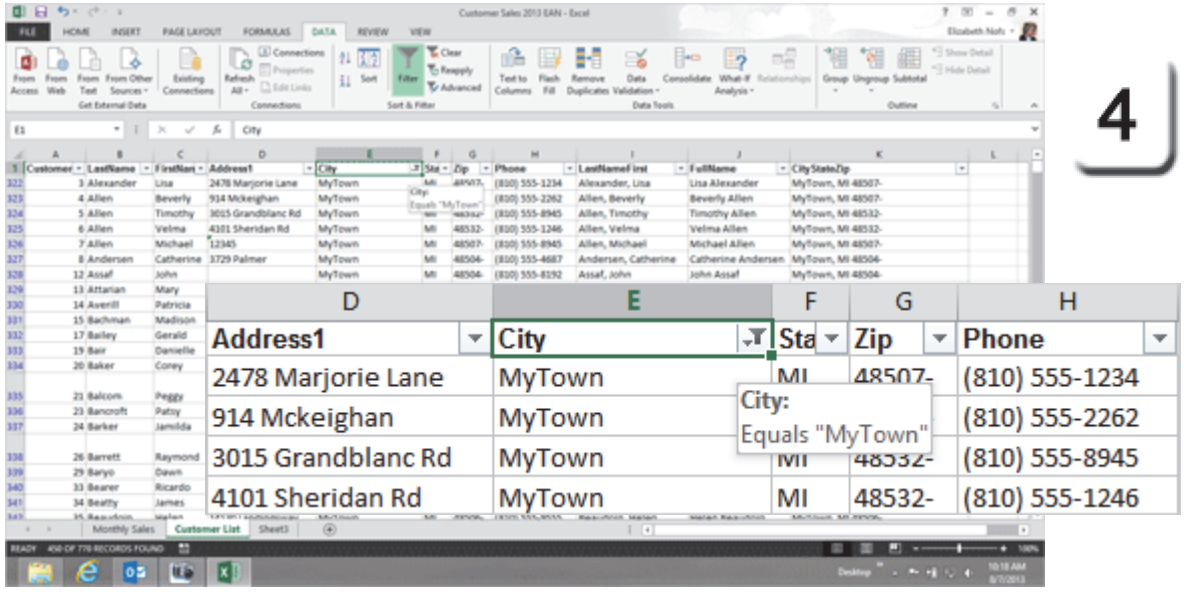
Date: Apply the Filter

4. What Do You See? Each column that has a **Filter** has a small icon. When you run your mouse over the Filter, you should see what the Filter equals.

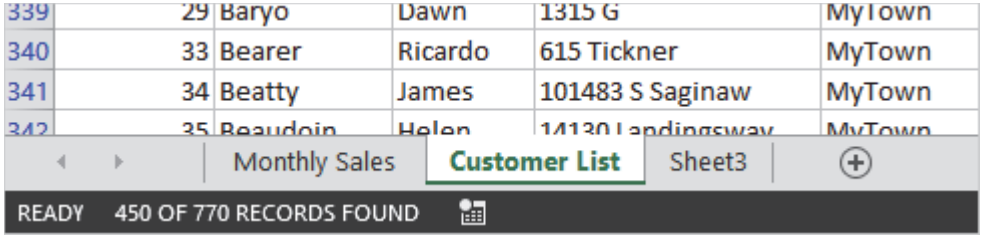
A **Filter** is a query, or question, regarding your data. You can create Custom Filters by combining several filters on the same data.

What Else Do You See? Look at the bottom of the spreadsheet. The Status Bar in this example indicates that there are 450 customers in MyTown, out of 770 records. The Rows are blue to show that there are hidden rows.

Data -> Sort & Filter-> Filter







Exam 77-420 Microsoft Excel 2013
3. Create Tables
3.3 Filter and Sort a Table: Filter Records (Text Filters)

Data: Clear the Filters

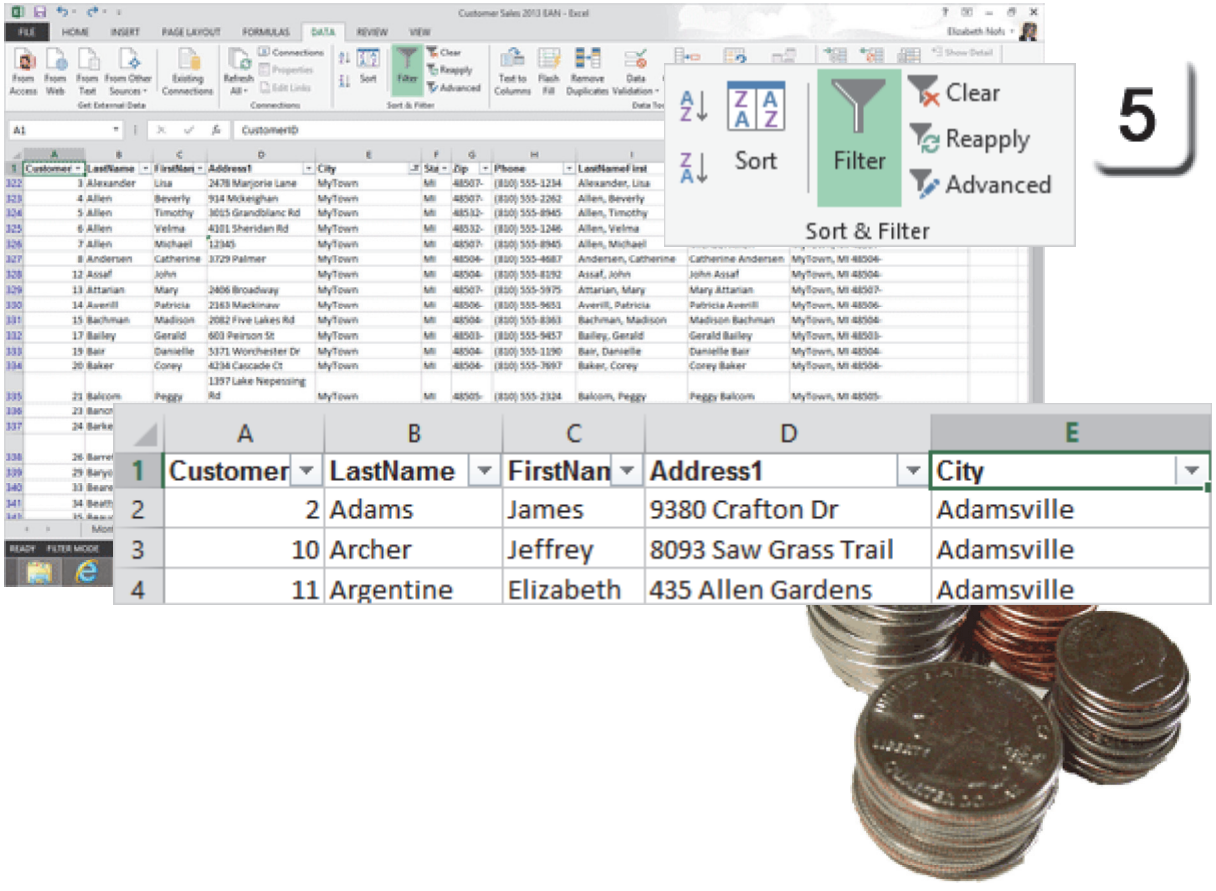
You can clear the data filters if you wish. Here are the steps.

5. Try it: Clear the Filters
Select Column E (City).
Go to **Data -> Sort & Filter.**
Click on **Clear.**

What Do You See? This option removes all of the Filters on the City field. In the example on this page, the filter for MyTown has been cleared, so you can see other cities as well.

Very good.
That's a short discussion on Filters.

Data -> Sort & Filter-> Clear



	A	B	C	D	E
1	Customer	LastName	FirstNan	Address1	City
2	2	Adams	James	9380 Crafton Dr	Adamsville
3	10	Archer	Jeffrey	8093 Saw Grass Trail	Adamsville
4	11	Argentine	Elizabeth	435 Allen Gardens	Adamsville

Data: Subtotals

A **Subtotal** organizes and summarizes lists of data. The Subtotal function offers more options than calculating the Total in a Table. Subtotals can include Summary Functions (SUM, AVERAGE, COUNT) as well as a Grand Total.

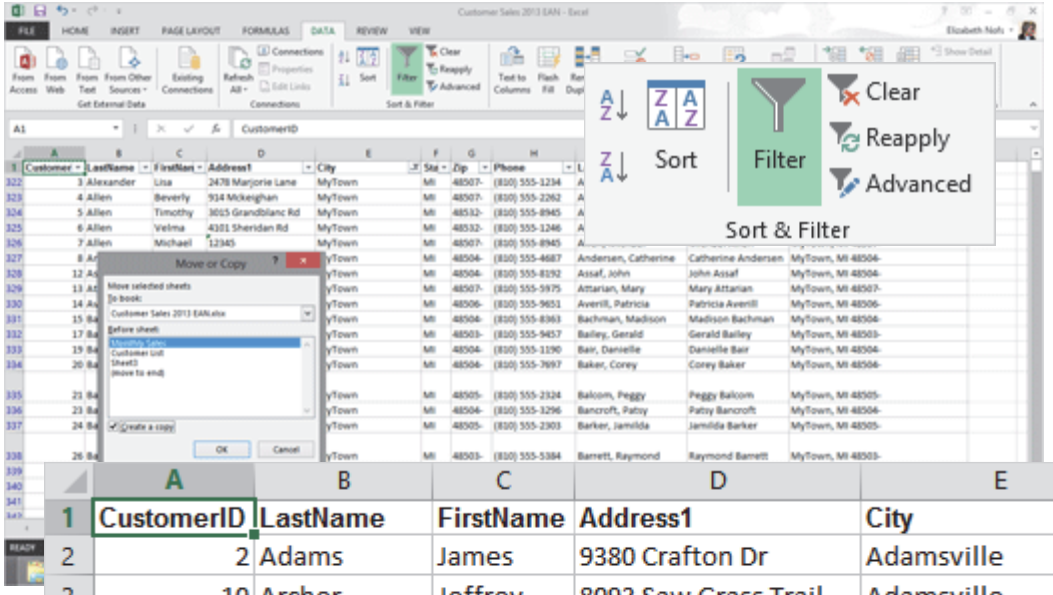
There are two steps to creating a Subtotal:
1. **Sort** by the field you want.
2. **Subtotal** by the same field.

Before You Begin: Copy the Worksheet
Right-click the Customer List tab.
Click on **Move or Copy**.
Check: **Create a Copy**.
Click **OK** to create the copy.
Rename the sheet: **Subtotal by City**.

Still Before You Begin: Clear All Filters
Go to the **Subtotal by City** sheet.
Select Row 1.
Go to **Data -> Sort & Filter-> Filter.**

All Filters should be cleared from the Header Row.
Keep going, please...

Data -> Sort & Filter-> Filter



	A	B	C	D	E
1	CustomerID	LastName	FirstName	Address1	City
2	2	Adams	James	9380 Crafton Dr	Adamsville
3	10	Archer	Jeffrey	8093 Saw Grass Trail	Adamsville
4	11	Argentine	Elizabeth	435 Allen Gardens	Adamsville

20	65	Boys	Vicki	G 3073 West Dayton	Adamsville
21	66	Bradford	Robert	5875 Big Lake Canal Rd	Adamsville
22	67	Brannam	Vincent	121 Paterson	Adamsville

Subtotal by City | Monthly Sales | Customer List | Sheet3

Exam 77-420 Microsoft Excel 2013
3. Create Tables
3.3 Filter and Sort a Table: Filter Records (Clear All Filters)

Data: Sort then Subtotal

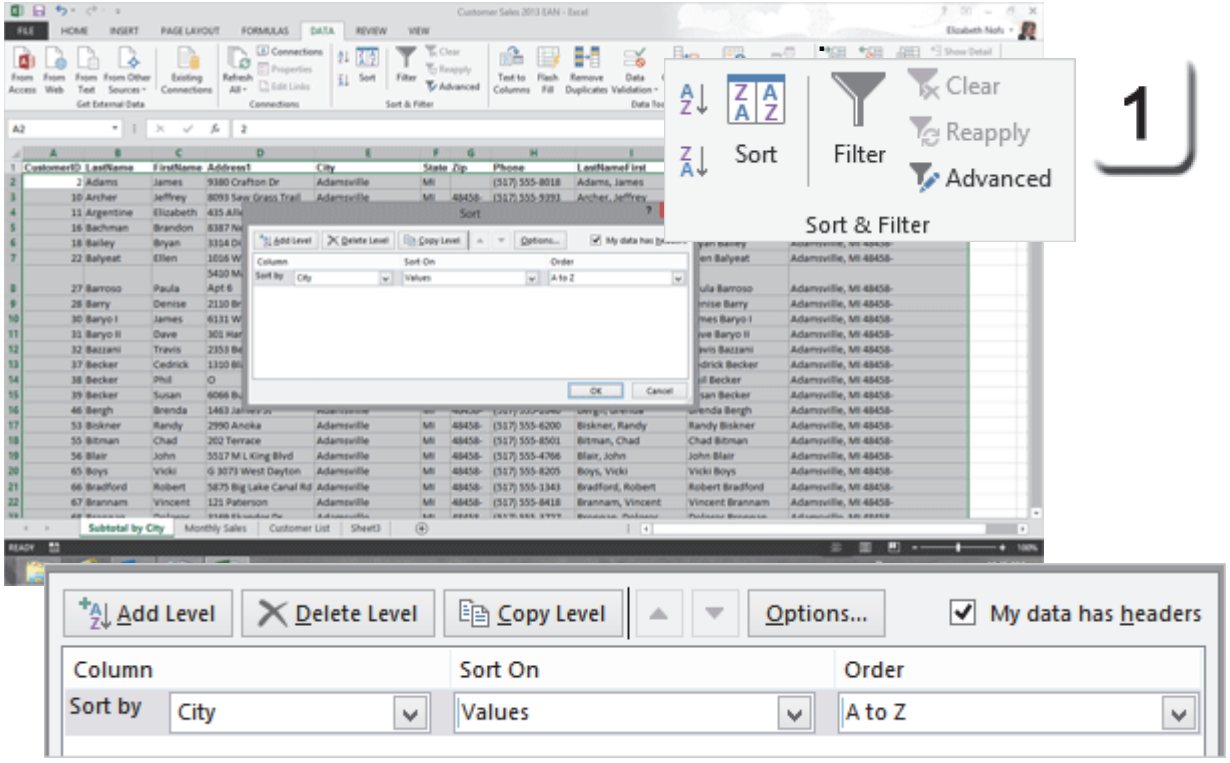
The key to making the Subtotal function work is to match, match, match. You need to Sort and Subtotal by the same field.

Before you create a Subtotal you need to Sort the data.

1. Try it: Sort the Data
Select the entire spreadsheet.
Go to **Data -> Sort & Filter-> Sort.**
Sort by: City.
Sort On: Values.
Order: A to Z.
Click **OK**.

Keep going...

Data -> Sort & Filter-> Sort



Data: Subtotal

The list has been **Sorted** by City. Now, here are the steps to **Subtotal** by City.

2. Try it: Subtotal the Data
Select Column E (City).
Go to **Data ->Outline->Subtotal.**

You will be prompted to answer the following questions for this Subtotal:

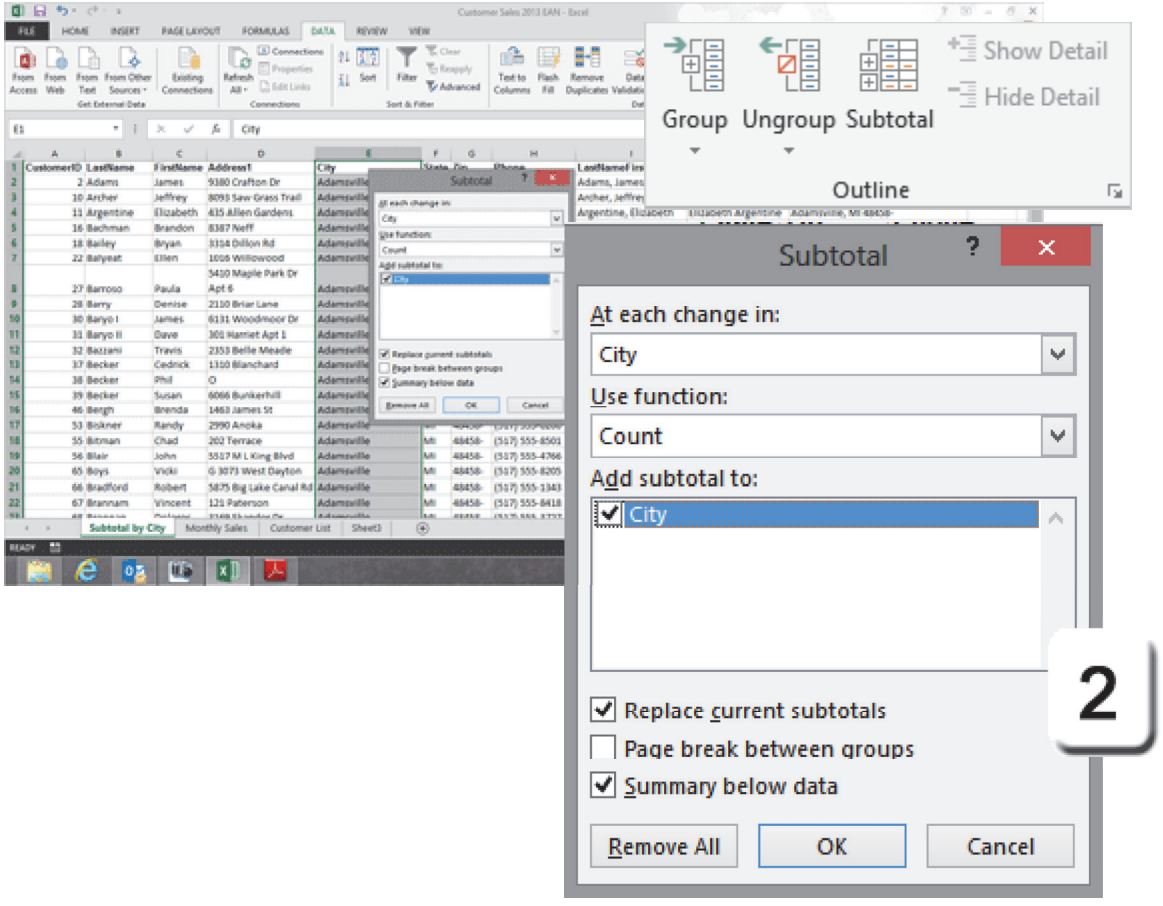
At each change: City.
You just sorted by City, select City for the Subtotal so it matches.

Use function: Count.

Add the subtotal to: City.
The Subtotal is counting the number of customers in each city. It makes sense to add the Subtotal to the City.

Click **OK**. Keep going...

Data -> Outline-> Subtotal



Hello Subtotals!

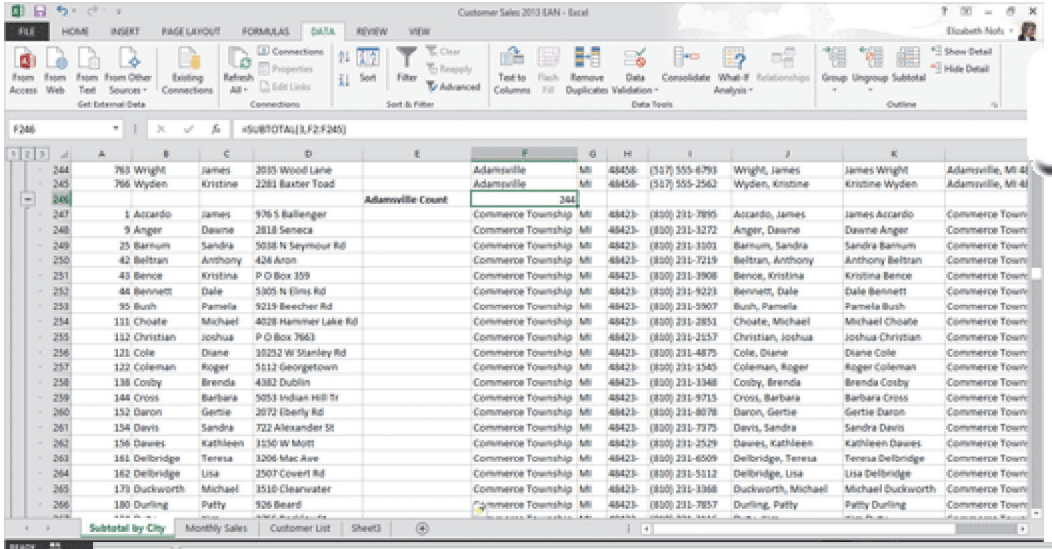
3. What Do You See? This spreadsheet now has **Subtotals** that count the number of customers in each city. There is also a **Grand Total** that adds up all of our customers in all of the cities.

What Else Do You See? Microsoft Excel created formulas for the Subtotals. Scroll down and select any Subtotal. Please review the formula. This example shows: =SUBTOTAL(3,F2:F245)

Impressive.

Keep going...

Data -> Outline-> Subtotal



3

=SUBTOTAL(3,F2:F245)

C	D	E	F	G
James	2035 Wood Lane		Adamsville	MI
Kristine	2281 Baxter Toad		Adamsville	MI
		Adamsville Count	244	
James	976 S Ballenger		Commerce Township	MI
Dawne	2818 Seneca		Commerce Township	MI



Exam 77-420 Microsoft Excel 2013
2. Create Cells and Ranges
2.3 Order and Group Cells and Ranges: Insert Subtotals

Viewing the Subtotals

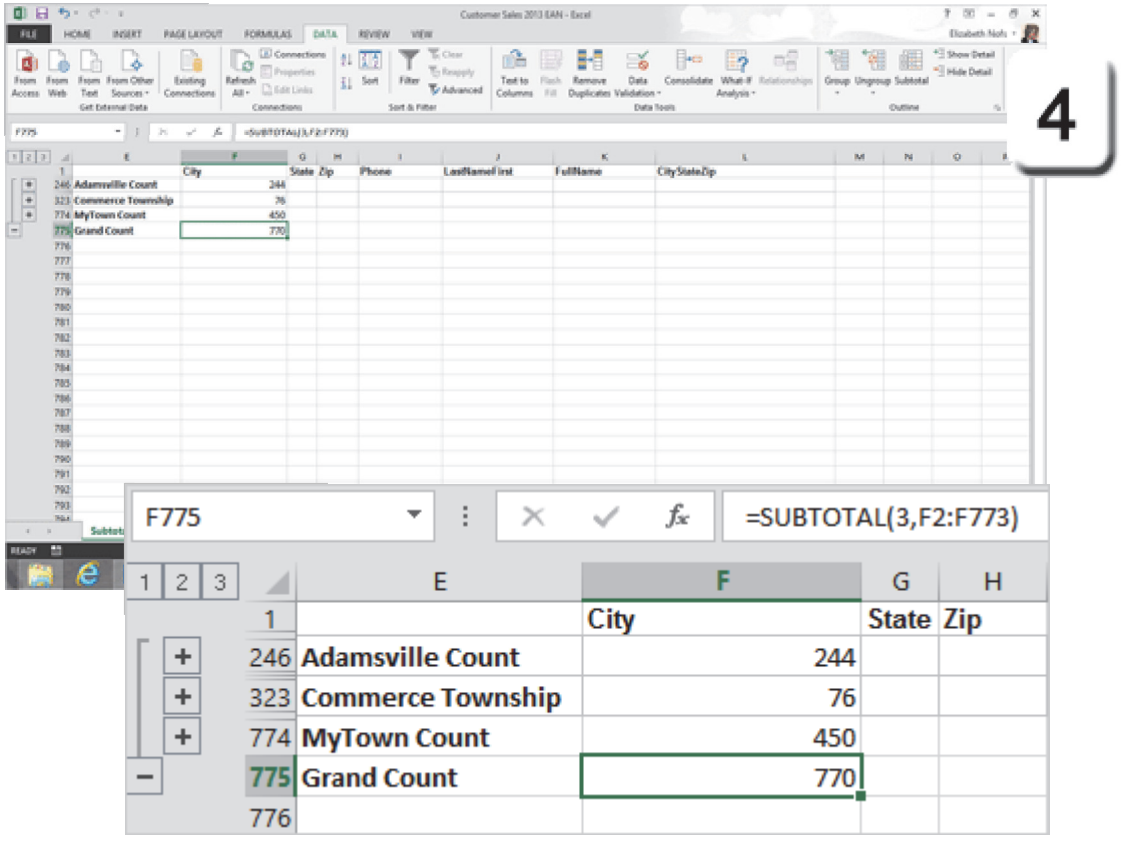
The information is **outlined** on the left hand side of the spreadsheet.

You can use the outline to show or hide the details. The + sign means there is more to see. The – sign indicates that all of the Rows are shown.

4. Try It: Use the Outline
Go to the Outline at the top of the left side.
Click on the 3. All Rows are visible.
Click on the 2: That's the Subtotals.
Click on the 1. That hides all of the Rows except the Grand Count.

Made You Look: In this image, you are looking at Column E, so that it will fit on the page, OK?

Data -> Outline-> Subtotal



A Different Subtotal

The *Intermediate Guide to Microsoft Excel 2013* demonstrated a series of formulas that calculated and formatted the sales subtotals.

This lesson demonstrates how the sales subtotals were created.

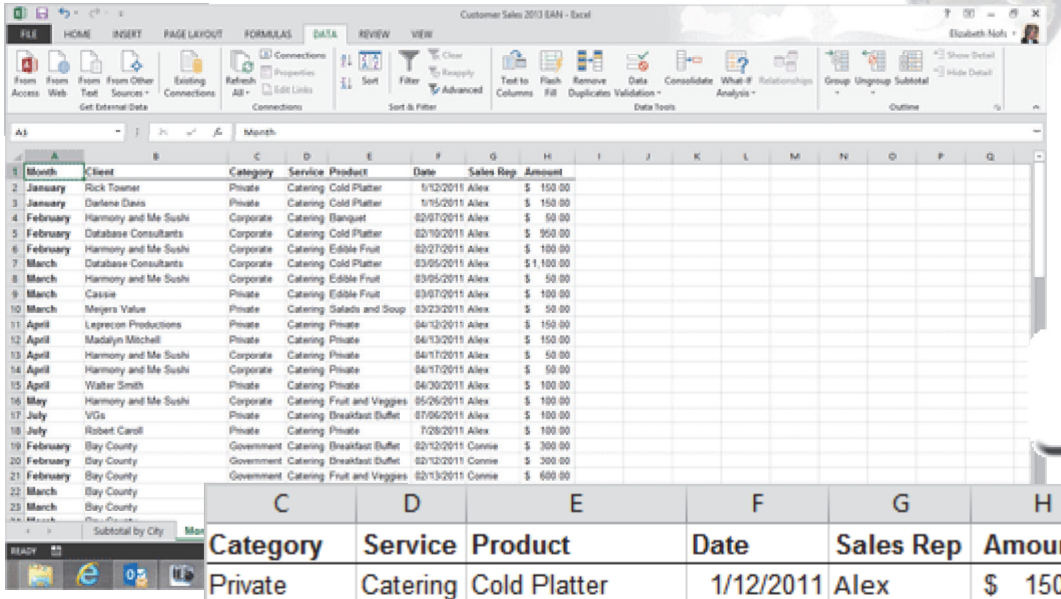
1. Try This: Open a Sample Spreadsheet
The sample spreadsheet is still open:
Customer Sales 2013.xlsx
Go to the sheet called: Monthly Sales.

What Do You See? This is the Monthly Sales for Charlotte's Website. The first row is BOLD: It is the Header Row. There are many rows of data including the Category, Service, Product, Date, Sales Rep and Amount.

Keep going...

Memo to Self: You do not have to MATCH the numbers shown on these pages. It is more important that you begin with some data and understand the options.

File -> Open



1

C	D	E	F	G	H
Category	**Service**	**Product**	**Date**	**Sales Rep**	**Amount**
Private	Catering	Cold Platter	1/12/2011	Alex	$ 150.00
Private	Catering	Cold Platter	1/15/2011	Alex	$ 150.00
Educational	Catering	Edible Fruit	1/15/2011	Elizabeth	$ 1,900.00
Corporate	Catering	Banquet	02/07/2011	Alex	$ 50.00
Corporate	Catering	Cold Platter	02/10/2011	Alex	$ 950.00
Corporate	Catering	Edible Fruit	02/27/2011	Alex	$ 100.00
Government	Catering	Breakfast Buffet	02/12/2011	Connie	$ 300.00

Data: Sort Then Subtotal

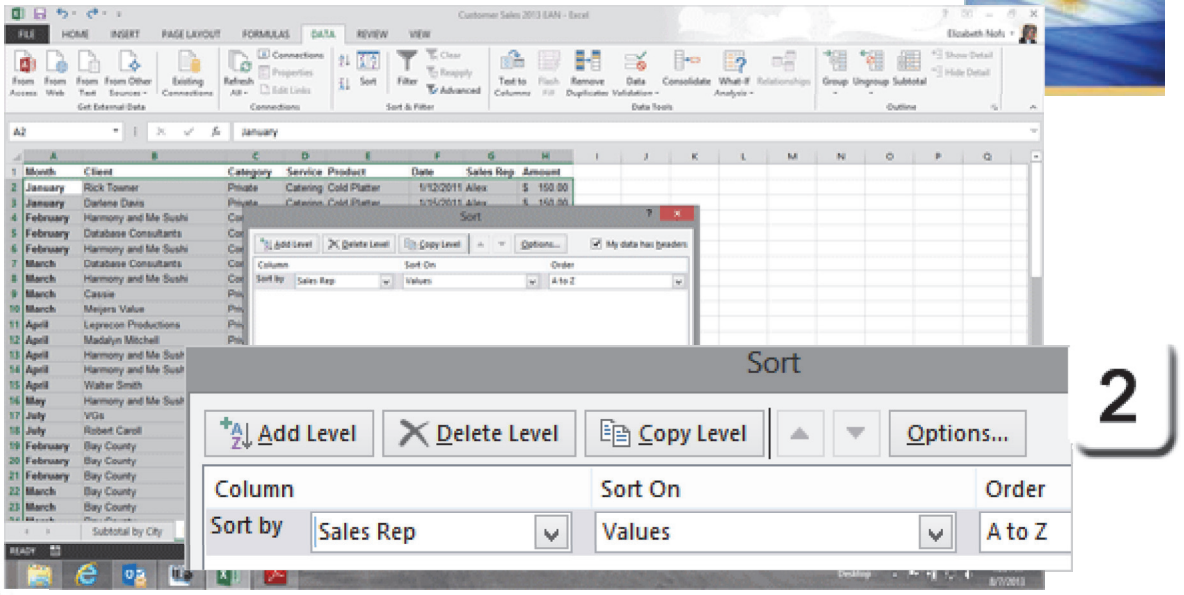
This Subtotal will calculate the sum of the amount each Sales Rep sold. So, **Sort** by Sales Rep and **Subtotal** by Sales Rep.

2. Try it: Sort the Data
Select the entire spreadsheet.
Go to **Data -> Sort & Filter-> Sort.**
Sort by: Sales Rep.
Sort on: Values
Order: A-Z.
Click **OK**.

What Do You See? The data will be sorted by the four Sales Reps: Alex, Connie, Elizabeth and Niki.

Keep going...

Data -> Sort & Filter-> Sort



C	D	E	F	G	H
Category	**Service**	**Product**	**Date**	**Sales Rep**	**Amount**
Private	Catering	Cold Platter	1/12/2011	Alex	$ 150.00
Private	Catering	Cold Platter	1/15/2011	Alex	$ 150.00
Corporate	Catering	Banquet	02/07/2011	Alex	$ 50.00
Corporate	Catering	Cold Platter	02/10/2011	Alex	$ 950.00

Data: Subtotal

Sort by Sales Rep. Subtotal by Sales Rep.

3. Try it: Subtotal the Data
Select the entire spreadsheet.
Go to **Data -> Outline-> Subtotal.**

You will be prompted to answer the following questions for this Subtotal:

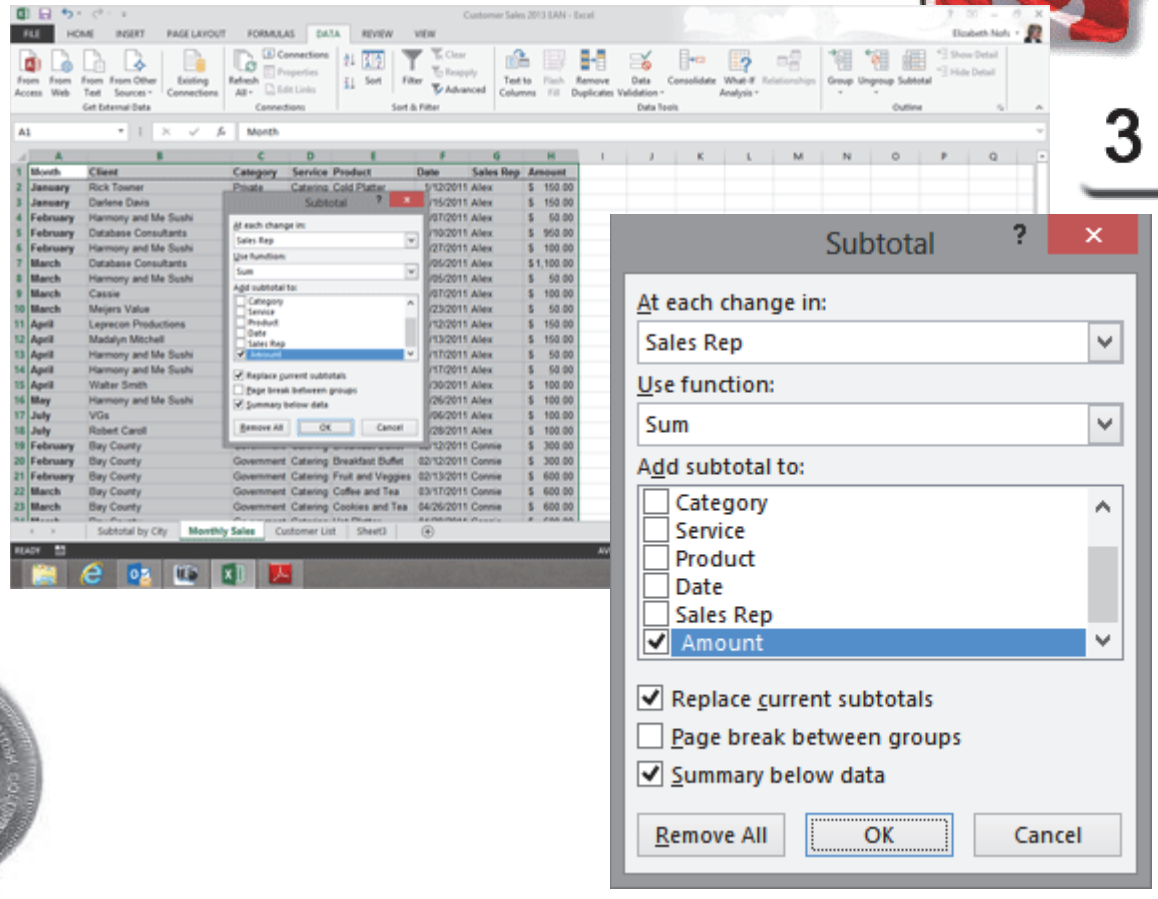
At each change in: Sales Rep.
You just sorted by Sales Rep, select Sales Rep for the Subtotal so it matches.

Use function: Sum.

Add the subtotal to: Amount.

Click **OK**. Keep going...

Data -> Outline-> Subtotal







Exam 77-420 Microsoft Excel 2013
2. Create Cells and Ranges
2.3 Order and Group Cells and Ranges: Insert Subtotals

Sales Subtotals

4. What Do You See? The screen shot on this page shows the **Subtotals** that each sales reps sold. The Subtotals are calculated and shown in Column H, Amount. There is a **Grand Total** for the entire Amount sold.

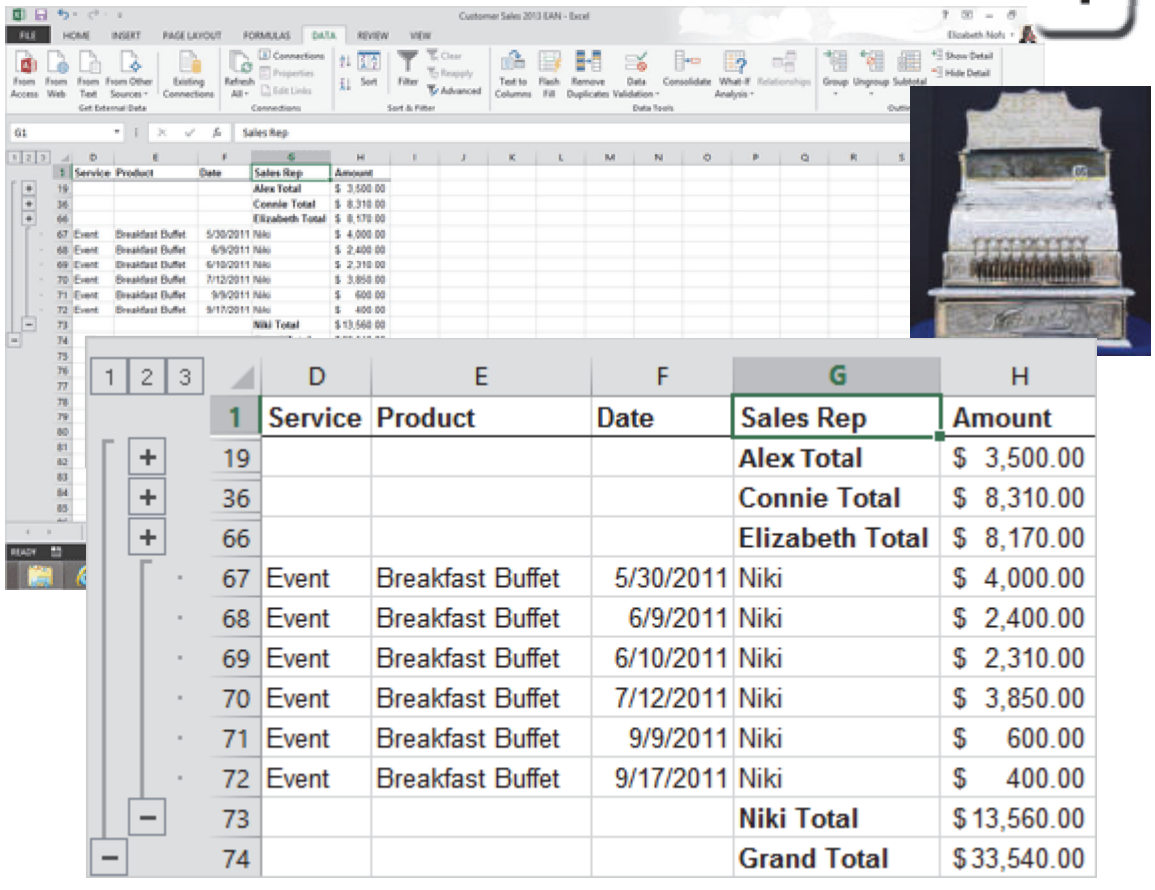
The Outline is shown as Level 2. However, the data for Niki is **expanded** so that you can see the Rows that add up to her Subtotal.

So, the Subtotal function is an interactive display. You can use the Outline buttons to expand (+) or collapse (-) the Subtotal Groups to see the data if you wish.

Do This: Save your spreadsheet
Go to **File->Save As**.
Browse for a folder to save this file.
Enter a file name: MyName Customer Sales.

Good.

Data -> Outline-> Subtotal



	D	E	F	G	H
1	Service	Product	Date	Sales Rep	Amount
19				Alex Total	$ 3,500.00
36				Connie Total	$ 8,310.00
66				Elizabeth Total	$ 8,170.00
67	Event	Breakfast Buffet	5/30/2011	Niki	$ 4,000.00
68	Event	Breakfast Buffet	6/9/2011	Niki	$ 2,400.00
69	Event	Breakfast Buffet	6/10/2011	Niki	$ 2,310.00
70	Event	Breakfast Buffet	7/12/2011	Niki	$ 3,850.00
71	Event	Breakfast Buffet	9/9/2011	Niki	$ 600.00
72	Event	Breakfast Buffet	9/17/2011	Niki	$ 400.00
73				Niki Total	$ 13,560.00
74				Grand Total	$ 33,540.00

Exam 77-420 Microsoft Excel 2013
2. Create Cells and Ranges
2.3 Order and Group Cells and Ranges: Create Outlines (Collapse Groups of Data in Outlines)

Data: Remove the Subtotal

The previous pages demonstrated how to create and edit Subtotals. Here are the steps you can take to **Remove** a Subtotal.

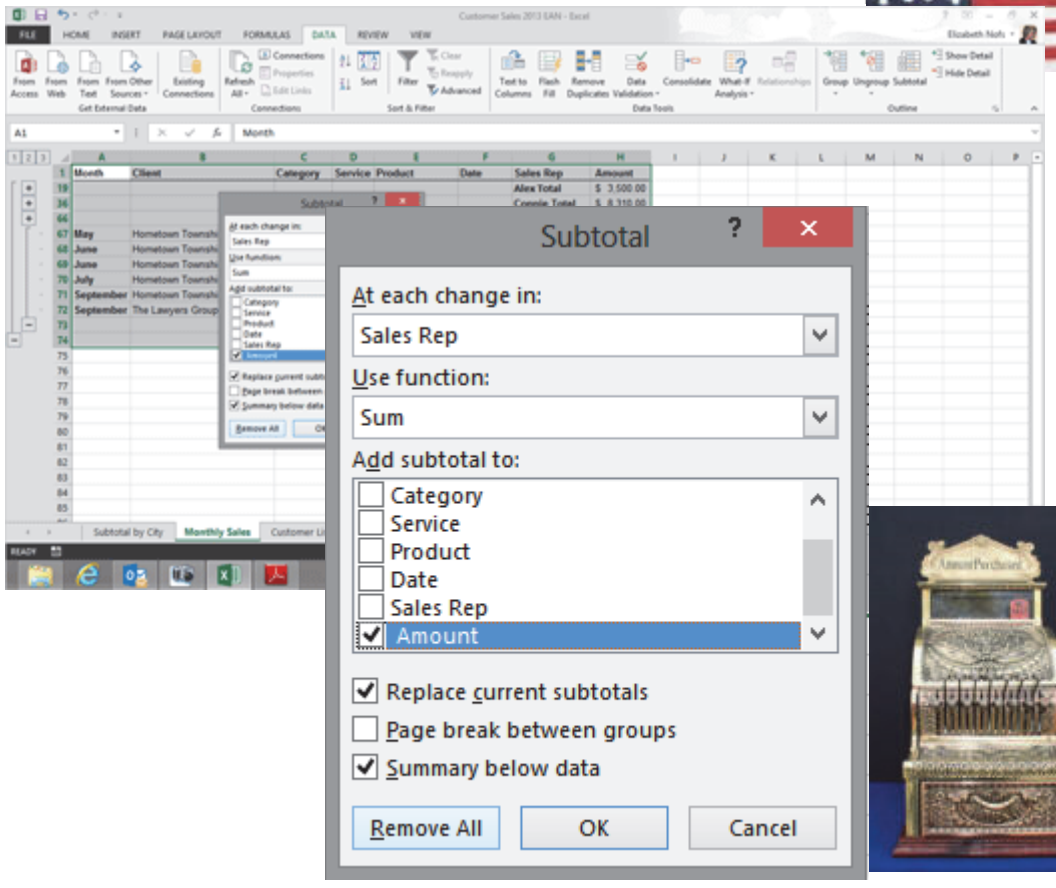
Try it: Review the Subtotals
Select the entire spreadsheet.
Go to Data -> Outline-> Subtotal

What Do You See? You will be prompted to fill in the blanks for the Subtotal function. Look at the bottom of the window. There is an option that you can click to remove the Subtotal.

Try This, Too: Remove the Subtotals
Select: **Remove All**.
Click **OK**.

The Subtotals should be removed. This is a simple list in Excel, again. Very good.

Data -> Outline-> Subtotal->Remove All



Exam 77-420 Microsoft Excel 2013
2. Create Cells and Ranges
2.3 Order and Group Cells and Ranges: Remove the Subtotals

Data: Group and Ungroup

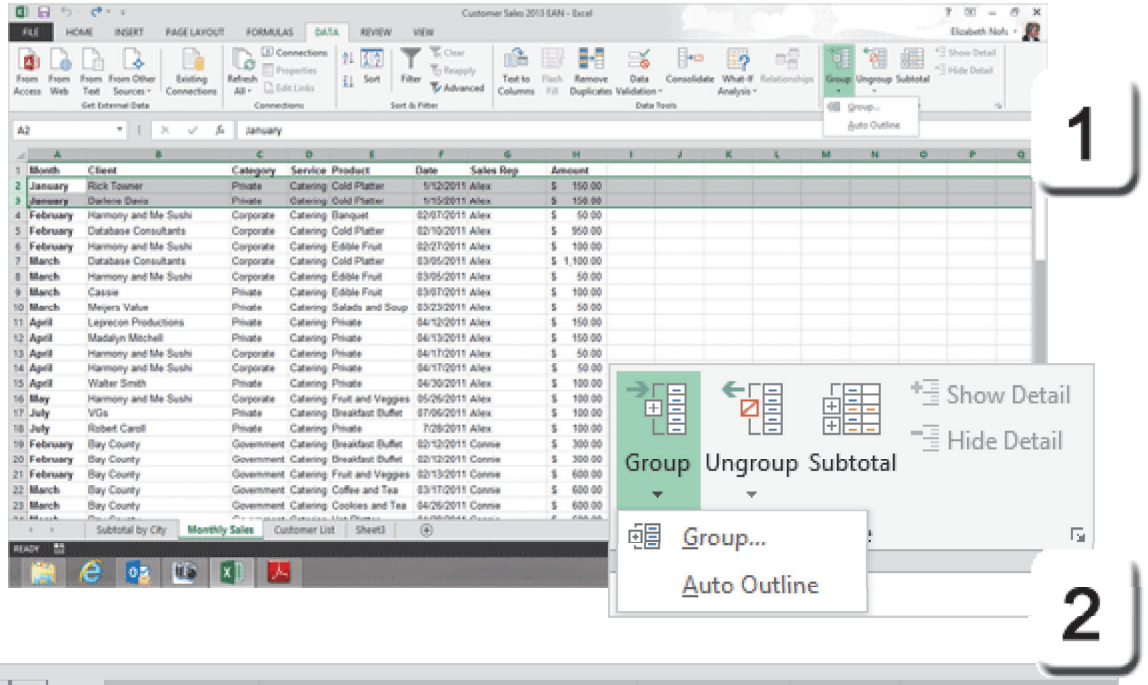
Outline Functions: Subtotal is an excellent **Outline** tool. It allows you to show or hide the data depending on what you want to see. Another Outline function you could try is **Group**. Group creates an Outline on the left side of the spreadsheet, however it does not calculate the totals.

1. Try it: Group the Rows
Go to the Monthly Sales sheet.
Select Rows 2 and 3 (The data for January).
Go to **Data -> Outline->Group.**
Click on **Group.**

2. What Do You See? The two rows will be grouped together. There should be an outline on the left side of your spreadsheet.

Done and done. Please save and close this spreadsheet.

Data -> Outline->Group->Group



1 2		A	B	C	D	E
	1	Month	Client	Category	Service	Product
	2	January	Rick Towner	Private	Catering	Cold Platter
	3	January	Darlene Davis	Private	Catering	Cold Platter
−	4	February	Harmony and Me Sushi	Corporate	Catering	Banquet

Data: Data Tools

This page begins a new discussion on the **Data Tools**. **Data Tools** analyze the information, they ask questions.

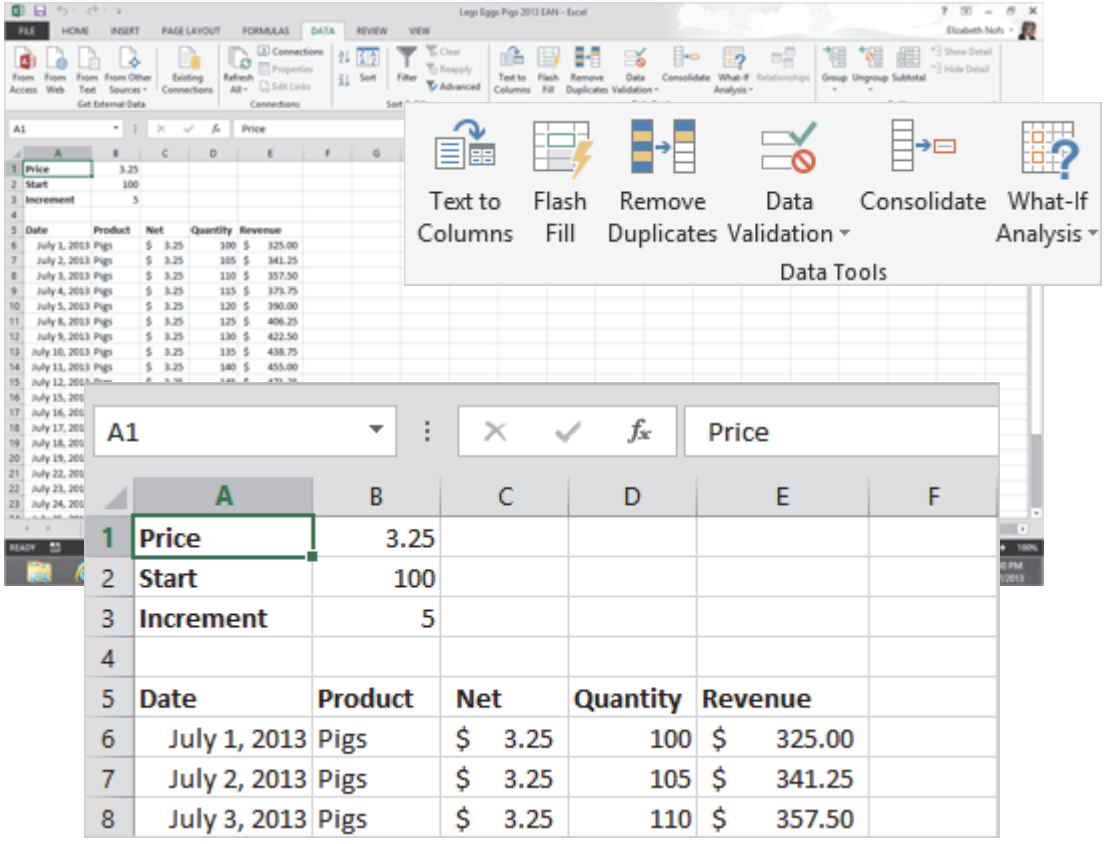
The best known **Data Tool** is the **What-if? Analysis**. Our lesson will begin with **Goal Seek**, a simple What-If.

Before You Begin: Open a Sample File
Open a sample spreadsheet:
Legs Eggs Pigs 2013.xlsx
Go to the sheet: Pigs.

What Do You See? This is the Pig Sales for Charlotte's Website. There are three reference Cells for Price (B1), Start (B2) and Increment (B3). The formulas in Columns C, D, and E refer to these three reference Cells.

Keep going...

Data -> Data Tools



	A	B	C	D	E	F
1	Price	3.25				
2	Start	100				
3	Increment	5				
4						
5	Date	Product	Net	Quantity	Revenue	
6	July 1, 2013	Pigs	$ 3.25	100	$ 325.00	
7	July 2, 2013	Pigs	$ 3.25	105	$ 341.25	
8	July 3, 2013	Pigs	$ 3.25	110	$ 357.50	

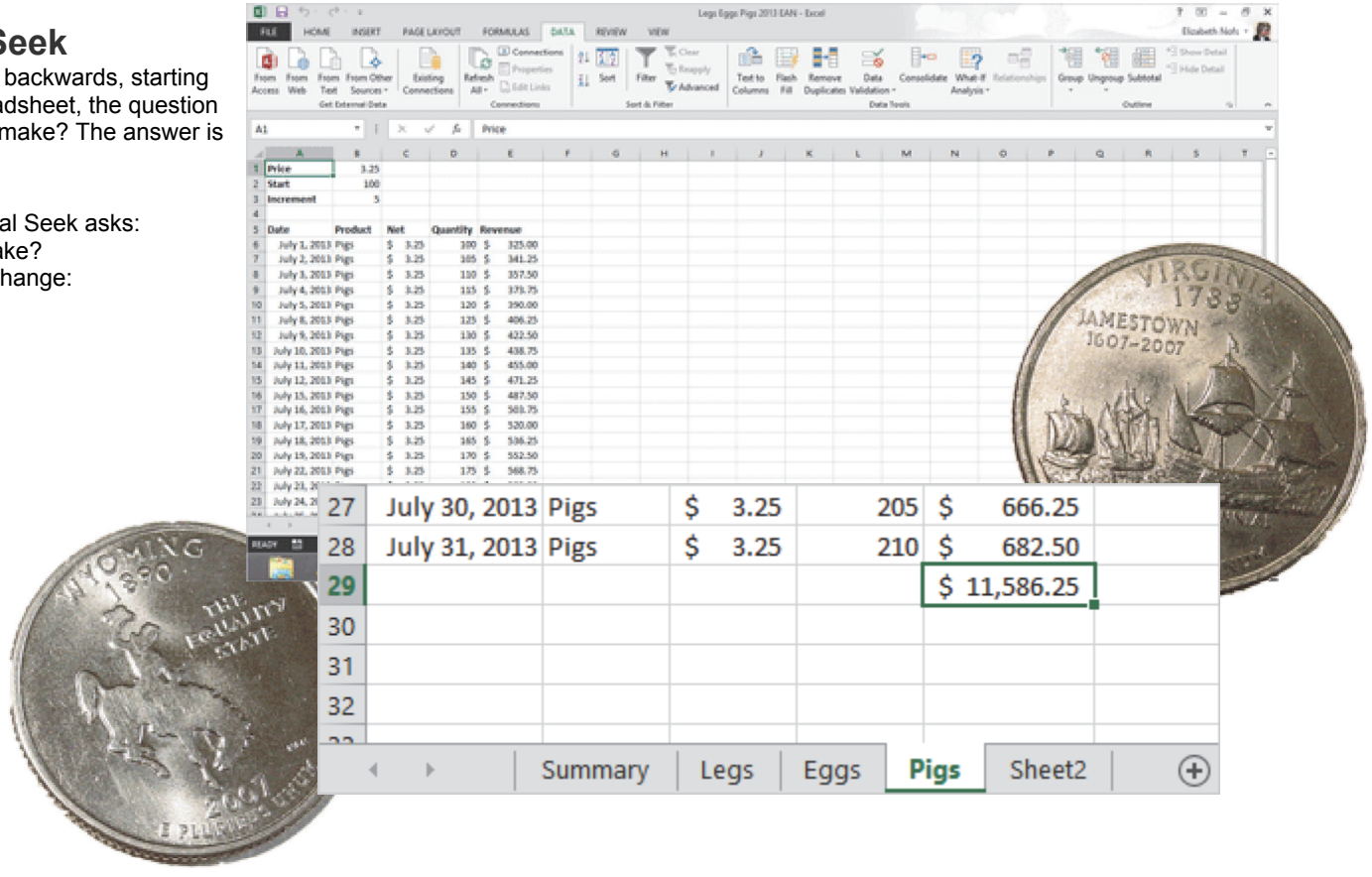
Data Tools: Goal Seek

Goal Seek asks the question backwards, starting from the answer. In this spreadsheet, the question is: how much money did you make? The answer is the SUM in Cell E29.

In this sales spreadsheet, Goal Seek asks:
How much do you want to make?
Which value do you want to change:
Price, Start or Increment?

Keep going, please...

Data -> Data Tools



Exam 77-428 Microsoft Excel 2013 EXPERT
3. Create Advanced Formulas
3.4 Create Scenarios: Use What If Analysis Tools Including Goal Seek



Data: What If? Goal Seek

Here are the steps to try a **Goal Seek**.

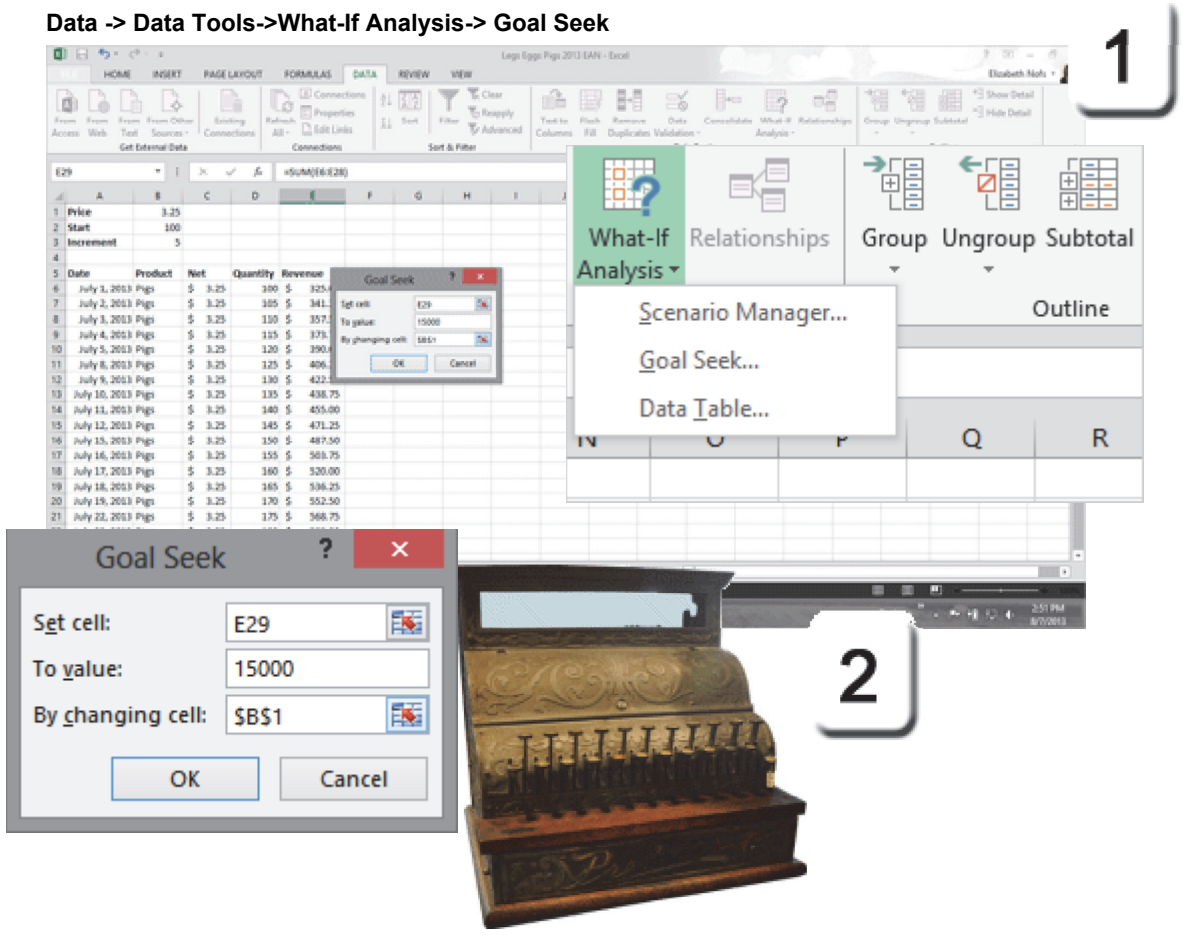
1: Try It: Select the Goal
Go to the Pigs spreadsheet.
Select: Cell E29.
Go to **Data -> Data Tools->What-If Analysis.**
Click on **Goal Seek**.

2. Try This: Define the Options
You will be prompted to fill in the blanks:
Set cell: E29 (the SUM of the sales).
To value: 15000 (the Goal you want to make).
By changing cell: $B$1 (the Price).

Click **OK**.

Keep going...

Data -> Data Tools->What-If Analysis-> Goal Seek



Take Two

Data: Goal Seek Options

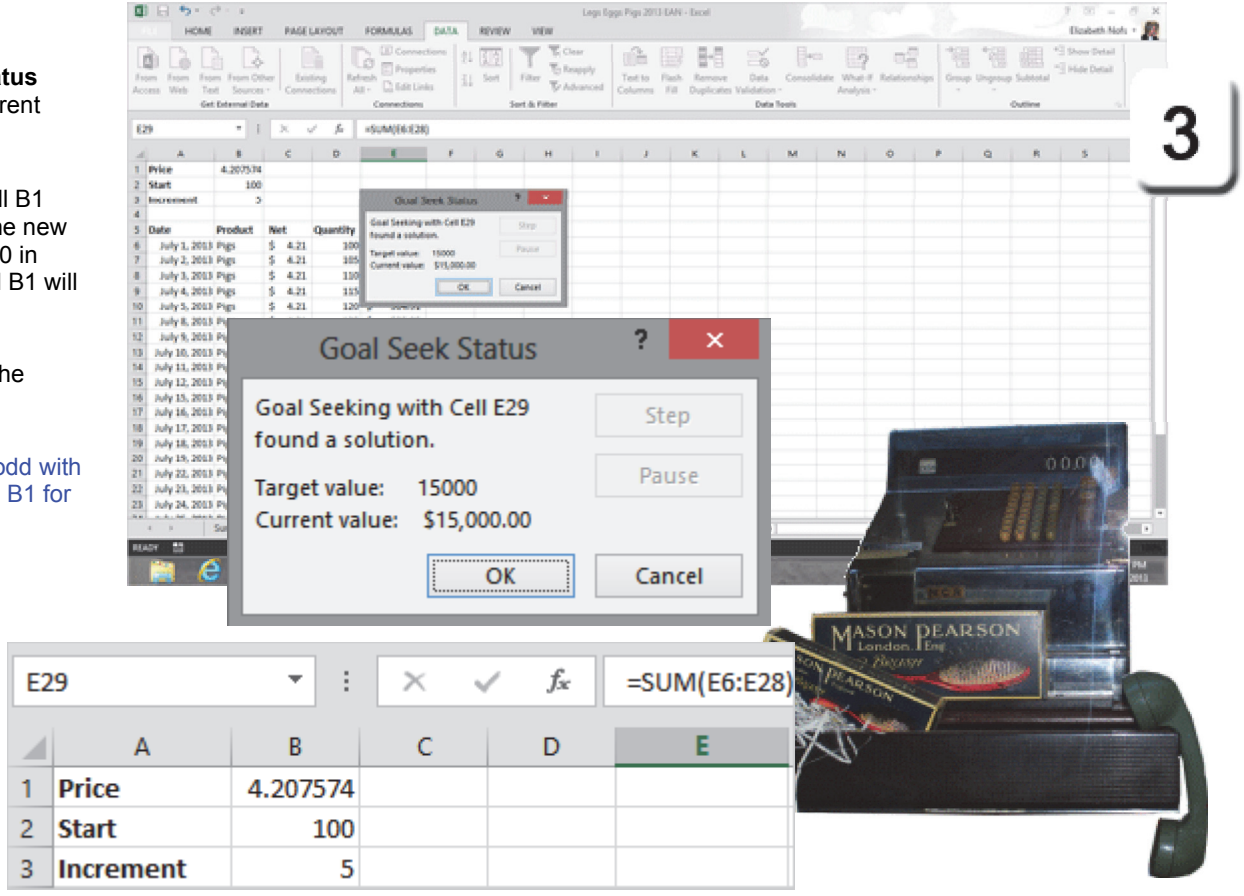
3. What Do You See? The **Goal Seek Status** shows the Target Value of 15000. The Current Value in Cell E29 is set to $15,000.

What Else Do You See? The **Price** in Cell B1 changed from $3.25 to 4.207574. This is the new Price you need to reach the goal of $15,000 in sales. If you click OK, the new Price in Cell B1 will be kept.

Do This, Please: Click **CANCEL** to undo the changes made by the Goal Seek.

Memo to Self: The Price in Cell B1 looks odd with all the decimal places. You can format Cell B1 for currency if you wish.

Data -> Data Tools->What-If Analysis-> Goal Seek



Exam 77-428 Microsoft Excel 2013 EXPERT
3. Create Advanced Formulas
3.4 Create Scenarios: Use What If Analysis Tools Including Goal Seek

Data Tools: What If Scenarios

Goal Seek changes one value. It is a useful tool for playing with the numbers. Suppose you wanted to look up the best and worst cases for your sales projections. You could type in a robust initial sales number and a vigorous daily increment for the best case. Then, you could type in more conservative estimates for the worst case.

Microsoft Excel has a way to save that information: **What-If Scenarios.**

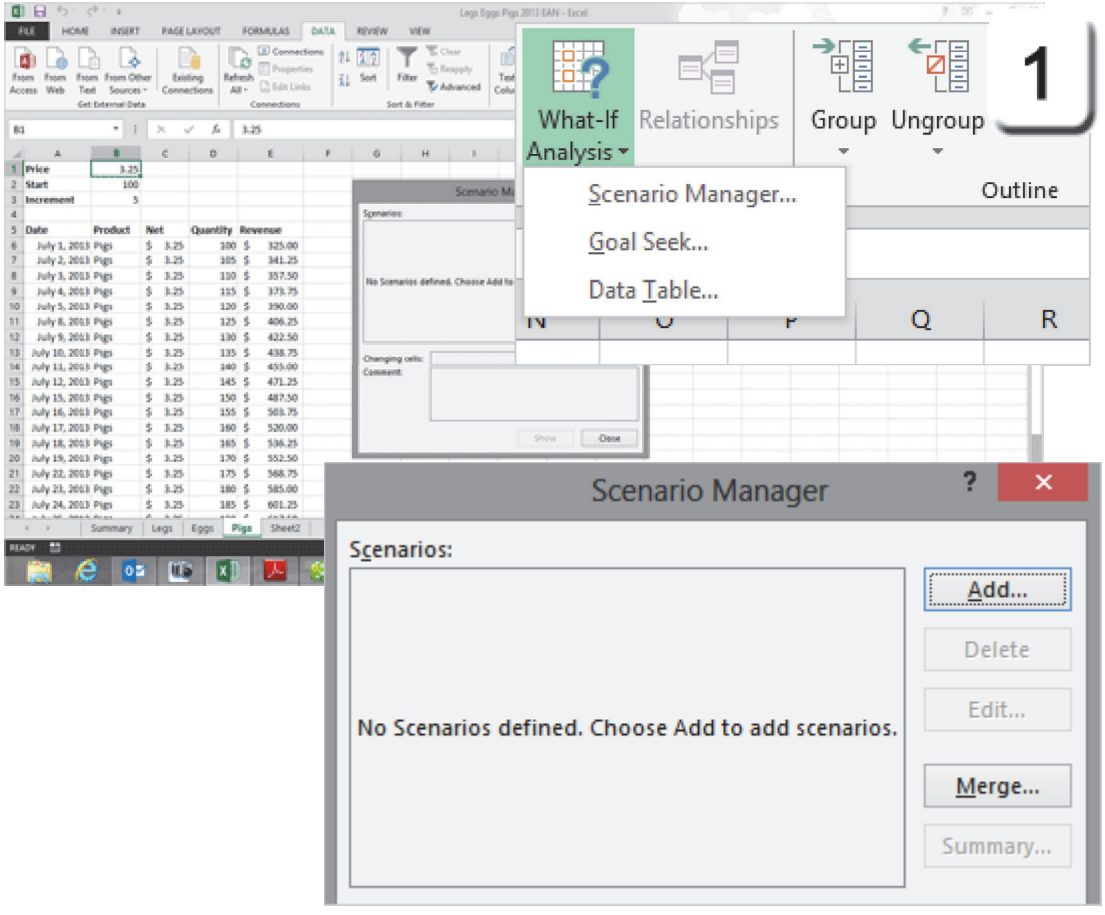
1. Try it: Open the Scenario Manager
Select Cell B1.
Go to **Data ->Data Tools->What-If Analysis.**
Select **Scenario Manager.**

What Do You See? When the Scenario Manager opens it will probably be blank: No Scenarios defined.

Try This, Too: Add a Scenario
Click on **Add**.

Keep going,,,

Data -> Data Tools->What-If Analysis-> Scenario Manager



Add: Edit the Scenario

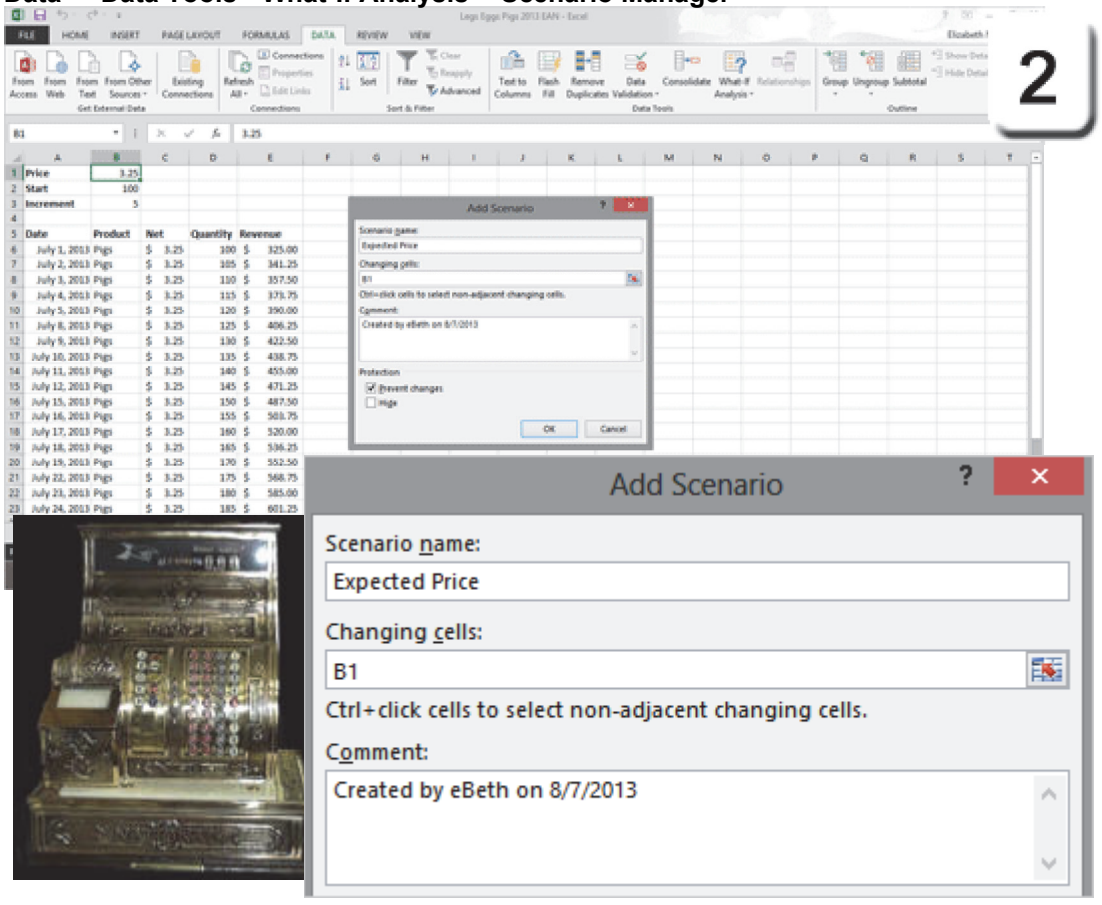
2. What Do You See? You will be prompted to Add the Scenario.

Please enter the following:
Scenario Name: Expected Price
Changing Cells: B1
You can use the lookup button on the right side to click on Cell B1, the Price, or type the reference if you wish.

Click **OK**.

Keep going...

Data -> Data Tools->What-If Analysis-> Scenario Manager



Enter the Values

3. Try This: Enter the Values

When you are done editing the Scenario and click **OK**, you will be prompted to Enter a value. Please type in 3.25.

Click **OK**, again and you will return to the Scenario Manager.

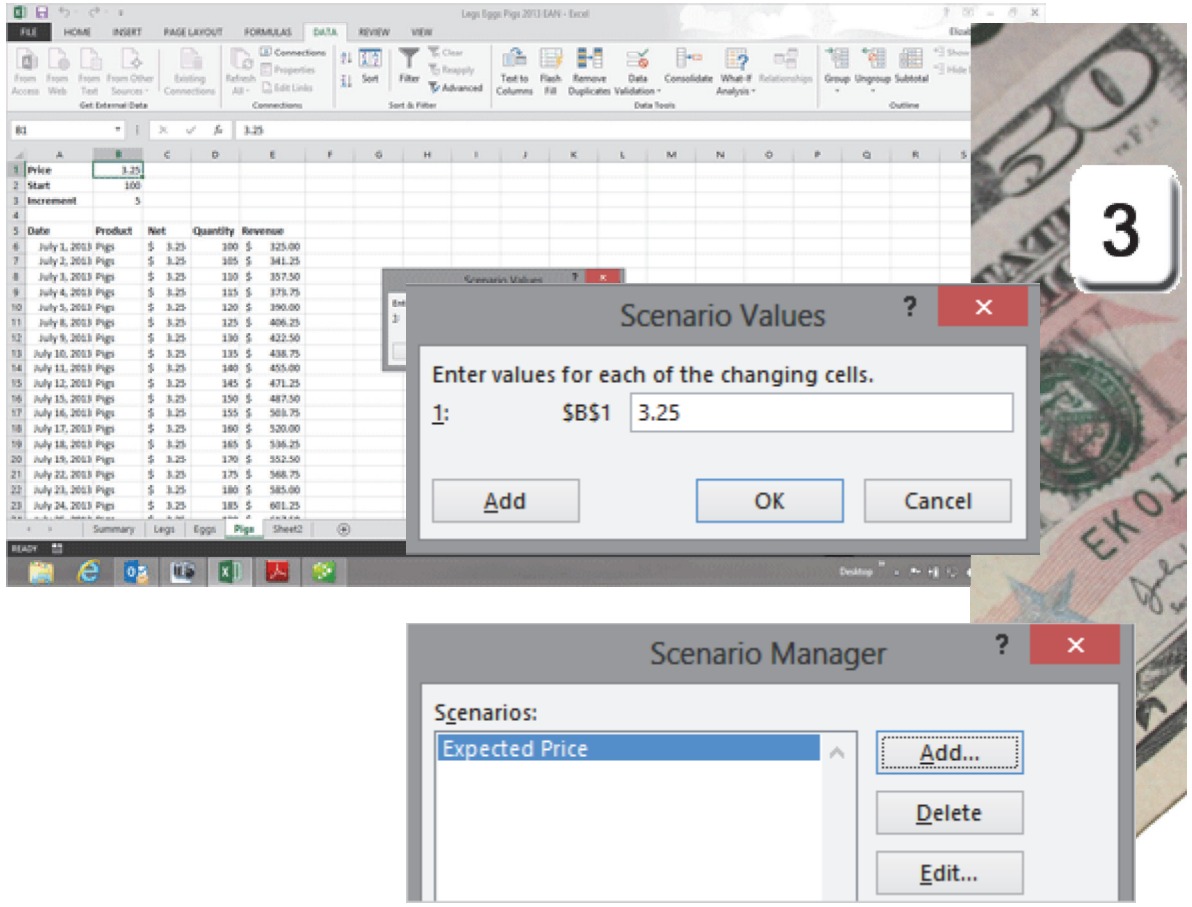
This step makes a benchmark: This is Expected Price, $3.25, what we started with.

In the following pages, we will **Add** a Scenario for Worst Case and one for the Best Case.

Each of these examples will change one Reference Cell-the Price in Cell B1. At the end of this lesson, we see how to create a Scenario with more than one reference Cell.

So, keep going...

Data -> Data Tools->What-If Analysis-> Scenario Manager



Add Another Scenario

At this point, the Scenario Manager has one Scenario: the Expected Price. Here are the steps to Add another Scenario.

4. Try This: Add Another Scenario
The Scenario Manager is open.
Click on: **Add**

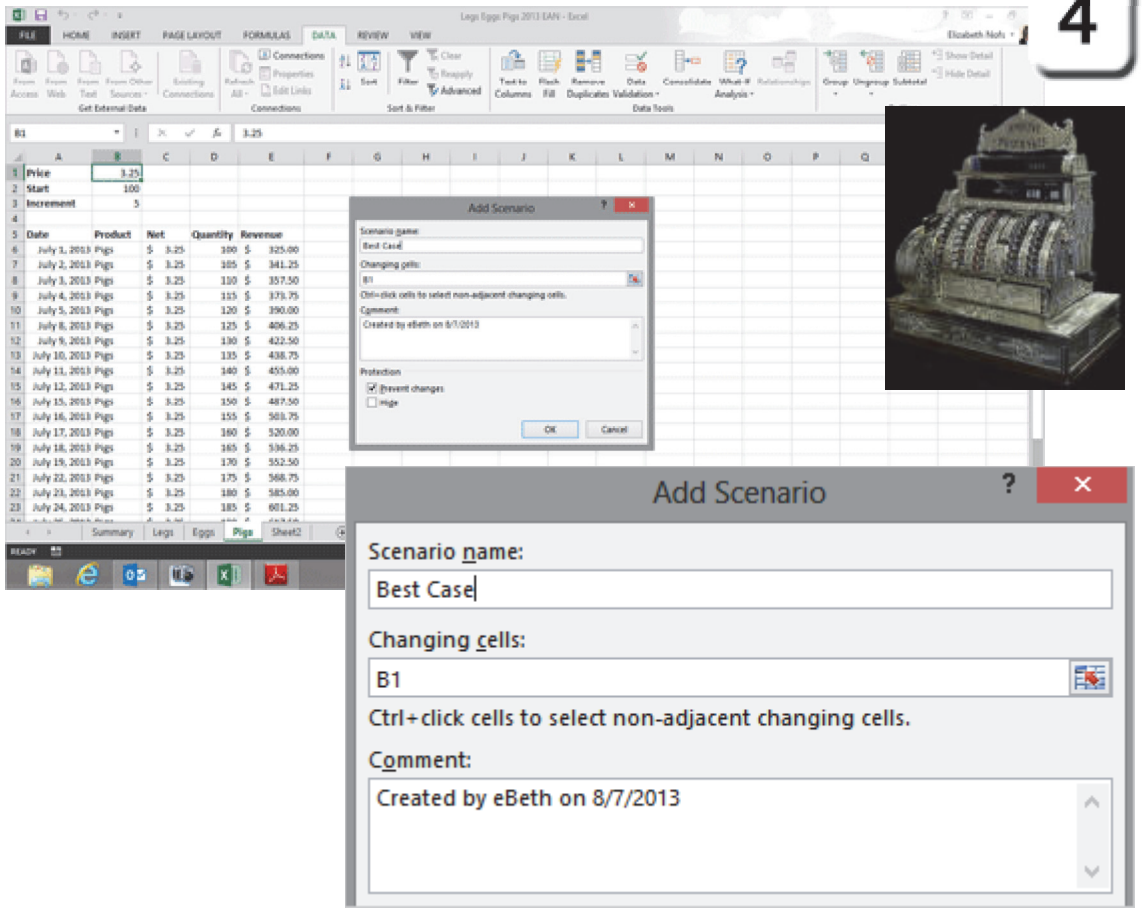
You will be prompted to fill in the blanks:
Scenario Name: Best Case
Changing Cells: B1
When you add another Scenario, Excel may display the reference cell that was used in the previous Scenario. If not, you can use the lookup button to click on Cell B1, the Price, or type it.

Click **OK**. When you click on OK, the **Scenario Manager** will prompt you to enter a new **value** for each reference cell.

Try This, Too: Enter the Scenario Value
Scenario Value for B1: 5.00

Keep going...

Data -> Data Tools ->What-If Analysis -> Scenario Manager



Add Yet Another Scenario

Now there are two Scenarios: Expected Price and Best Case. Here are the steps to Add the Worst Case Scenario. When all 3 Scenarios are done, you'll see how it works... it really does work well.

5. Try This: Add Yet Another Scenario
The Scenario Manager is open.
Click on: **Add**

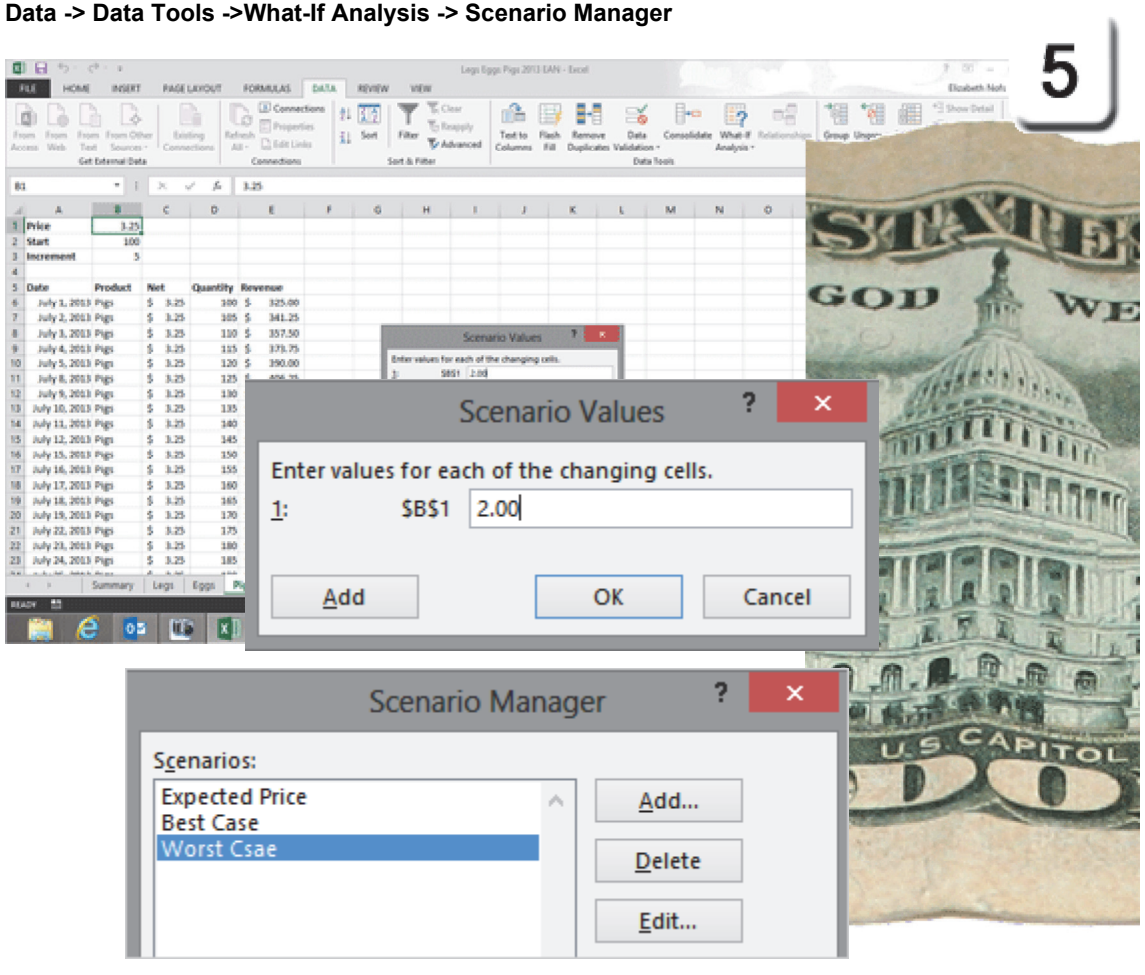
You will be prompted to fill in the blanks:
Scenario Name: Worst Case
Changing Cells: B1
Again, if you add a Scenario, Excel may show the reference cell that was in the previous Scenario. If not, you can use the little lookup button to click on Cell B1, the Price, or type it.

Click **OK**. When you click on OK, the Scenario Manager will prompt you to enter a new value for each reference cell.

Try This, Too: Enter the Scenario Value
Scenario Value for B1: 2.00

Keeeeeeep going...

Data -> Data Tools ->What-If Analysis -> Scenario Manager



Show the Scenario

The Scenario Manager has three different Scenarios: Best, Worst and Expected. How does it work? Say you wanted to show off the Best Case Scenario. Here are the steps.

6. Try it: Show the Scenarios
Select a Scenario: Best Case
Click on **Show**.

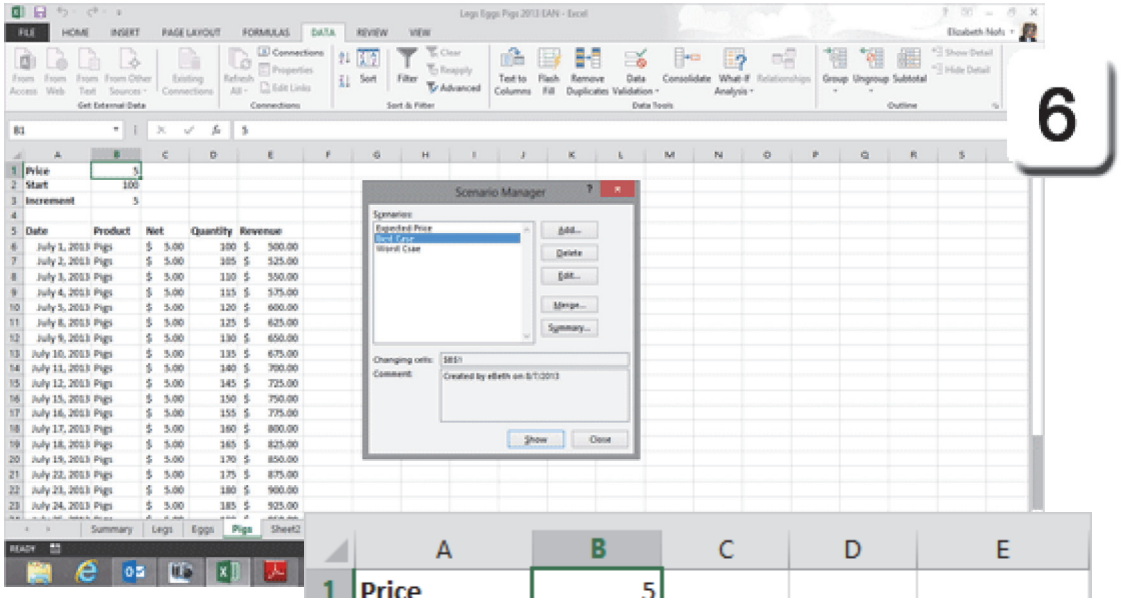


The Price in Cell B1 changed from $3.25 to $5.00. All of the formulas in Column E updated and used the new Price to calculate the Revenue. Yeah!

Try This, Too: Show Another Scenario
Select a Scenario: Worst Case
Click on **Show.**
The Price in Cell B1 changed from $5.00 to $2.00. Boo Hoo.

And Try This: Show A Different Scenario
Select a Scenario: Expected Price.
Click on **Show....**Very Good.

Data -> Data Tools ->What-If Analysis -> Scenario Manager



	A	B	C	D	E
1	Price	5			
2	Start	100			
3	Increment	5			
4					
5	Date	Product	Net	Quantity	Revenue
6	July 1, 2013	Pigs	$ 5.00	100	$ 500.00
7	July 2, 2013	Pigs	$ 5.00	105	$ 525.00

A Different Scenario

Say you wanted to create a Scenario that changed everything: The Price, the Start and the Increment. The next couple of pages show how to add more than one reference cell.

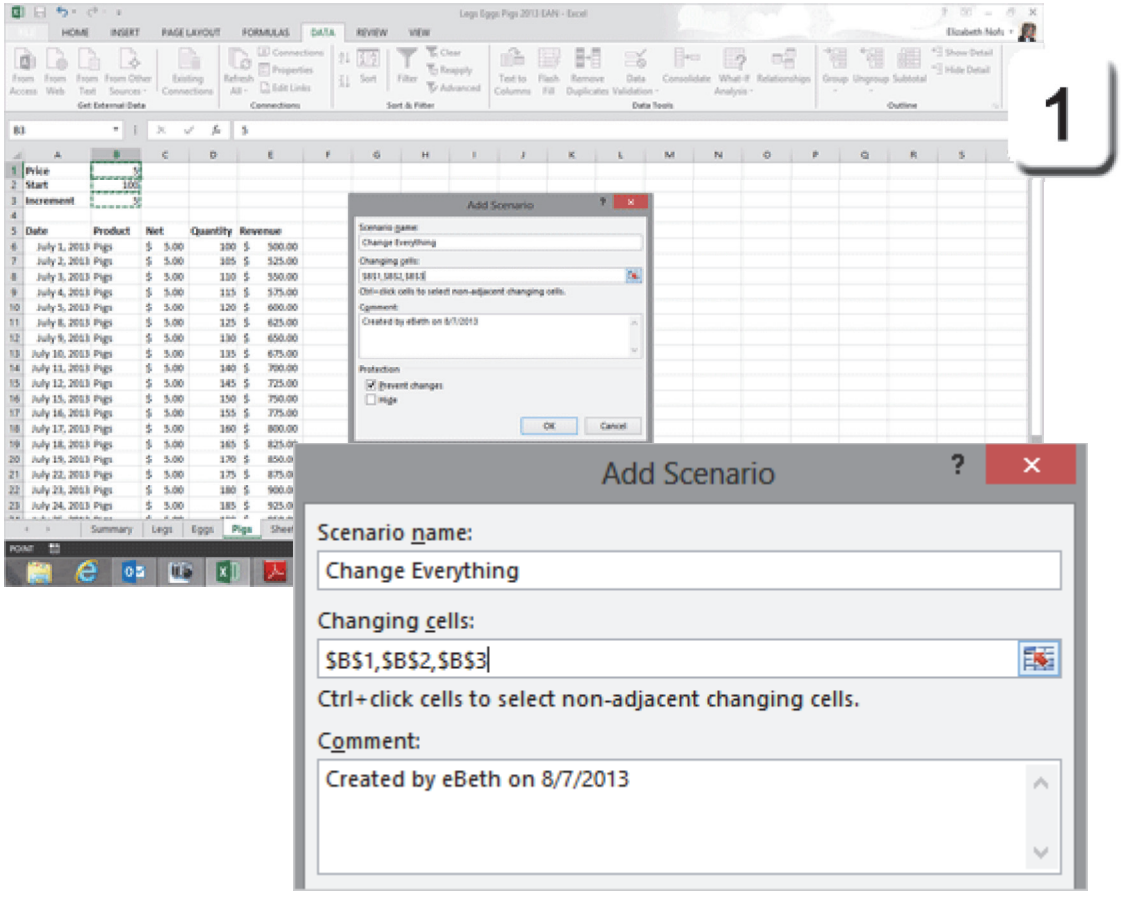
1. Try it: Create a Different Scenario
The Scenario Manager is open.
Click on: **Add**

You will be prompted to fill in the blanks:
Scenario Name: Change Everything
Changing Cells: $B$1
You can click on Cell B1, the Price, or type the reference. This is an Absolute Reference.

Add More Cells to the Scenario:
With your cursor next to $B$1,
Type a comma (,) and add $B$2, the Start
Type a comma (,) and add $B$3, Increment

Click **OK.** Keep going...

Data -> Data Tools ->What-If Analysis -> Scenario Manager



More Than One Value

When you click on OK, the Scenario Manager will prompt you to enter a new value for each reference cell.

2. Try it: Edit the Values
Scenario Value for $B$1: 6.00
Scenario Value for $B$1: 200
Scenario Value for $B$1: 20

Click **OK** to return to the Scenario Manager.

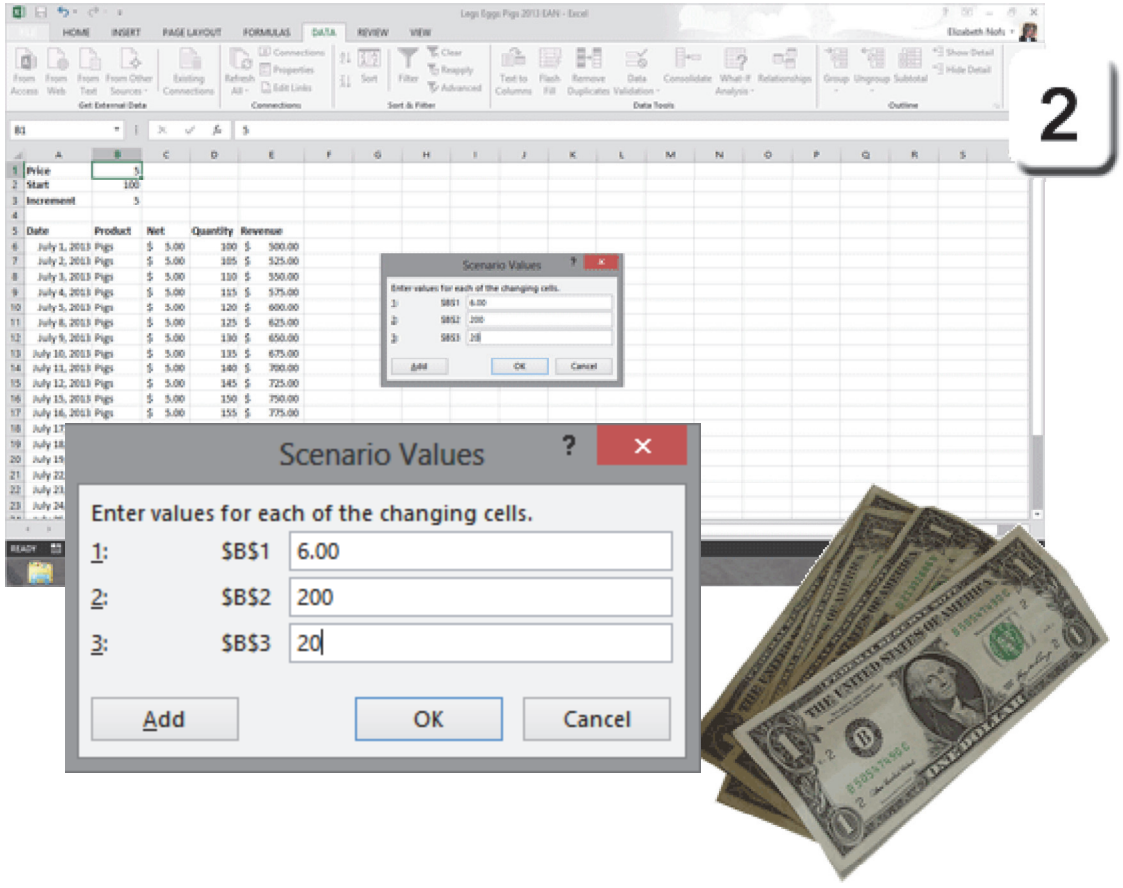
Try This, Too: Add One More Scenario
Click on: **Add**

You will be prompted to fill in the blanks:
Scenario Name: Change Back
Changing Cells: $B$1, $B$2, $B$3

Now, Try it: Edit the Values
Scenario Value for $B$1: 5.00
Scenario Value for $B$1: 100
Scenario Value for $B$1: 5

Keep going...

Data -> Data Tools ->What-If Analysis -> Scenario Manager



Show and Tell

3. Try it: Show the New Scenarios
Select a Scenario: Change Everything
Click on **Show.**

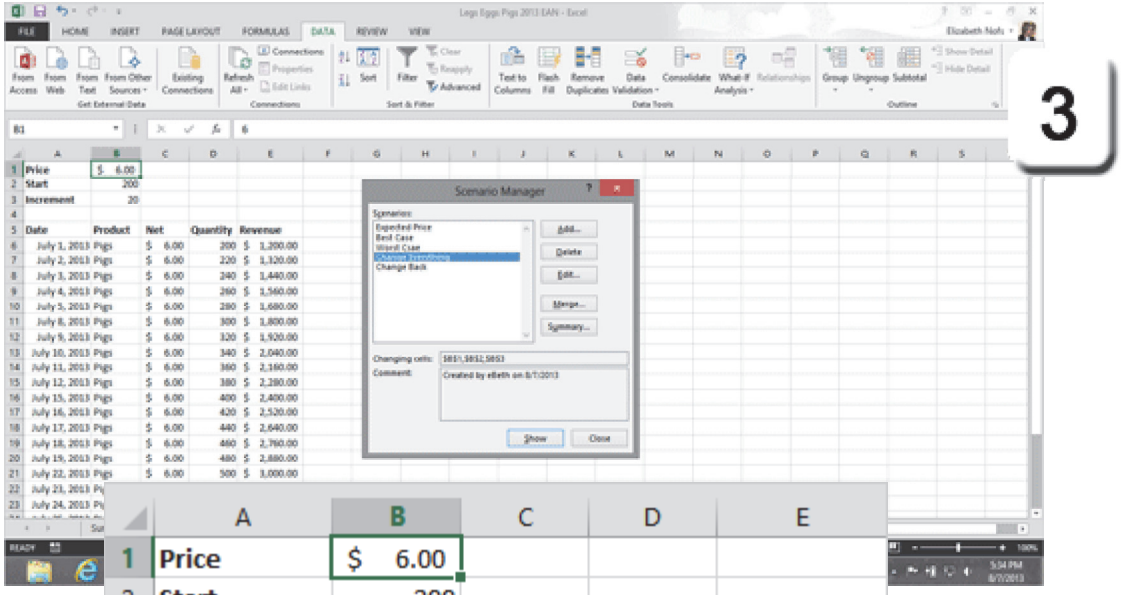


The numbers in Cells B1, B2 and B3 will change. All of the formulas in Column E will update and use the new data to calculate the Revenue.

Try This, Too: Show Another Scenario
Select a Scenario: Change Back
Click on **Show**.
The numbers in Cells B1, B2 and B3 changed back. All of the formulas in Column E updated and recalculated the Revenue.

There is one more tool you should consider. Please keep going...

Data -> Data Tools ->What-If Analysis -> Scenario Manager



	A	B	C	D	E
1	Price	$ 6.00			
2	Start	200			
3	Increment	20			
4					
5	Date	Product	Net	Quantity	Revenue
6	July 1, 2013	Pigs	$ 6.00	200	$ 1,200.00
7	July 2, 2013	Pigs	$ 6.00	220	$ 1,320.00
8	July 3, 2013	Pigs	$ 6.00	240	$ 1,440.00

Summary

4. Try it: Show the New Scenarios
The Scenario Manager is still open.
Click **Summary**.
You will be prompted that the results are for E29.
Click **OK**.

Excel will create a new Summary Sheet with all of the Scenarios: Current Values, Expected Price, Best Case, Worst Case, Change Everything and Change Back.

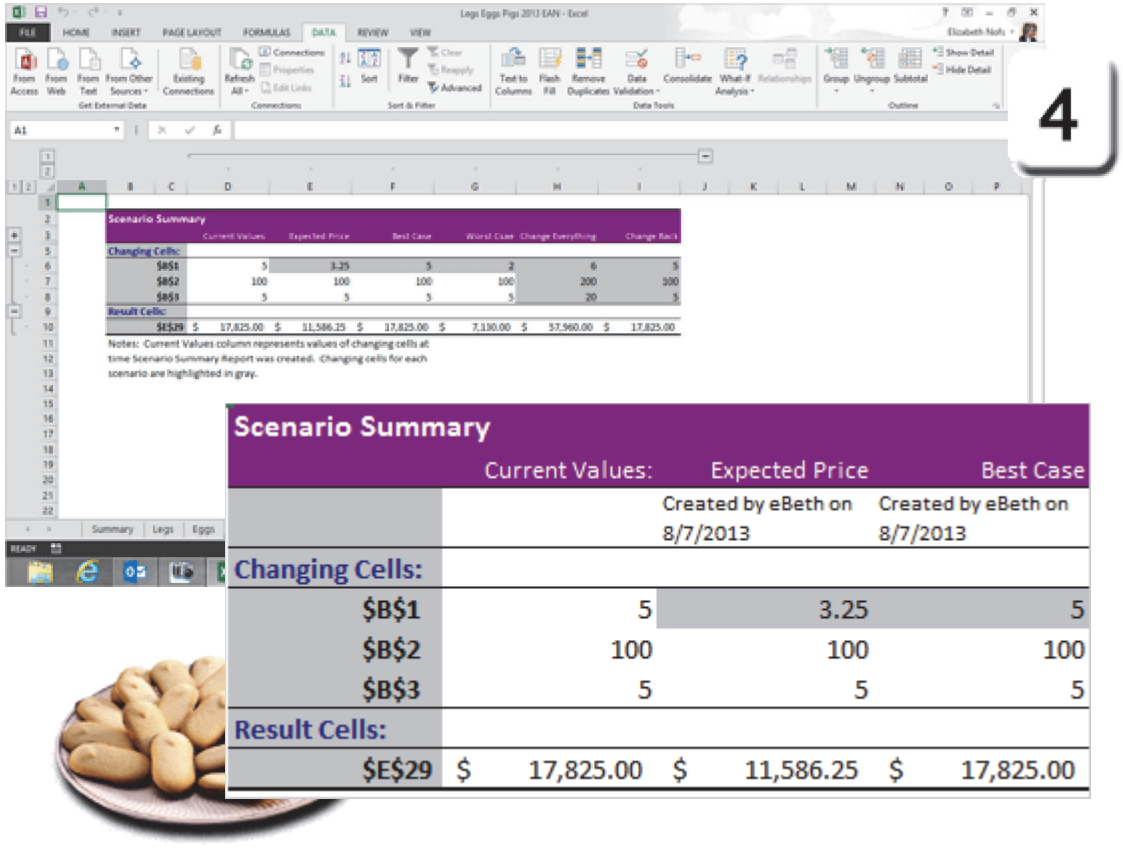
That's Scenarios: a useful tool for analyzing your data. You can save your spreadsheet.

This lesson began with a discussion of the simple **Outline Tools**: Group, Outline and Subtotal. The purpose of these tools is to organize and visualize the data.

The lesson continued with the **Data Tools**. Our What-If Analysis included Goal Seek, for when you already have an answer in mind. The other analytical tool is the Scenario Manager. We walked through several different Scenarios that changed the Reference Cells.

Well, you done good. Go get two cookies.

Data -> Data Tools ->What-If Analysis -> Scenario Manager->Summary



Scenario Summary	Current Values:	Expected Price	Best Case
		Created by eBeth on 8/7/2013	Created by eBeth on 8/7/2013
Changing Cells:			
$B$1	5	3.25	5
$B$2	100	100	100
$B$3	5	5	5
Result Cells:			
$E$29	$ 17,825.00	$ 11,586.25	$ 17,825.00

Practice Activities

Lesson 2: Work Smarter, Not Harder

Before You Begin: Download the sample spreadsheet: Brown Bag Lunch Sales Team.xlsx

Try This: Do the following steps

1. Open the Spreadsheet: Brown Bag Lunch Sales Team.xlsx
2. Sort the spreadsheet by Product in ascending order.
3. Create a Group with the Detroit Agents. (Hint:Use the Filter to show ONLY the Detroit Agents.)
4. Hide the Detroit Agents.(Hint:Use the Filter to show everyone BUT the Detroit Agents.)
5. Filter Products so only Coffee & Donuts are visible.
6. Use the Goal Seek function on John Cook (Northern Michigan Market).
   Set the value in column F to be $65,000 by changing the Project Increase (Column E).
   Click OK to accept the Goal Seek.
7. Save this file as YOUR NAME Works Smarter Practice.



Test Yourself

1. Which of the following is true? (Select all correct answers.)
a. Sort helps find patterns
b. Filter focuses on just part of the information
Tip: Advanced Excel page 51, 52

2. When the filter command is applied, the header row contains drop down filter options.
a. True
b. False
Tip: Advanced Excel, page 53

3. The status bar displays how many filtered records there are.
a. True
b. False
Tip: Advanced Excel, page 54

4. The Group command creates an outline in the side of the spreadsheet, but does NOT calculate totals.
a. True
b. False
Tip: Advanced Excel, page 66

5. Which of the following are true about Subtotals? (Select all correct answers.)
a. To use the subtotal, data must be sorted first
b. The command is Data-> Outline-> Subtotal
c. The subtotal function creates totals for each group in the column
Tip: Advanced Excel, page 58

6. In the Outline a + indicates what? (Select all correct answers.)
a. There is more data to see
b. All data is displayed
c. The outline can be expanded
d. The outline can be condensed
Tip: Advanced Excel, page 64

7. Which of the following are Outline functions? (Select all correct answers.)
a. Subtotal
b. Group
c. Sort
Tip: Advanced Excel, page 66

8. Which of the following is true about the Goal-Seek command? (Select all correct answers.)
a. OK keeps the changes
b. Cancel rejects (or undoes) the changes
c. Apply keeps the changes
Tip: Advanced Excel, page 70

9. To enter multiple values for a What-if scenario, which is the best tool?
a. Goal-Seek
b. Scenario Manager
Tip: Advanced Excel, page 71

10. A What if Scenario can only change one (1) reference cell.
a. True
b. False
Tip: Advanced Excel, page 77



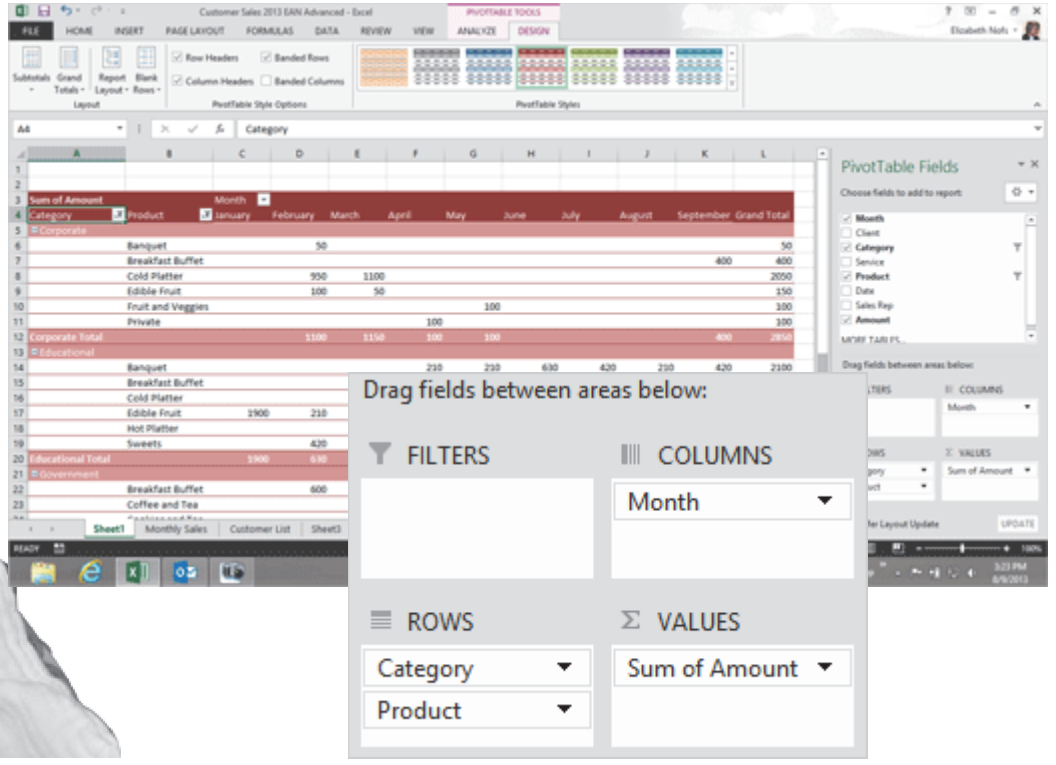
PivotTables: What Happened?

Advanced Excel Objectives

In this lesson, you will learn how to:

1. Identify the steps needed to create a PivotTable.
2. Use Row Labels to filter the data.
3. Use the Field Settings to Count Values.
4. Pivot the Table!
5. Format the PivotTable and Pivot Table Reports.





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Lesson 3: Pivot Tables: What Happened?

1. Readings

Read Lesson 3 in the Advanced Excel guide, page 83-116.

Project

A spreadsheet that works with PivotTables in Excel. This lesson shows how to present data visually, format data as a PivotTable and display the Totals.

Downloads

Customer Sales 2013.xlsx

Brown Bag Lunch Sales Team.xlsx

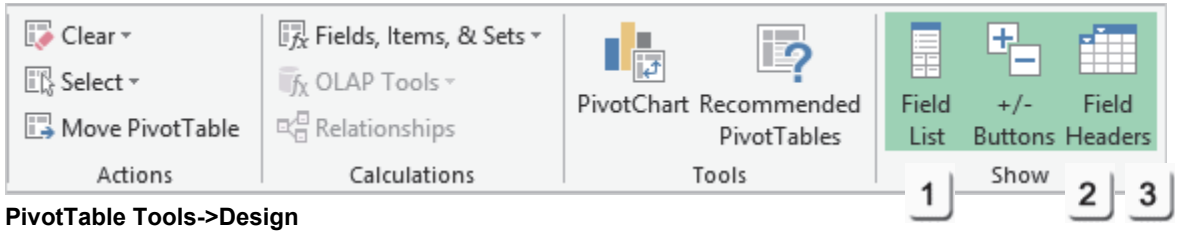
2. Practice

Complete the Practice Activity on page 117.

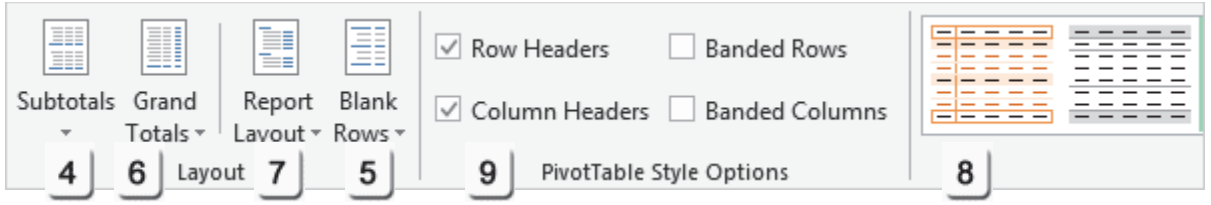
3. Assessment

Review the Test questions on page 118.

PivotTable Tools->Analyze



PivotTable Tools->Design



Menu Maps

This lesson demonstrates the **Pivot Table Tools Design Ribbons**.

1. PivotTable Tools ->Analyze-> Show-> Field List, page 90
2. PivotTable Tools ->Analyze-> Show> Field Headers, page 93
3. PivotTable Tools ->Analyze-> Active Field-> Field Settings, page 96
4. PivotTable Tools ->Design-> Layout-> Subtotals, page 104
5. PivotTable Tools ->Design-> Layout->Blank Rows, page 105
6. PivotTable Tools ->Design-> Layout-> Grand Totals, page 106
7. PivotTable Tools ->Design-> Layout->Report Layout, page 110
8. PivotTable Tools ->Design-> PivotTable Styles->Style, page 111
9. PivotTable Tools ->Design-> PivotTable Style Options, page 112

From the **Insert** Ribbon

Insert->Tables->Pivot Table, page 87

What Happened? The Right Tool for the Task

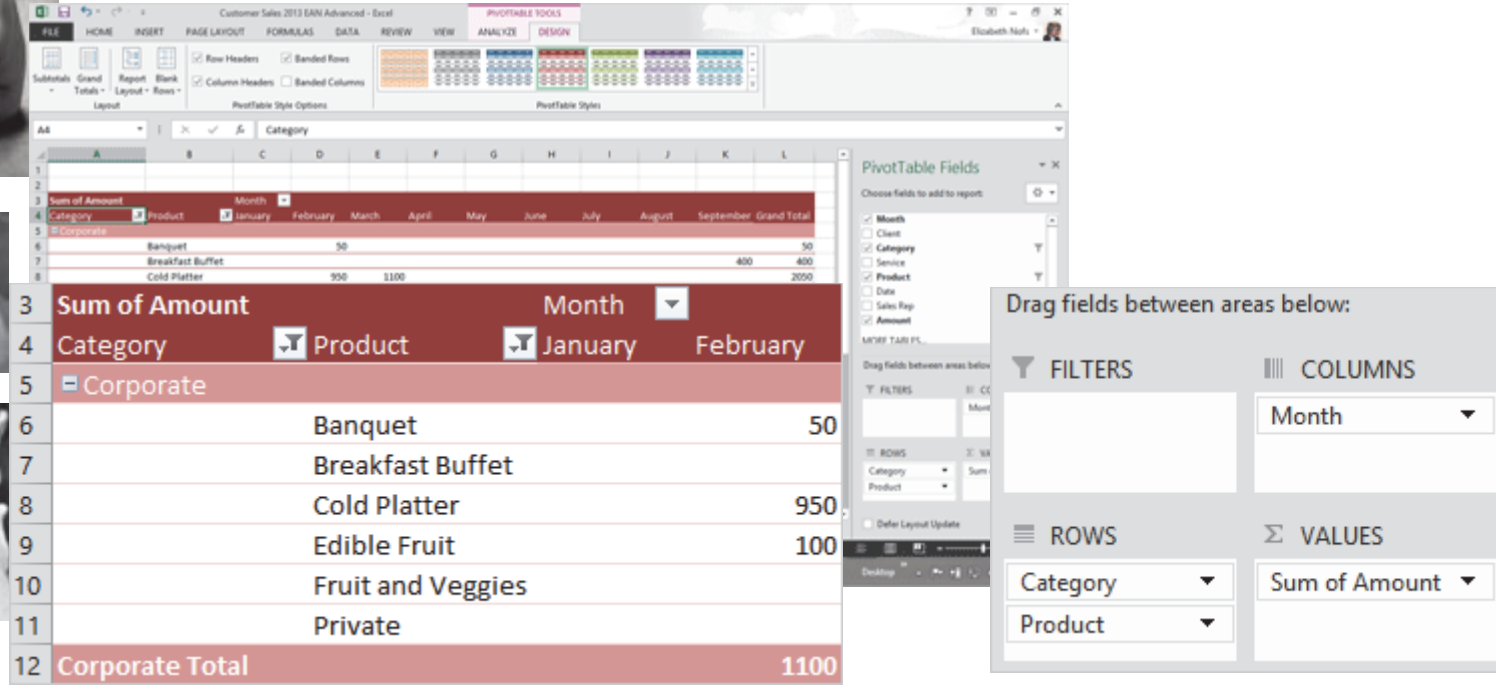


When something goes wrong, everyone wants to go through the data and find out what happened. The Data Tools are: Sort, Filter, Group and Subtotal. A **PivotTable** combines all of the best Data Tools together. A PivotTable presents the data in a visual, interactive format. PivotTables summarize, sort, compare and filter the data. For some reason, most people teach PivotTables as an advanced topic. In this lesson, "advanced" doesn't mean difficult: just more steps.

The Computer Mama sez formulas can be difficult. This is actually fun. Try something different.







Take One

Before You Begin

The purpose of this lesson is to investigate the **PivotTable** Options in Microsoft Excel. You can use a spreadsheet that you created or download a sample spreadsheet if you wish. The sample, Customer Sales 2013.xlsx, has two spreadsheet Tabs: Monthly Sales and Customer List.

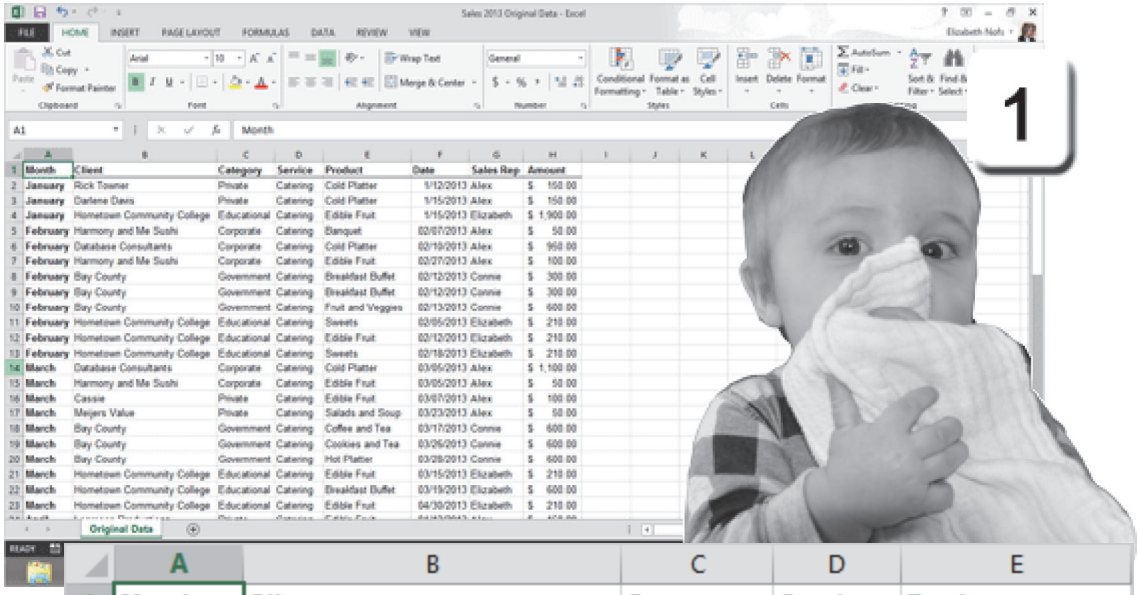
1. Try This: Open a Sample Spreadsheet
Open a sample spreadsheet:
Customer Sales 2013.xlsx
Go to the **Monthly Sales** sheet.

What Do You See? This sheet shows the product sales for Charlotte's Website. The first row is BOLD: It is the Header Row. The data should be sorted by Column A, Month. If not, go ahead and sort the data, first.

So far, so good. Keep going...

Memo to Self: You do not have to MATCH the numbers shown on these pages. It is more important that you begin with some data and understand the options.

File -> Open



	A	B	C	D	E
1	Month	Client	Category	Service	Product
2	January	Rick Towner	Private	Catering	Cold Platter
3	January	Darlene Davis	Private	Catering	Cold Platter
4	January	Hometown Community College	Educational	Catering	Edible Fruit
5	February	Harmony and Me Sushi	Corporate	Catering	Banquet
6	February	Database Consultants	Corporate	Catering	Cold Platter
7	February	Harmony and Me Sushi	Corporate	Catering	Edible Fruit
8	February	Bay County	Government	Catering	Breakfast Buffet

Take One

Insert a Pivot Table

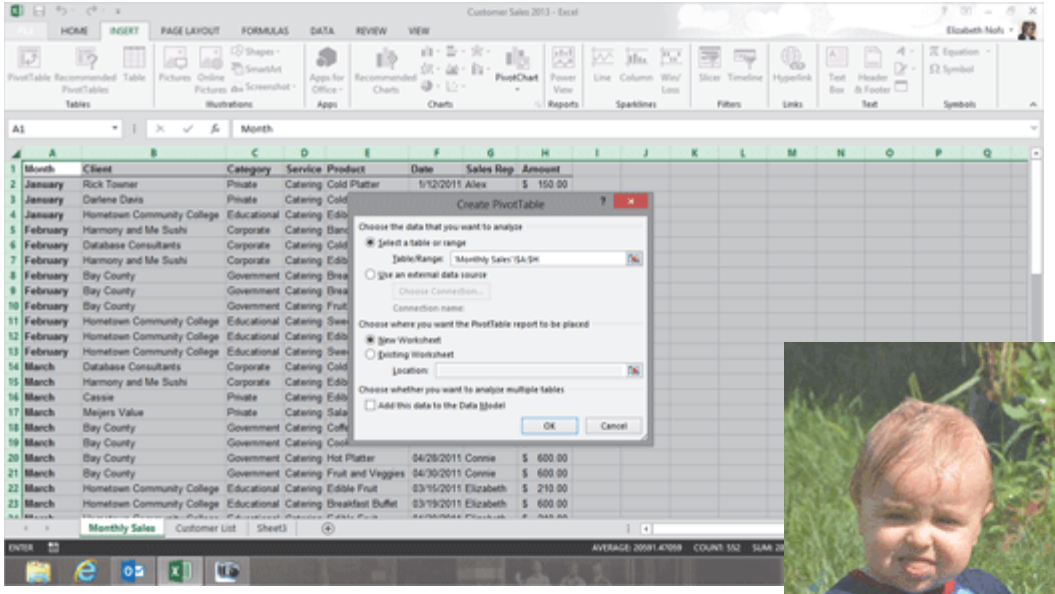
A PivotTable summarizes data and displays the results. It is a reporting tool that works very well. Here is how you start.

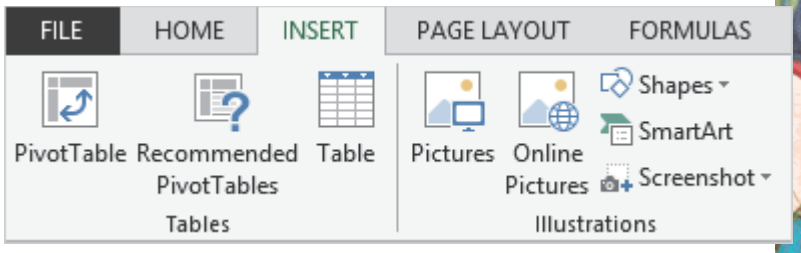
2: Try This: Insert a PivotTable
Go to the Monthly Sales spreadsheet.
Select all.
Go to **Insert ->Tables**.
Click on **PivotTable**.

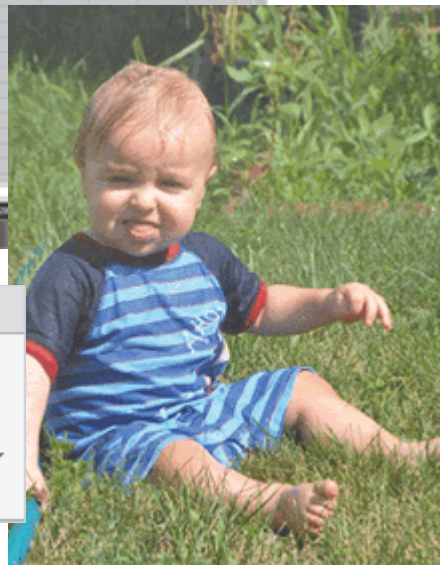
Keep going...

Insert ->Tables-> PivotTable

2







Exam 77-427 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Create New PivotTables

Take One

Create a PivotTable

3. Try This: Choose the data
If you selected the entire Monthly Sales sheet, Excel will display the Table or Range: 'Monthly Sales'!$A:$H

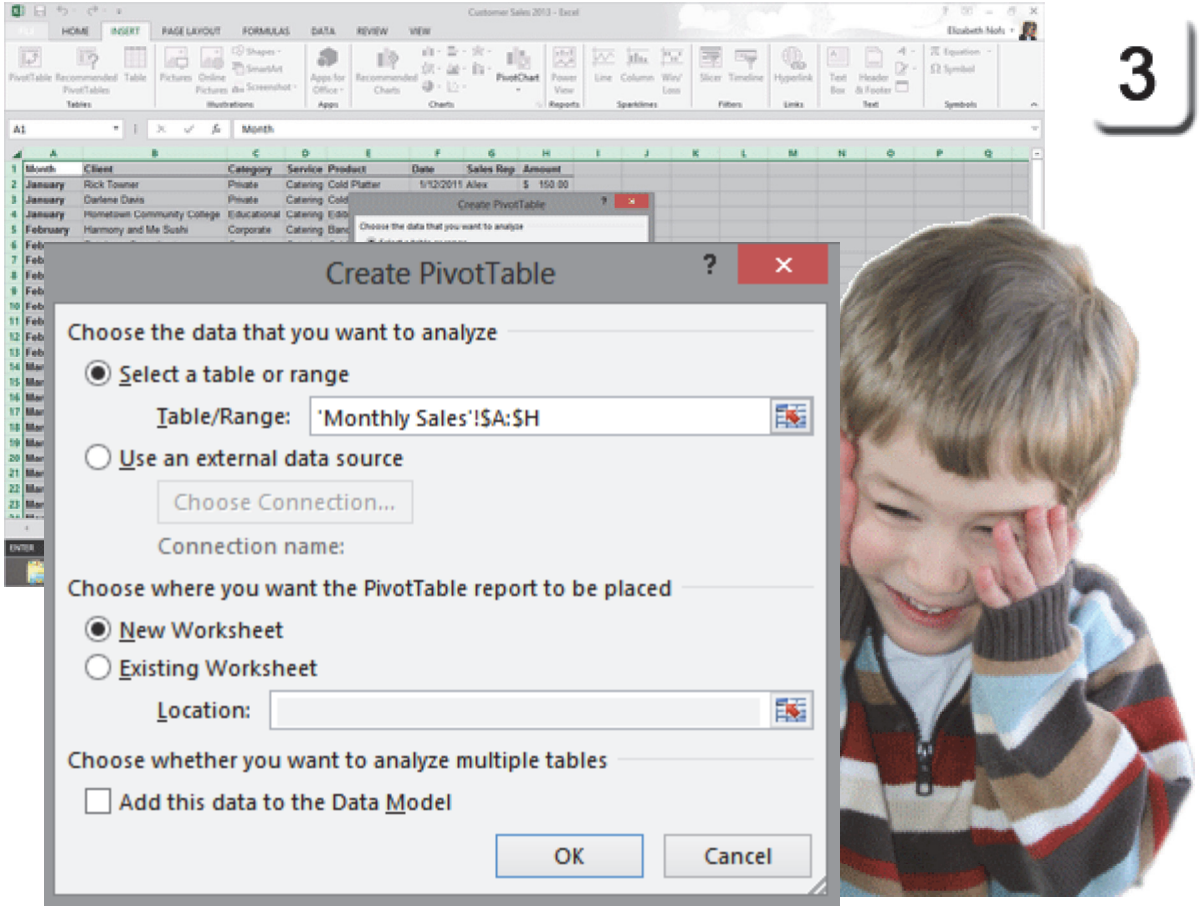
In words, that means "name of your spreadsheet" ! "all of the data in Column A through Column H."

Try This, Too: Where do you want to place the new PivotTable report? The choices are create a new PivotTable in a new worksheet or place it on an existing worksheet.

Select: **New Worksheet**.
Click **OK**.

Keep going...

Insert ->PivotTable



3

Take One

Hello, PivotTable

4. What Do You See? When you click OK, Microsoft Excel will create a new, blank PivotTable in a new sheet. The **PivotTable Tools** should be available. There are two PivotTable Ribbons: **Analyze** and **Design**.

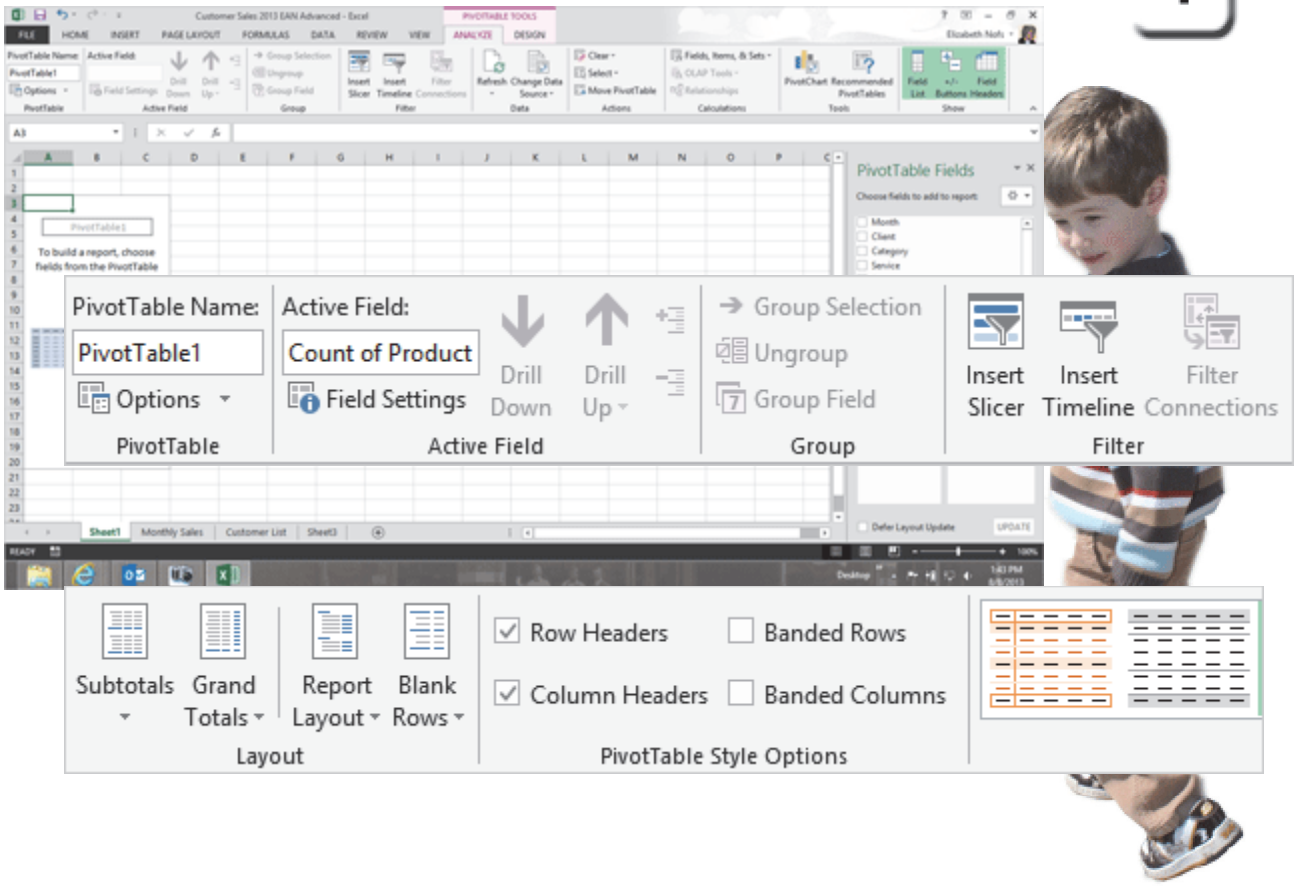
The Analyze Ribbon includes:
PivotTable
Active Field
Group
Filter
Data
Actions
Calculations
Tools
Show

The Design Ribbon includes:
Layout
PivotTable Style Options
PivotTable Styles

Keep going, please...

Insert ->Tables->PivotTable

4



Take One

PivotTable Fields

5. What Else Do You See? There are three parts to a spreadsheet: labels, data, and formulas. In this example the labels include Category, Service, Product, Date, Sales Rep and Amount. These **labels** will become the **fields** in the PivotTable.

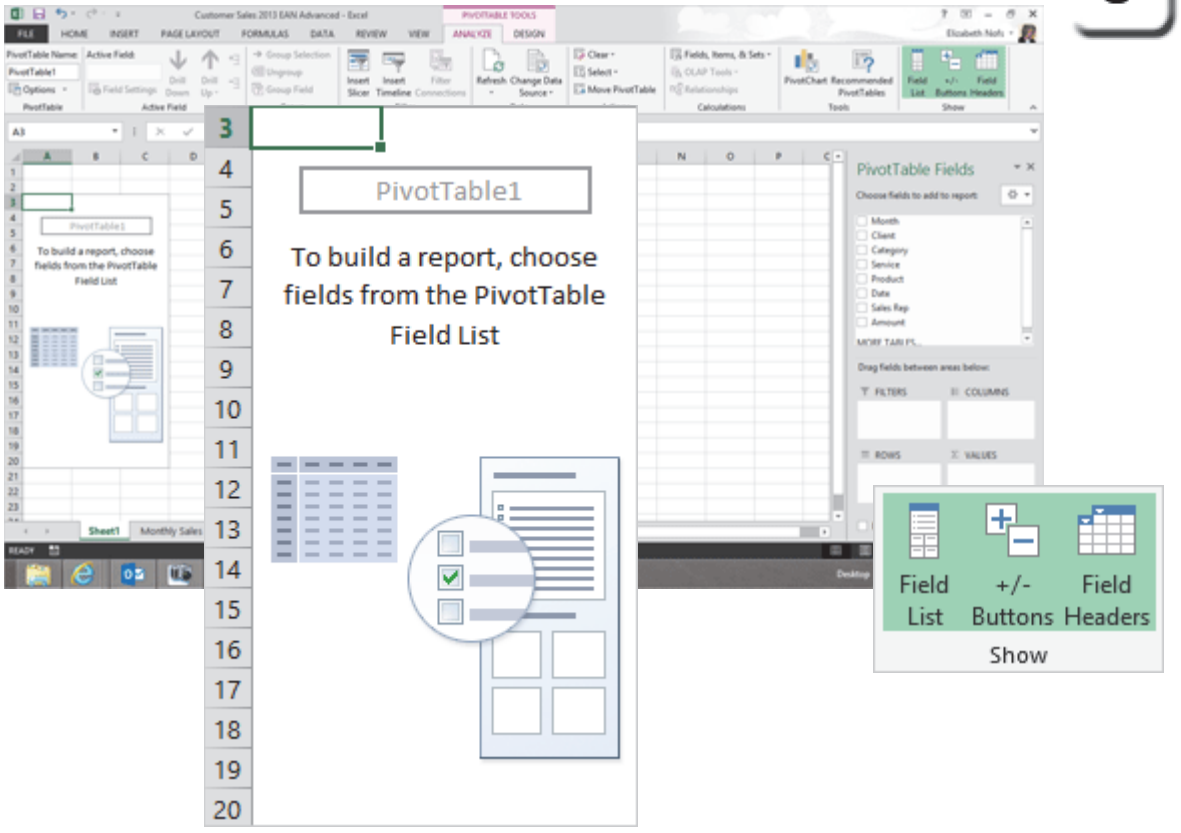
PivotTables use **fields** to organize and calculate the rows and columns. These fields come from the labels in the first row (the header) in the spreadsheet.

Look for the **PivotTable Field List** on the right side of your screen. How do the fields compare to your labels?

Keep going...

What If You Don't See It? The **Field Headers** can be turned on or off with the PivotTable Tools. If you don't see the Field List try this:
Go to **PivotTable Tools ->Analyze.**
Go to **Show-> Field Headers.**

PivotTable Tools ->Analyze-> Show-> Field List



5

Take One

PivotTable: Add Fields

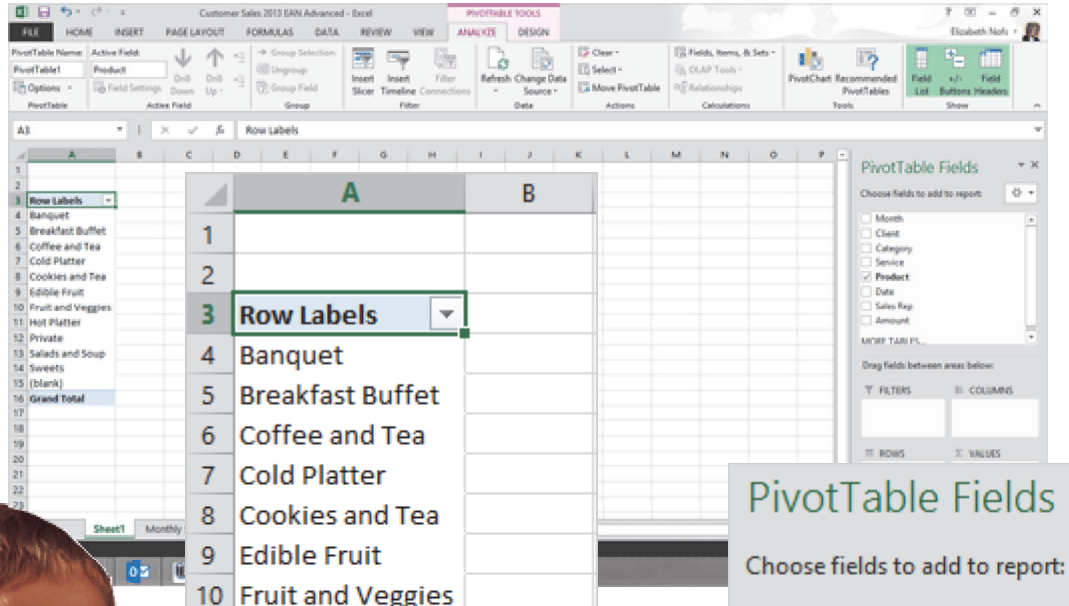
Creating a PivotTable begins by adding fields to the table. Every table calculates something: SUM, COUNT, AVERAGE, etc. In this example, we'll answer the question: What did you sell?

6. Add Fields to the PivotTable
Go to the **PivotTable Fields List.**
Select: Product.

What Do You See? Look at the new PivotTable on the left side of the spreadsheet. The Products should be displayed in the PivotTable.

Keep going...

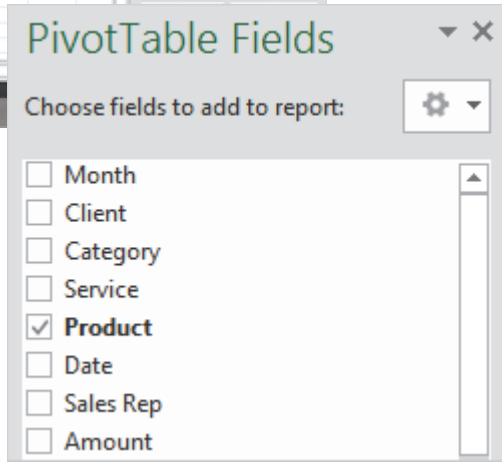
PivotTable Tools ->Analyze-> Show-> Field List



6



	A
1	
2	
3	Row Labels
4	Banquet
5	Breakfast Buffet
6	Coffee and Tea
7	Cold Platter
8	Cookies and Tea
9	Edible Fruit
10	Fruit and Veggies
11	Hot Platter
12	Private
13	Salads and Soup
14	Sweets
15	(blank)
16	Grand Total
17	



Exam 77-427 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Create New PivotTables

Take One

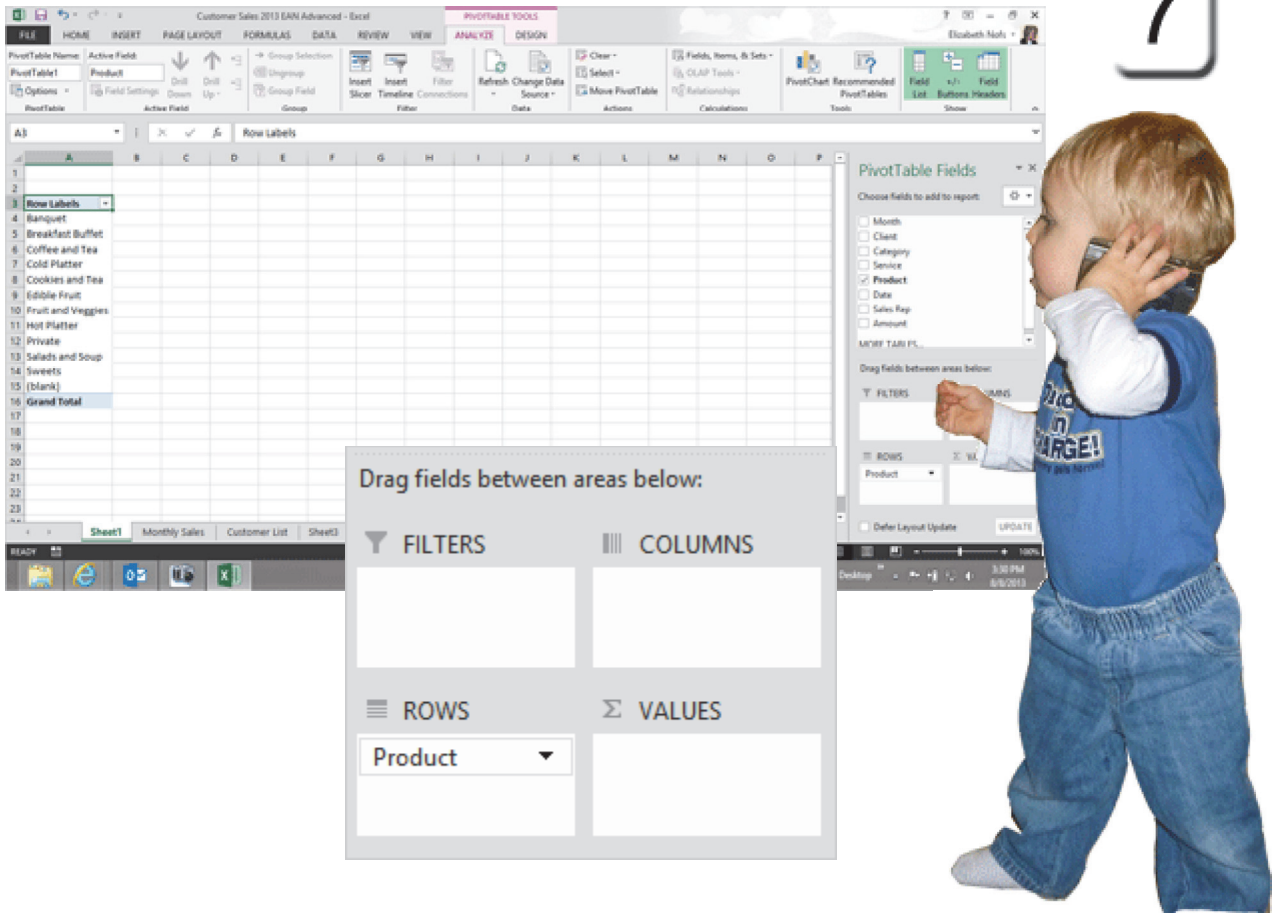
PivotTable: Row Labels

7. What Else Do You See? Look at the bottom of the Field List. PivotTables have Filters, Columns, Rows and Values. When you add a Field to PivotTable, it will be shown here.

The Product field was added to the **Row Labels**. The data is shown in Rows: one Row for each Product (Banquet, Breakfast Buffet, etc.)

Keep going...

PivotTable Tools ->Analyze-> Show-> Field List



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4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Create New PivotTables

PivotTable: Field Headers

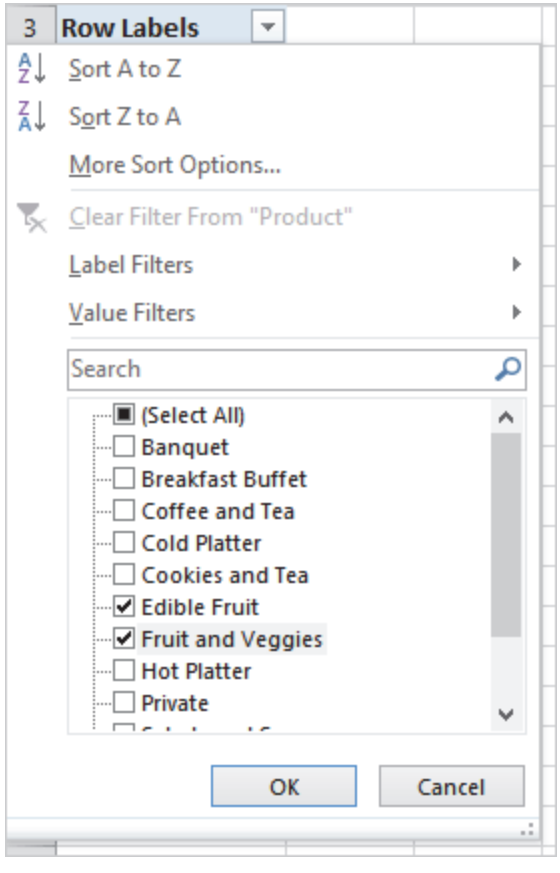
Row Labels are Filters. The top row of the PivotTable is the Row Label: This is the **Field Header**. You can use the **Field Header** to display all of the products in the PivotTable or just a few.

8. Try This: Filter the Data
Go to Cell A3.
Click on the **Row Labels**.
Select: Edible Fruit.
Select: Fruit and Veggies.
When you click **OK**, the PivotTable will display those two products.

Try This, Too: Show All of the Data
Click on the Row Labels:
Select: **(Select All)**
Click **OK**.

What If You Don't See It? The **Field Headers** can be turned on or off with the PivotTable Tools.
If you don't see the Field List please try this:
Go to **PivotTable Tools ->Options.**
Go to **Show-> Field Headers.**

PivotTable Tools ->Analyze-> Show> Field Headers





	A	B
1		
2		
3	Row Labels	
4	Edible Fruit	
5	Fruit and Veggies	
6	Grand Total	
7		

Exam 77-427 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Manipulate PivotTables (Field Headers)

Take One

PivotTable: Field Values

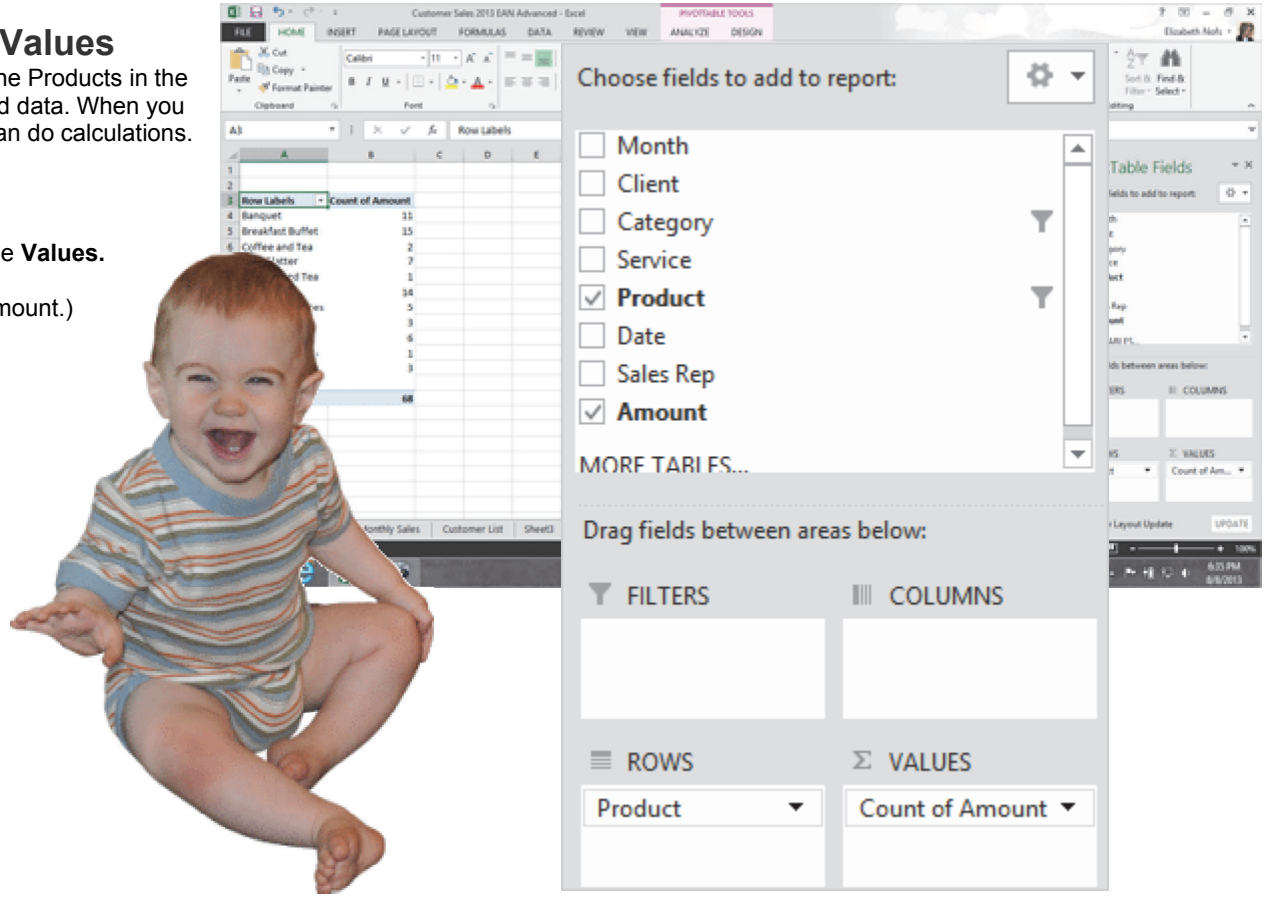
So far, this PivotTable has the Products in the Rows. PivotTables also need data. When you add a Field to **Values** you can do calculations.

1. Try This: Add a Value
Go to the **Field List**
Drag and Drop Amount to the **Values.**

(Yes, it may say Count of Amount.)

Keep going...

PivotTable Tools ->Analyze-> Show> Field List

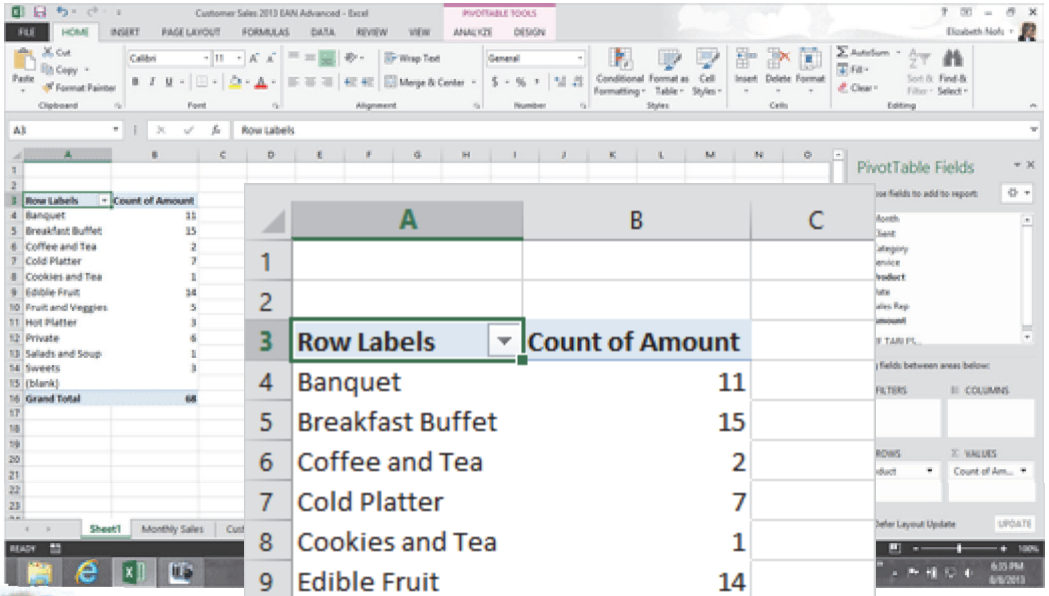


1

Exam 77-427 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Manipulate PivotTables (Values)

Take One

PivotTable Tools ->Analyze-> Show> Field List



2

PivotTable: Values

2. What Do You See? When you add the Value, the PivotTable will automatically count the records for each row. There is a Grand Total for all of the Products, too.

This PivotTable Counts the number of sales. For example, there were 11 Banquets sold.

Count is the default field value. It might make more sense to use to SUM instead of COUNT for the Values. Where are the options?

Keep going...



	A	B	C
1			
2			
3	Row Labels	Count of Amount	
4	Banquet	11	
5	Breakfast Buffet	15	
6	Coffee and Tea	2	
7	Cold Platter	7	
8	Cookies and Tea	1	
9	Edible Fruit	14	
10	Fruit and Veggies	5	
11	Hot Platter	3	
12	Private	6	
13	Salads and Soup	1	
14	Sweets	3	
15	(blank)		
16	Grand Total	68	

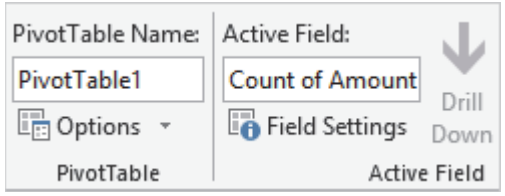
Take One

PivotTable Tools ->Analyze-> Active Field-> Field Settings

3

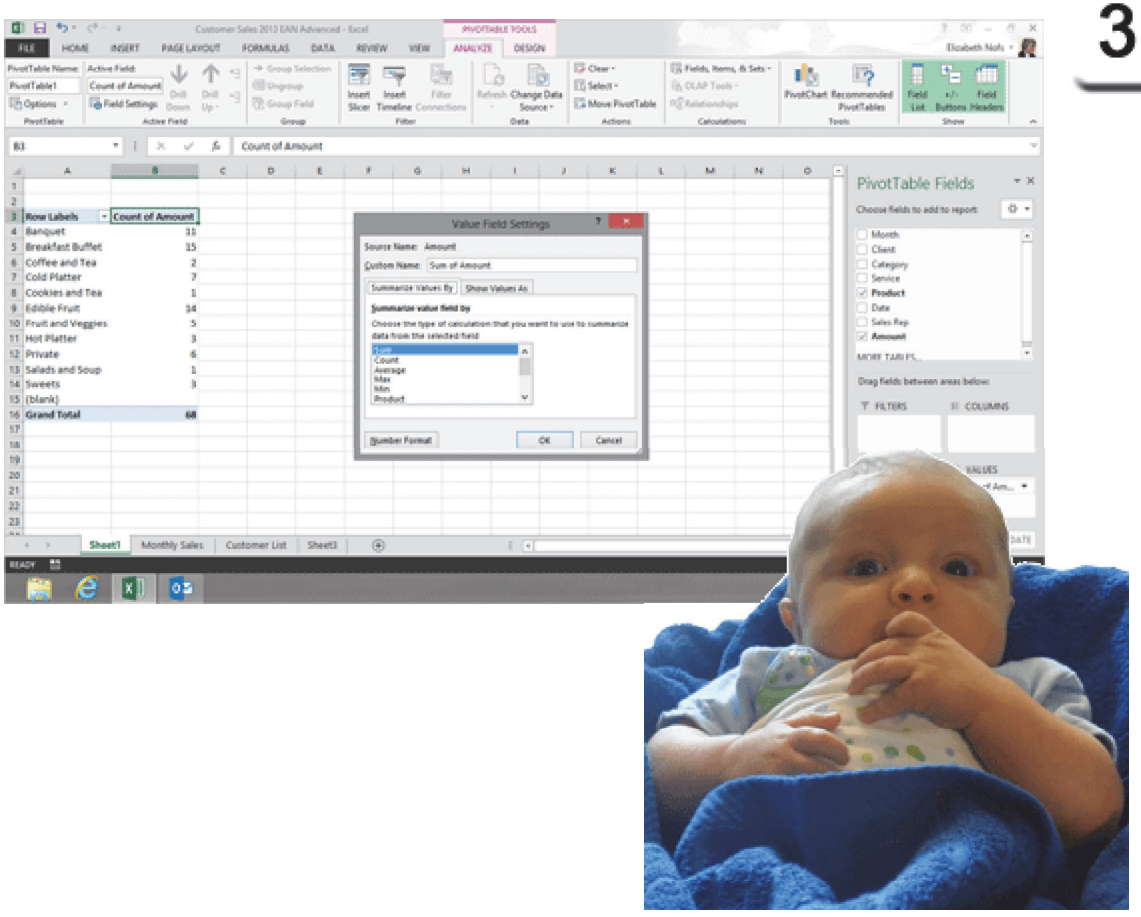
Edit the Field Settings

3. Try This. Change the Field Settings
Select Cell B3: Count of Amount.
Go to **PivotTable Tools ->Analyze.**
Go to the **Active Field** group**.**
Select: **Field Settings**.



Keep going...

Memo to Self: In this example, the easy way to open the Field Settings is to double-click the **Count of Amount** Field Header on the PivotTable.



Exam 77-427 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Manipulate PivotTables (Field Settings)

Take One

4

Value Field Settings

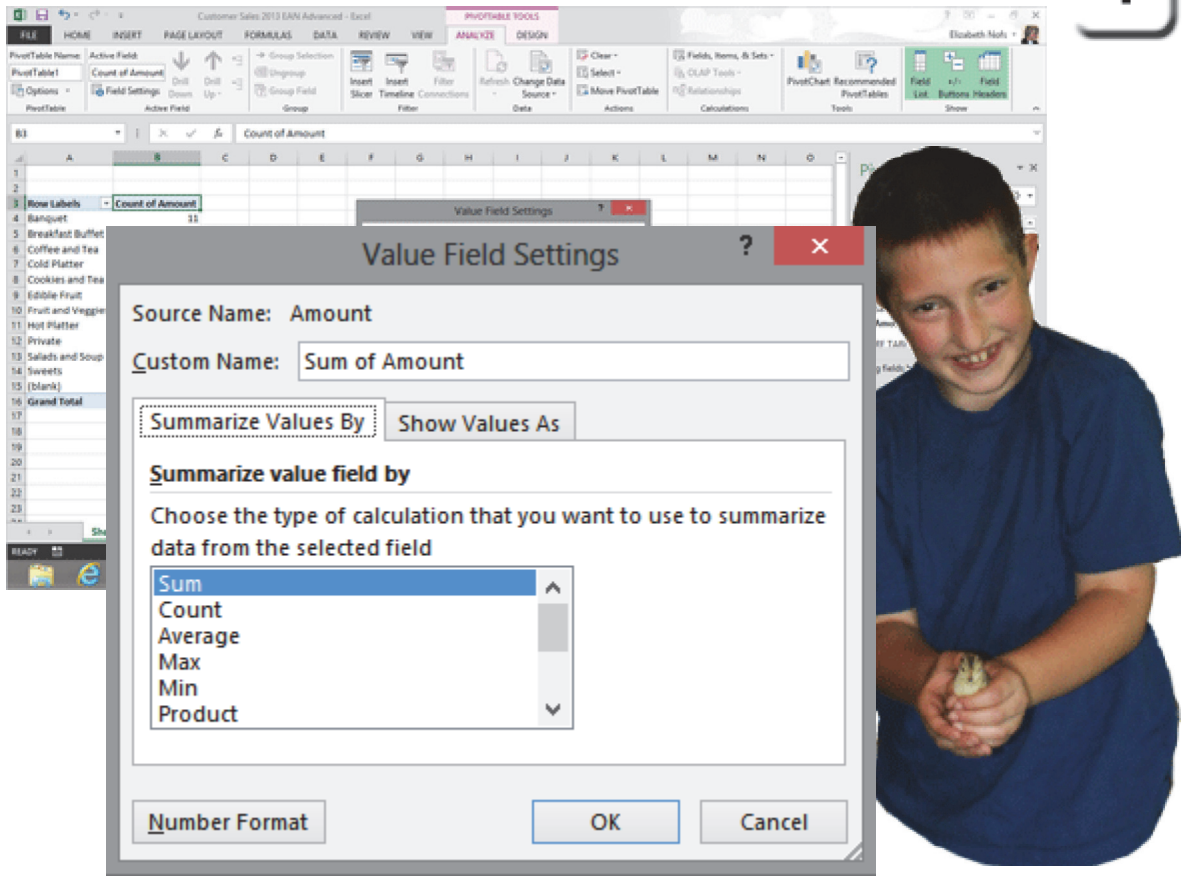
A PivotTable can use these functions:
Sum
Count
Average
Max
Min
Product
Count Numbers
StvDev
StDevp
Var
Varp

4. Try This: Choose the Calculation
Select **Sum** from the options.
The **Custom Name** should update to: Sum of Amount.

Click **OK** and keep going...

Memo to Self: You can summarize the values as a percent of the row, column, group or total. You can also display the values as the difference, % of difference or running total if you wish.

PivotTable Tools ->Analyze-> Active Field-> Field Settings



Exam 77-427 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Use Calculated Fields

Take One

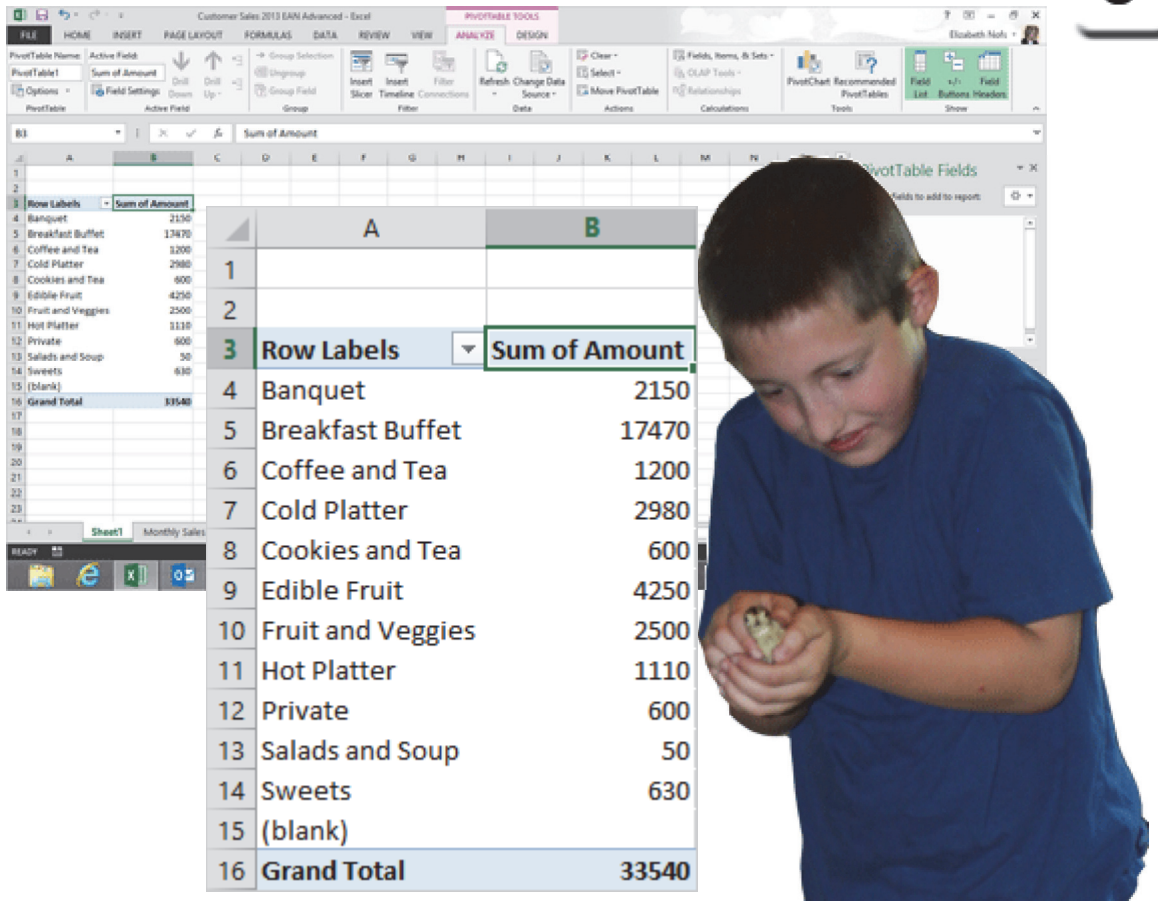
PivotTable Tools ->Analyze-> Active Field-> Field Settings

Sum of Amount

5. What Do You See? When you change the Field Settings from Count to Sum the PivotTable will update the calculations.

The example on this page shows the sales amounts, although the numbers may look odd because the amounts are not formatted for currency.

Do This: Save Your Spreadsheet
Go to **File-> Save**.
Browse to your documents folder.
File Name: My Name Customer Sales.
Click **SAVE** to save the file.



	A	B
1		
2		
3	**Row Labels**	**Sum of Amount**
4	Banquet	2150
5	Breakfast Buffet	17470
6	Coffee and Tea	1200
7	Cold Platter	2980
8	Cookies and Tea	600
9	Edible Fruit	4250
10	Fruit and Veggies	2500
11	Hot Platter	1110
12	Private	600
13	Salads and Soup	50
14	Sweets	630
15	(blank)	
16	**Grand Total**	**33540**

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4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Manupulate PivotTables (Field Settings)

Take One

1

PivotTable: Column Header

We began this PivotTable to answer the question: What did you sell? The next question would be: Who bought what?

In this spreadsheet, the clients are tagged as Corporate, Education, Government and Private in the Category field. So, how many Breakfast Buffets were served to our corporate clients? Who bought what?

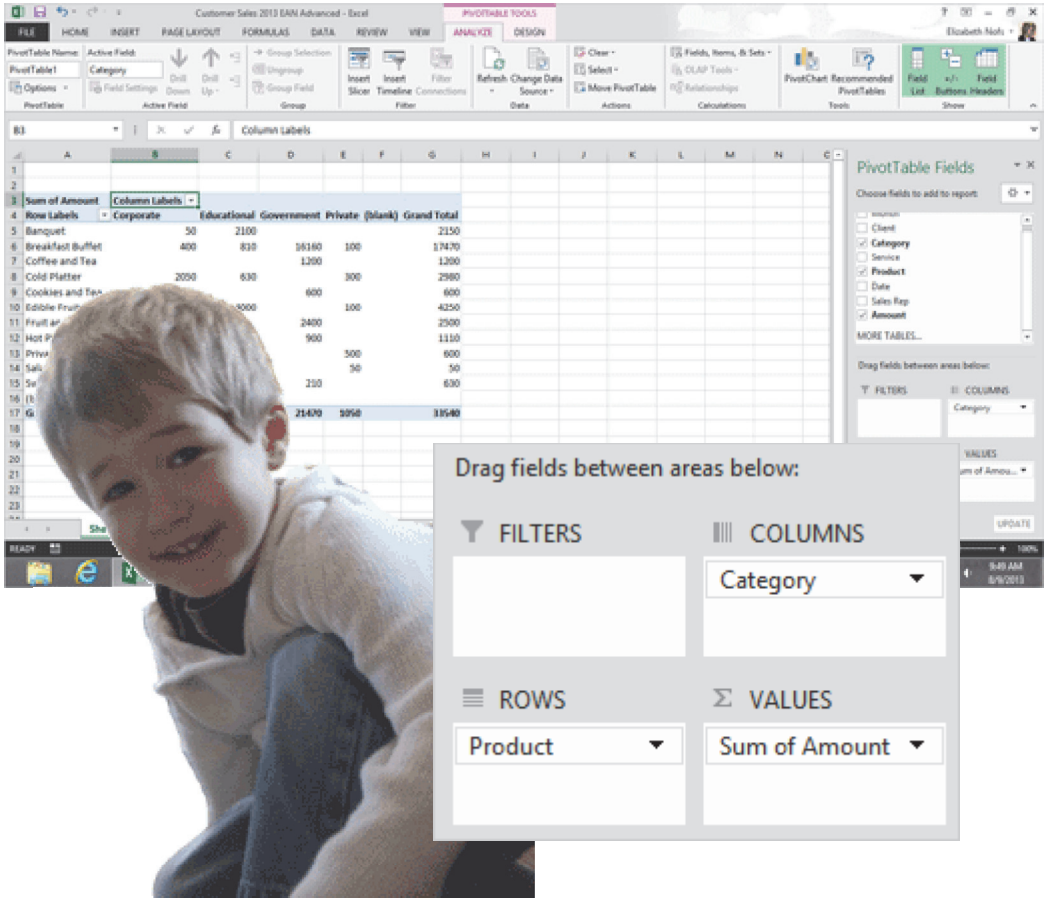
The Category field will be added to the **Column Header**. Here are the steps.

Before You Begin: Select the PivotTable. The PivotTable Tools should be available.

1. Try it: Add Another Field
Go to the **PivotTable Field List**.
Drag and Drop the Category Field to the **Columns**.

Keep going, please...

PivotTable Tools ->Analyze-> Show> Field List



Take One

Column Headers

2. What Do You See? This PivotTable now has a **Column Header** that shows the Categories in Columns. There is a Subtotal for each category: Corporate, Educational, Government, Private. These are the **Column Labels**.

What Else Do You See? Cell B3 is the **Filter** for the **Column Labels**.

Keep going...

Memo to Self: These numbers may look odd because they are not formatted for Accounting ($).

PivotTable Tools ->Analyze-> Show> Field List

2

	A	B	C	D	E	F	
1							
2							
3	**Sum of Amount**	**Column Labels**					
4	**Row Labels**	**Corporate**	**Educational**	**Government**	**Private**	**(blank)**	**Grand Total**
5	Banquet	50	2100				2150
6	Breakfast Buffet	400	810	16160	100		17470
7	Coffee and Tea			1200			1200
8	Cold Platter	2050	630		300		2980
9	Cookies and Tea			600			600
10	Edible Fruit	150	4000		100		4250
11	Fruit and Veggies	100		2400			2500
12	Hot Platter		210	900			1110
13	Private	100			500		600
14	Salads and Soup				50		50
15	Sweets		420	210			630
16	(blank)						
17	**Grand Total**	**2850**	**8170**	**21470**	**1050**		**33540**

Take One

3

Pivot the Table

What is a PivotTable, anyways? To Pivot means to move the data from the Rows into the Columns. This is cool.

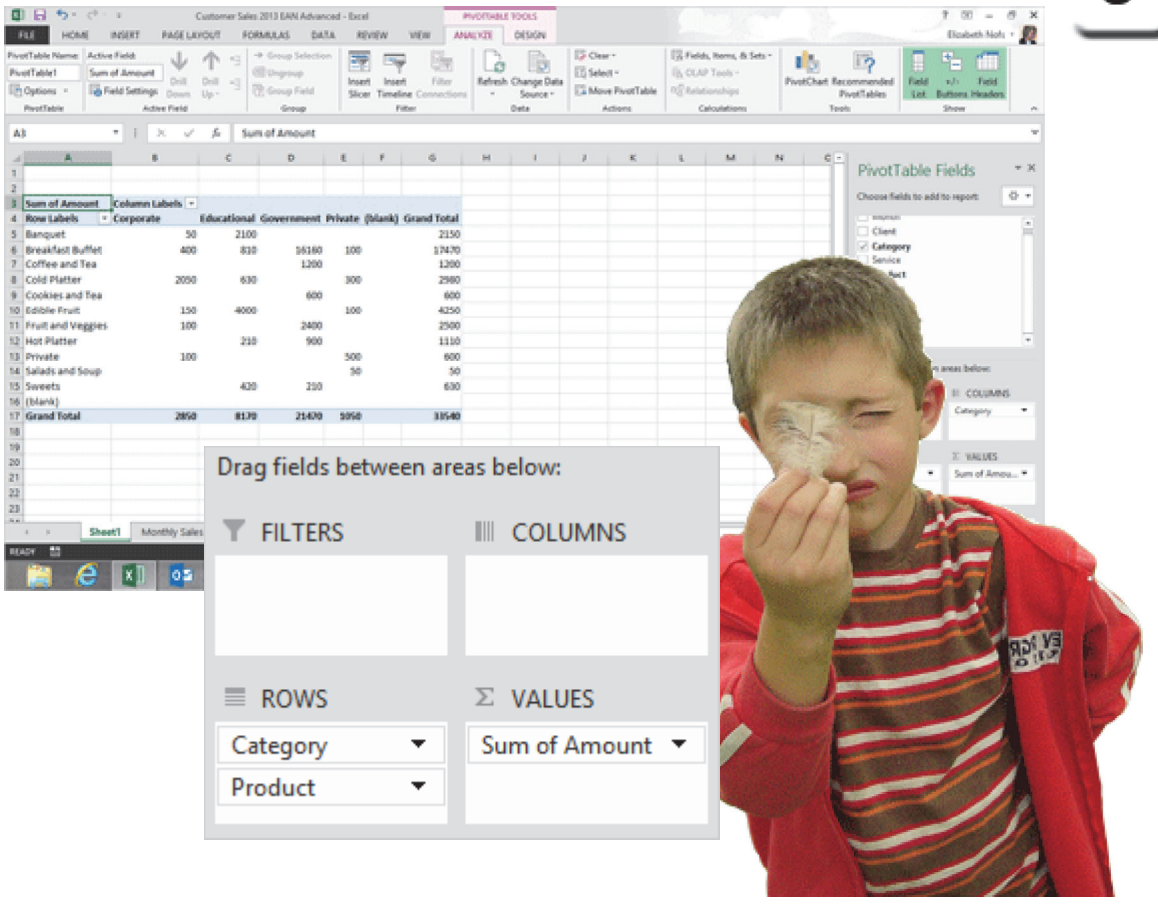
Before You Begin: Select the PivotTable. The PivotTable Tools should be available.

3. You Gotta Try This: Pivot the Table!
Go to the **Field List**
Drag and Drop the Category Field from the Columns to the Rows.

Please make sure that Category is ABOVE the Product field.

Really, keep going...

PivotTable Tools ->Analyze



Take One

PivotTable Tools ->Analyze

4

PivotTable: Display

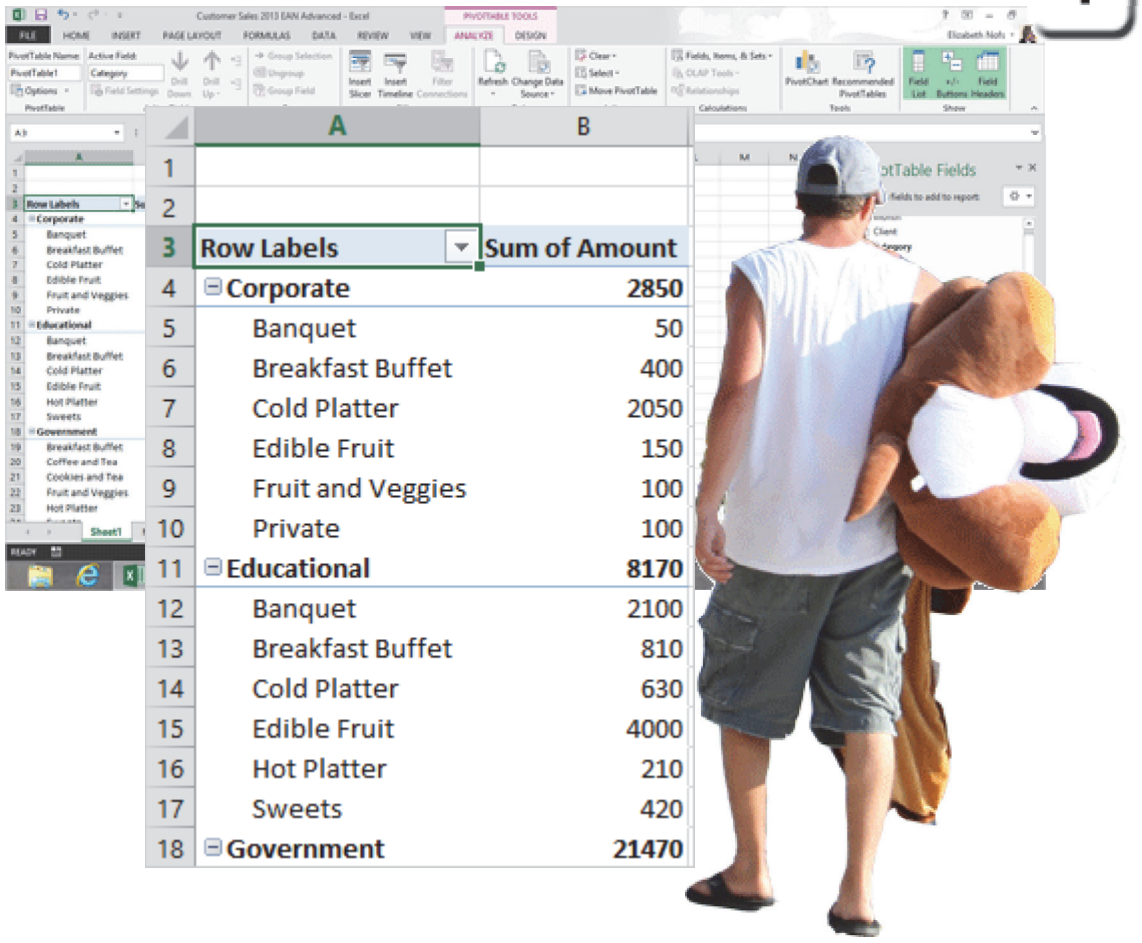
4. What Do You See? There are four Categories. Each Category has a Subtotal. The names and the sum of the amounts for each Product sold is listed in alphabetical order in the client categories.

What Else Do You See? The Row Labels in Cell A3 have Filters. You can use the filter to show some or all of the Categories.

This is a good place to pause and try that again. Try switching the fields from the Row Labels to the Column Labels. Look at the PivotTable and see which way is easiest to read, which way makes more sense.

Then, **Save**.

Memo to Self: These numbers may look odd because they are not formatted for Accounting ($).



	A	B
1		
2		
3	Row Labels	Sum of Amount
4	Corporate	2850
5	Banquet	50
6	Breakfast Buffet	400
7	Cold Platter	2050
8	Edible Fruit	150
9	Fruit and Veggies	100
10	Private	100
11	Educational	8170
12	Banquet	2100
13	Breakfast Buffet	810
14	Cold Platter	630
15	Edible Fruit	4000
16	Hot Platter	210
17	Sweets	420
18	Government	21470

Exam 77-427 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Manupulate PivotTables (Group Records)

Take One

PivotTable Design

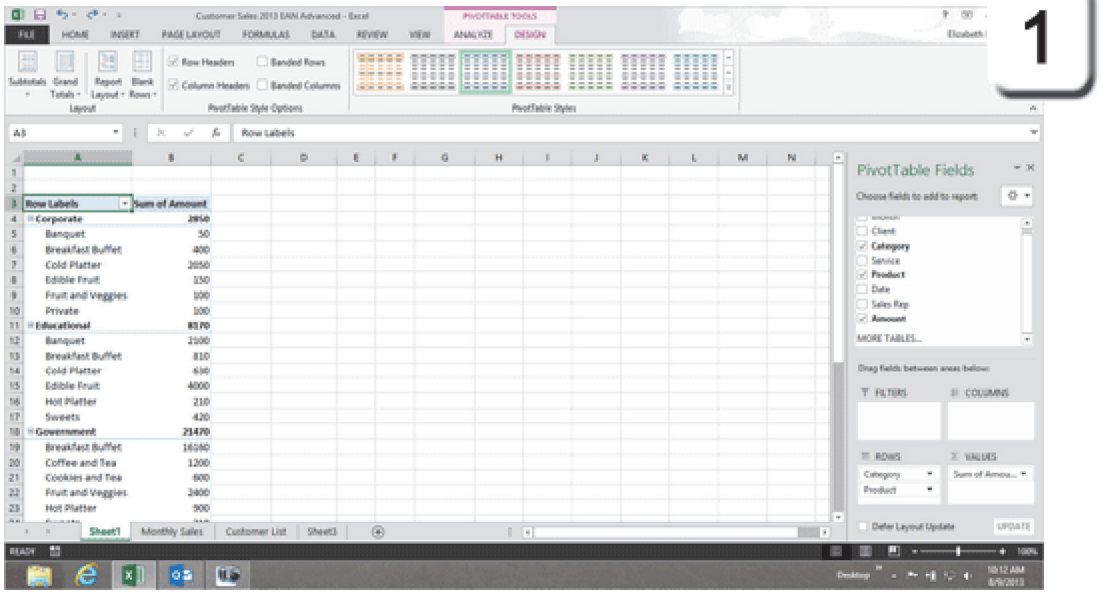
There are two sets of PivotTable Tools. The following pages will walk through the PivotTable Tools **Design** Ribbon.

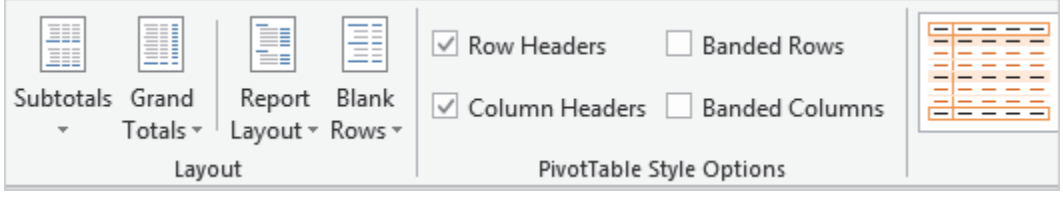
1. Try This: Review the Design Ribbon
The **Layout** Group lets you format the:
Subtotals
Grand Totals
Report Layout
Blank Rows

The **PivotTable Style Options** are:
Row Headers
Column Headers
Banded Rows
Banded Columns

Keep going...

PivotTable Tools ->Design-> Layout





Take One

Design Layout: Subtotals

By default, a PivotTable displays the Subtotals at the top of a Group. You can change the Layout with the PivotTable Design Ribbon. Here are the steps:

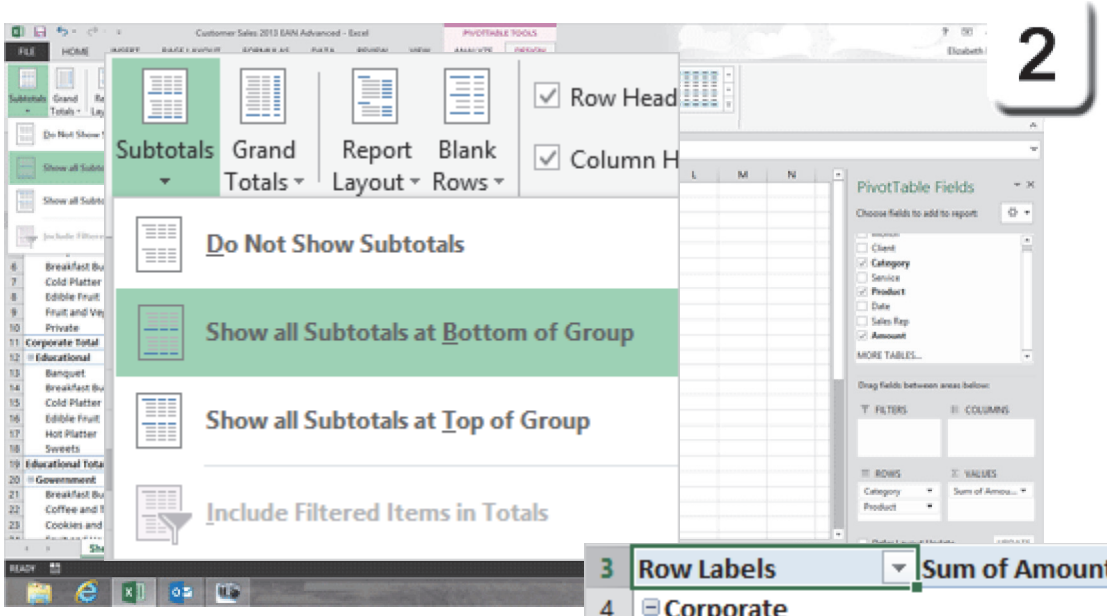
Before You Begin: Select the PivotTable. The PivotTable Tools should be available.

2. Try it: Change The Subtotal Layout
Go to **PivotTable Tools ->Design.**
Go to **Layout-> Subtotals.**
Select: **Show all Subtotals at Bottom of Group.**

What Do You See: The Subtotal options include the following:
Do Not Show Subtotals
Show all Subtotals at Bottom of Group
Show all Subtotals at Top of Group
Include Filtered Items in Totals

Keep going...

PivotTable Tools ->Design-> Layout-> Subtotals



3	Row Labels	Sum of Amount
4	Corporate	
5	Banquet	50
6	Breakfast Buffet	400
7	Cold Platter	2050
8	Edible Fruit	150
9	Fruit and Veggies	100
10	Private	100
11	Corporate Total	2850

Take One

Layout: Blank Rows

This PivotTable is an Outline with a couple of groups: Category and Products. You can add **Blank Rows** between the groups to make the PivotTable easier to read.

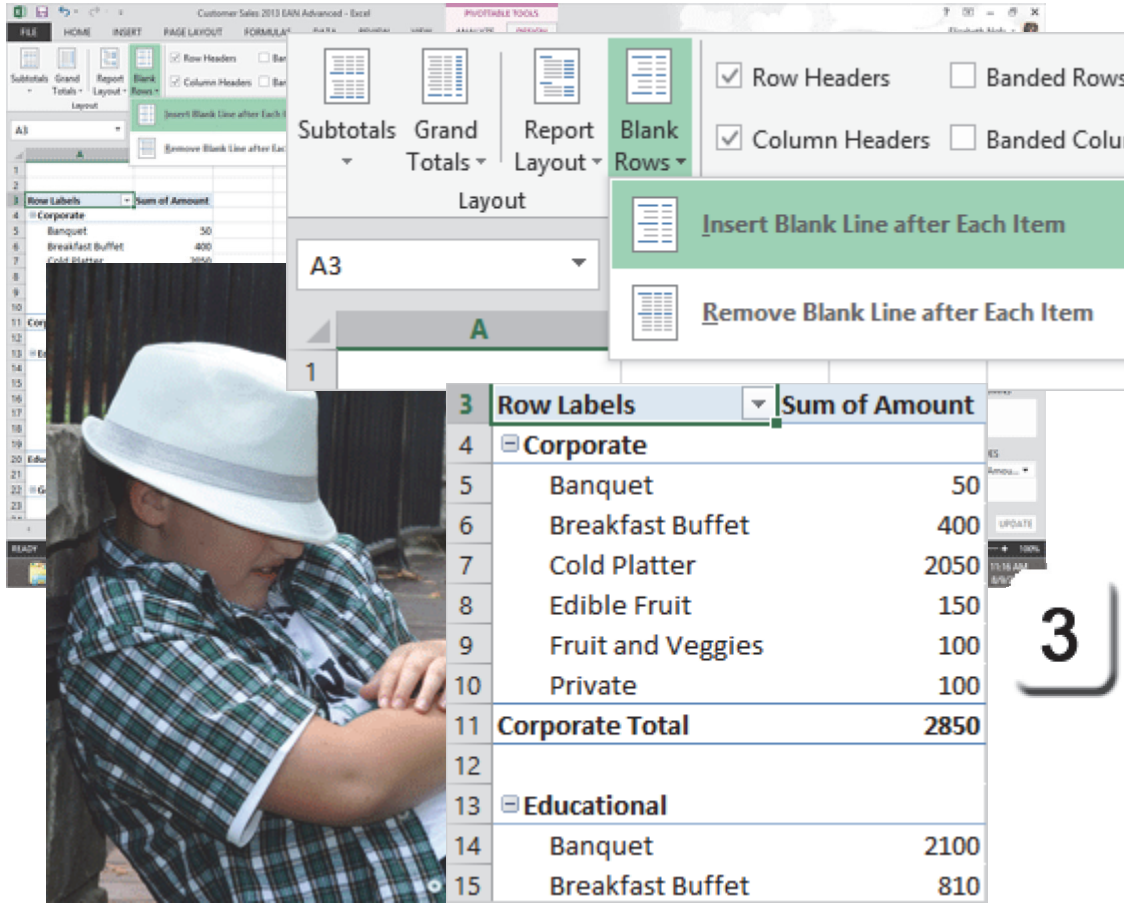
Before You Begin: Select the PivotTable. The PivotTable Tools should be available.

3. Try it: Insert Blank Rows
Go to **PivotTable Tools ->Design.**
Go to **Layout-> Blank Rows.**
Select: Insert Blank Line after Each Item**.**

What Do You See? The options are:
Insert Blank Line after Each Item
Remove Blank Line after Each Item

Keep going...

PivotTable Tools ->Design-> Layout->Blank Rows



Layout: Grand Totals

The **Grand Totals** can be added to the Rows, the Columns, both or neither.

Before You Begin: Change The PivotTable
Select the PivotTable. The PivotTable Tools should be available.

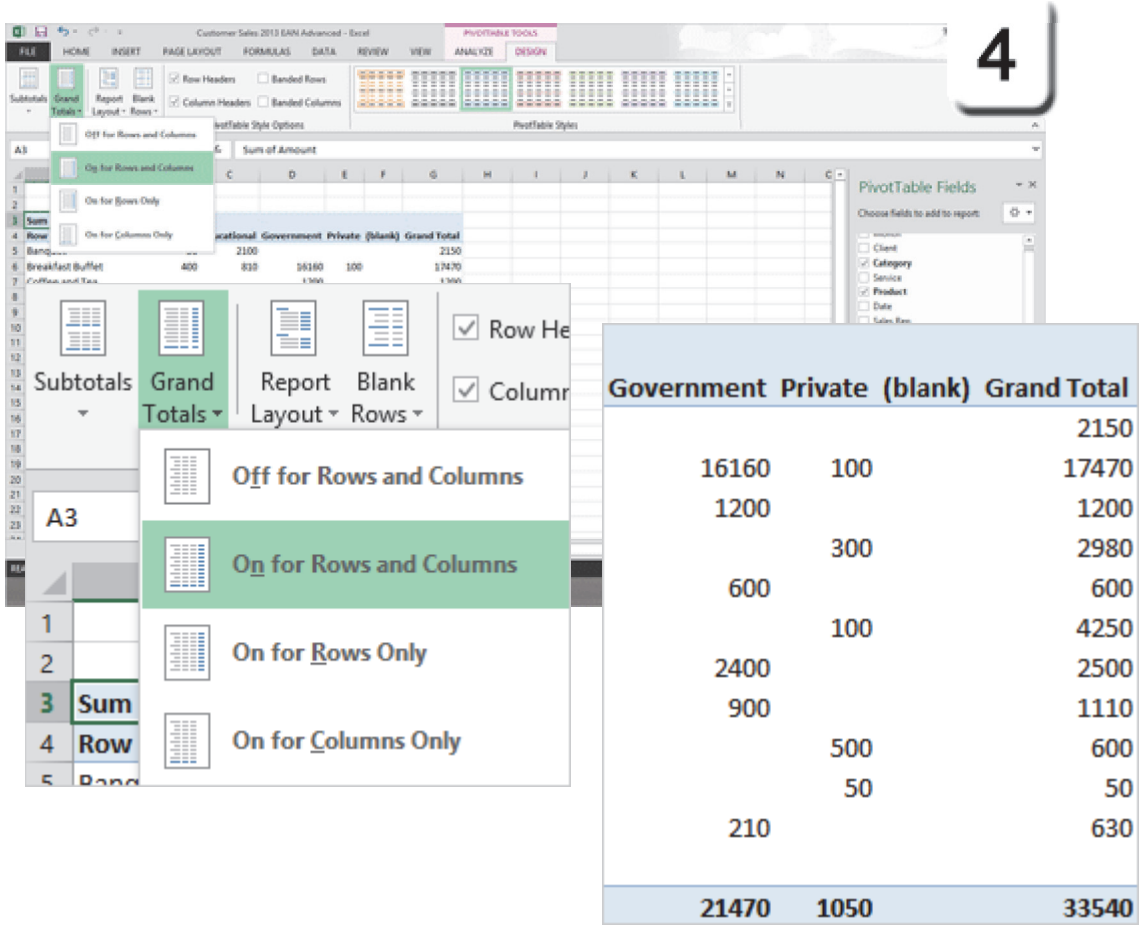
Edit the Field List, please.
Rows: Products
Columns: Category
Values: Sum of Amount

4. Try it: Change The Grand Totals Layout
Go to **PivotTable Tools ->Design**.
Go to **Layout-> Grand Totals.**
Select: **On for Rows and Columns**.

What Do You See? The options for the Grand Totals include the following:
Off for Rows and Columns
On for Rows and Columns
On for Rows Only
On for Columns Only

Keep going...

PivotTable Tools ->Design-> Layout-> Grand Totals



Take One

Layout: Filter the (blanks)

Well, you have been patiently waiting for this lesson for pages and pages. How do you hide the (blanks), the records that have no data-nothing, nada, de rien?

Before You Begin: Select the PivotTable. The PivotTable Tools should be available.

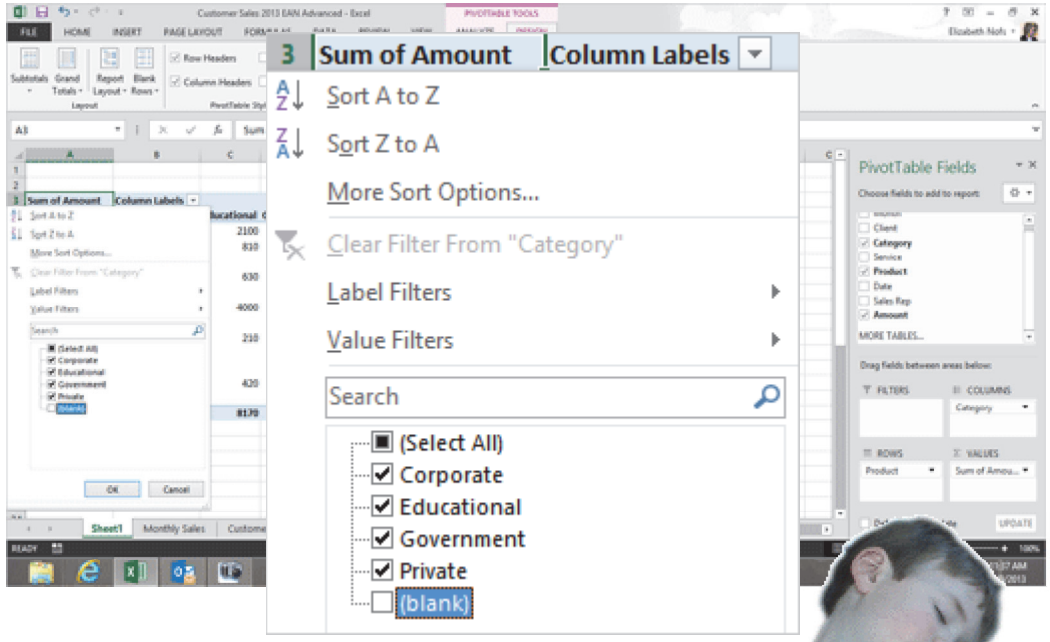
Try it: Filter the (blanks)
Click on the Row Labels in the PivotTable.
Unselect: (blank)

Click on the Columns Labels, too.
Unselect: (blank)

You should see **Filters** on the Column and Row Labels in the PivotTable.

So far so good.

PivotTable Tools ->Design



3	Sum of Amount	Column Labels	
4	Row Labels	Corporate	Educational
5	Banquet	50	2100
6	Breakfast Buffet	400	810
7	Coffee and Tea		



Exam 77-427 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Format Data (Filter Blank Rows)

Take One

PivotTable Tools ->Design-> Layout

1

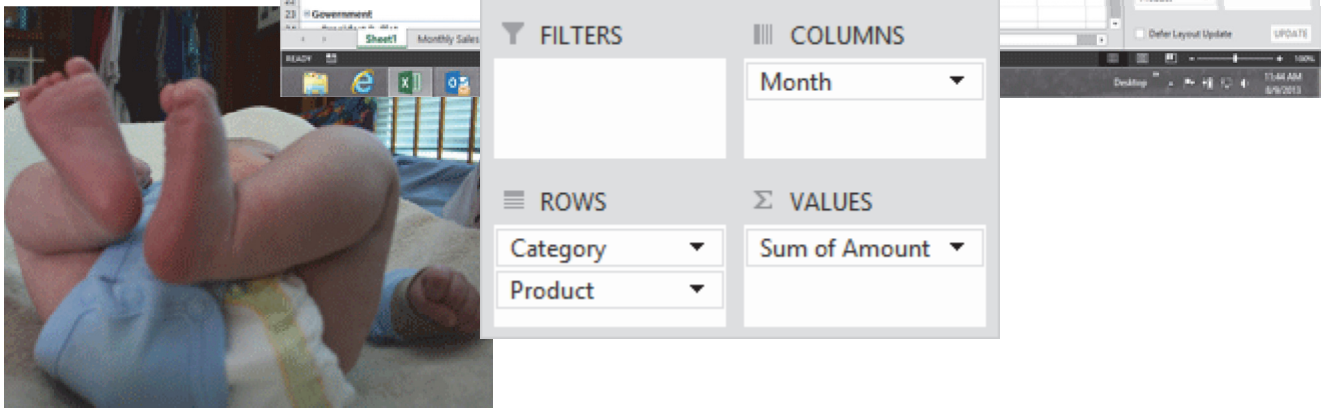
PivotTable: Report Layout

There are several **Report Layouts** that you should consider. The goal of any PivotTable is to display the data. Depending on the data, some of the layouts make sense while others seem confusing.

Before You Begin: Select the PivotTable. The PivotTable Tools should be available.

1. Try This: Edit the Field List
Rows: Category, then Product
Columns: Month
Values: Sum of Amount

Keep going, please...



Take One

PivotTable: Report Layout

2. What Do You See? The PivotTable now has subgroups for each Category. The monthly sales numbers are calculated and displayed in the Columns.

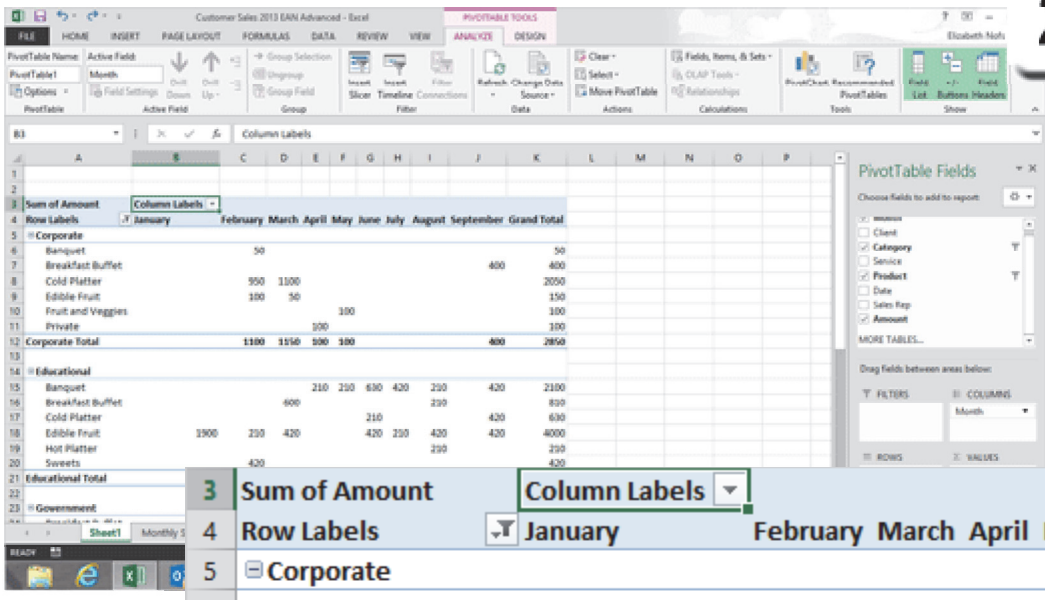
What Else Do You See? The Column and Row Labels have Filters. The (blank) data has been filtered.

OK, that's the setup for this PivotTable. Let's investigate a few of the Report Layouts.
Keep going, please...

Memo to Self: These numbers may look odd because they are not formatted for Accounting ($).

PivotTable Tools ->Design-> Layout->Report Layout

2



3	Sum of Amount	Column Labels				
4	Row Labels	January	February	March	April	May
5	Corporate					
6	Banquet		50			
7	Breakfast Buffet					
8	Cold Platter		950	1100		
9	Edible Fruit		100	50		
10	Fruit and Veggies					100
11	Private				100	
12	Corporate Total		1100	1150	100	100



Take One

PivotTable Tools ->Design-> Layout->Report Layout

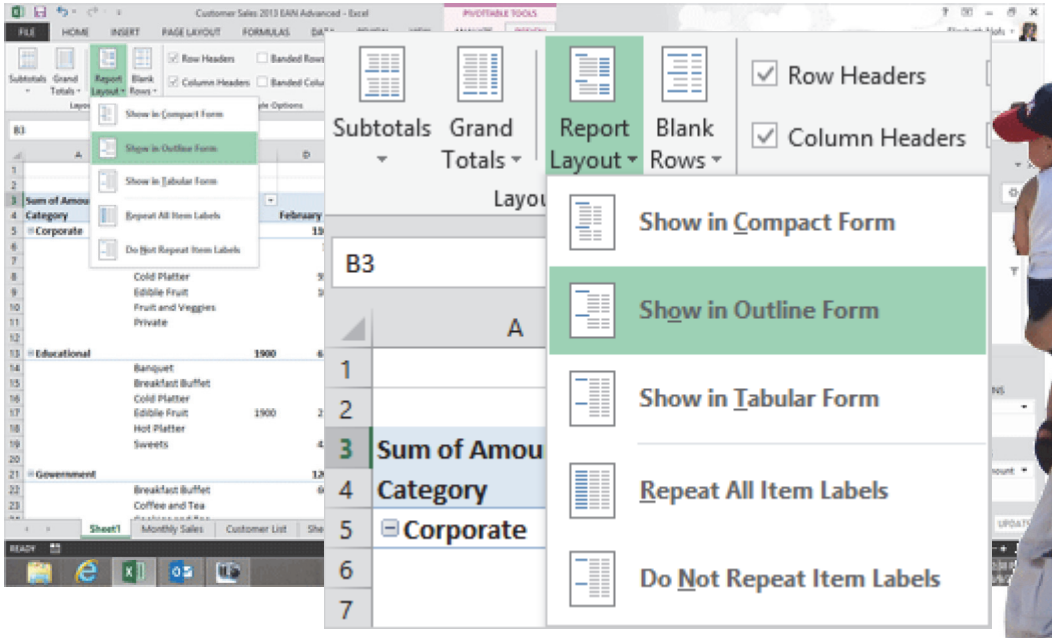
3

Report Layout Options

3. Try it: Change the Report Layout
Go to **PivotTable Tools ->Design.**
Go to **Layout-> Report Layout.**
Select: **Show in Outline Form.**

What Do You See? The Report Layout options include the following:
Show in Compact Form
Show in Outline Form
Show in Tabular Form
Repeat All Item Labels
Do Not Repeat Item Labels

OK, that works for now.





3	Sum of Amount			Month	
4	Category	Product		January	February	March
5	Corporate				
6		Banquet			50	
7		Breakfast Buffet				
8		Cold Platter			950	1100

Exam 77-427 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Format Data (Report Layout)

Take One

PivotTable Tools ->Design-> PivotTable Styles

1

PivotTable: Styles

A PivotTable can be formatted with Styles.

Before You Begin: Select the PivotTable. The PivotTable Tools should be available.

1. Try it: Format the PivotTable Style
Go to **PivotTable Tools ->Design.**
Go to **PivotTable Styles.**
Select: **Pivot Style Medium 3.**

What Do You See? The PivotTable Styles formatted the **Column Headers** (Sum of Amount, Category, Product) as well as the **Row Headers** (Corporate, Educational, etc.)

Keep going...



3	Sum of Amount		Month	
4	Category	Product	January	February
5	Corporate			
6		Banquet	50	
7		Breakfast Buffet		
8		Cold Platter	950	
9		Edible Fruit	100	
		Fruit and Veggies		
		Private		
	Corporate Total		1100	

Take One

PivotTable Style Options

The **PivotTable Style Options** offer quick formatting choices. Here are the steps.

2. Try it: Edit the PivotTable Style Options
Select the PivotTable.
Go to **PivotTable Tools ->Design.**
Go to **PivotTable Style Options.**
Select: **Banded Rows.**

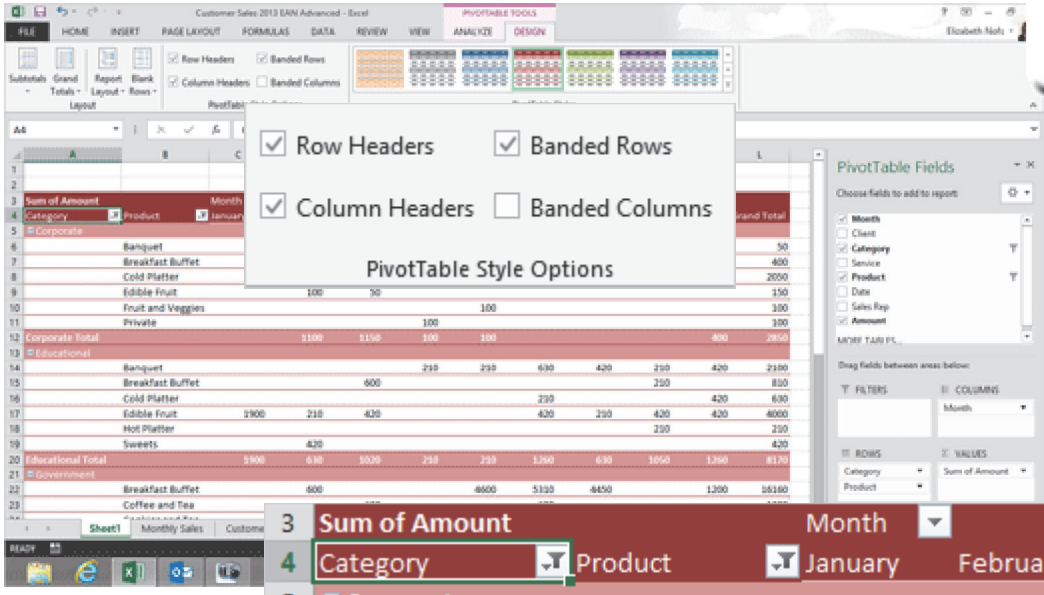
What Do You See? In this example, the Banded Rows have been formatted with a bottom border.

OK, that about does the discussion on the PivotTable Design Ribbon.

Memo to Self: If you select Banded Columns, the Columns will be outlined with vertical borders as well.

PivotTable Tools ->Design-> PivotTable Style Options->Style

2



3	Sum of Amount		Month	
4	Category	Product	January	February
5	Corporate			
6		Banquet	50	
7		Breakfast Buffet		
8		Cold Platter	950	
9		Edible Fruit	100	
10		Fruit and Veggies		
11		Private		
12	Corporate Total		1100	

Exam 77-427 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Format Data (PivotTable Styles)

Take One

PivotTable Options: Layout & Format

PivotTables have **Options**. The Options program everything from formatting the Columns when the data is updated to whether the Totals are shown.

1. Try it: Find the Layout & Format Options
The PivotTable is still selected.
Go to **PivotTable Tools ->Analyze->PivotTable.**
Click on **Options.**

What Do You See? The PivotTable Options are:
Layout & Format
Totals & Filters
Display
Printing
Data
Alt Text

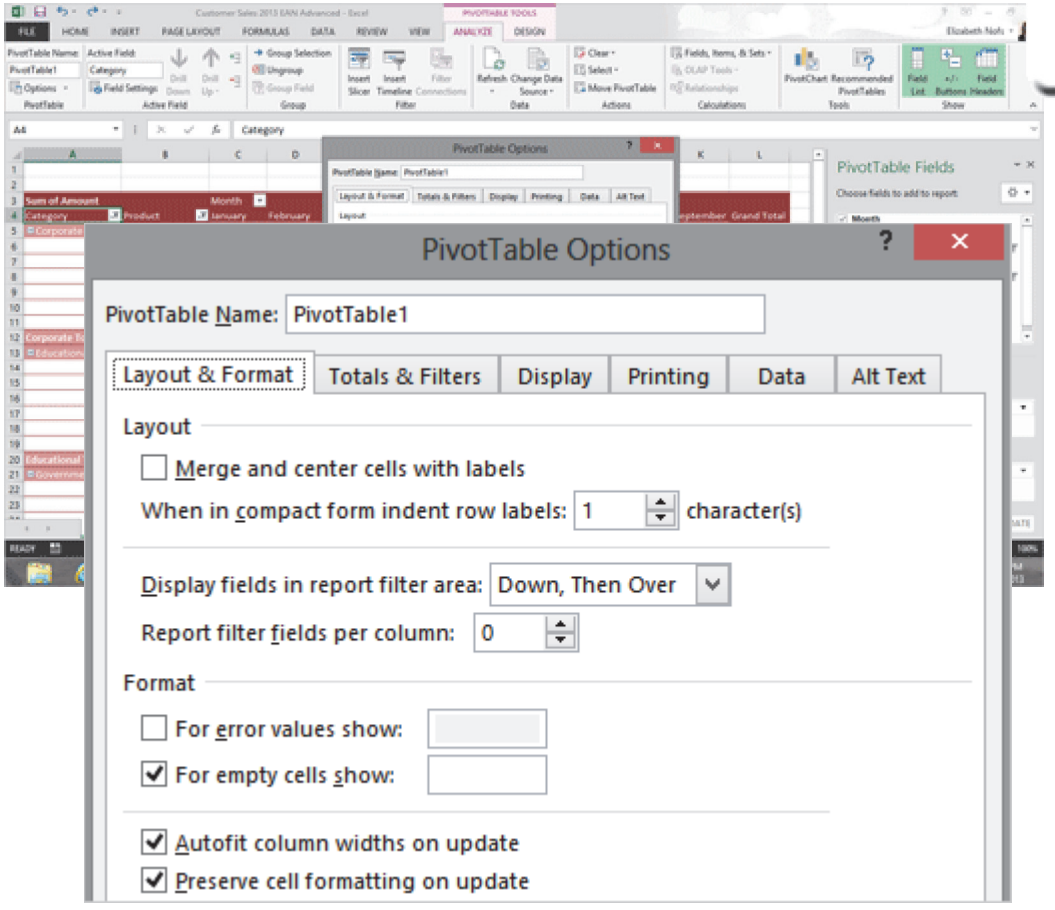
The Layout & Format options are shown:
In the **Layout** section the option to Merge and center cells is unchecked (by default).

In the **Format** section Autofit column width and Preserve cell formatting on update are both checked on (by default).

Keep going...

PivotTable Tools ->Analyze-> PivotTable-> Options

1



PivotTable Options: Totals & Filters

2. Try it: Find the Totals & Filters Options
The PivotTable is still selected.
Go to **PivotTable Tools ->Analyze->PivotTable.**
Click on **Options.** Go to the **Totals & Filters** tab.

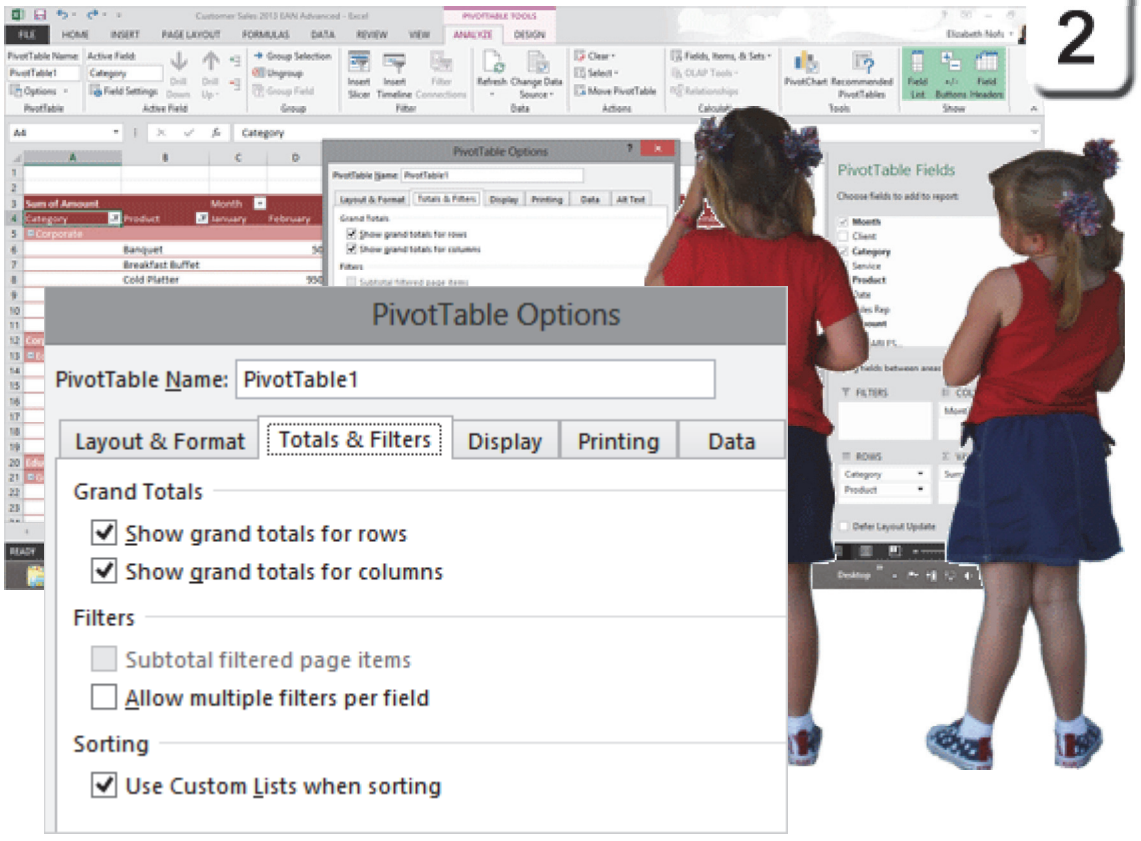
The Totals & Filters options are shown:
In the **Grand Totals** section the option to Show grand totals is checked on for both rows and columns (by default).

In the **Filters** section the option to Allow multiple filters per field is not checked on.

In the **Sorting** section the option to Use Custom Lists when sorting is checked on. We use Custom Lists to sort months in chronologically (January, February, March) not alphabetically.

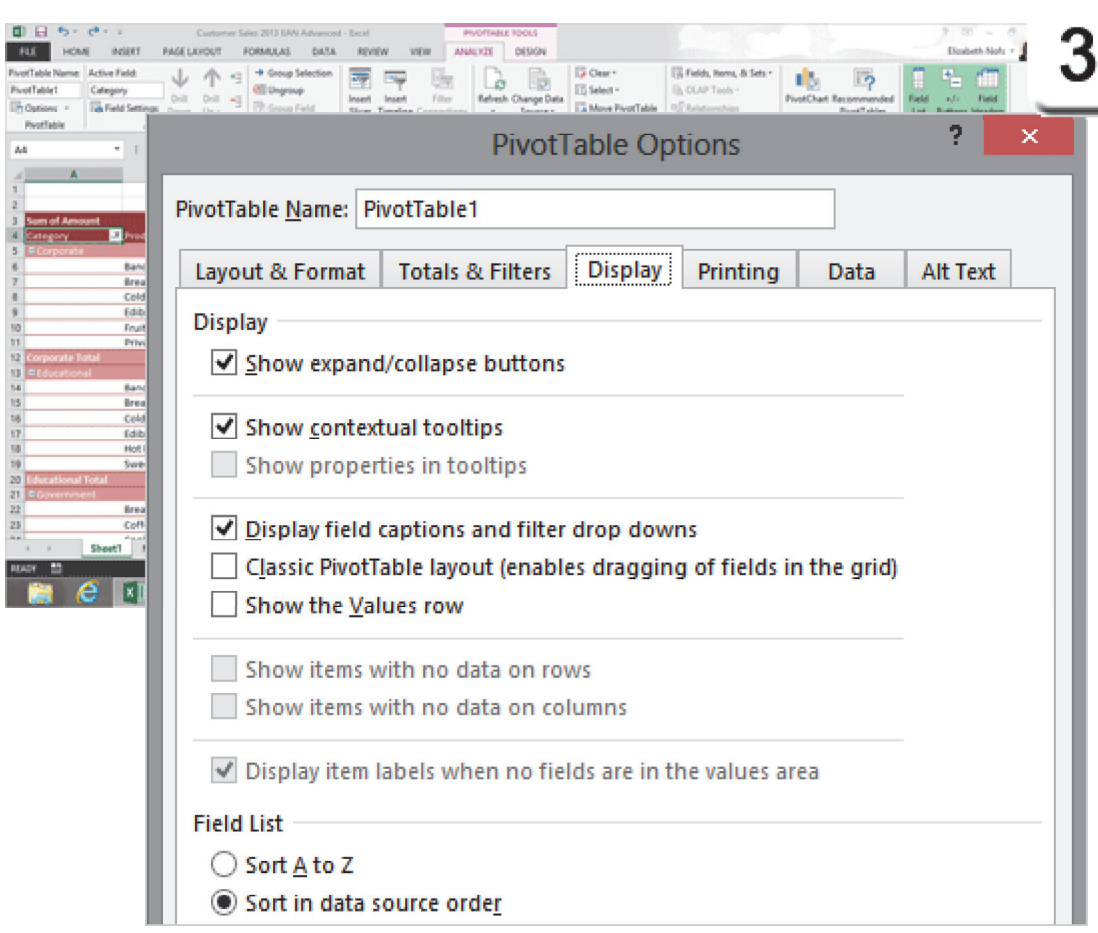
Keep going...

PivotTable Tools ->Analyze-> PivotTable-> Options



Take One

PivotTable Tools ->Analyze-> PivotTable-> Options



PivotTable Options: Display

3. Try it: Find the Totals & Filters Options
The PivotTable is still selected.
The **Options** are open. Go to the **Display** tab.

The Display options are shown:
In the **Display** section the default options are:
Show expand/collapse buttons
Show contectual tooltips (help stuff)
Display field captions and filter drop downs

You can select Classic PivotTable layout (the old way). You can also Show the Values Row.

In the **Field List** section the default option is to Sort in data source order. For example you could sort by the Categories in our little PivotTable.

That's enough for now.
Click **OK** to close the PivotTable Options.

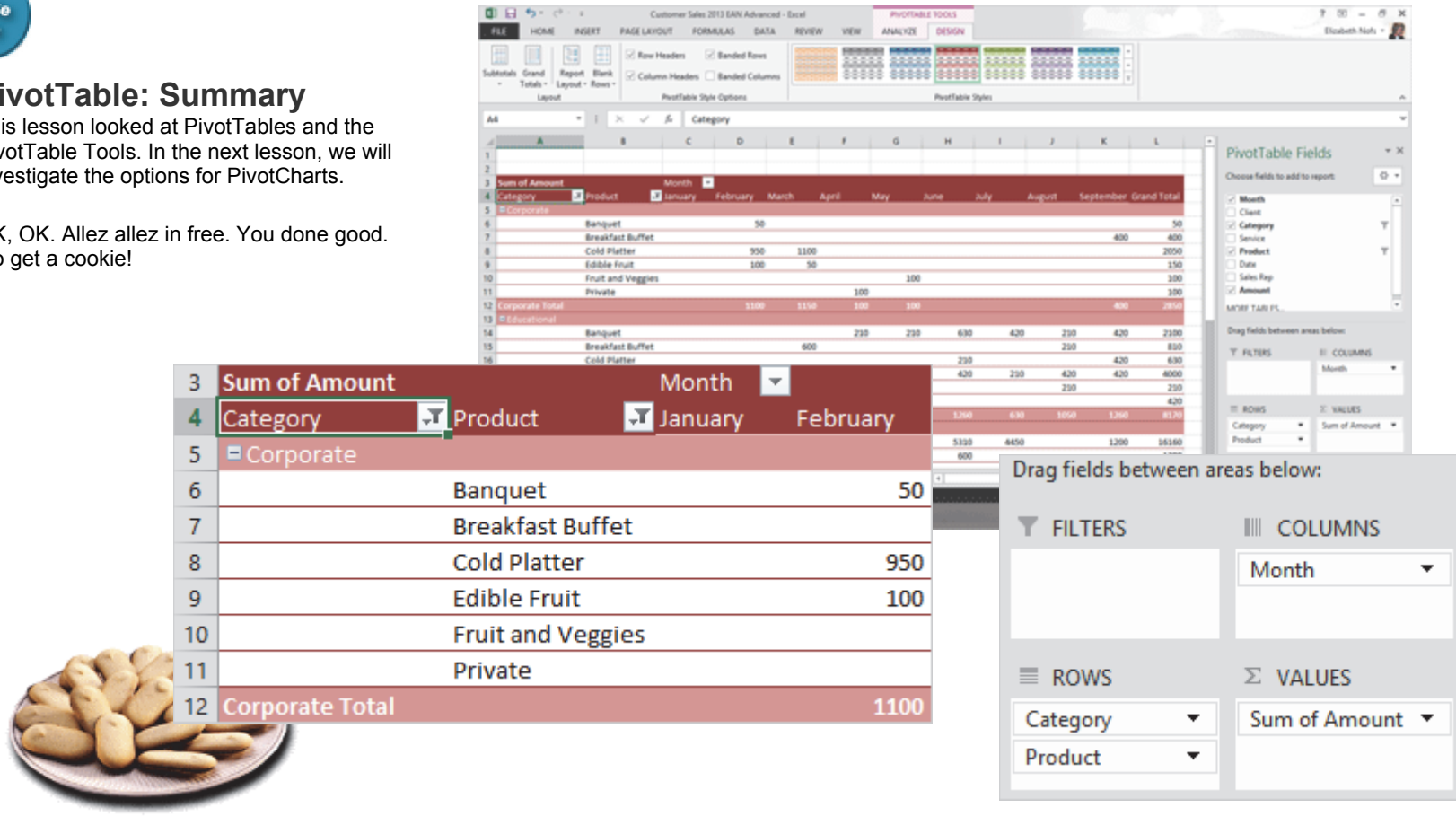
Save your work.

Take One

PivotTable: Summary

This lesson looked at PivotTables and the PivotTable Tools. In the next lesson, we will investigate the options for PivotCharts.

OK, OK. Allez allez in free. You done good. Go get a cookie!



Practice Activities

Lesson 3: What Happened? (PivotTables)

Before You Begin: Download the sample spreadsheet: Brown Bag Lunch Sales Team.xlsx.

Try This: Do the following steps

1. Open the spreadsheet: **Brown Bag Lunch Sales Team.xlsx.**
2. Go to Sheet 1. Select Row 1 and remove the Filters.
3. Select Sheet 1 and Insert a PivotTable on a New Worksheet.
4. Use the PivotTable Tools to Show the Field List
5. Edit the PivotTable Field list as follows:
   Select the Field: Market (It should be placed in the Rows, by default).
6. Drag the Field Sales to the Values (It should be placed in the Values as Count of Sales)
   Change **Count of Sales** to **Sum of Sales**
7. Select the Field: Sales Agent (It should be placed in the Rows, by default).
8. Move the Field: Sales Agent from the Rows to the Columns
9. Format Column B:G for Accounting.
10. Save this as YOUR NAME What Happened Practice.



Test Yourself

1. Which Ribbon has the command for creating Pivot Tables?
a. Home
b. Insert
c. Data
d. Review
Tip: Advanced Excel, page 87

2. Which are Pivot Table Tools Ribbons? (Select all correct answers.)
a. Analyze
b. Design
c. View
d. Format
Tip: Advanced Excel, page 89

3. Where do the Pivot Table fields come from?
a. Entered in the Pivot Table dialogue box
b. The spreadsheet labels
c. Default in Excel
Tip: Advanced Excel, page 90

4. The row labels in a Pivot Table are filters.
a. True
b. False
Tip: Advanced Excel, page 93

5. Which of the following are functions a Pivot Table can use? (Select all correct answers.)
a. Count Numbers
b. Sum
c. Average
d. Max
e. Min
f. Product
Tip: Advanced Excel, page 97

6. Which of the following are true about subtotals in Pivot Tables? (Select all correct answers.)
a. Default is to show the subtotal at the top of the group
b. Command is Pivot Tables-> Tools-> Design> Layout-> Subtotals
c. Subtotals cannot be removed
Tip: Advanced Excel, page 104

7. Which of the following is an option for Grand Totals? (Select all correct answers.)
a. Added to Rows
b. Added to Columns
c. Added to both Rows and Columns
d. Added to neither Rows or Columns
Tip: Advanced Excel, page 106

8. Which of the following are report options? (Select all correct answers.)
a. Show in Compact form
b. Show in Outline form
c. Show in Tabular form
Tip: Advanced Excel, page 110

9. A Pivot Table can be formatted with Styles
a. True
b. False
Tip: Advanced Excel, page 111



Pivot Charts: What Do You See?



Advanced Excel Objectives

In this lesson, you will learn how to:

1. Analyze data visually with a PivotChart.
2. Create a PivotChart and Show the Field List.
3. Edit the Value Field Settings.
4. Filter the data in the PivotChart.
5. Edit the Chart Layouts.
6. Apply a Chart Style.
7. Use Slicers.



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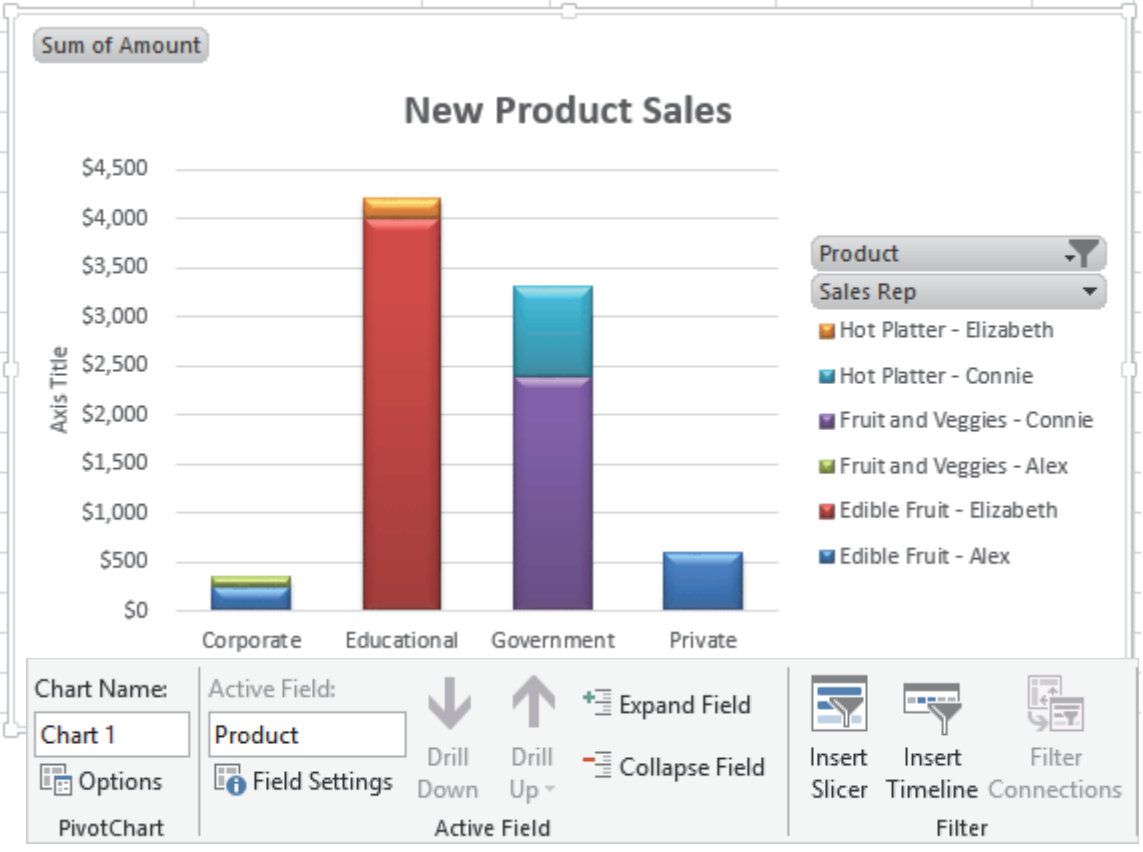


Lesson 4: PivotCharts: What Do You See?

1. Readings
Read Lesson 4 in the Advanced Excel guide, page 119-159.

.

Project
A spreadsheet that uses PivotCharts to present the data in an interactive format.

Downloads
Sales 2013 Original Data.xlsx
Brown Bag Sales Data.xlsx

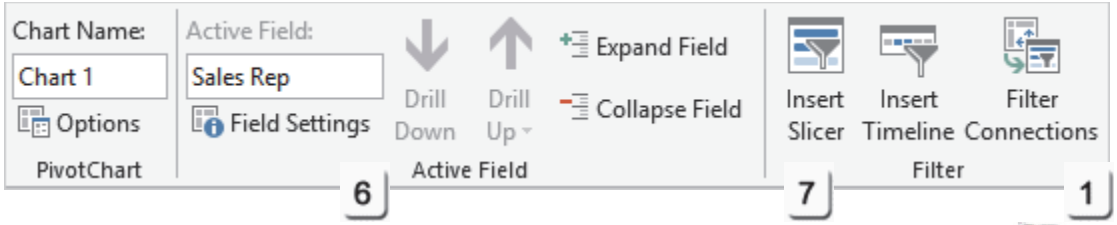
2. Practice
Complete the Practice Activity on page 160.

3. Assessment
Review the Test questions, page 160.

PivotChart Tools->Design



PivotChart Tools->Analyze



Menu Maps

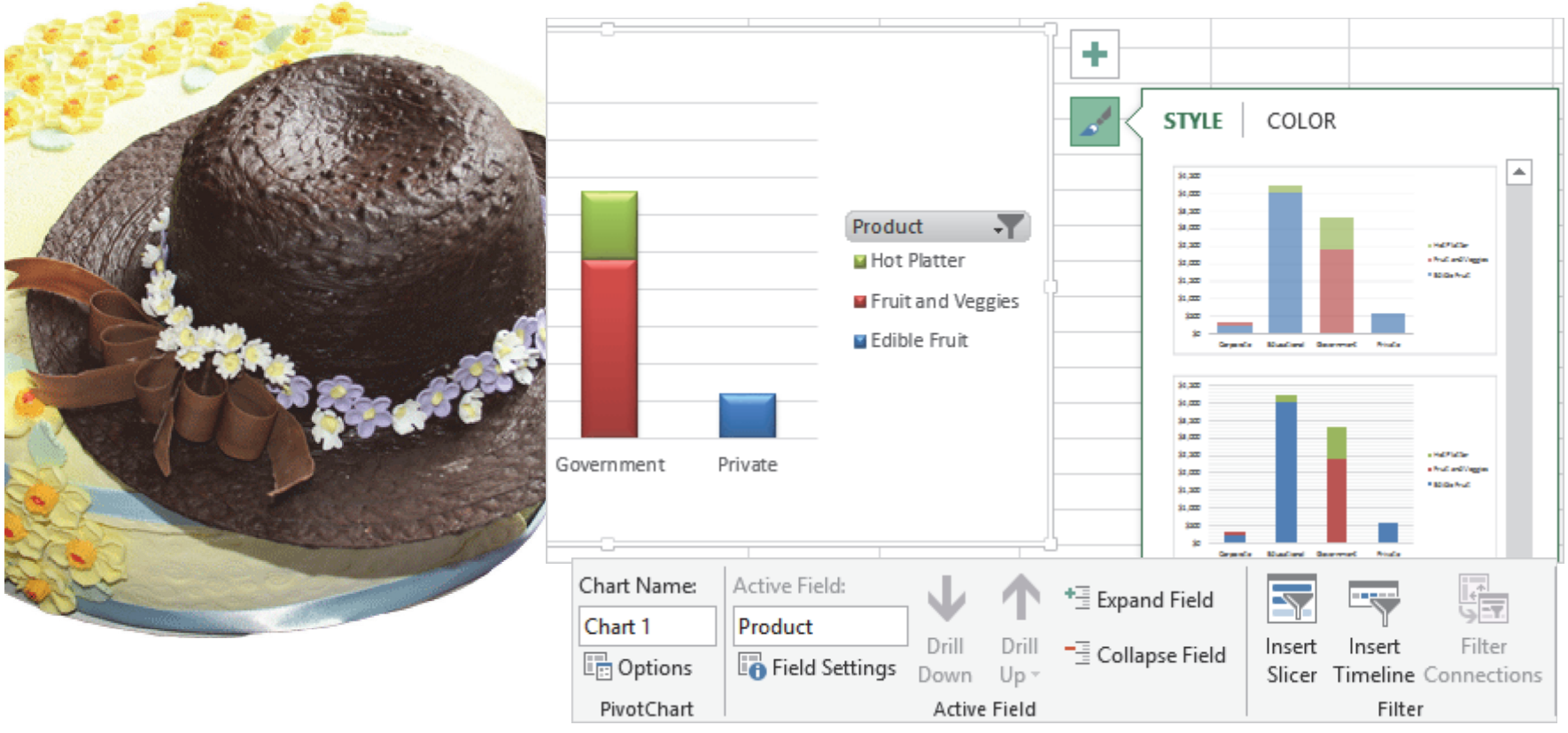
This lesson shows the PivotChart Tools.

1. PivotChart Tools ->Analyze ->Show/Hide->Field List, page 124
2. PivotChart Tools ->Design ->Data->Switch Row/Column, page 132
3. PivotChart Tools ->Design ->Type-> Change Chart Type, page 135
4. PivotChart Tools ->Design ->Chart Styles, page 137
5. PivotChart Tools ->Design ->Chart Layouts, page 140
6. PivotChart Tools ->Analyze ->Active Field, page 143
7. PivotChart Tools ->Analyze ->Data-> Insert Slicer, page 149
8. PivotChart Tools ->Analyze ->Data-> Refresh, page 155



Analyzing Data Visually

Most people do not read numbers well. However, they can read a graph and compare the information. A PivotChart offers the same flexibility to manipulate the data as a PivotTable. A **PivotChart** is a graphic representation of the data in the PivotTable. A PivotChart, like a PivotTable, is interactive. You can filter and focus on the data until it shows what *really* happened.



Before You Begin

A PivotChart is based on a PivotTable: They go together. This lesson begins with a PivotTable. After the PivotTable is set up, we will review the **PivotChart** options in Microsoft Excel.

You can use a spreadsheet that you created or download a sample spreadsheet if you wish.

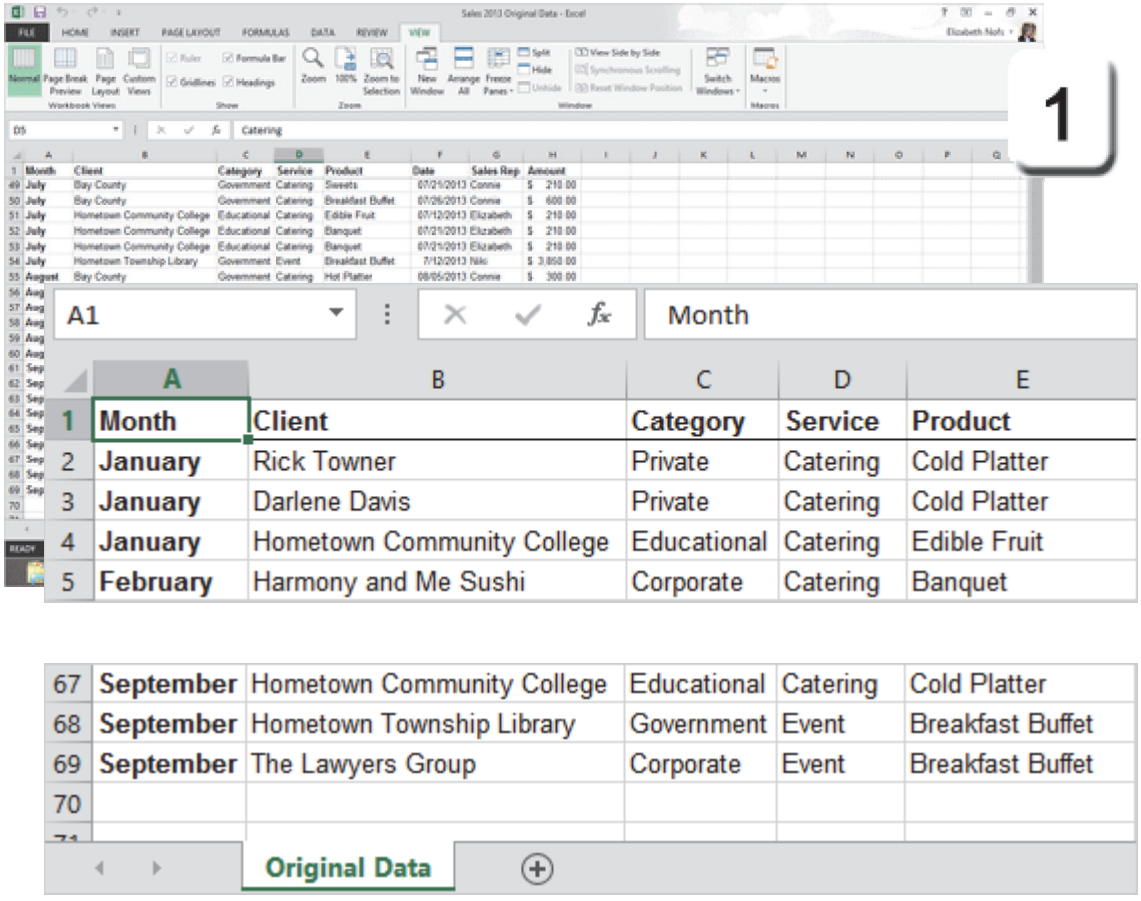
1. Try This: Open a Sample Spreadsheet
Open a sample spreadsheet:
Sales 2013 Original Data.xlsx
Go to the **Original Data** sheet.

What Do You See? We've used this sample spreadsheet a couple of times. This sheet shows the product sales for Charlotte's Website. The first row is BOLD: It is the Header Row. The Fields include Month, Client, Category, Service, Product, Date, Sales Rep and Amount. There are 68 rows of data not including the Header Row.

Keep going...

Memo to Self: You do not have to MATCH the numbers shown on these pages. It is more important that you begin with some data and understand the options.

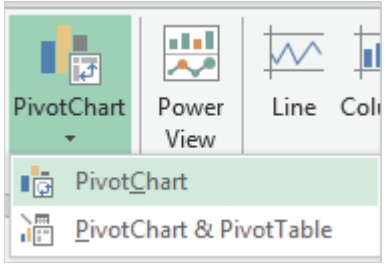
File->Open



Create a Pivot Chart

2. Try This: Create a PivotChart

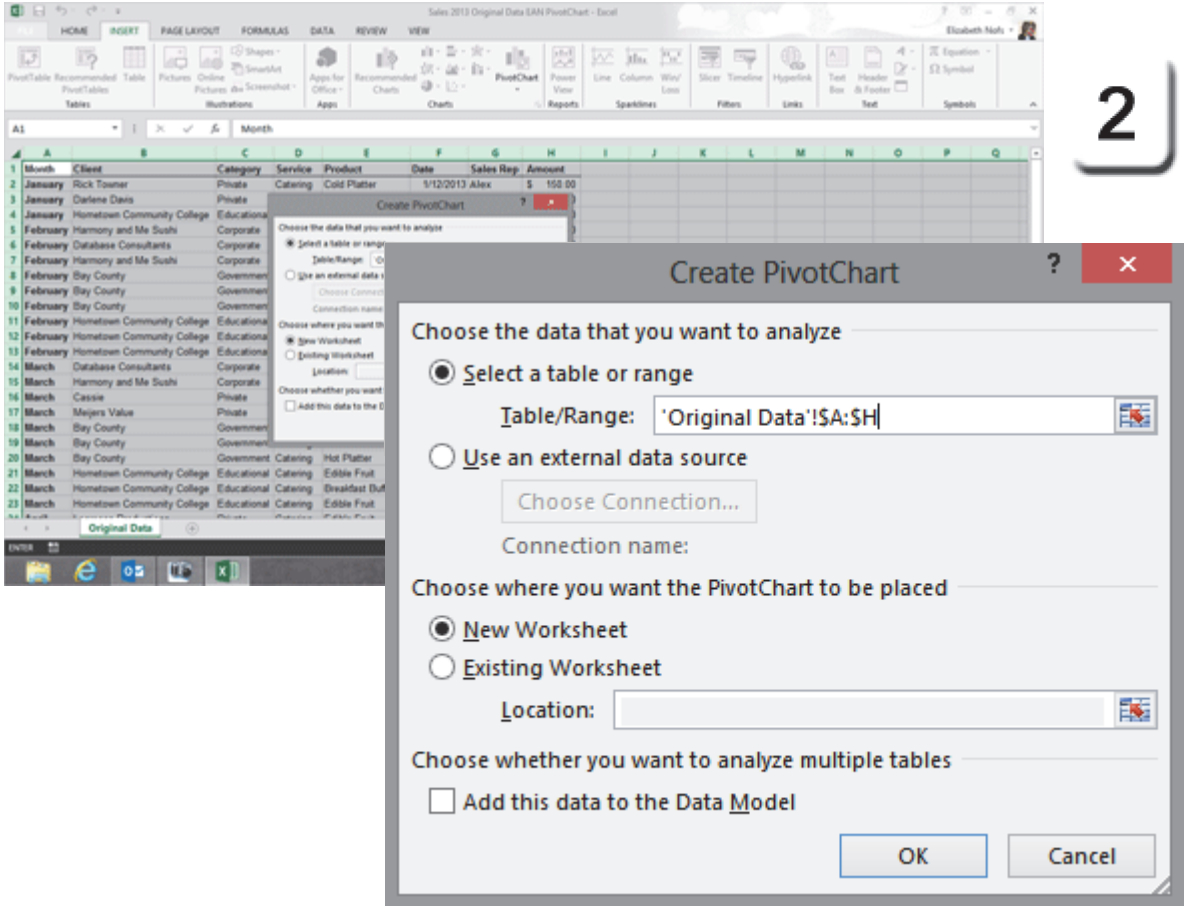
Go to the Original Data spreadsheet.
Select All.
Go to **Insert->Charts->PivotChart.**
Click on **PivotChart.**



You will be asked to confirm the location of the data and whether you would like to place the new PivotChart in a new spreadsheet.

Keep going, please...

Insert-> Charts-> PivotChart->PivotChart



2

Hello, Pivot Chart

3. What Do You See? There should be a new, blank **PivotChart**, Chart 1. A blank **PivotTable** should be on the left side of the spreadsheet.

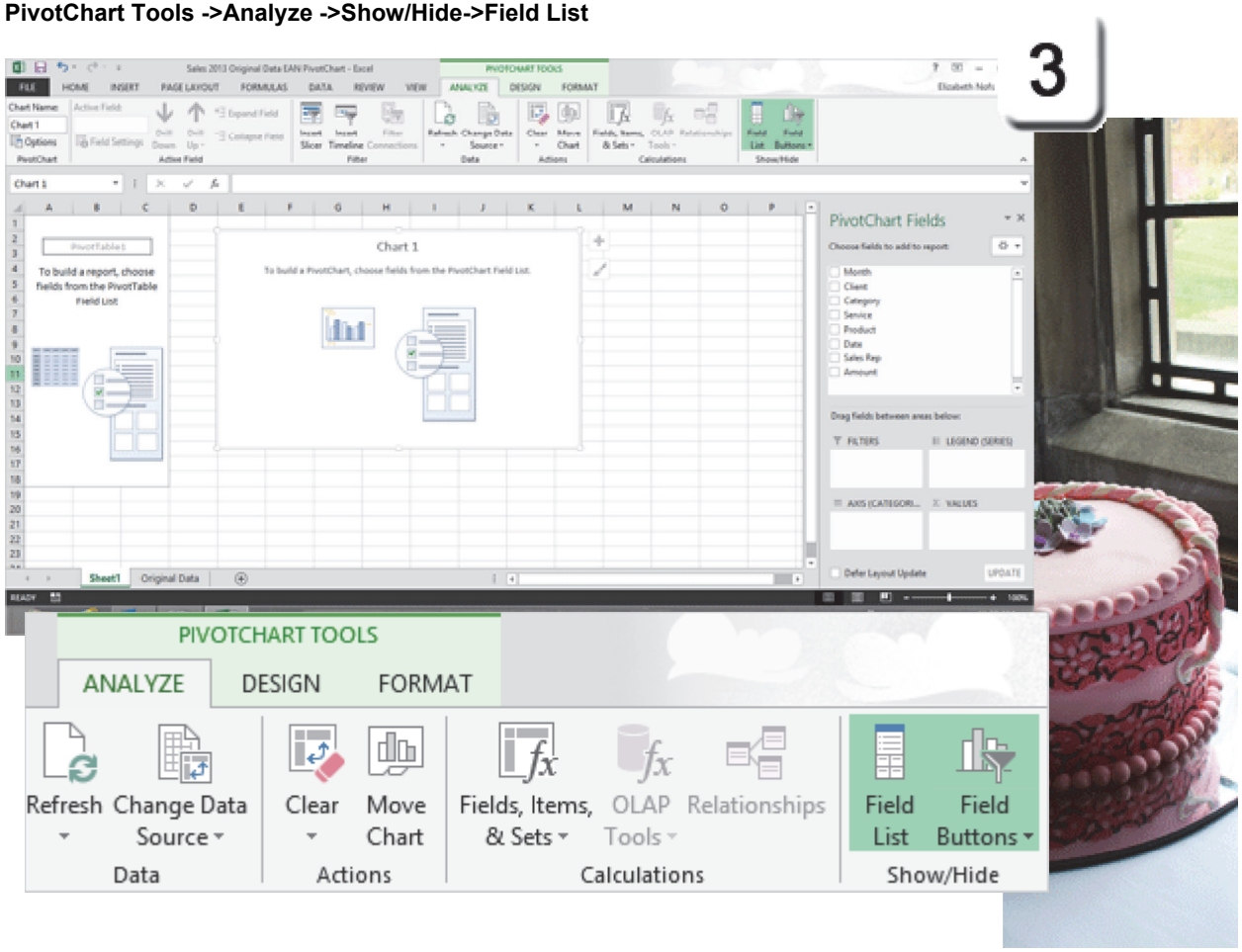
The **PivotTable Field List** should be on the right side.

What Else Do You See? There are three **PivotChart Tools**:
Analyze
Design
Format

Keep going...

Memo to Self: If you don't see the PivotTable Field List please try this:
Go to **PivotTable Tools ->Analyze.**
Go to **Show/Hide->Field List.**

PivotChart Tools ->Analyze ->Show/Hide->Field List



Exam 77-428 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.3 Create and Manage PivotCharts: Create New PivotCharts (Show the Field List)

PivotTable Field List

You should see a PivotTable on the left side of your spreadsheet but there will not be any data in the Chart, yet.

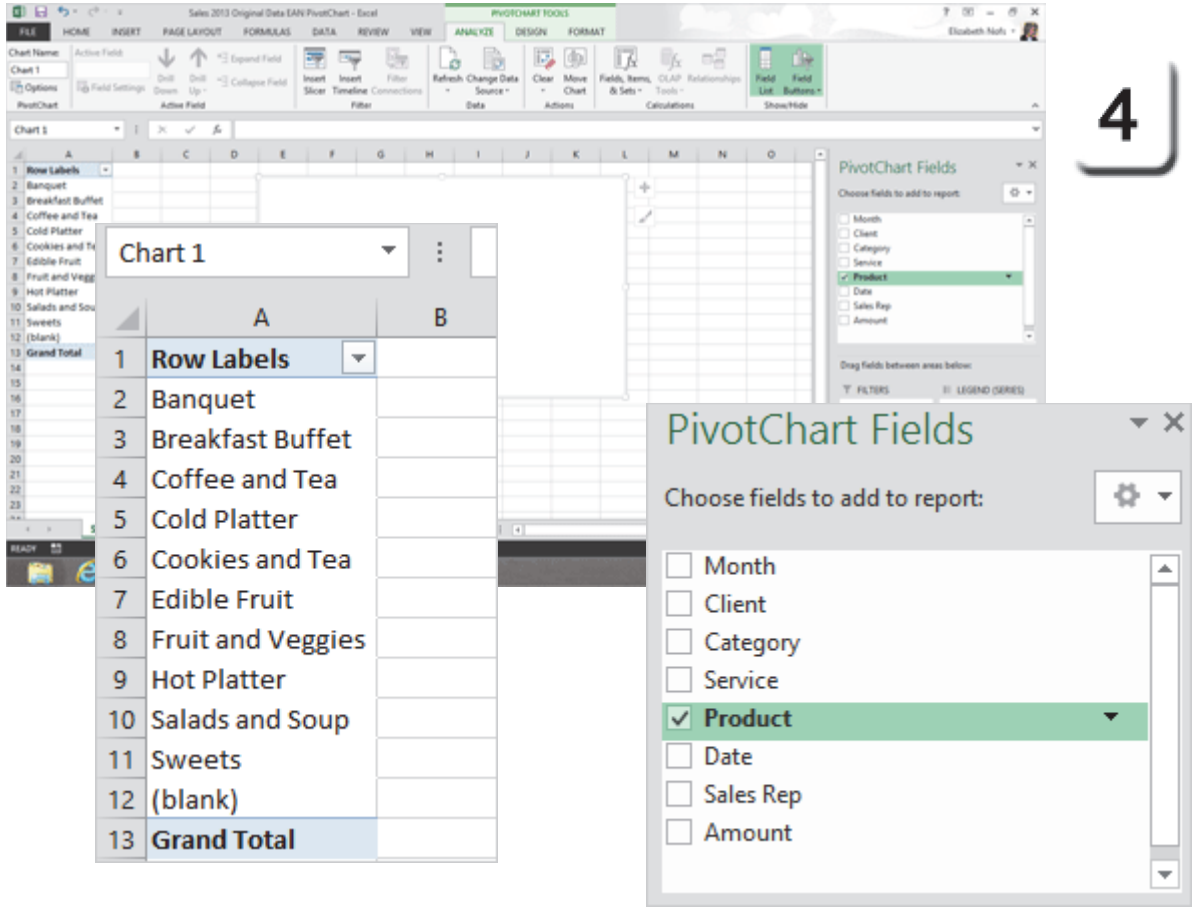
PivotCharts, like PivotTables, need data. We will select the Fields and Count the Value with the Field List to create a PivotTable Report.

4. Try This: Choose a Field
Go to the **PivotTable Field List**.
Select: Product.

What Do You See? The PivotTable should display each Product. The PivotChart has a Filter on the Row Labels in Cell A1, but the Chart is still blank.

Keep going...

PivotChart Tools ->Analyze ->Show/Hide->Field List



Add a Value

Look at the bottom of the PivotTable Field List. There is only one value: the Product is in the Axis Fields. So far so good.

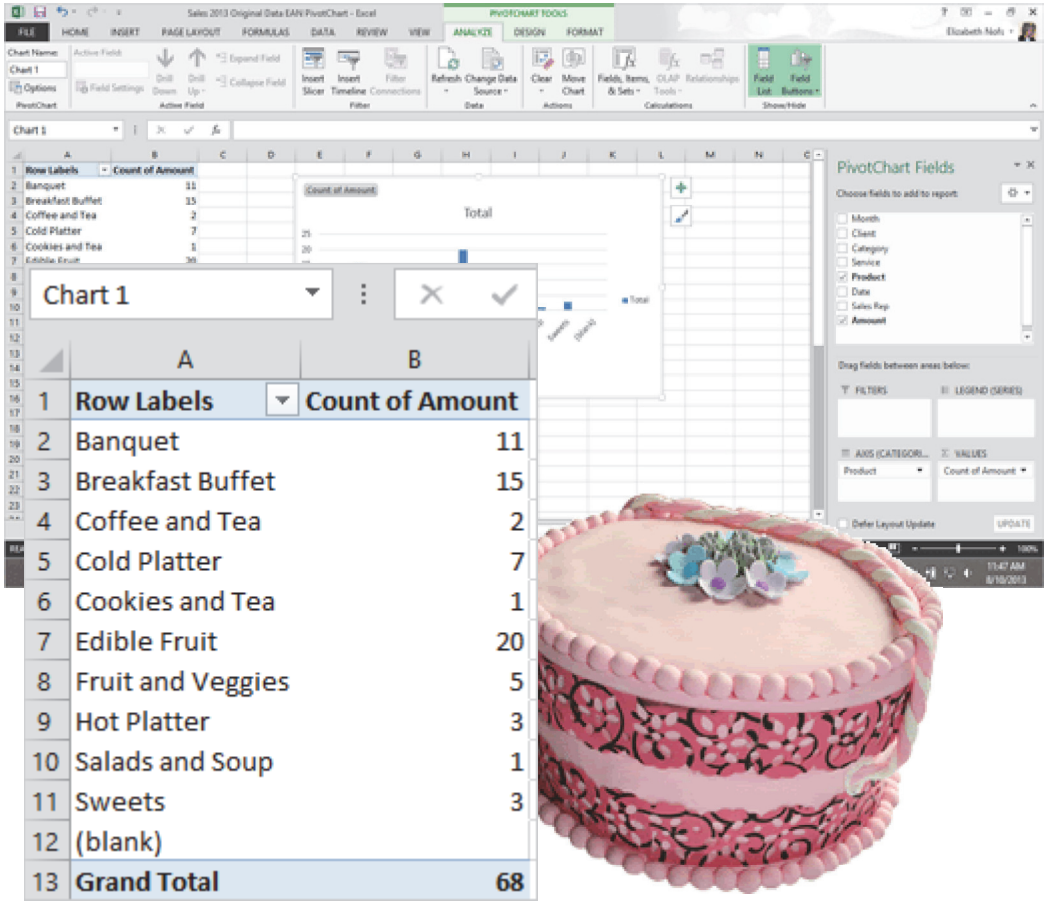
PivotTables and PivotCharts summarize data using COUNT, SUM, AVERAGE functions. This is done by adding a field to the **Values**.

5. Try it: Add a Value
Go to the **PivotTable Fields List.**
Select: Amount.
Drag the Amount to the **Values**.

What Do You See? The Value was displayed as **Count of Amount** by default in the PivotTable as well as the PivotChart.

Keep going...

PivotChart Tools ->Analyze ->Show/Hide->Field List



	A	B
1	Row Labels	Count of Amount
2	Banquet	11
3	Breakfast Buffet	15
4	Coffee and Tea	2
5	Cold Platter	7
6	Cookies and Tea	1
7	Edible Fruit	20
8	Fruit and Veggies	5
9	Hot Platter	3
10	Salads and Soup	1
11	Sweets	3
12	(blank)	
13	Grand Total	68

Edit the Value Field

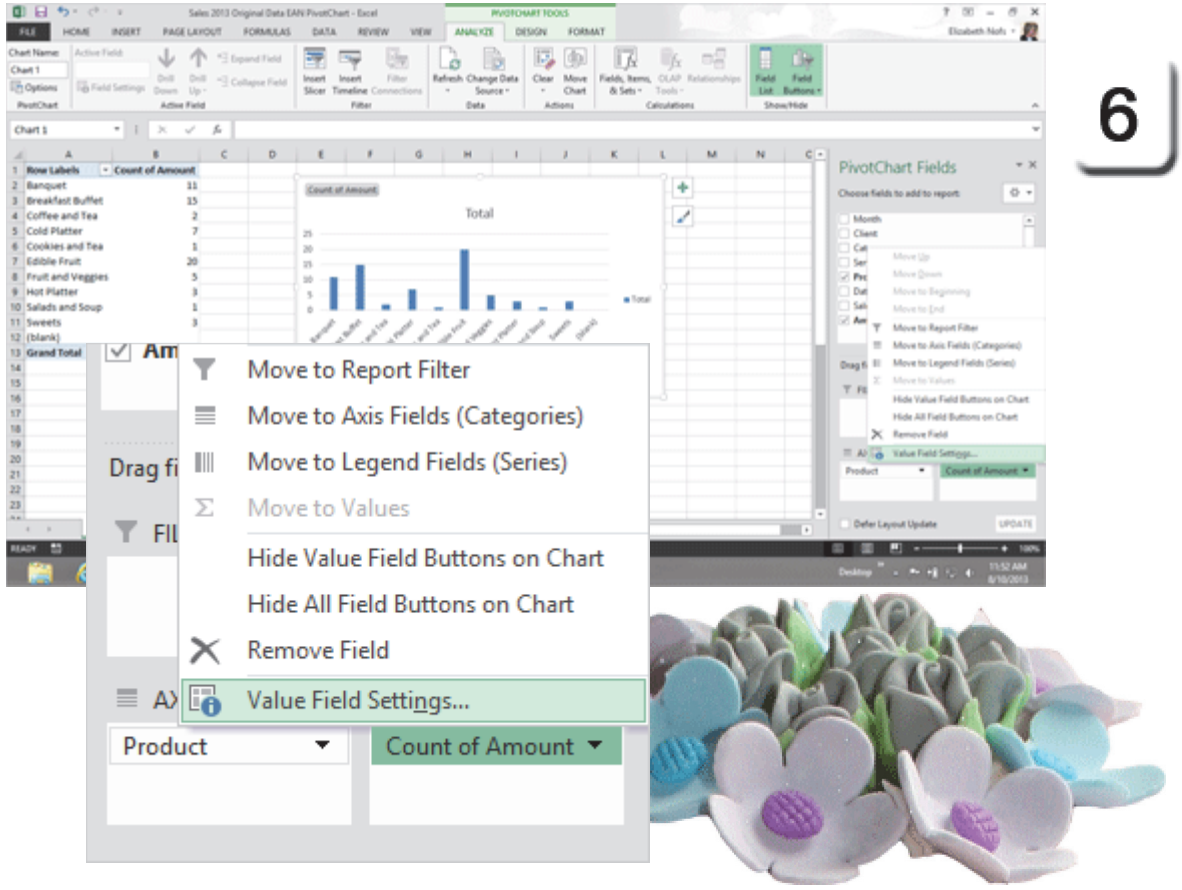
The Value was displayed as Count of Amount. In this example, Amount is money: how much was sold? This data would make more sense if the Value was displayed as the Sum of the Amount.

6. Try it: Edit the Value Field
Go to the **PivotTable Field List.**
Go to the **Values**.
Select: Count of Amount.
Click on **Value Field Settings...**

Keep going...

The Field options include:
Move to Report Filter
Move to Axis Fields (Categories)
Move to Legend Fields (Series)
Move to Values
Hide Value Field Buttons on Chart
Hide All Field Buttons on Chart
Remove Field
Value Field Settings...

PivotChart Tools ->Analyze ->Show/Hide->Field List



Value Field Settings

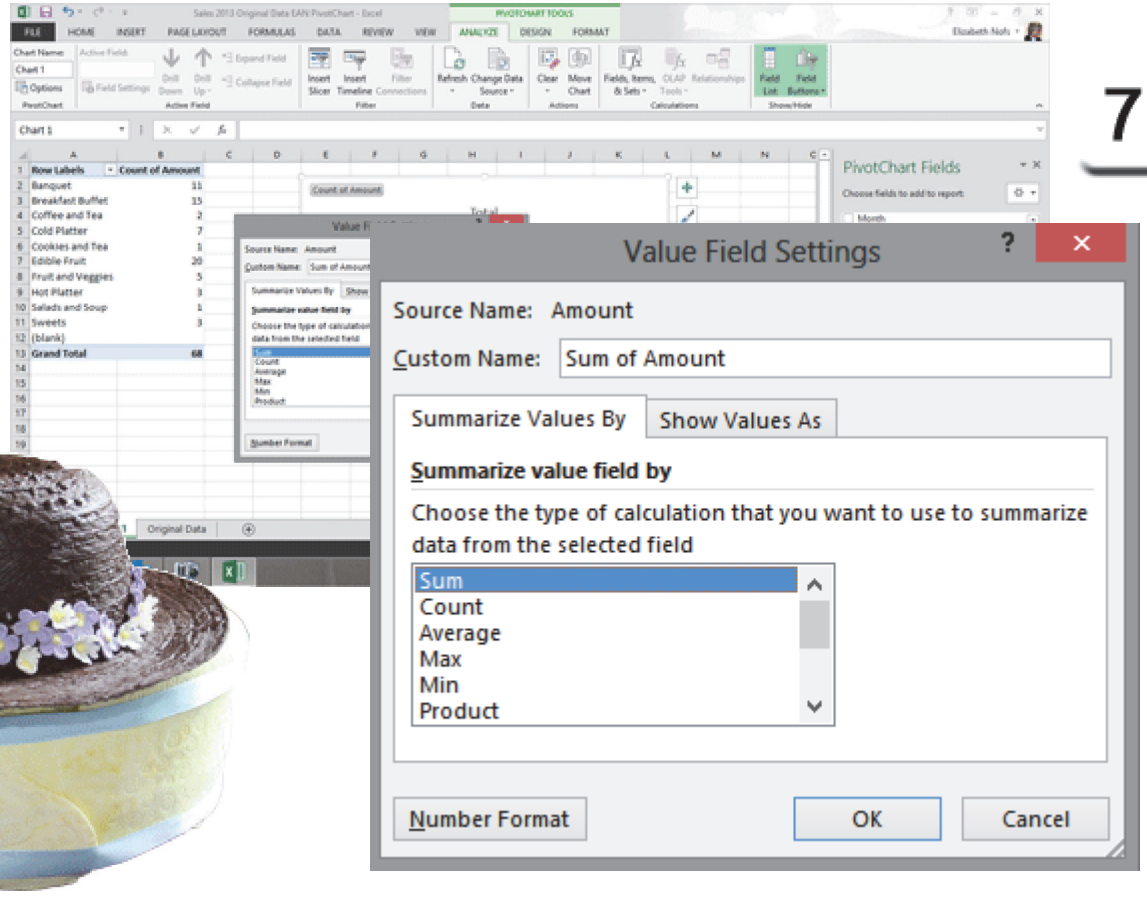
You can choose the type of calculation you wish to use to summarize and display the data in the PivotTable and PivotChart.

7. Try it: Edit the Value Field Settings
Go to Summize Value by.
Choose: **Sum**.

What Do You See? The Custom Name should be Sum of Amount, now.

Please click **OK** and keep going...

PivotChart Tools ->Analyze ->Show/Hide->Field List



Sum of Amount

8. Try it: Format the Data

Sum of Amount is money-sales data.
Select Column B.
Go to **Home->Number.**
Click on **Accounting ($).**

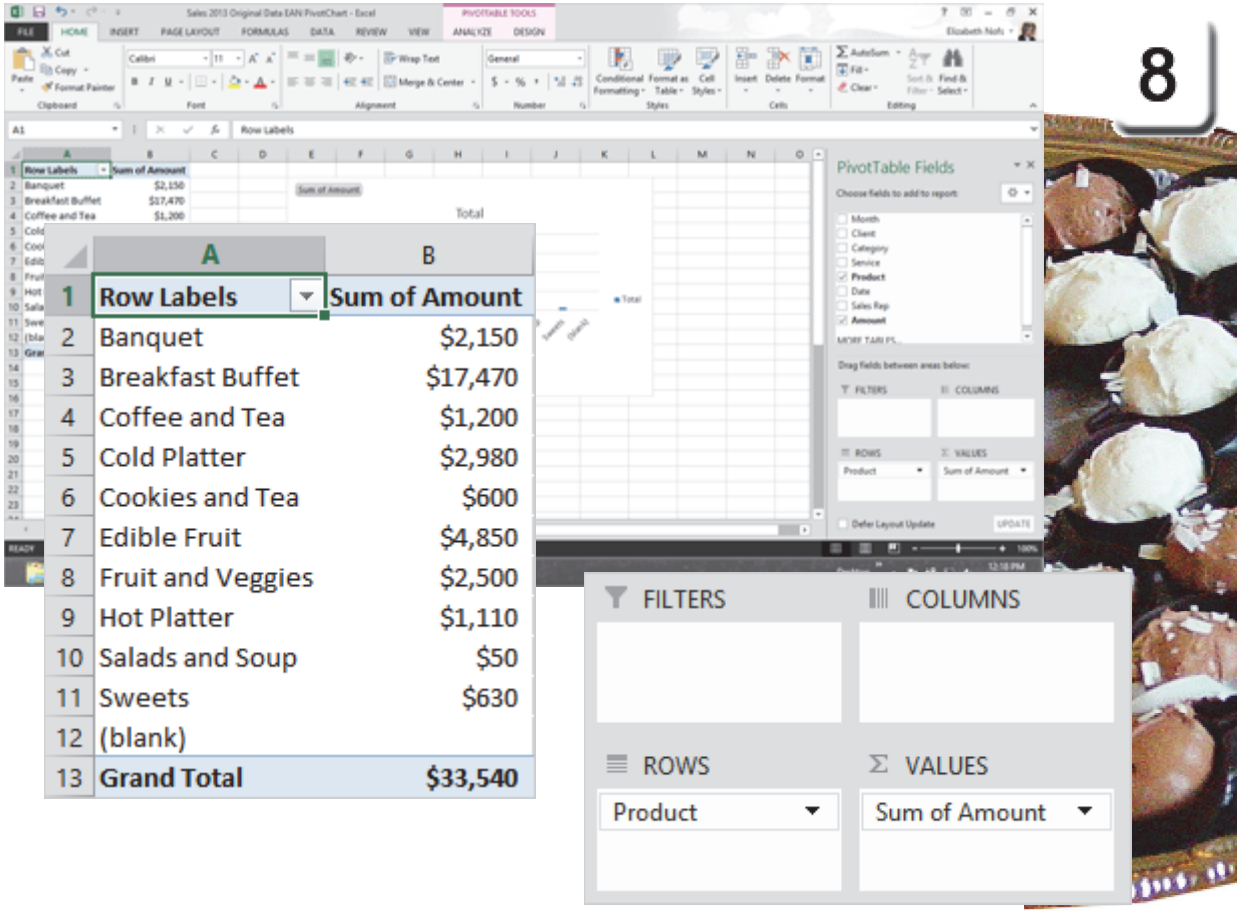
Select Column B, again.
Go to **Home->Number.**
Click on **Decrease Decimals** twice.

Try This, Too: Save the PivotTable

Go to **File->Save As.**
Name the workbook: MyName PivotCharts.
Save. Save. Save.

Very good.

Home ->Number



	A	B
1	Row Labels	Sum of Amount
2	Banquet	$2,150
3	Breakfast Buffet	$17,470
4	Coffee and Tea	$1,200
5	Cold Platter	$2,980
6	Cookies and Tea	$600
7	Edible Fruit	$4,850
8	Fruit and Veggies	$2,500
9	Hot Platter	$1,110
10	Salads and Soup	$50
11	Sweets	$630
12	(blank)	
13	Grand Total	$33,540

Exam 77-428 Microsoft Excel 2013 EXPERT
2. Apply Custom Formats and Layouts
2.1 Apply Custom Data Formats: Create Custom Accounting Formats

Add Another Field

At this point, our PivotTable has one field in the Axis (the Category) and the Sum of Amount for the Value. When you add another field to the PivotTable, you add another layer of complexity to your chart.

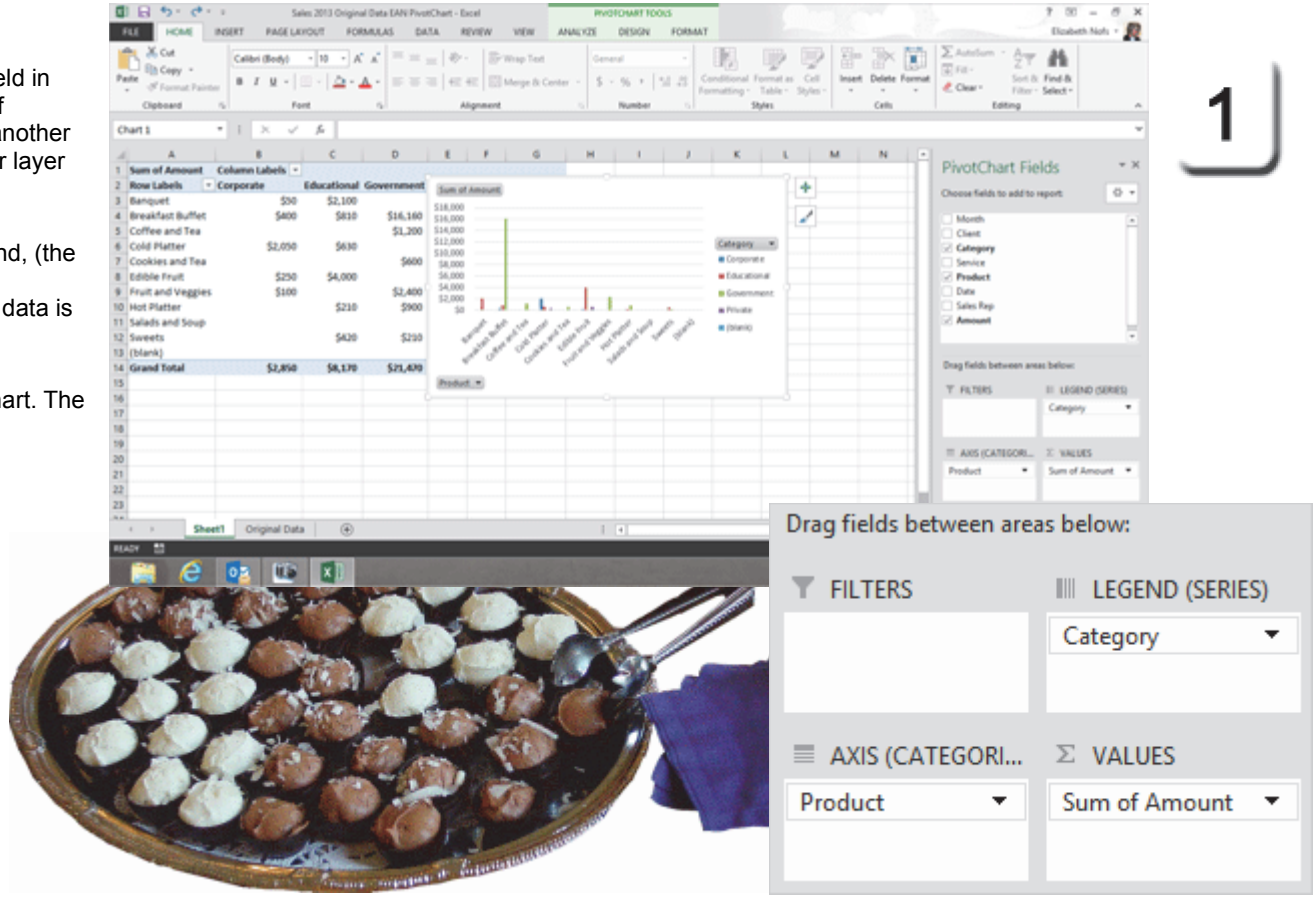
This lesson will add a field to the Legend, (the Series). This will create a Cross-Tab PivotTable. It will also change how the data is displayed in the PivotChart.

Before You Begin: Select the PivotChart. The PivotChart Tools should be available.

1. Try it: Add Another Field
Go to **PivotChart Tools ->Analyze.**
Go to **Show/Hide->Field List**
Select: Category
Drag Category to the **Legend Fields**.

Keep going...

PivotChart Tools ->Analyze ->Show/Hide->Field List



Take Two

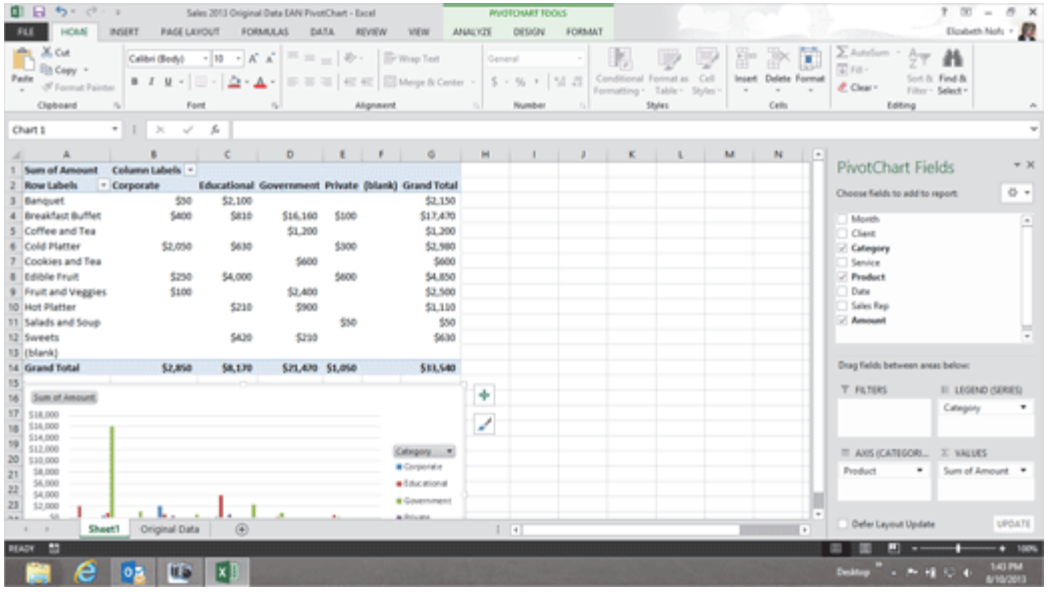
PivotChart Displays

2. What Do You See? The PivotTable has the following **Column Labels**: Corporate, Educational, Government, and Private. There is a **Filter** on the Column Labels as well as on the Row Labels that list the products sold.

What Else Do You See? The PivotChart may be displayed on top of the PivotTable. In the example on this page, the PivotChart was moved down and resized wider to see the columns better.

Keep going...

PivotChart Tools ->Design



2



	A	B	C	D	E
1	Sum of Amount	Column Labels			
2	Row Labels	Corporate	Educational	Government	Private
3	Banquet	$50	$2,100		
4	Breakfast Buffet	$400	$810	$16,160	$100
5	Coffee and Tea			$1,200	
6	Cold Platter	$2,050	$630		$300

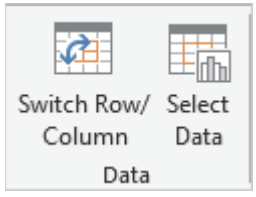
PivotChart Design

The purpose of creating a PivotChart is to analyze the data visually. Sometimes the data may be easier to understand if the Rows and Columns are switched.

By definition, this is how you "pivot" the table.

Before You Begin: Select the PivotChart. The PivotChart Tools should be available.

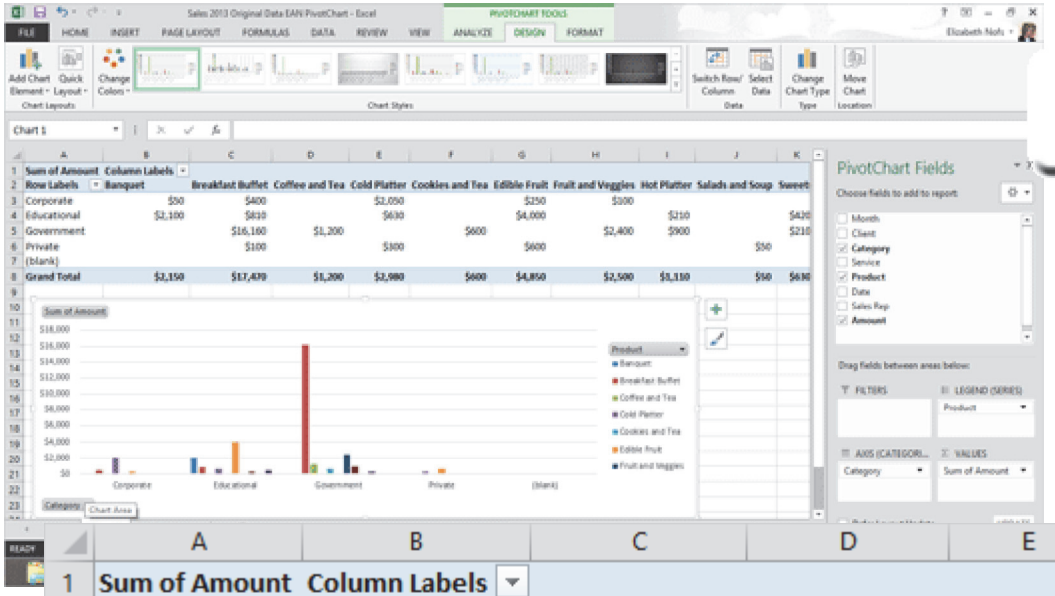
3. Try It: Switch Rows and Columns
Go to **PivotChart Tools ->Design.**
Go to **Data->Switch Row/Column.**



What Do You See? The data has been switched: The products are displayed in the Columns and the Categories are shown in the Rows.

Keep going...

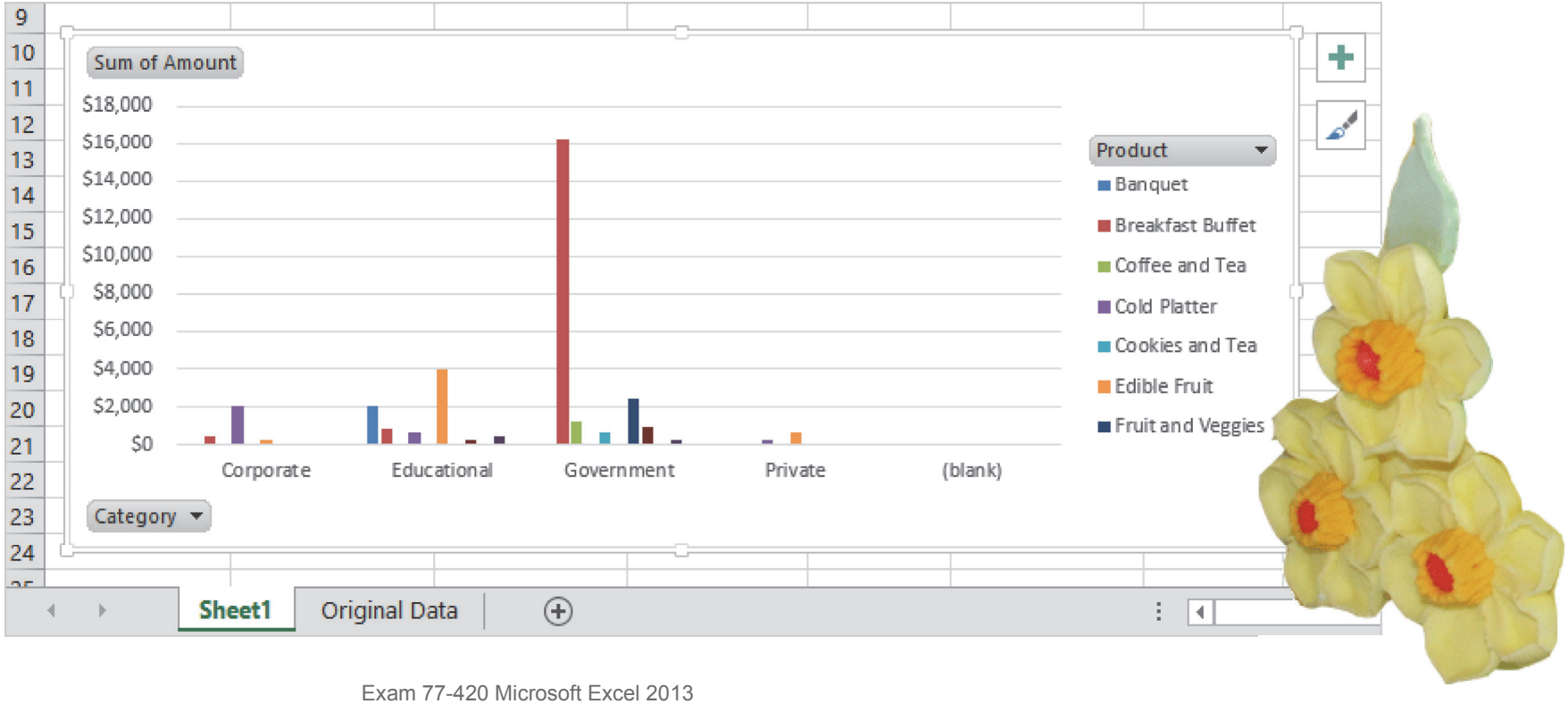
PivotChart Tools ->Design ->Data->Switch Row/Column



	A	B	C	D	E
1	Sum of Amount	Column Labels			
2	Row Labels	Banquet	Breakfast Buffet	Coffee and Tea	Cold Platter
3	Corporate	$50	$400		$2,050
4	Educational	$2,100	$810		$630
5	Government		$16,160	$1,200	
6	Private		$100		$300
7	(blank)				
8	Grand Total	$2,150	$17,470	$1,200	$2,980

Data: Switch Row/Column

4. What Else Do You See? When you switched the Rows and Columns, the PivotChart was updated as well. This PivotChart uses color and position to display the sales data. Each product listed on the Axis can have up to four columns of data. The Sum of Amount is displayed on the left, formatted as accouting. **What Do You Think?** Can you read and understand this PivotChart? Keep going...!



Filter the Data

Filters let you focus on key information. Say you wanted to analyze just the three new products. Here are the steps.

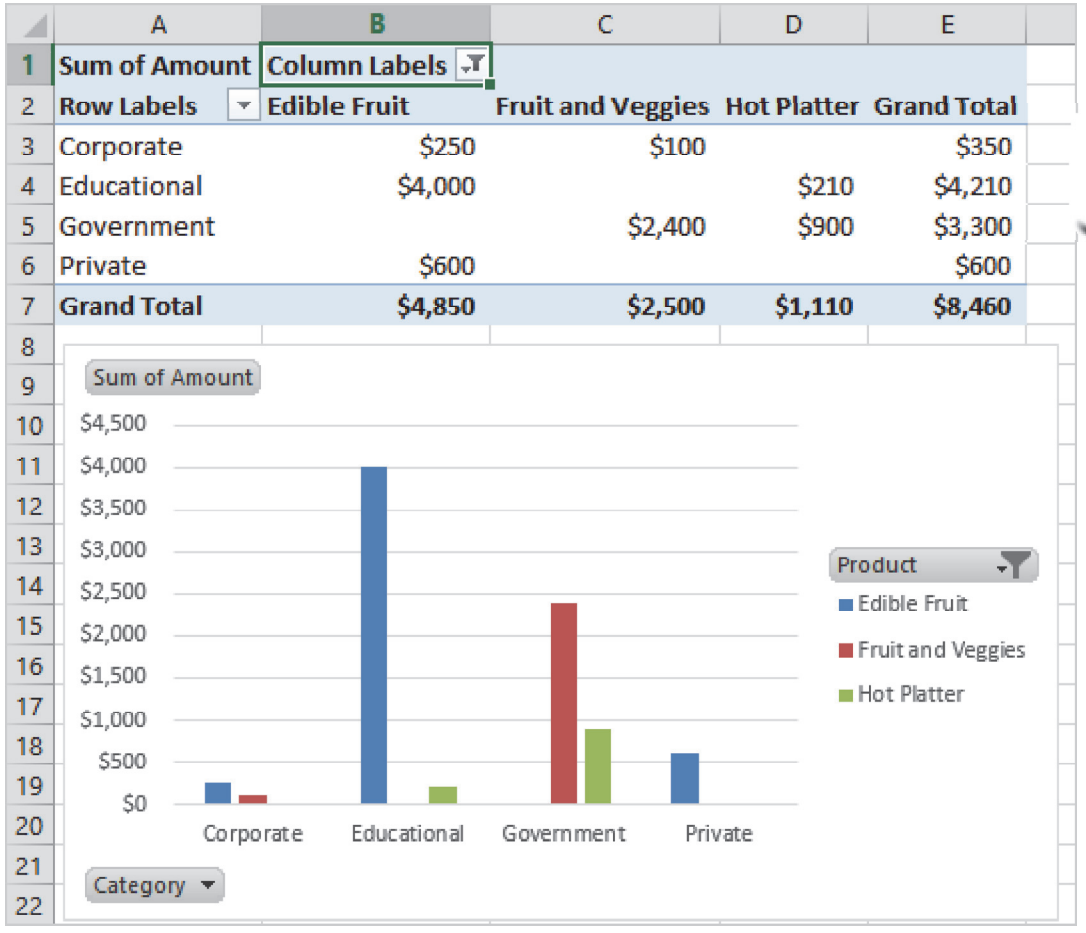
Before You Begin: Select the PivotChart or PivotTable, please.

5. Try This: Filter the Data
Go to the PivotTable.
Click on the **Column Labels** and use the Filter to select only:
Edible Fruit
Fruit and Veggies
Hot Platter

Click **OK**.

What Do You See, Now? The Computer Mama sez it is easier to compare a few products than the dozen or so products that were displayed on the previous page.

Memo to Self: This step is easy if you click off "Select All," first.



5

Design: Change Chart Type

The following pages will go through the options on the PivotChart **Design** Ribbon.

Our discussion will include how to edit the Chart Type, Layouts and Styles. We will also Move the PivotChart to a different spreadsheet.

Before You Begin: Select the PivotChart.

1. Try it: Change the Chart Type
Go to **PivotChart Tools ->Design->Type.**
Click on: **Change Chart Type.**
There should be a gallery of Chart Types: Column, Line, Pie, Bar, etc.

Try This, Too: Select a New Chart Type
Go to the **Column** category.
Select: **Stacked Column**.

Click **OK**. Keep going...

PivotChart Tools ->Design ->Type-> Change Chart Type

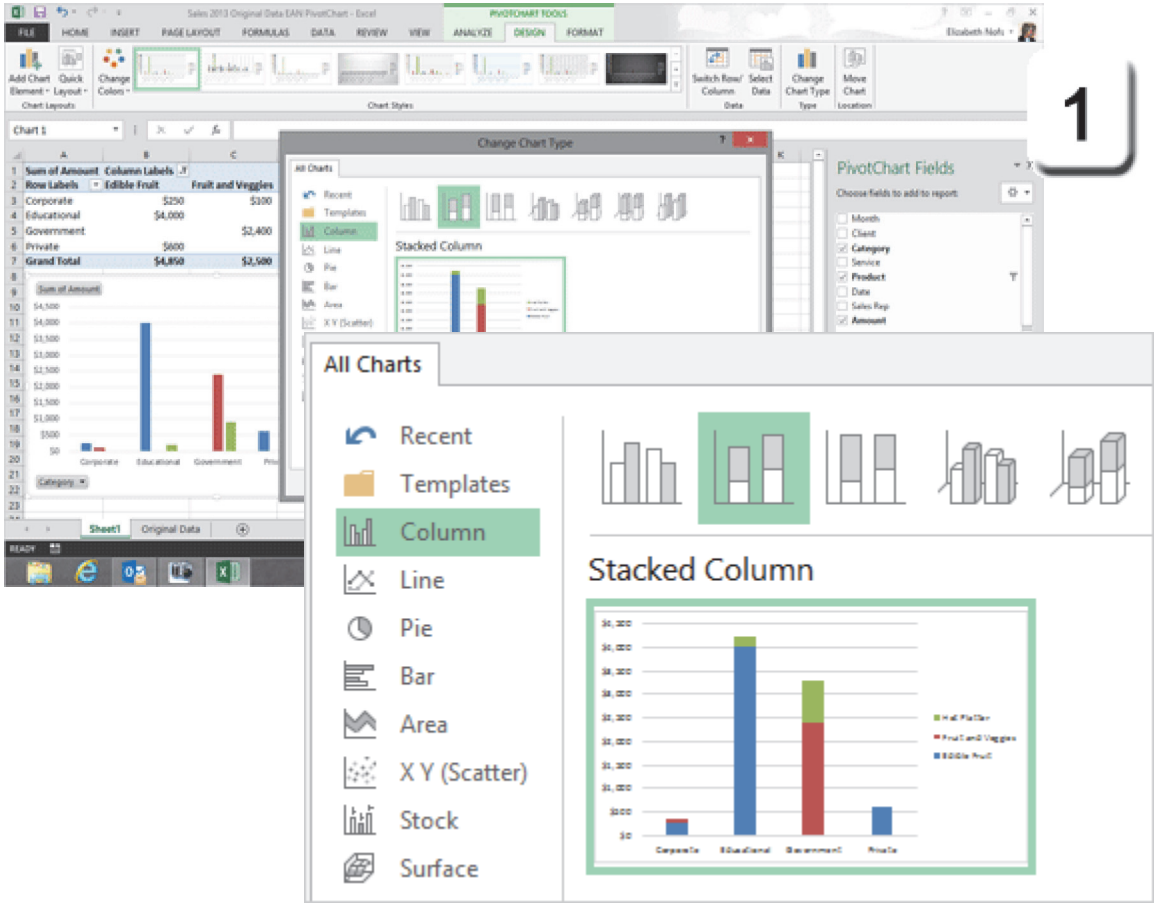


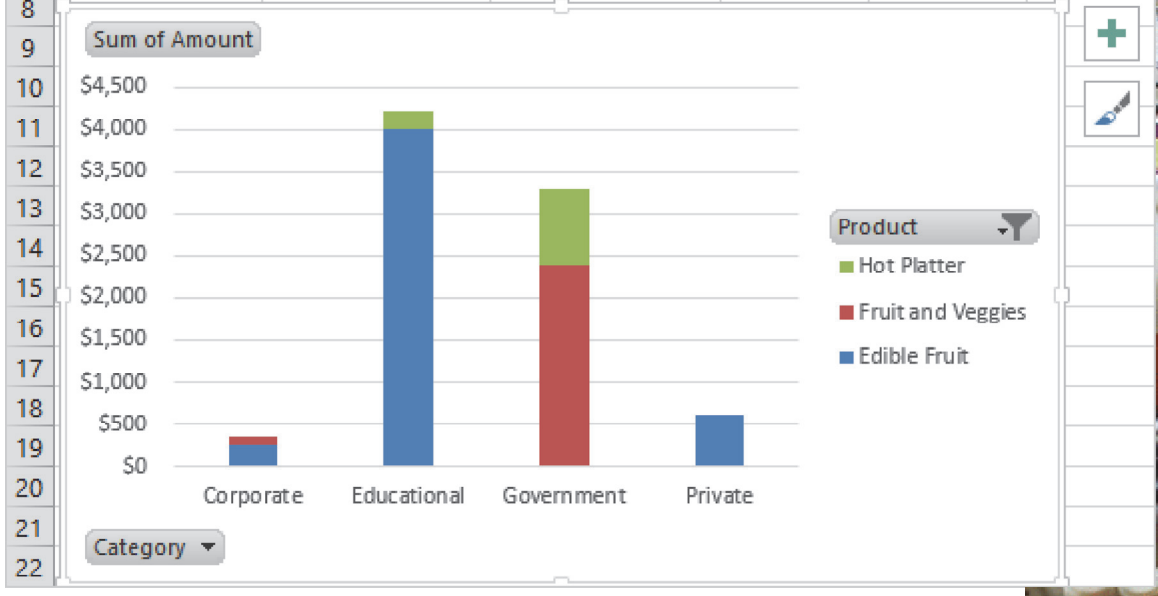
Chart Type Options

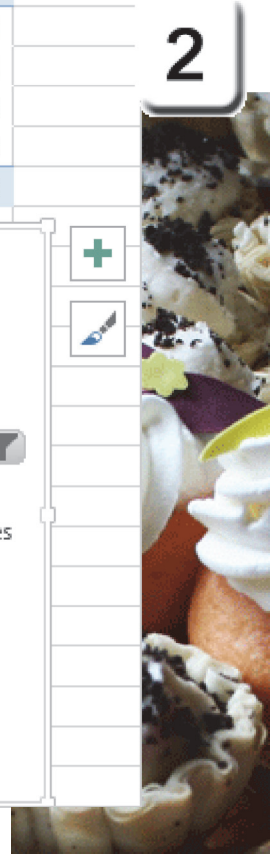
2. What Do You See? The PivotChart should update to the new Chart Type.

The **Stacked Column** format simplified the PivotChart. Instead of three columns for each customer category (Corporate, Educational, etc.) there is only one that shows how the Products add up together.

Keep going...

Sum of Amount	Column Labels			
Row Labels	Edible Fruit	Fruit and Veggies	Hot Platter	Grand Total
Corporate	$250	$100		$350
Educational	$4,000		$210	$4,210
Government		$2,400	$900	$3,300
Private	$600			$600
Grand Total	**$4,850**	**$2,500**	**$1,110**	**$8,460**





Exam 77-428 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.3 Create and Manage PivotCharts: Edit PivotChart Design (Change Chart Type)

Design: Chart Styles

Microsoft Excel uses **Chart Styles** to format the Title, Legend, Data Tables and Axis Labels. We looked at Chart Styles in the *Beginning Guide to Excel.* Styles can be applied to PivotCharts, too.

Before You Begin: The PivotChart is selected. The Chart Elements and Chart Styles should be available to the right of the Chart.

1. Try it: Change the Chart Style
Go to **Chart Styles.**

What Do You See? There should be two options: Style and Color.
Click on **Style**.
Select a Chart Style: **Style11.**

Now, What Do You See? Selecting PivotChart Style11 formatted the Stacked Columns.

Keep going...

Memo to Self: Chart Styles can also be found on the **Design** Ribbon.

PivotChart Tools ->Design ->Chart Styles

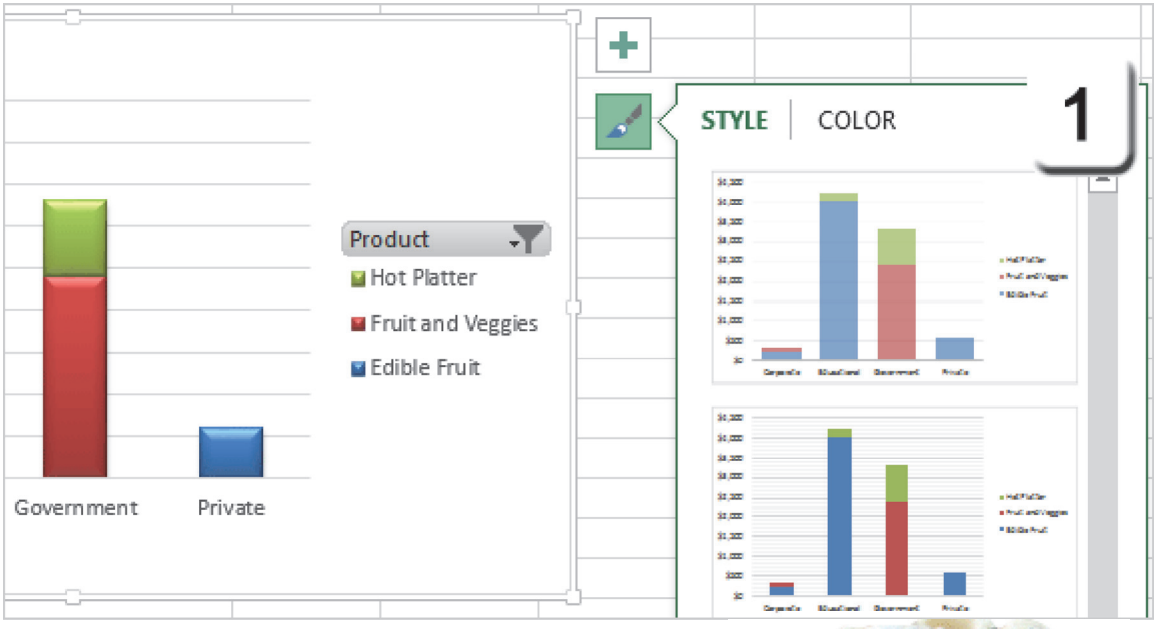




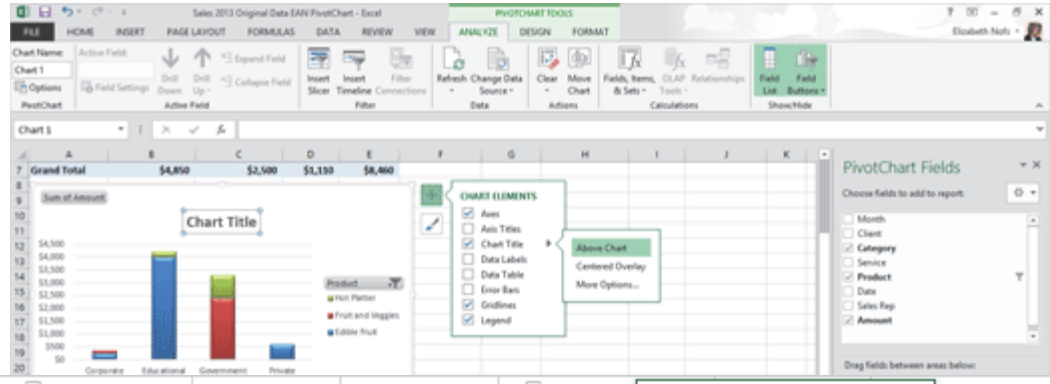
Chart Elements: Title

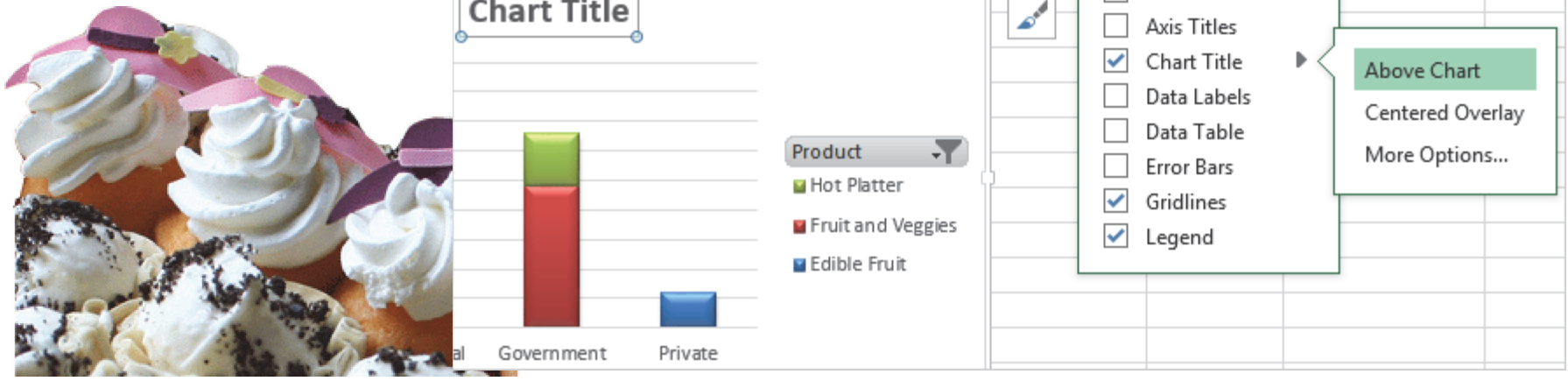
2. Try This: Add a Chart Title
Go to **Chart Elements->Chart Title.**
Click on: **Above Chart.**
A Chart Title will be added to the PivotChart.

Try This, Too: Edit the Chart Title
Double Click the Chart Title.
Type: New Product Sales.

Keep going...

Chart Elements ->Chart Title ->Above Chart





Design: Add Chart Element

Each object in a PivotChart can be edited by hand as well. Each Element has **More Options**.

3. Try This: Add a Chart Title
Go to **PivotChart Tools ->Design-> Chart Layouts**.
Go to **Add Chart Element->Legend**
Click on **More Legend Options**.

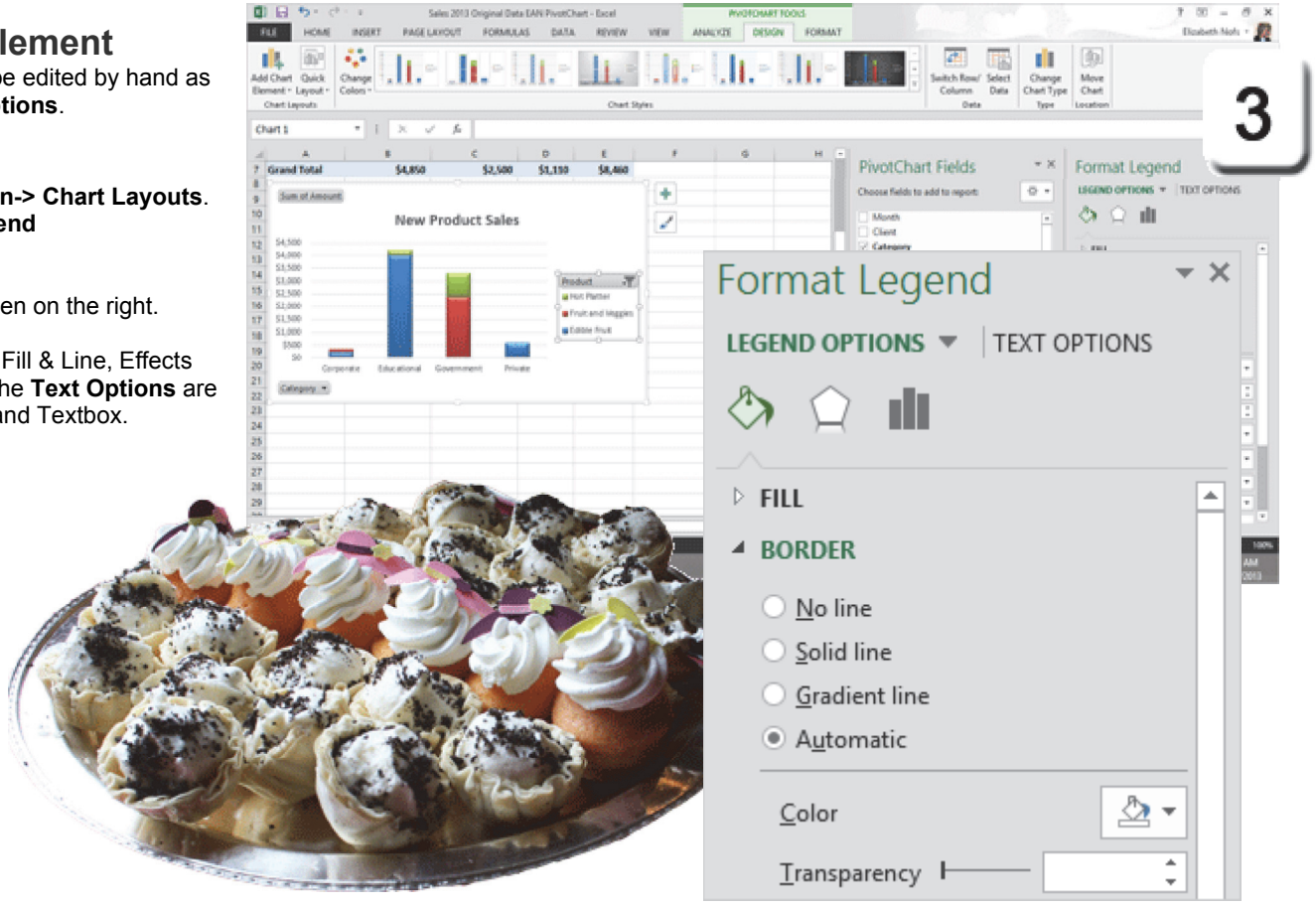
The Legend formatting should open on the right.

The **Format Legend** options are Fill & Line, Effects and Legend Options (position.) The **Text Options** are Text Fill & Outline, Text Effects, and Textbox.

Close the Legend Formatting.

Keep going...

PivotChart Tools ->Design->Chart Layouts->Add Chart Element->Legend->More Legend Options



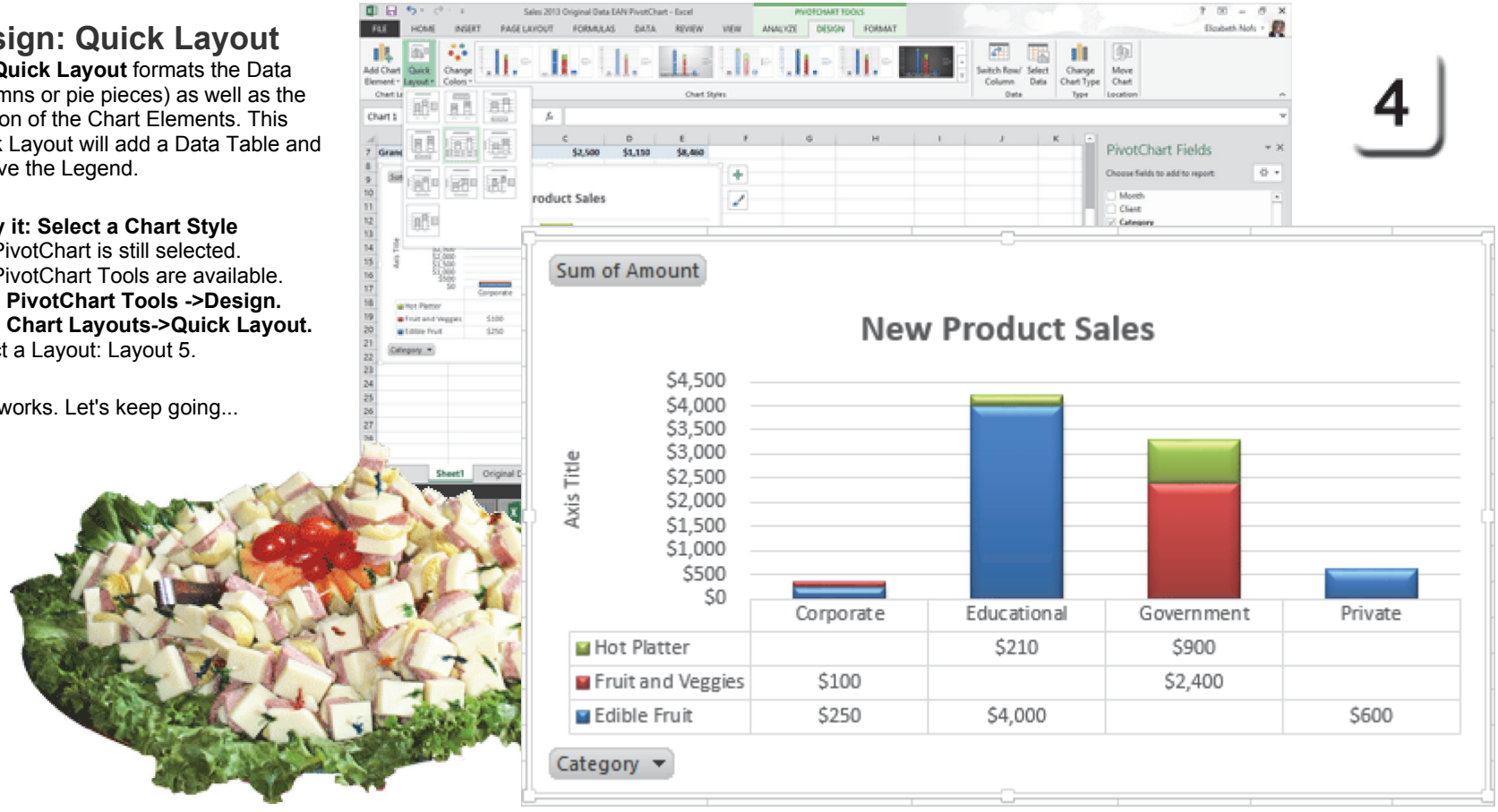
PivotChart Tools ->Design ->Chart Layouts->Quick Layout

Design: Quick Layout

The **Quick Layout** formats the Data (columns or pie pieces) as well as the position of the Chart Elements. This Quick Layout will add a Data Table and remove the Legend.

4. Try it: Select a Chart Style
The PivotChart is still selected.
The PivotChart Tools are available.
Go to **PivotChart Tools ->Design.**
Go to **Chart Layouts->Quick Layout.**
Select a Layout: Layout 5.

That works. Let's keep going...



Exam 77-420 Microsoft Excel 2013
5. Create Charts and Objects
5.2 Format a Chart: Apply Chart Layouts and Styles (Quick Layout)

Design: Move Chart

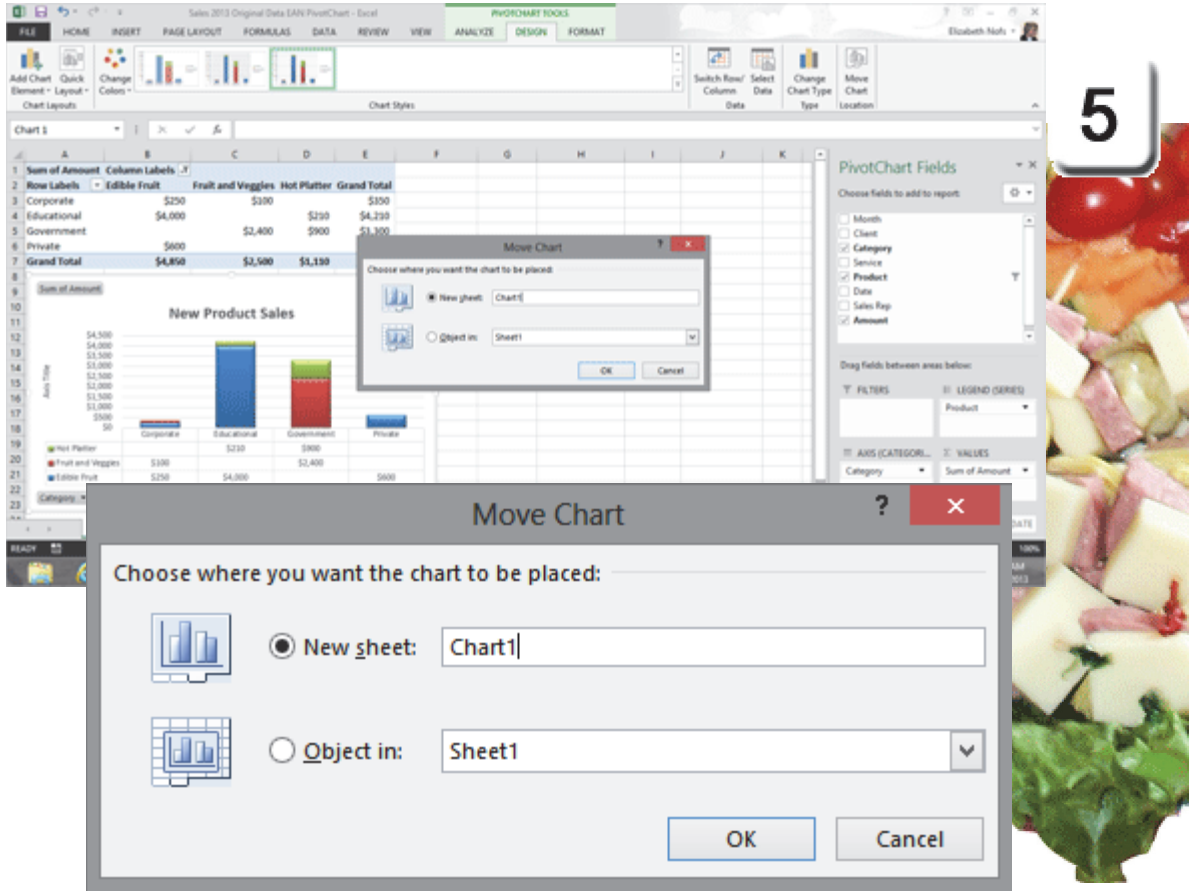
By default, a PivotChart is created on the same sheet that has the PivotTable. You can **Move** a PivotChart to a different sheet if you wish. Here are the steps.

5. Try it: Move a PivotChart
The PivotChart is still selected.
The PivotChart Tools should be available.
Go to **PivotChart Tools ->Design.**
Go to **Location->Move Chart.**

What Do You See? You will be asked where you want to move the chart. You can move the chart to a **New Sheet.** You can also place the chart as an **Object in** an existing sheet.

Click **CANCEL** and keep going, please...

PivotChart Tools ->Design ->Location->Move Chart



Exam 77-420 Microsoft Excel 2013
5. Create Charts and Objects
5.2 Format a Chart: Apply Chart Layouts and Styles (Move Chart)

Analysis Tools

One of the newest tools in Excel is the **Slicer**. The Slicer can be found on the **Analyze** Ribbon as part of the **PivotChart Tools**. We'll start with the options for the Active Field and then work with the Slicer.

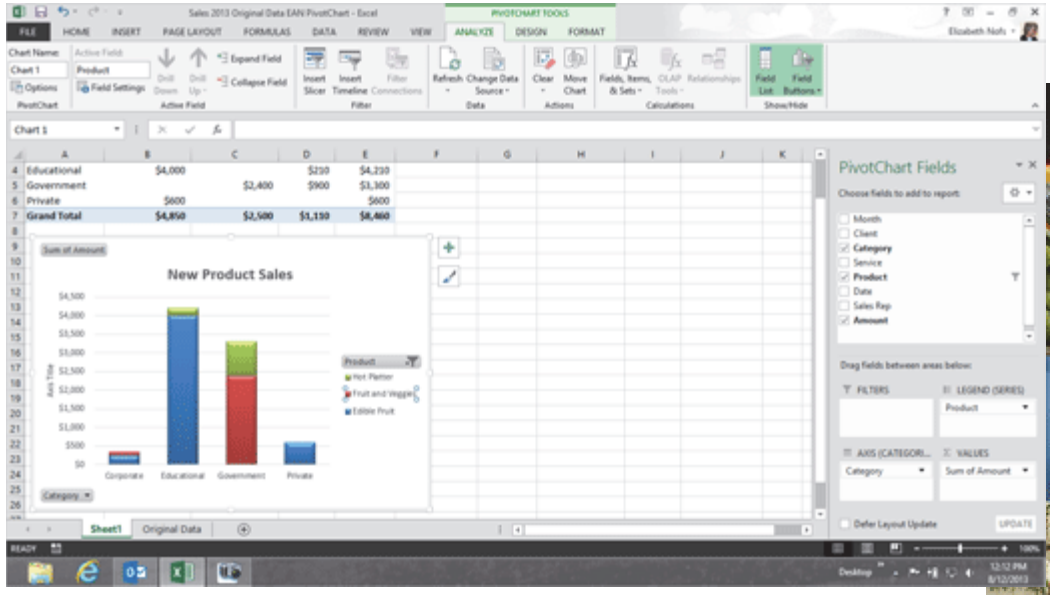
Before You Begin: The PivotChart is still on Sheet 1 with the PivotTable. The PivotChart is selected. The PivotChart Tools are available.

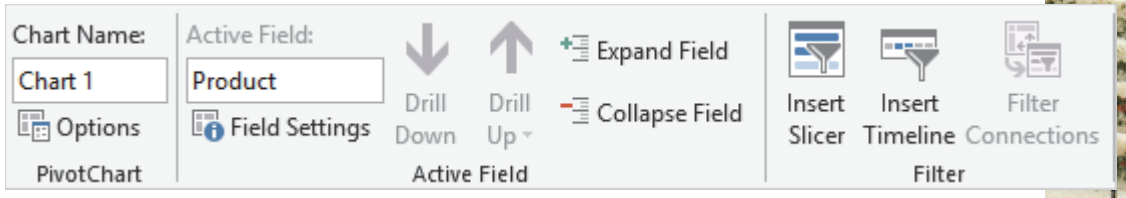
The **Chart Legend** is on.
The **Data Table** is turned off.

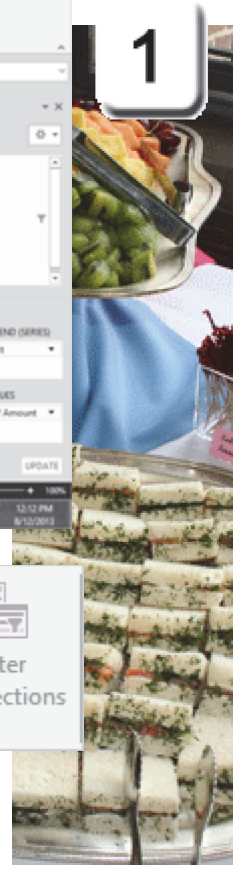
1. Try it: Review the Analyze Groups
The **Analyze** groups include:
PivotChart
Active Field
Filter
Data
Actions
Calculations
and Show/Hide.

Keep going...

PivotChart Tools ->Analyze







Analysis: Active Field

Start with the simple tools: You can select any field and show additional data. The selected field is called the **Active Field**.

You can use the Active Field to Expand (show) or Collapse (hide) more details. Say you wanted to see who sold the Fruit and Veggie products.

Start by selecting a Field in the PivotChart Legend to access the Active Field options on the Analyze Ribbon.

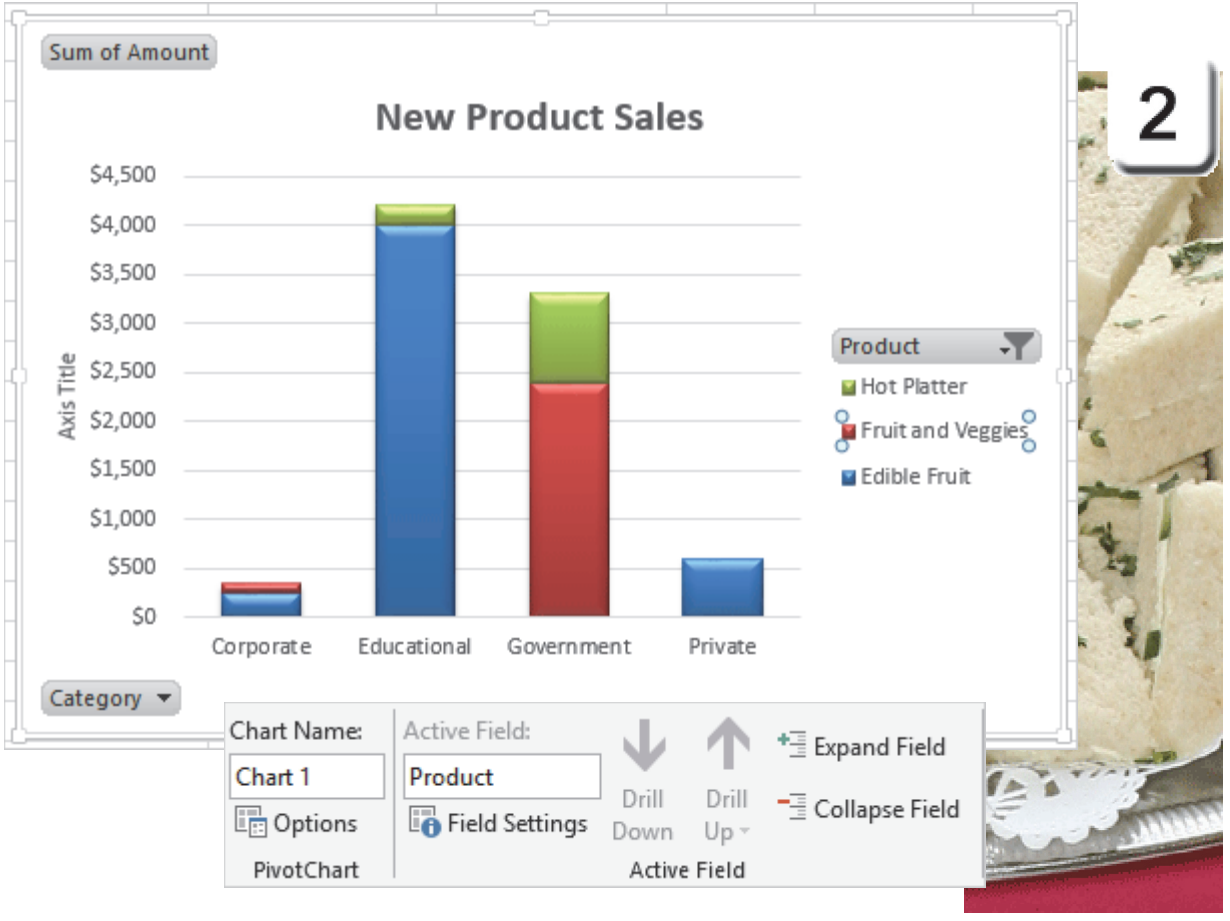
2. Try it: Select a Field in the PivotChart
Click on the PivotChart Legend.
Click on a Field: Fruit and Veggies.

Keep going...

Memo to Self: Expanding or Collapsing a field is easy. Selecting the correct place on the PivotChart can be frustrating!

What should you look for? When you select a Field, the Analysis Tools will display this field as well as any other that you have enhanced.

PivotChart Tools ->Analyze ->Active Field



Exam 77-427 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Select the Active Field

Analysis: Use the Active Field

3. Try it: Expand the Active Field
Go to **PivotChart Tools->Analyze.**
Go to **Active Field.**
Click on **Expand Field.**

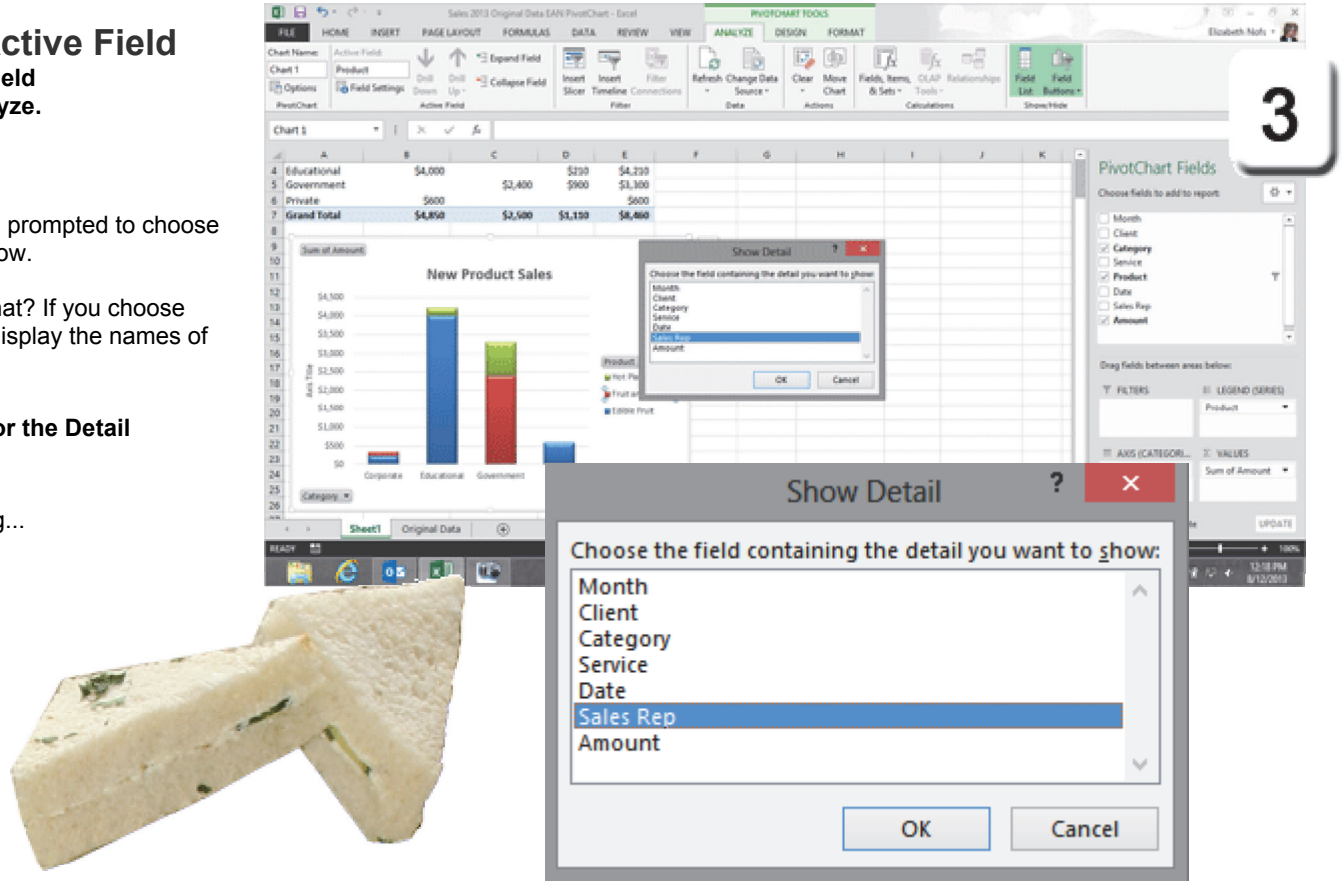
What Do You See? You will be prompted to choose which data you would like to show.

Our question was: Who sold what? If you choose Sales Rep, the PivotChart will display the names of the people who sold products.

Try this, Too: Select a Field for the Detail
Show Detail: Sales Rep.

Please click **OK** and keep going...

PivotChart Tools ->Analyze ->Active Field->Expand Field



Exam 77-427 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Expand the Active Field

PivotChart Tools ->Analyze ->Active Field

Expand the Active Field

4. What Do You See? There should be a new filter on the PivotChart legend.

The example on this page shows which sales rep sold what products.

This is an interactive PivotChart. You can filter the information by Category (Corporate, Educational, Government, Private), Product and Sales Rep.

But wait, there really is more...





Exam 77-427 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Create a Slicer

PivotTable: Analyze

5. What Else Do You See? When you edit the PivotChart, you are modifying the PivotTable too.

The **Column Labels** show new subtotals for each product. The subtotals calculate how much product each sales rep sold.

The PivotTable was formatted automatically with banded columns.

Rename the spreadsheet: PivotTable by Category
Save your work.

Memo to Self: As you work with the tools you should keep in mind the purpose of this chart. What story are you trying to convey in a quick, effective visualization? Would it be easier to see the data as a PivotTable?

Keep it simple and easy to read.

PivotChart Tools ->Analyze

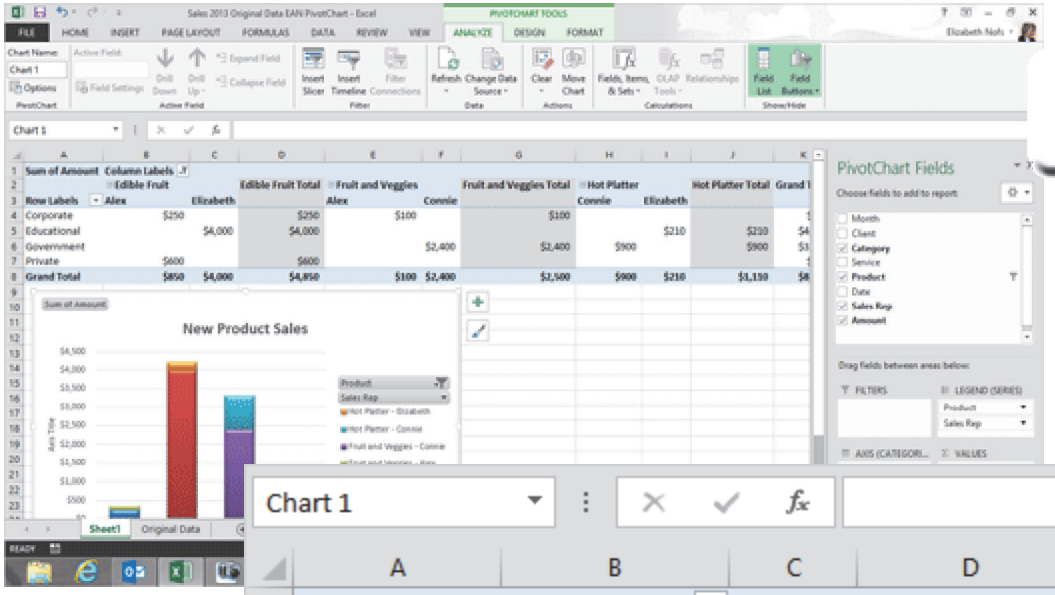


Chart 1

	A	B	C	D
1	Sum of Amount	Column Labels		
2		Edible Fruit		Edible Fruit Total
3	Row Labels	Alex	Elizabeth	
4	Corporate	$250		$250
5	Educational		$4,000	$4,000
6	Government			
7	Private	$600		$600
8	Grand Total	$850	$4,000	$4,850

Analyze: Slicers

Slicers are a new way to filter the data in PivotTables and PivotCharts.

The previous pages walked you through the steps of building a complex PivotChart with multiple filters. It is effective, but rather clumsy to work with.

The next couple of pages begin with a new PivotChart and demonstrates how you can use the Slicers.

1. Try it: Create a new PivotChart

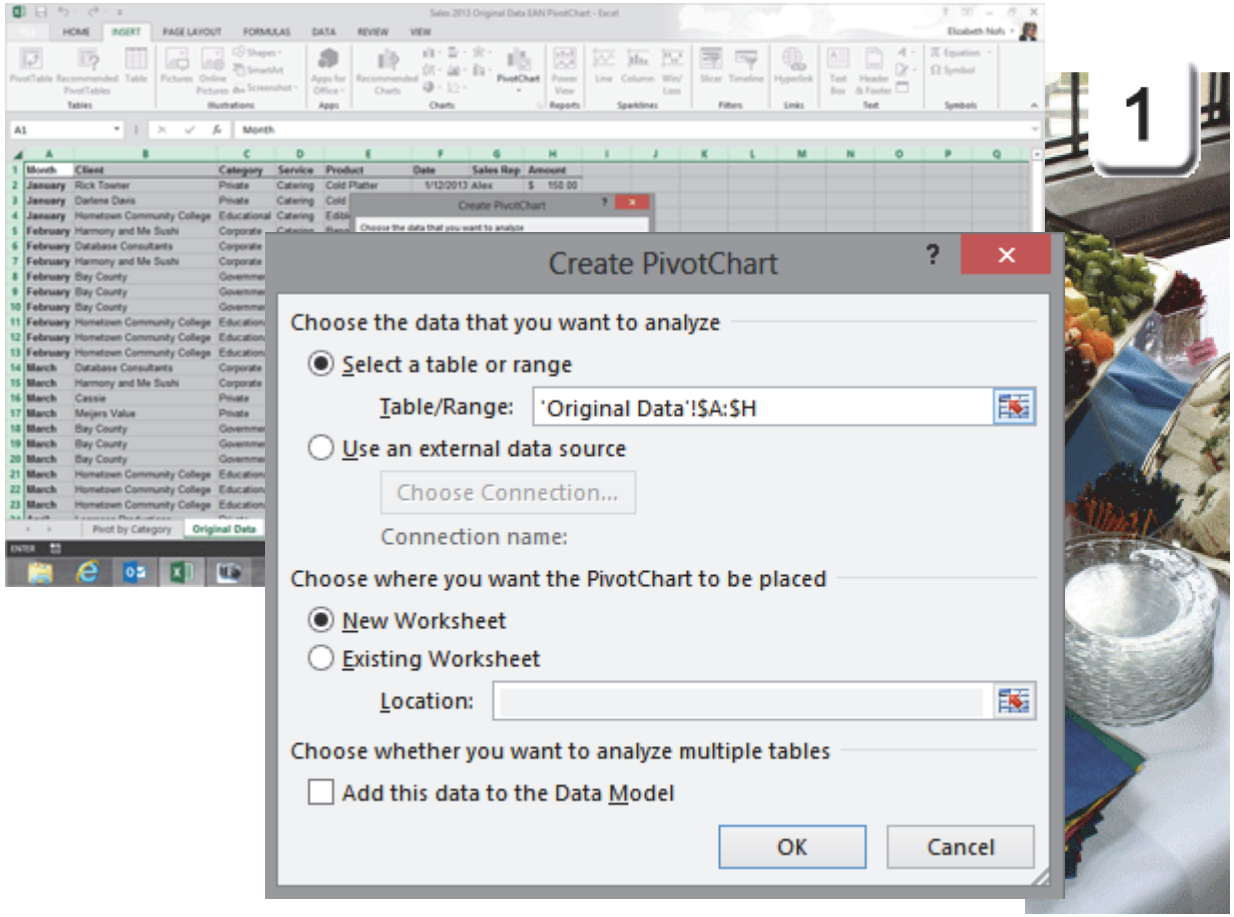
Go to the Original Data spreadsheet.
Select All.
Go to **Insert-> Charts->PivotChart**.
Click on **PivotChart.**

You will be asked to confirm the location of the data and whether you would like to place the new PivotChart in a New Worksheet.

Click **OK**.

Keep going...

Insert-> Charts->PivotChart->PivotChart



Modify the PivotChart

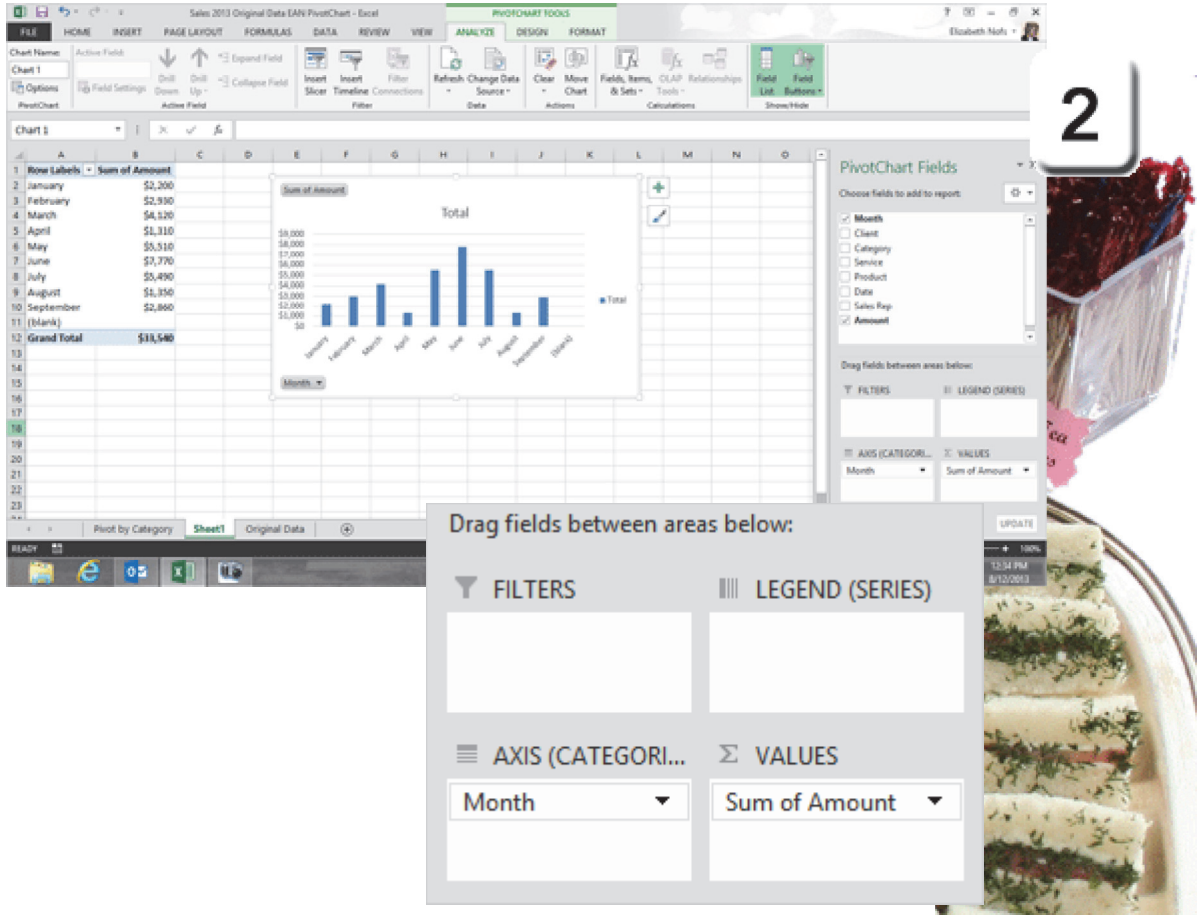
2. Try This: Choose a Field
Go to the **PivotTable Field List.**
Select: Month.

Try This, Too: Add a Value
Go to the **PivotTable Field List.**
Drag the Amount to the **Values**.
You should see Count of Amount.

And This: Edit the Value Field Settings
Go to the **Values**.
Select: Count of Amount.
Click on **Value Field Settings...**
Summarize Field Value by: SUM.

Keep going...

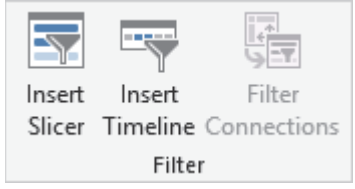
PivotChart Tools ->Analyze ->Show/Hide->Field List



Use Slicers to Filter the Data

Before You Begin: Click on the PivotChart. The PivotChart Tools should be available**.**

1. Try it: Insert Slicers
Go to **PivotChart Tools ->Analyze-> Filter**.
Click on **Insert Slicer**.

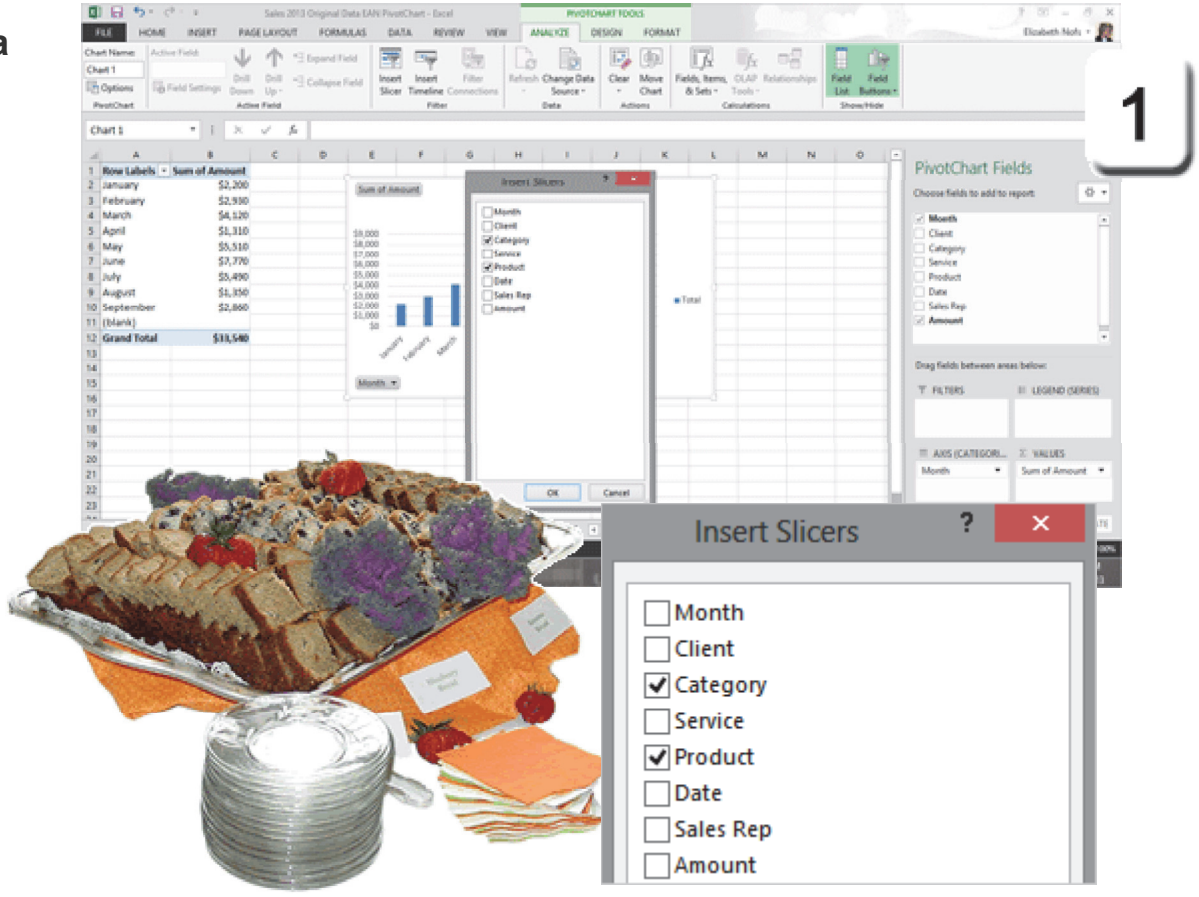


What Do You See? You will be prompted to select the Fields you want to include.
Select the following fields:
Category
Product

Please click **OK**.

Keep going...

PivotChart Tools ->Analyze ->Filter-> Insert Slicer



Exam 77-427 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Create a Slicer (Select Fields)

Hello, Slicers!

2. What Do You See? At the top of the Slicers is a Header. Next to the name on the Header is a Filter.

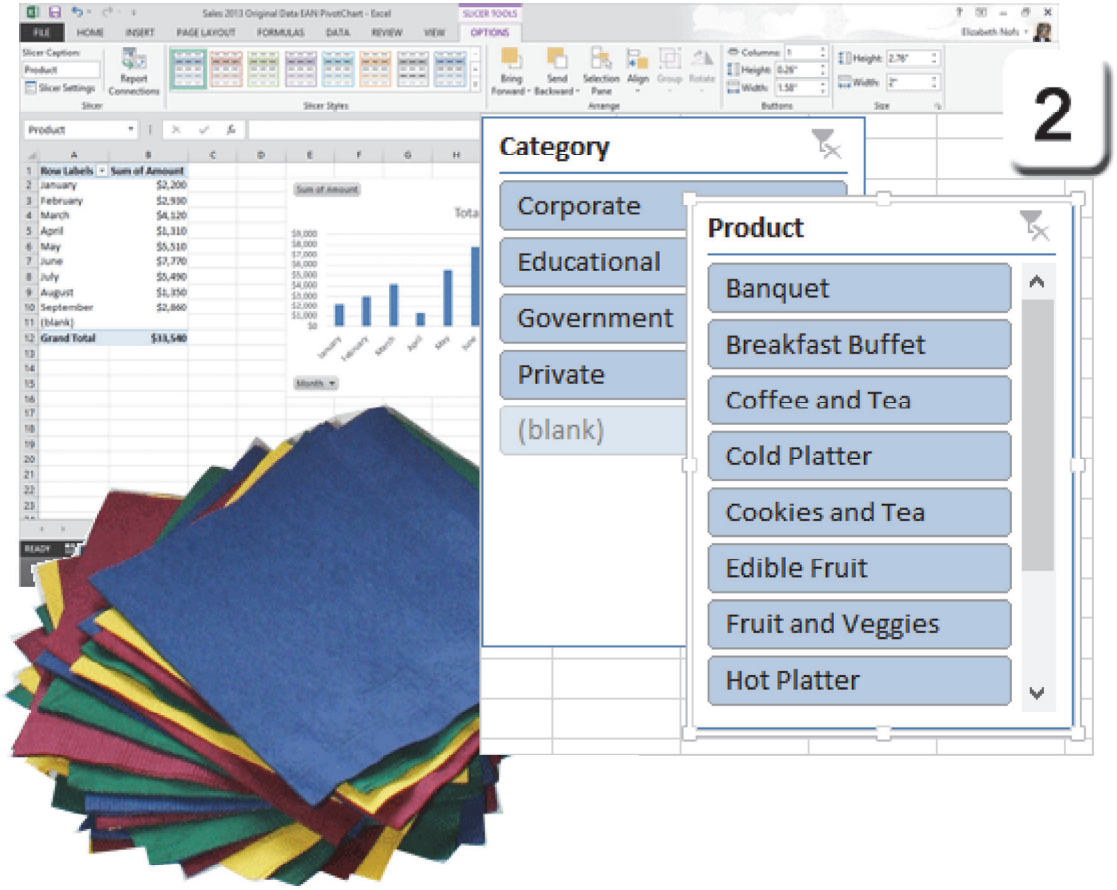
Below the Header you should see a list of **Items**. You can use the Items to filter your data. To the right of the Item list, on the scroll bar, is the **Clear Filter** button.

What Else Do You See? There are two Slicers: One for the Category and one for Product.

The Slicers may be placed on top of the PivotChart. You can move the Slicers if you wish.

Keep going, keeeeeeeep going...

PivotChart Tools ->Analyze ->Filter ->Insert Slicer



Slicer Tools

Slicers, like Charts, Shapes and Pictures, have their own set of Tools.

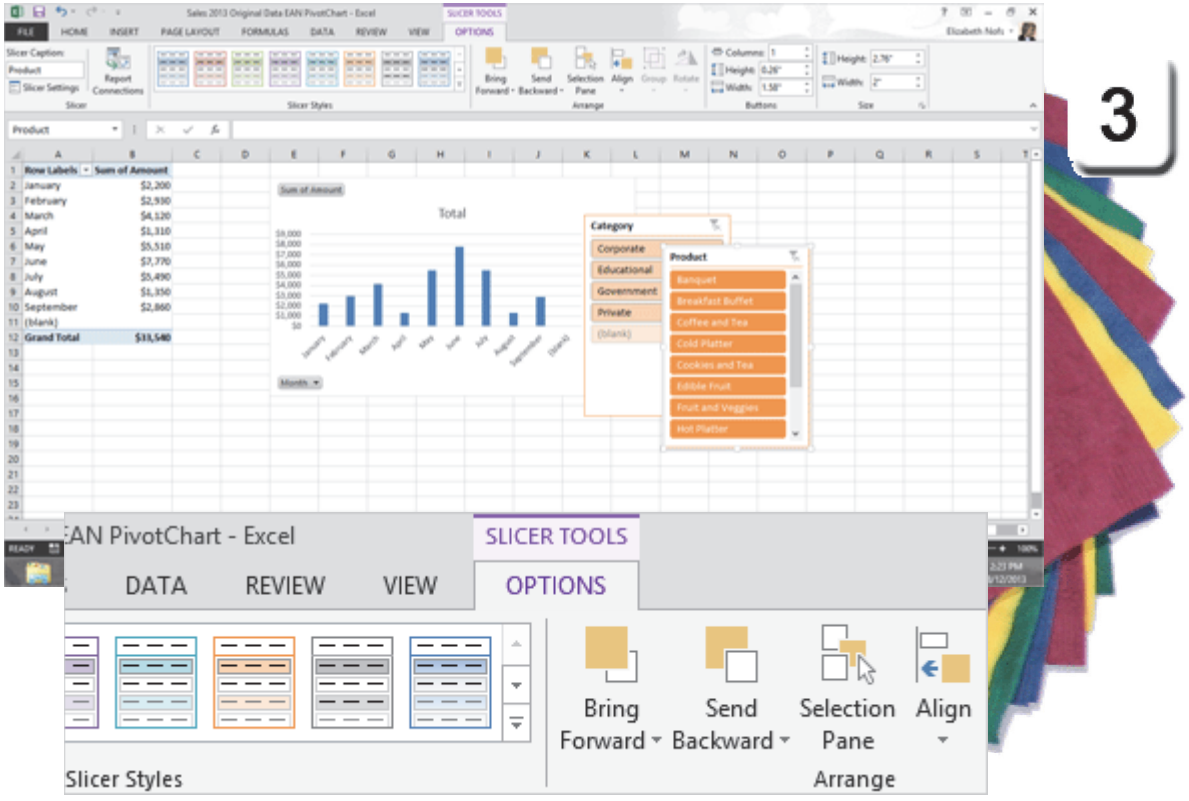
The Slicer Tools include:
Slicer
Slicer Styles
Arrange
Buttons
Size

Before You Begin: Click on the Slicer.
The Slicer Tools should be available.

3. Try it: Format the Slicer
Go to **Slicer Tools ->Options.**
Select a **Slicer Style**: Dark 6.

Keep going...

Slicer Tools ->Options-> Slicer Styles



Use the Slicers

So, How Do They Work? By default, Slicers display all of the data. If you click on a item in the Slicer the PivotTable and PivotChart will both be filtered. Here are the steps.

4. Try This: Use the Slicers
The PivotChart is still selected.
Go to the **Category Slicer.**
Click on a Slice: **Corporate.**

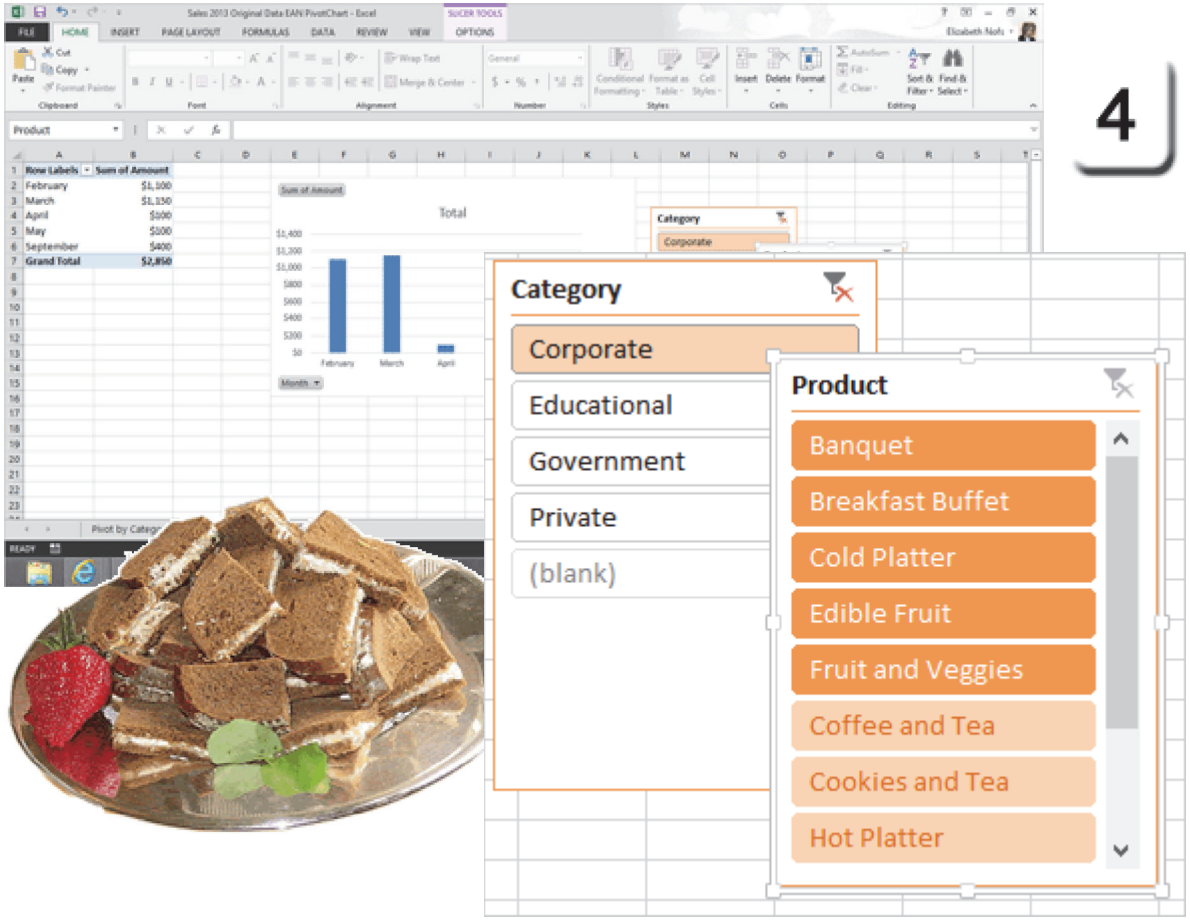
What Do You See? The PivotChart and the PivotTable updated automatically.

Try This, Too: Arrange the Slicers
Select the **Category Slicer.**
Go to **Slicer Tools->Options->Arrange.**
Click on **Bring Forward**.

Now, when you click on any item in the Product Slicer the PivotChart will show which customer (grouped by Category: Corporate, Educational, etc) bought that product.

Memo to Self: You can select more than one Item by holding the CONTROL key on your keyboard as you click on the items.

Slicer Tools ->Options ->Arrange->Bring Forward



Exam 77-427 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Filter a Slicer

Add a Time Line

A **Time Line** is a special PivotChart Filter. It acts like a super Slicer. The Original Data for this PivotChart includes the Date the product was sold. This Time Line will use that Date.

The Timeline is added to the PivotChart.
So start by clicking on the PivotChart.
The PivotChart Tools will be available.

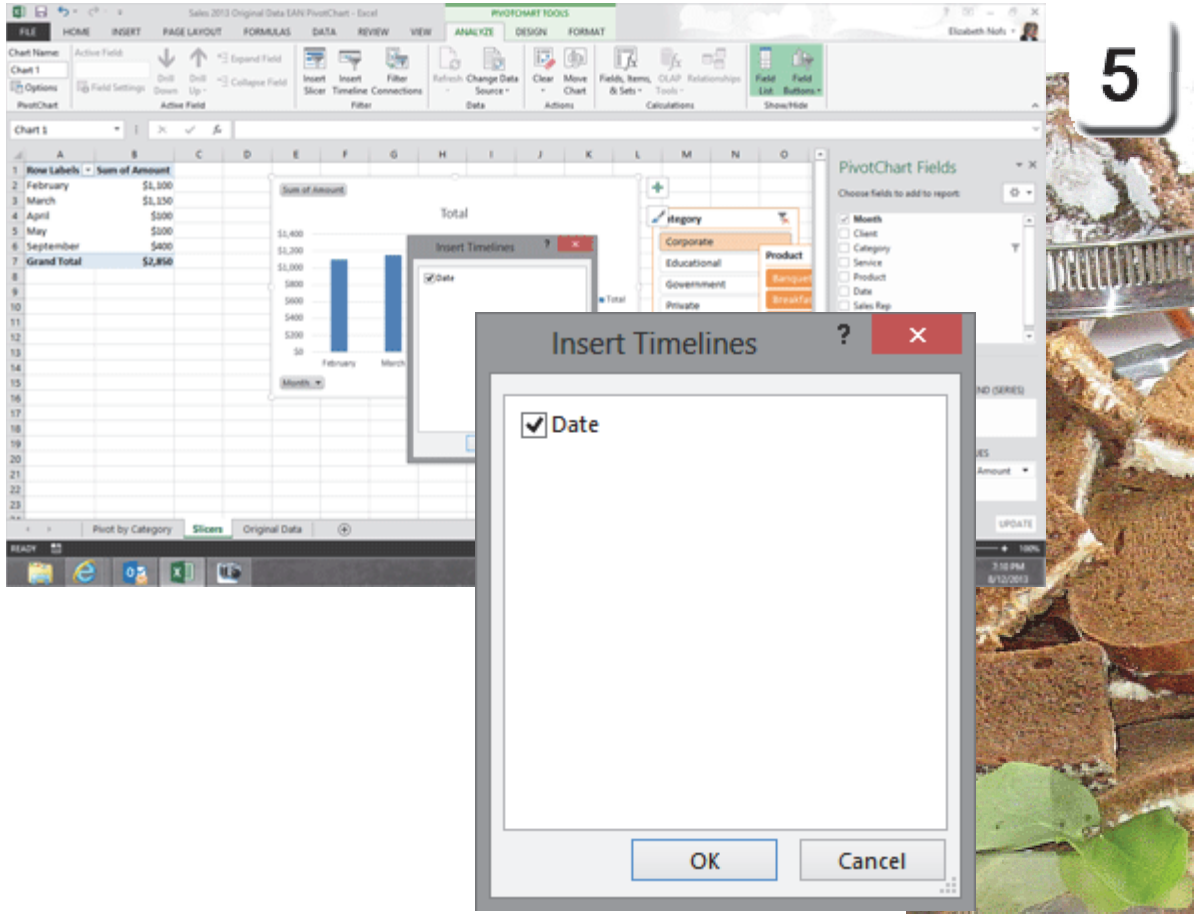
5. Try it: Add a Time Line
Go to **PivotChart Tools->Analyze->Filter.**
Click on **Insert Timeline**.

What Do You See? You will be prompted to select a Field for the Time.
Select: Date.
Click **OK**.

Keep going...

Memo to Self: A good administrator knows the data. Before you begin please go to the Original Data sheet and review the numbers!

PivotChart Tools ->Analyze ->Filter-> Insert Timeline



Use the Time Line

What Do You See? A new Timeline filter will be added to the PivotChart. The default display is Months, but you can change the interval to Years, Quarter, or Days.

6. Try it: Use the Time Line

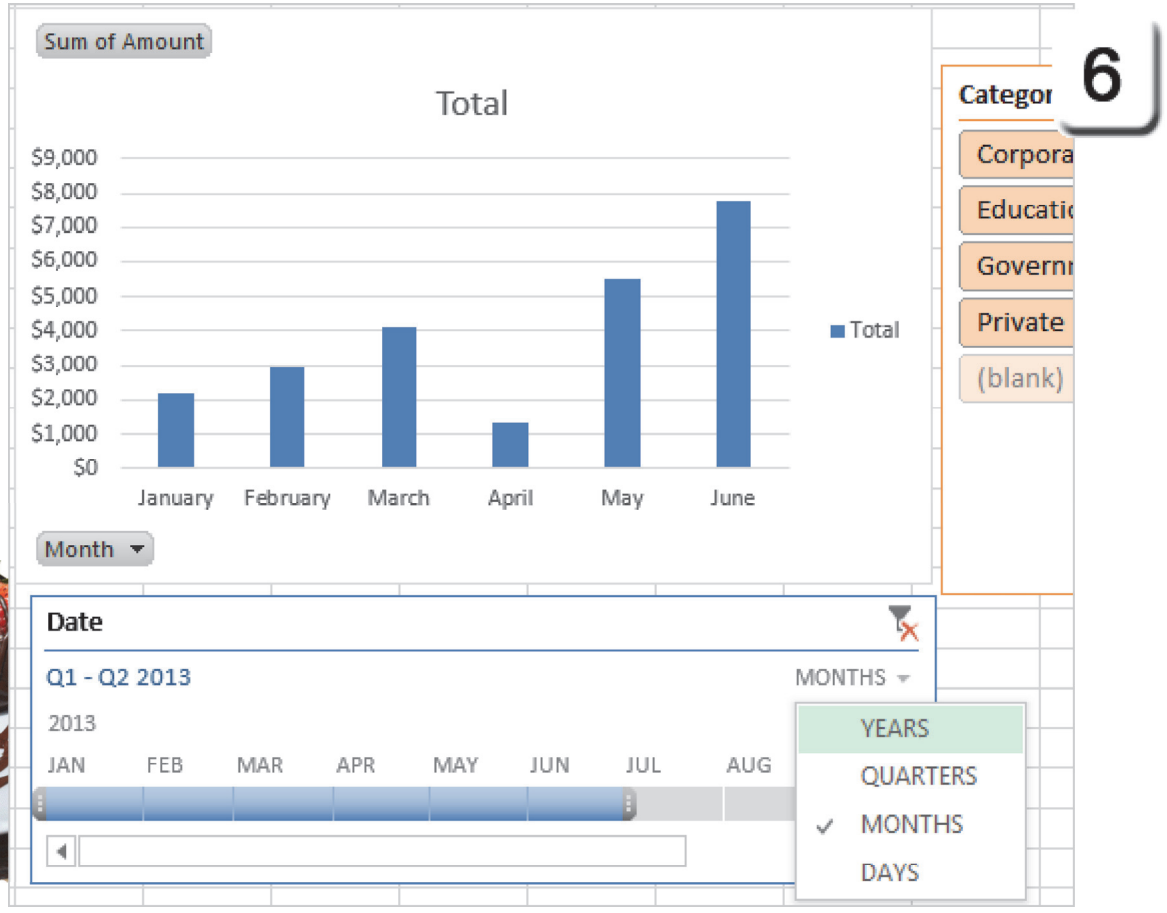
Edit the Timeline as follows:
Display as: Months.
Use the slide bar to select Jan through Jun.

The PivotChart will update as you select the dates. The **Chart animation** is cool, isn't it?

Rename this spreadsheet Slicers and **Save** your work.



PivotChart Tools ->Analyze ->Filter-> Insert Timeline



Analyze: Refresh

Say business is good and a lot of new customers were added today. The beauty of working with PivotTables and PivotCharts is how easy it is to update them.

Before You Begin: Remove All Filters:
Go to the **Slicers** spreadsheet.
Select the PivotChart.
Remove the Filters on the Slicers and the Timeline.

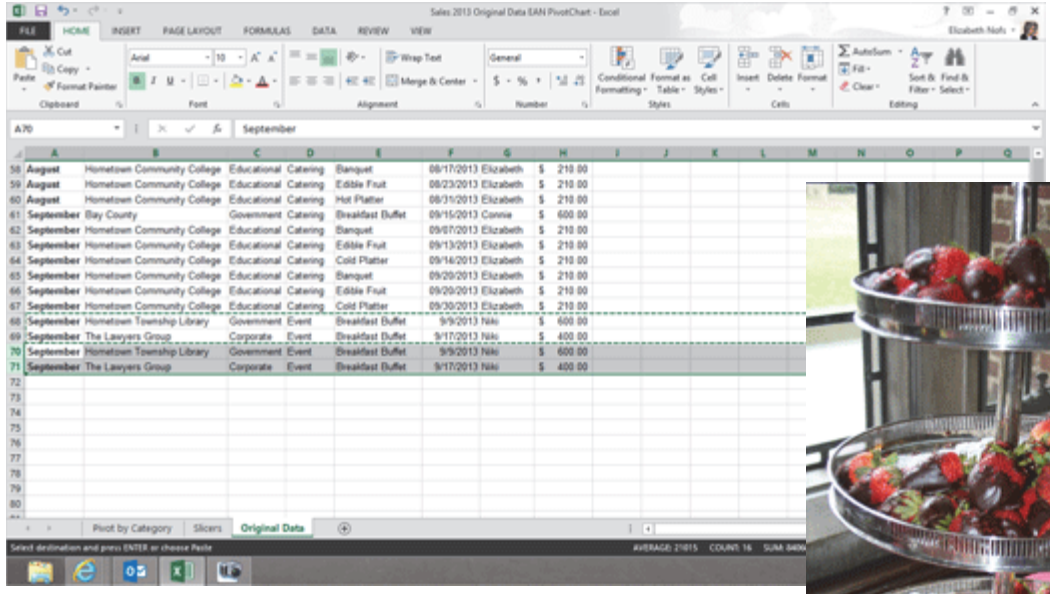
1. Try it: Add More Data
Go to the **Original Data** spreadsheet**.**
Select the last two Rows: Row 68 and 69.
Go to **Home->Clipboard->Copy**.
Select Cell A70.
Go to **Home->Clipboard->Paste**.

The data in this example has been updated. There are now two more Breakfast Buffets in the records.

Did the PivotTable update?
Let's find out.

Keep going...

Insert-> Table-> PivotChart->Use an External Data Source



1



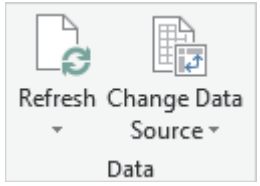
68	September	Hometown Township Library	Government	Event	Breakfast Buffet
69	September	The Lawyers Group	Corporate	Event	Breakfast Buffet
70	September	Hometown Township Library	Government	Event	Breakfast Buffet
71	September	The Lawyers Group	Corporate	Event	Breakfast Buffet

Take Two

Refresh the PivotChart

2. First, Review the PivotChart
Go to the **Slicer** spreadsheet.
Did the PivotTable or PivotChart update?
Maybe,..maybe not. What if it didn't?

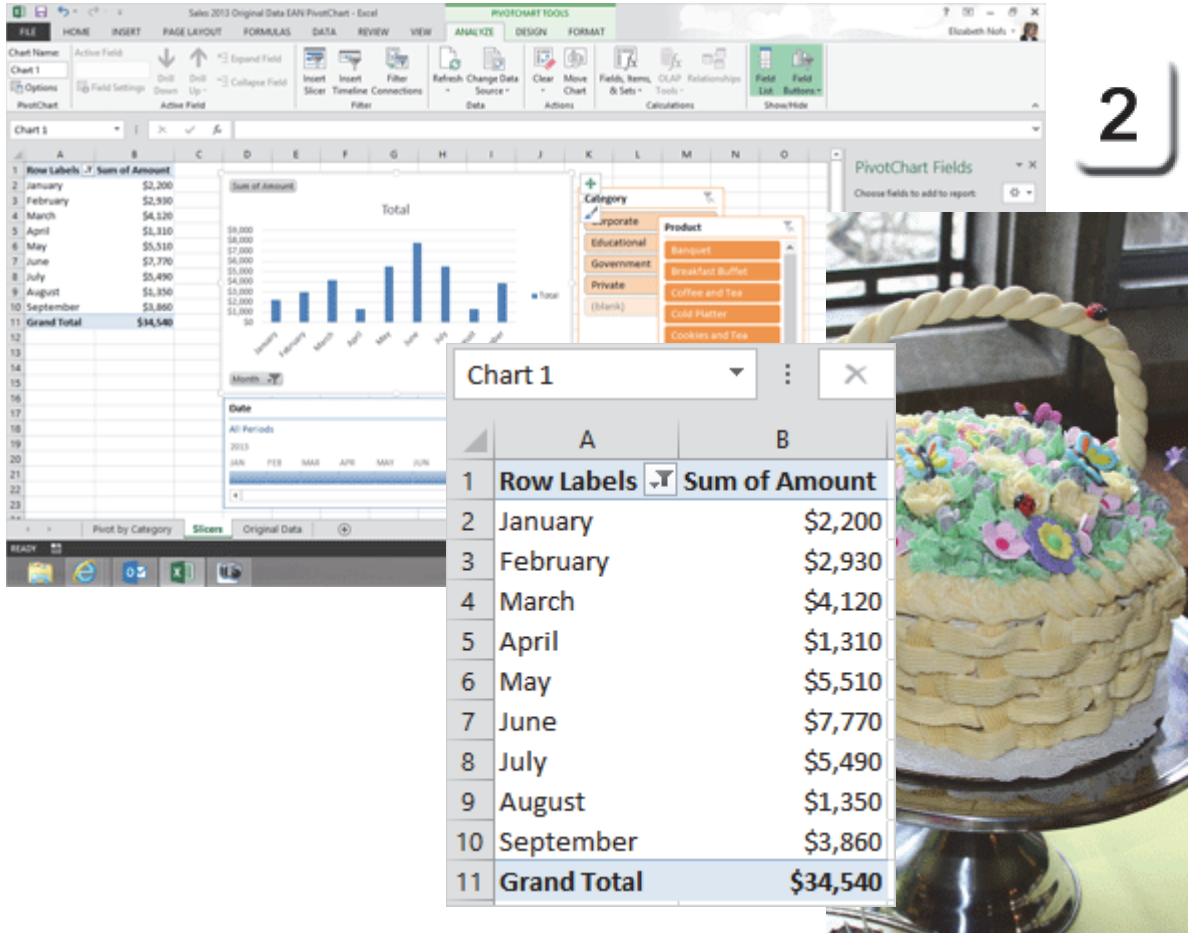
OK, Try This: Refresh the Data.
Click on the PivotChart to select it.
Go to **Pivot Chart Tools ->Analyze ->Data.**
Click on **Refresh**.



What Do You See? The data for the Breakfast Buffet has updated. The sales subtotal has been updated to include the two, new sales.

Save. Save. Save.

PivotChart Tools-> Analyze->Data->Refresh



2

Use Quick Analysis

Quick Analysis puts everything we learned in this book at your finger tips. You can use Quick Analysis to create Conditional Formatting, Charts, Total, Tables and even Sparklines. This is a useful tool.

1. Try This: Use Quick Analysis
Go to the **Original Data** spreadsheet**.**
Select a Range: A1:H71.

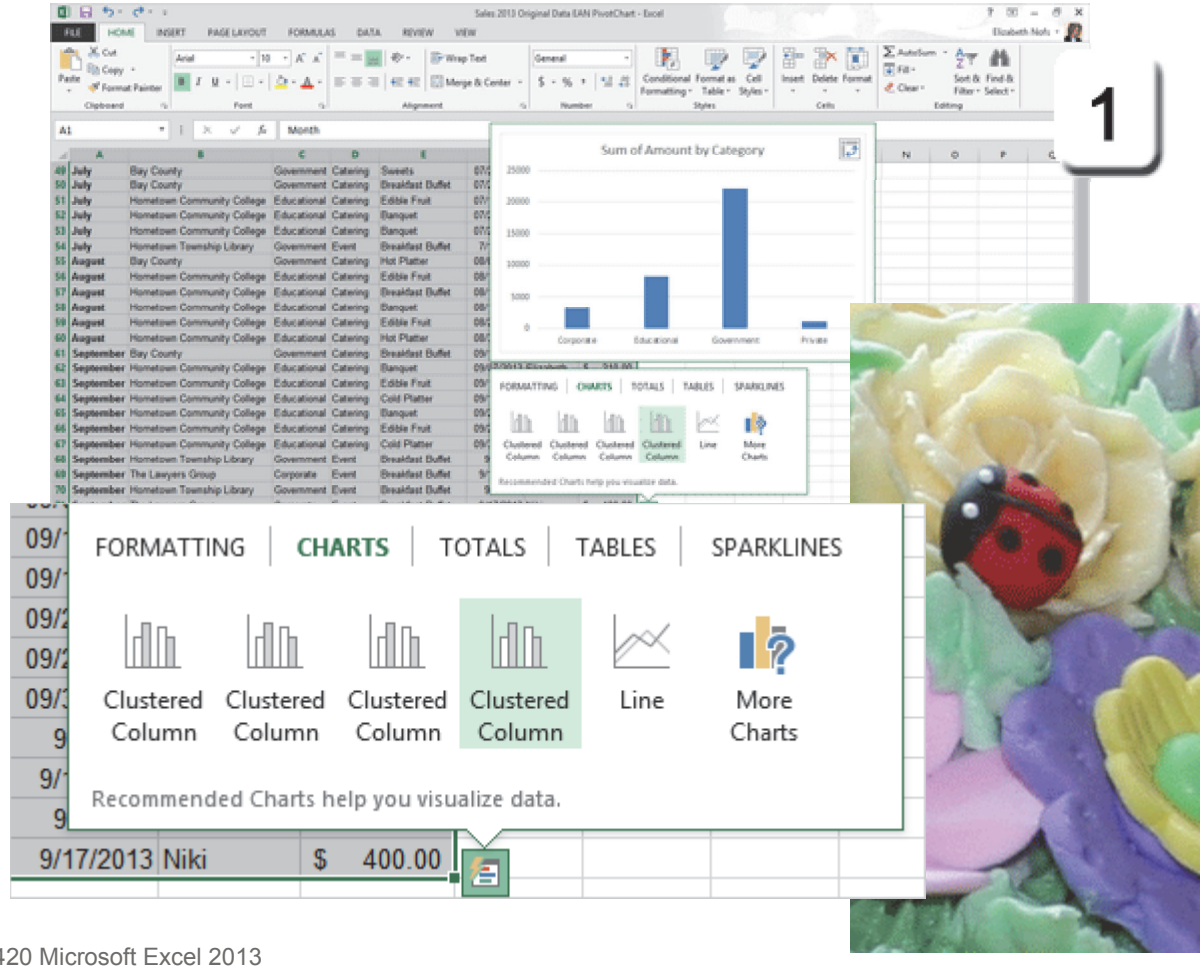
Look for the Quick Analysis Tool: You should see a small Wizard just outside of the Range of Cells you selected.

And Definitely Try This: Use Quick Analysis
Click on **Quick Analysis.**
Go to the **Charts->Clustered Column.**

What Do You See, Now? A Column Chart should pop up and display your data.

OK, that works. Keep going...

Quick Analysis ->Charts ->Clustered Column



Quick Analysis Tables

2. Try This: Create Tables with Quick Analysis
Go to the **Original Data** spreadsheet.
Select a Range: A1:H71.

Look for the Quick Analysis Tool: The Quick Analysis tool should be just outside of the selected Range of Cells.

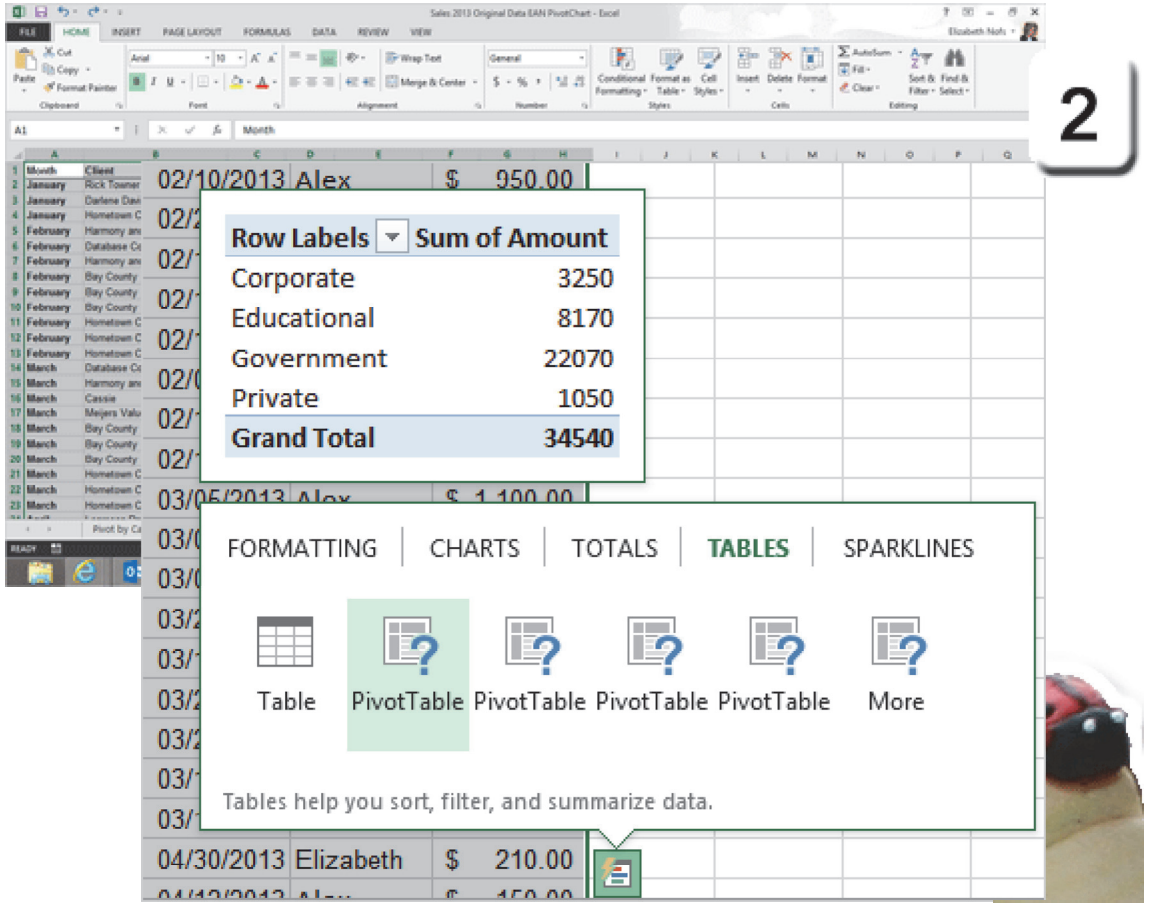
And Definitely Try This: Use Quick Analysis
Click on **Tables->PivotTable.**

What Do You See, Now? A PivotTable should pop up and display your data. Each Table shows a different placement of the Fields in the Rows, Columns. The PivotTables include Sum and Count for calculating the Totals.

Quick Analysis should work even better on a SmartPhone or Tablet.

This is getting to be Very Good Software, indeed.

Quick Analysis ->Tables ->PivotTable



Summary

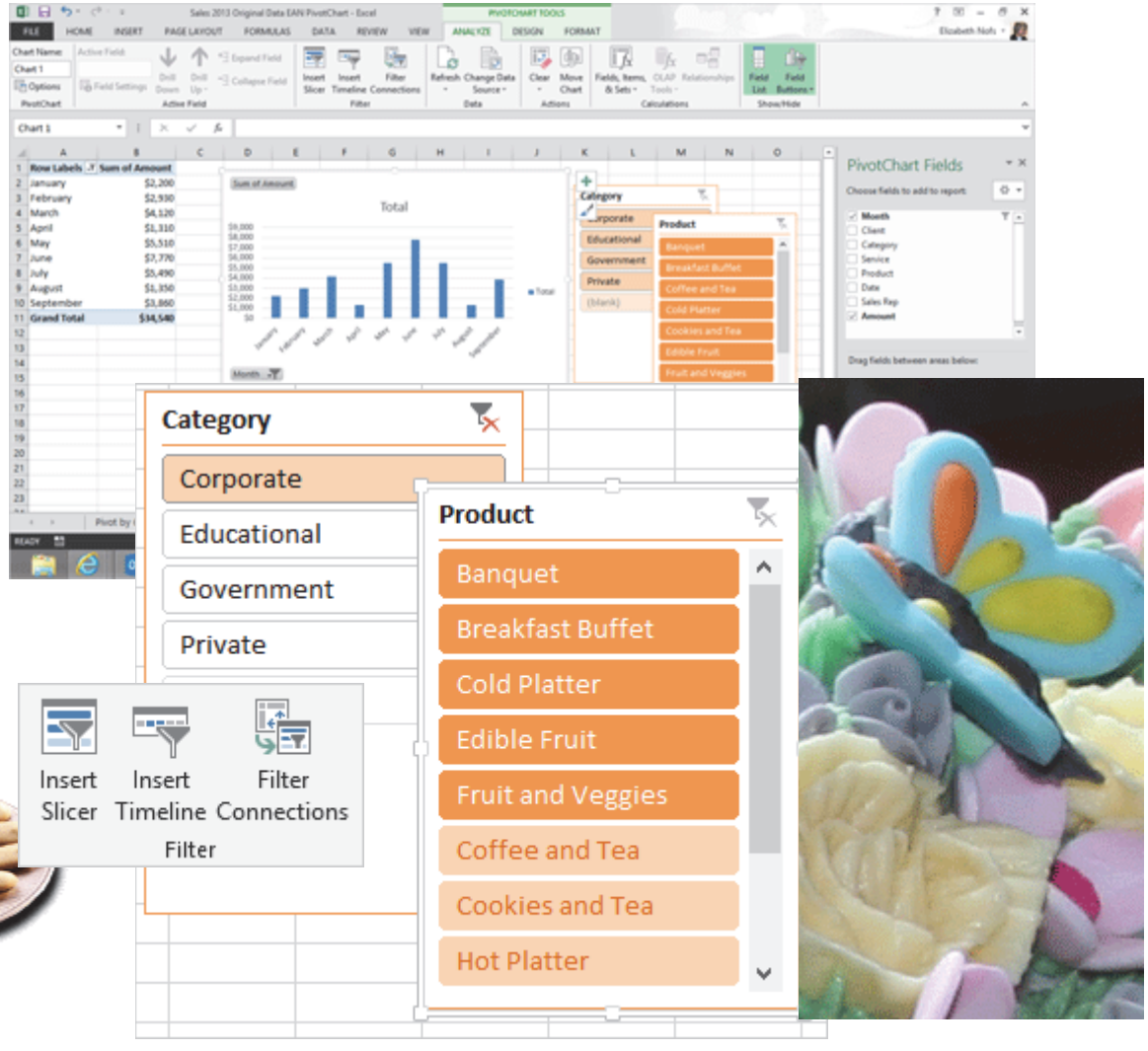
This lesson began by looking at options for displaying data in a PivotChart.

There were several new PivotChart Ribbons used in these pages. However, the Design and Format Ribbons are very similar to the Table Ribbons we worked with earlier.

The new **Slicer** filters for PivotTables and PivotCharts work very well. Finally, we played with the **Quick Analysis** tool. That's one the Computer Mama will use at work.

Well, that was a looooong discussion.
You get a cookie.





Practice

Lesson 4: What Did You See? (Formatting PivotCharts)

Before You Begin: Download the sample spreadsheet:
Brown Bag Sales Data.xlsx

Try This: Do the following steps

1. Open the spreadsheet: Brown Bag Sales Data.xlsx.
2. Select All of the Original Data spreadsheet and Insert a PivotChart on a New Worksheet.
3. Use the PivotChart Tools to Show the Field List
4. Edit the PivotTable Field List as follows:
   Axis Field: Product
   Values: Sum of Amount
5. Use the PivotChart Tool to change the Chart Design:
   Change Chart Type: 3-D Pie
   Chart Style: Style 6
6. Filter the Row Labels to show Breakfast Sandwiches, Coffee and Tea, and Fruit and Veggies.
7. Use the PivotChart Tools to edit the Chart Layout:
   Legend: None
   Data Labels: Outside End
   3-D Rotation: edit X to be 50
8. Save this a YOUR NAME What Did You See Practice.

Test Yourself

1. Which Ribbon has the Pivot Chart command?
a. Home
b. Insert
c. Data
d. View
Tip: Advanced Excel, page 123

2. Which of the following are Pivot Chart Tools ribbons?
a. Design
b. Layout
c. Format
d. Analyze
Tip: Advanced Excel, page 124

3. When inserting a new blank Pivot Chart, a Pivot Table is also created
a. True
b. False
Tip: Advanced Excel, page 125

4. Rows in a Pivot Table cannot be formatted with currency.
a. True
b. False
Tip: Advanced Excel, page 129

5. When the rows and columns of a Pivot Table are switched the Chart is switched as well.
a. True
b. False
Tip: Advanced Excel, page 132

6. Which of the following are Chart types that can be applied to a Pivot Chart? (Select all correct answers.)
a. Column
b. Line
c. Pie
d. Bar
Tip: Advanced Excel, page 135

7. Pivot Charts have Styles
a. True
b. False
Tip: Advanced Excel, page 140

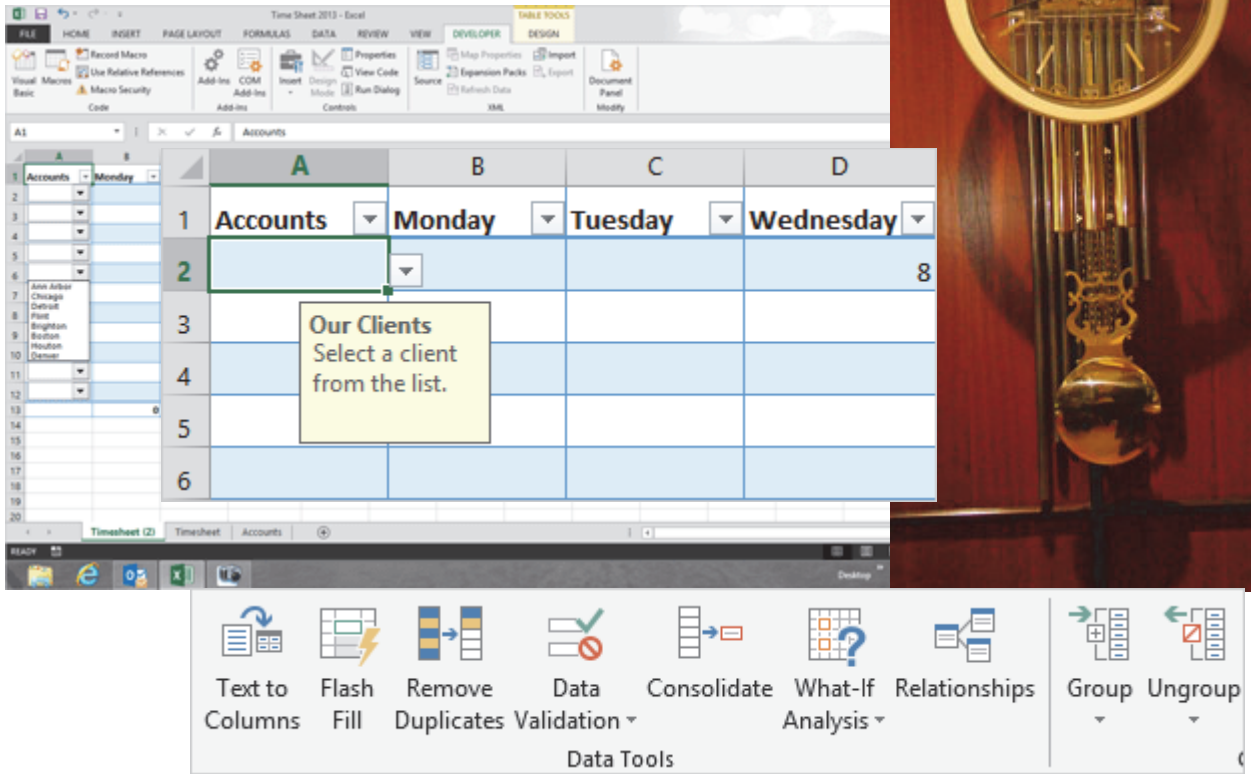
8. A chart cannot be moved to a new spreadsheet after it's been created.
a. True
b. False
Tip: Advanced Excel, page 141

Form Design: Working Overtime

Advanced Excel Objectives

In this lesson, you will learn how to:

1. Enter data and fill a series.
2. Enter data in a reference list.
3. Create a drop-down list.
4. Identify options for Data Integrity and Validation.
5. Install the Developer's Ribbon.
6. Create a Control with VBA (Visual Basic for Applications.)



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Lesson 5 Form Design: Working Overtime

1. Readings
Read Lesson 5 in the Advanced Excel guide, page 161-193.

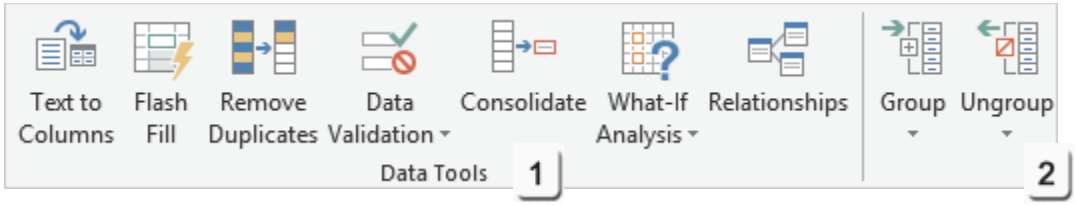
Project
This lesson shows how to create and modify forms, enter data with Combo Boxes and form controls, ensure data integrity using data validation.

Downloads
Time Sheet 2013.xlsx (Complete)

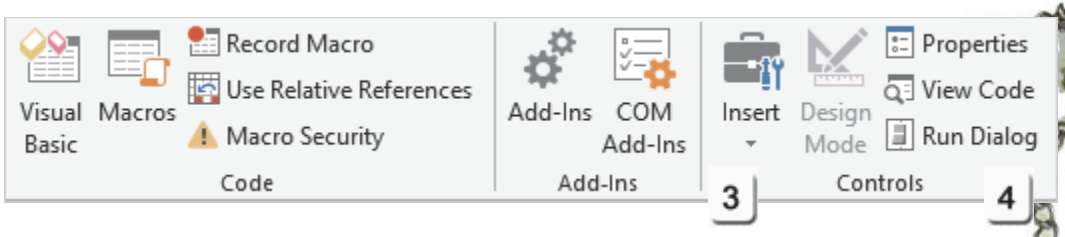
2. Practice
Review the Practice Activity on page 194.

3. Assessment
Review the Test questions, page 194.

Data Ribbon



Developer Ribbon



Menu Maps
From the **Data Ribbon**.
1. Data ->Data Tools-> Data Validation, page 171

From the **Formulas Ribbon**.
2. Formulas ->Defined Names-> Define Name, page 175

From the **Developers** Ribbon
3. Developer ->Controls->Insert->Combo Box, page 187
4. Developer ->Controls ->Properties, page 189

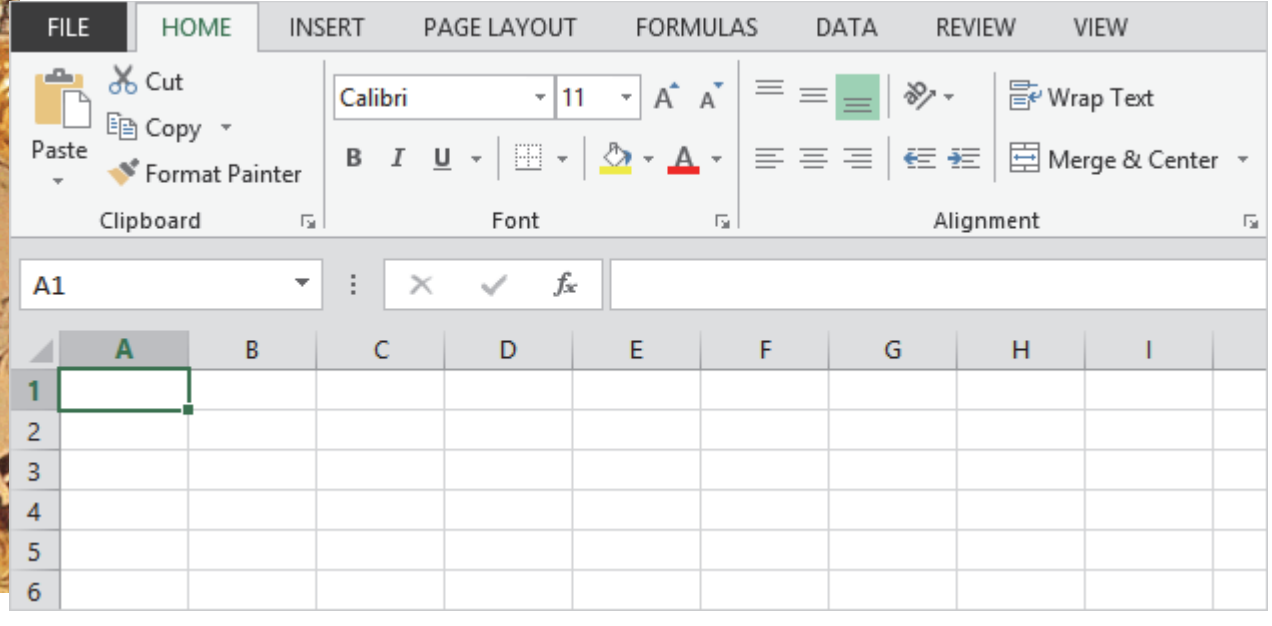




Creating Forms in Excel

Time is money. The Computer Mama gets paid by the hour, so she has to keep track of how long it takes to complete each task. The technical term is billable hours. Suppose you work for the same Accounts every week. What if you could just choose the Account from a list? Choosing the answer from a list has two benefits: the data entry is faster, and it is spelled correctly. This lesson shows how a little time invested into creating a form can save time as well as gather more accurate information.

Start Microsoft Excel. When the Welcome screen appears, select a new, blank workbook.



Take One

Begin With the Labels

There are three parts to a spreadsheet: labels, data, and formulas. Let's begin with the labels.

Before You Begin: Open a new, blank spreadsheet in Excel.

1. Try This: Enter the Labels
In Cell A1 type: Monday
Use the AutoFill Handle to fill in the series.
In Cell G1 type: Total

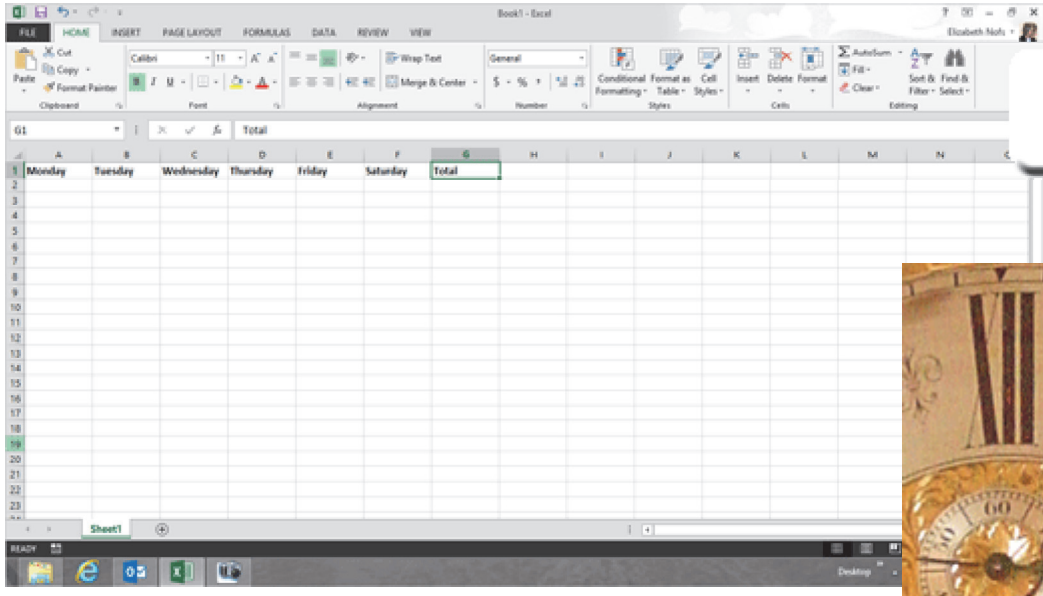
If these are labels (and they are):
Select Row 1.
Go to **Home->Font->Bold.**

Try This, Too: Format the Column Width
Select Columns A:G
Go to **Home->Cells->Format**.
Click on **Column Width**.
Enter the width: 12.

So far so good.

Keep going...

Home->Font->Bold



	A	B	C	D	E	F	G
1	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
2							
3							

Monday, Monday! Can't Trust That Day.

Take One

Calculate the Hours

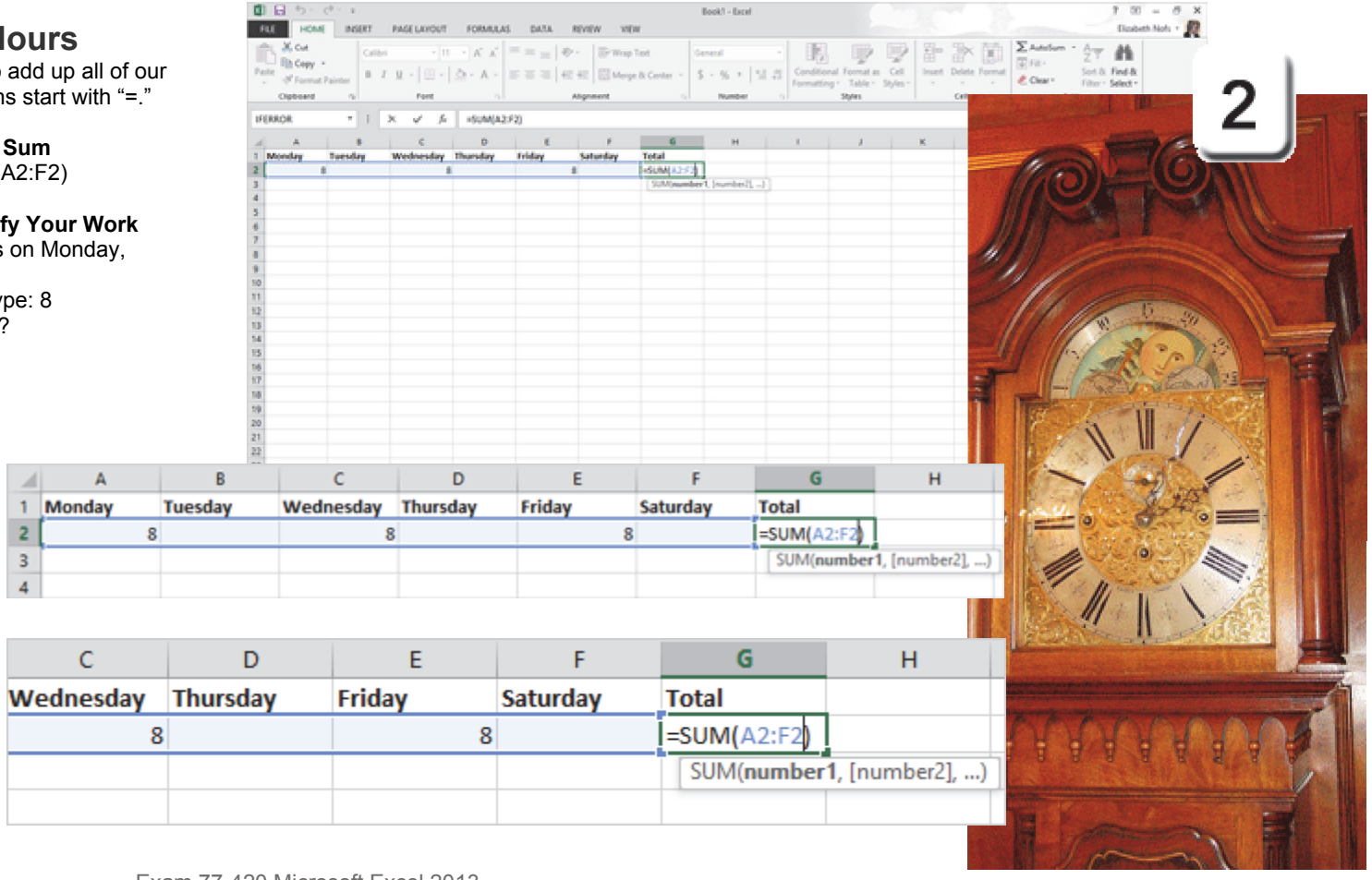
We need an equation to add up all of our hours. All good equations start with "=."

2. Try it: Calculate the Sum
In Cell G2 type: =SUM(A2:F2)

Try This, As Well: Verify Your Work
Say you worked 8 hours on Monday, Wednesday and Friday.
In Cell A2, C2 and E2 type: 8
Does the Sum equal 24?

Keep going...

Home ->Edit ->Sum



Take One

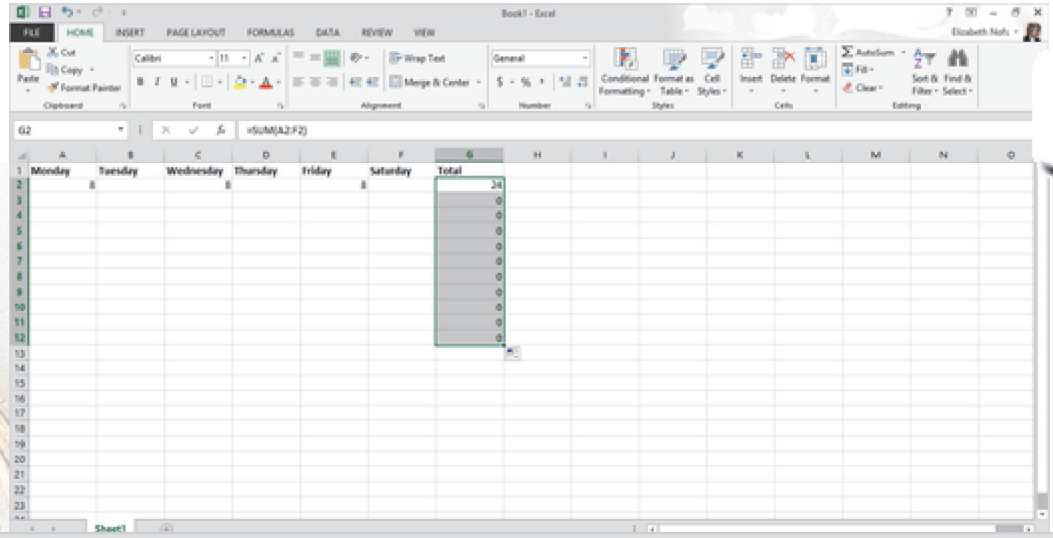
Home ->Edit ->Sum

AutoFill the Formula

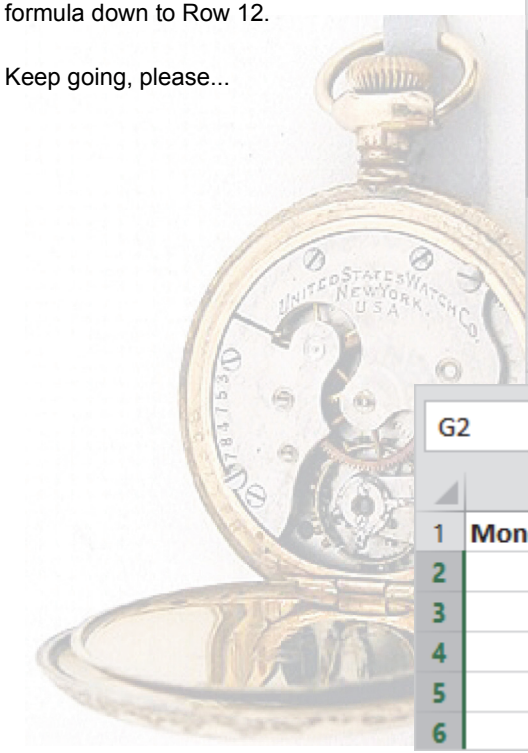
3. Try This: AutoFill the Total

Select Cell G2, the one with the formula for the Total. Use the **AutoFill** handle to copy the formula down to Row 12.

Keep going, please...



3



G2 =SUM(A2:F2)

	A	B	C	D	E	F	G
1	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Total
2	8		8		8		24
3							0
4							0
5							0
6							0

Exam 77-420 Microsoft Excel 2013
2. Create Cells and Ranges
2.1 Insert Data In Cells and Ranges: Copy and Paste Data

Take One

Format the Spreadsheet

4. Try it: Format as Table
Select Cells A1:G12.
Go to **Home->Styles->Format as Table**.
Click on Table Style Light 16.

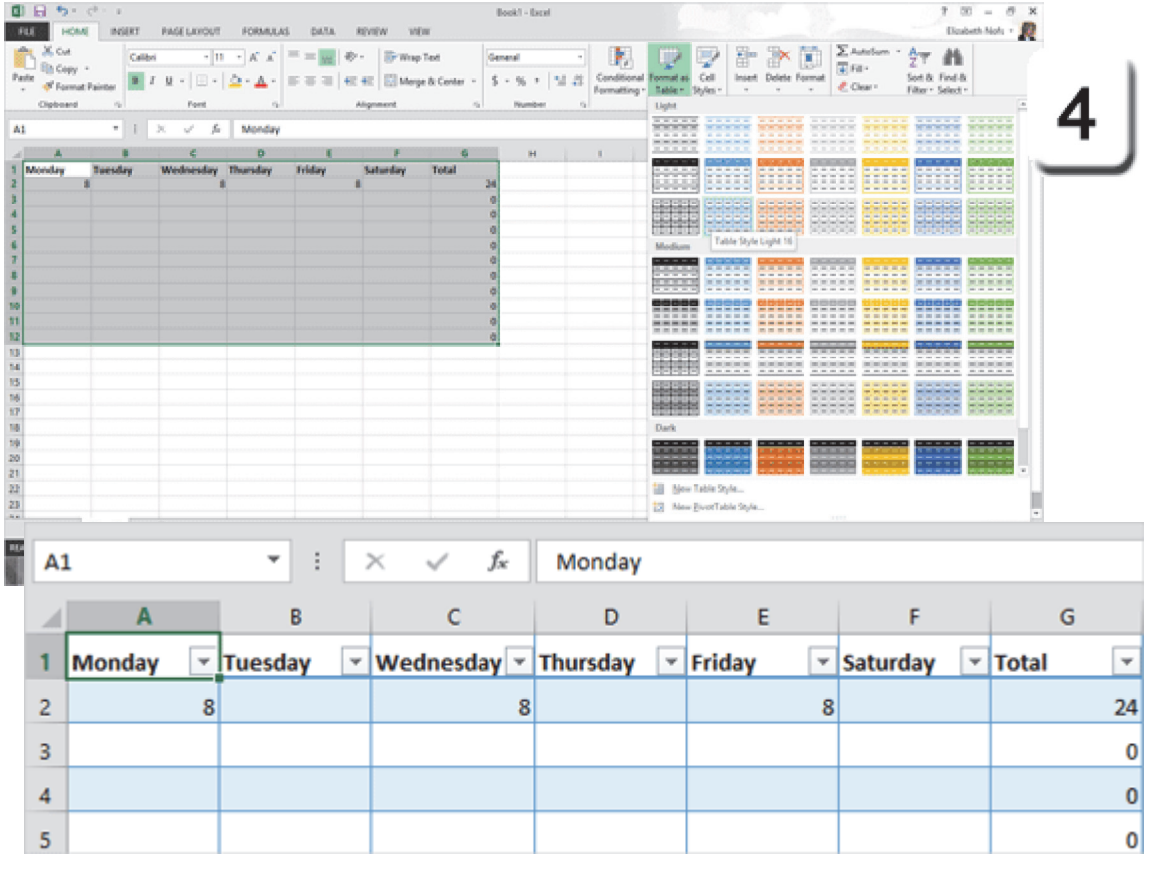
You will be prompted to confirm:
The Range is =$A$1:$G$12.
The Table has headers.
Click **OK**.

And Try This: Format the Rows
Select Cells A1:G12.
Go to **Home->Cells->Format.**
Click on **Row Height**.
When you are prompted type: 20.
Click **OK**.

Now What Do You See? The Cell formatting makes it easy to pick the right Row. The Row Height was increased to make the Rows big enough to write in by hand if someone uses this form as a print out.

Keep going...

Home ->Styles->Format as Table



AutoSum the Hours

This timesheet will calculate the daily total. For example, how many hours did you work on Monday?

5. Try it: AutoSum the Data
Select Cell A13.
Go to **Formulas ->AutoSum ->Sum.**

What Do You See? The formula in Cell A13 is =SUBTOTAL(109,[Monday])

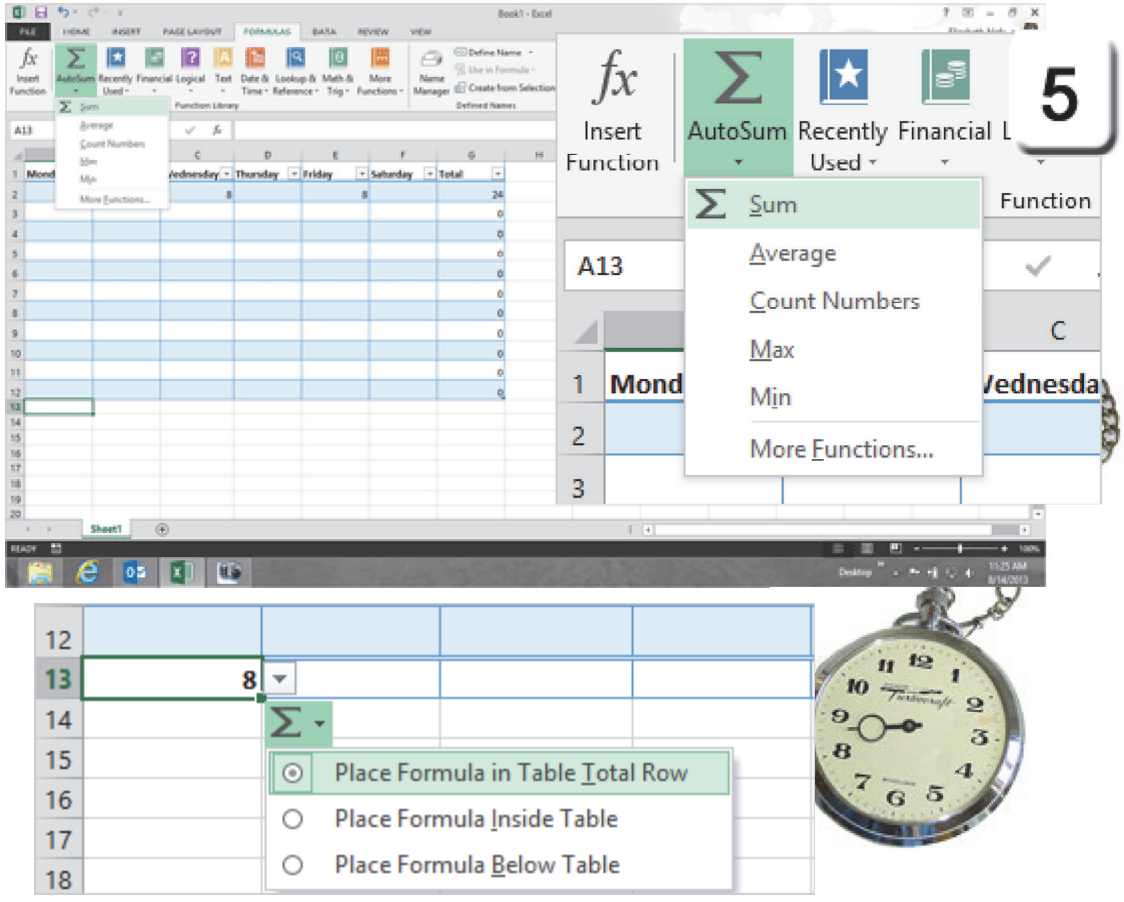
What Else Do You See? The AutoCorrect options allow you to select the following:
Place Formula in Table Total Row
Place Formula Inside Table
Place Formula Below Table.

Pick **Place Formula in Table Total Row.**

Keep going...

Memo to Self: You may have been expecting a formula that looked like this:
=SUM(A2:A12).
This is a Table, so the function is different.

Formulas ->AutoSum ->Sum



Take One

AutoFill the Formula

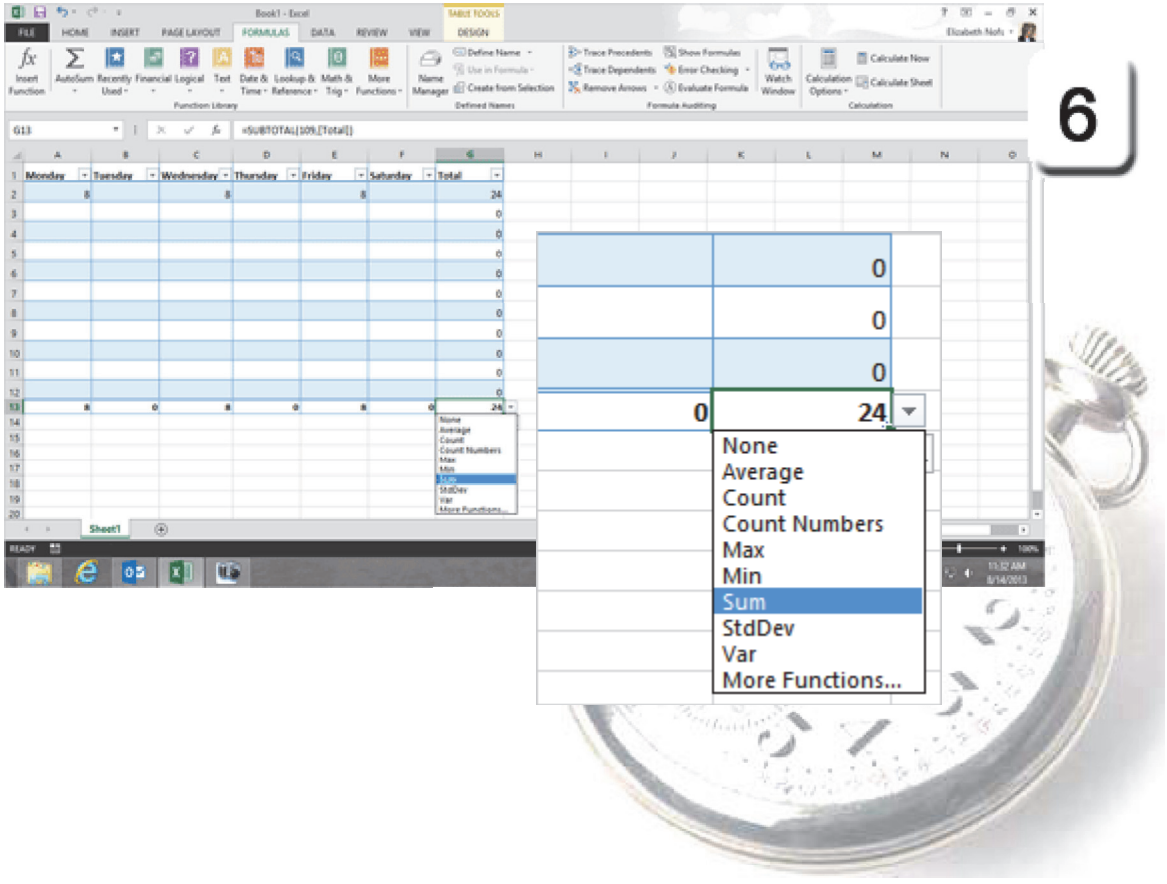
You can use AutoFill to copy the formula to all of the Cells in Row 13 from Column A through Column G.

6. Try it: AutoFill the Formula
Select Cell A13.
Use the AutoFill handle to copy the formula to B13 through G13.

What Do You See? The Total Row in a Table has options. When you click on a formula in the Total Row, you can choose which function you would like to use.

Keep going...

Formulas ->AutoSum ->Sum



Insert Columns

Suppose we work for more than one company.
How can we show that?

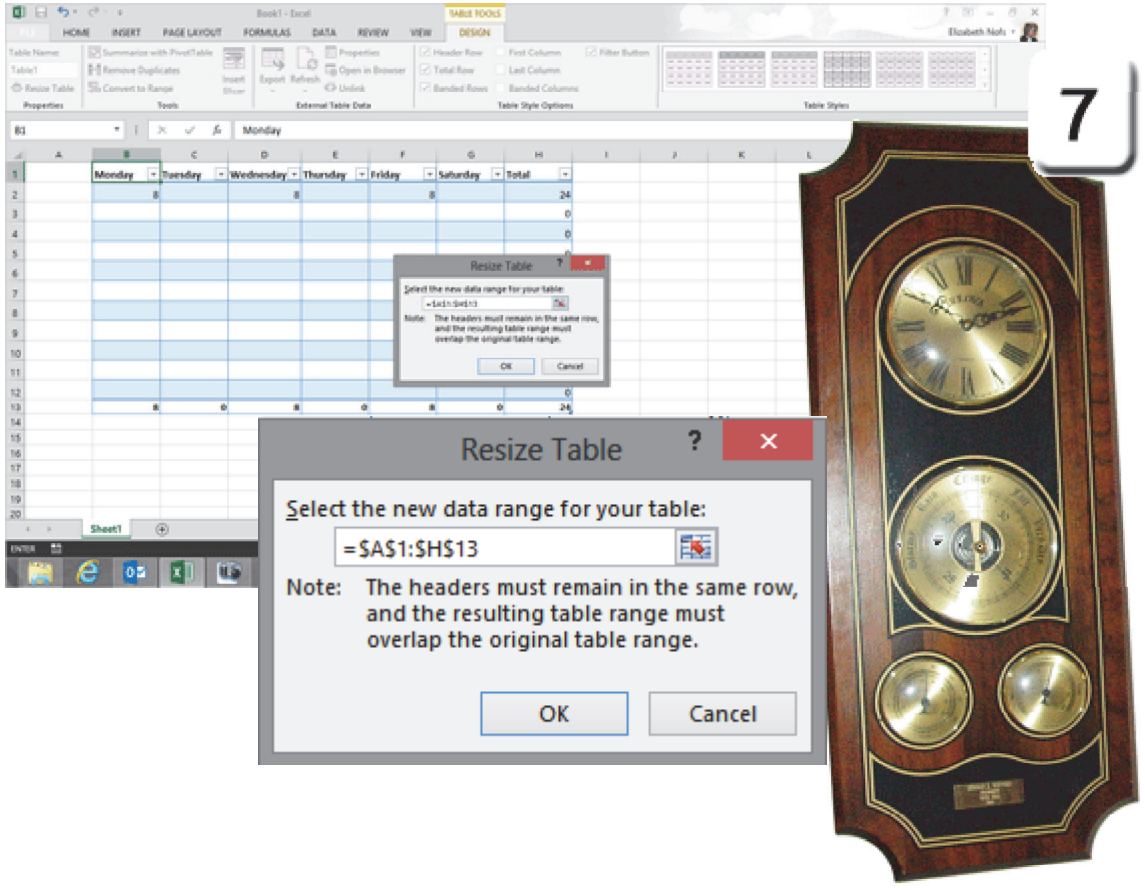
7. Try This: Add a Column
Select Column A.
Go to **Home->Cells->Insert.**
Click on **Insert Sheet Columns**.
There will be a new, blank Column A.

Try This, Too: Resize the Table
Select Cell B1.
The Table Tools will be available.
Go to **Table Tools->Design->Properties.**
Click on **Resize Table**.
Enter the new Range: =$A$1:$H$12.
Click **OK**.

And Try This: Add Another Label
Click on Cell A1 and type: Accounts.

Keep going, please...

Table Tools->Design ->Properties-> Resize Table



Take One

Data Validation

Data Validation is used to ensure data integrity.
Data Integrity means the user typed in the value that belongs to the cell.

Data Validation compares what the user types and alerts them if they typed something that did not match.

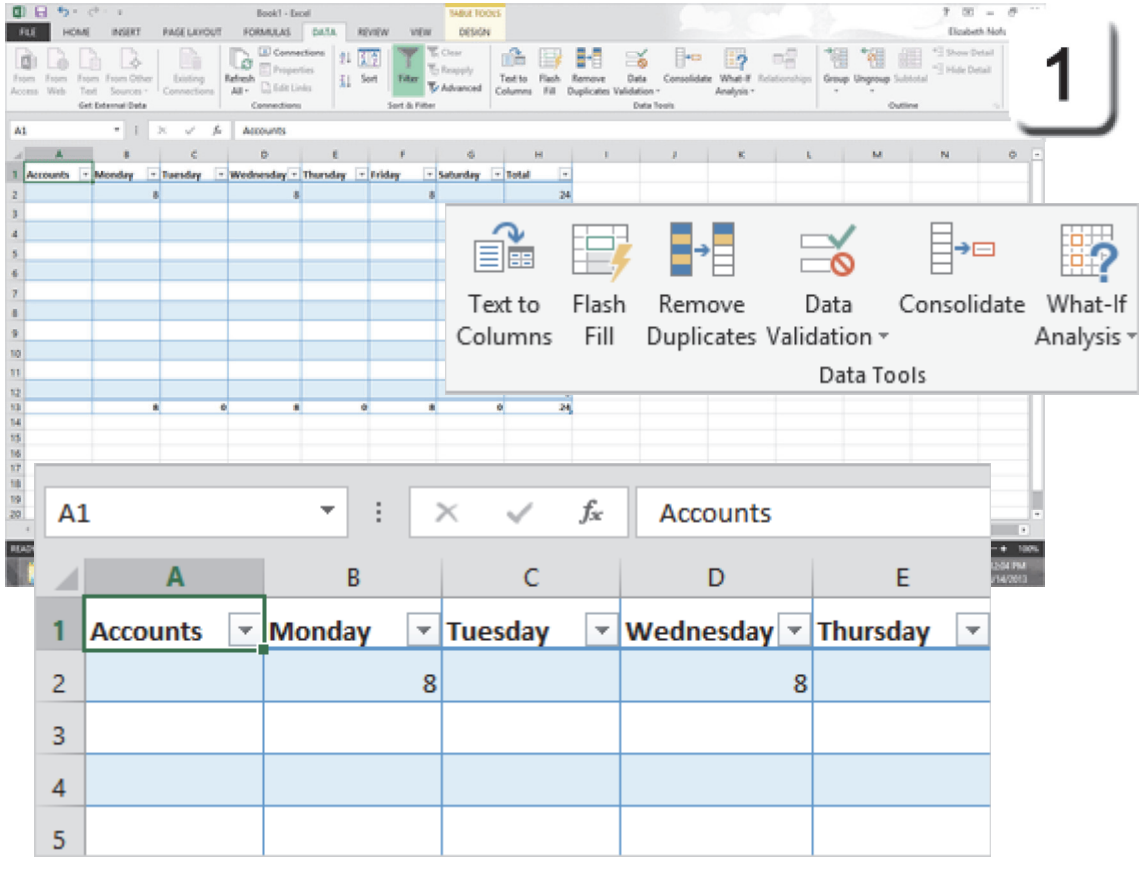
For example: Do your users enter today's date instead of number of hours in the time sheet? If they make a mistake, Data Validation would alert them with an error message.

Better yet, the message would give them enough information to correct their mistake and try again.

1. Try it: Practice with Data Validation
Select Cell B2.
Delete any sample data, please.
Go to **Data ->Data Tools-> Data Validation.**

Keep going...

Data ->Data Tools-> Data Validation



Take One

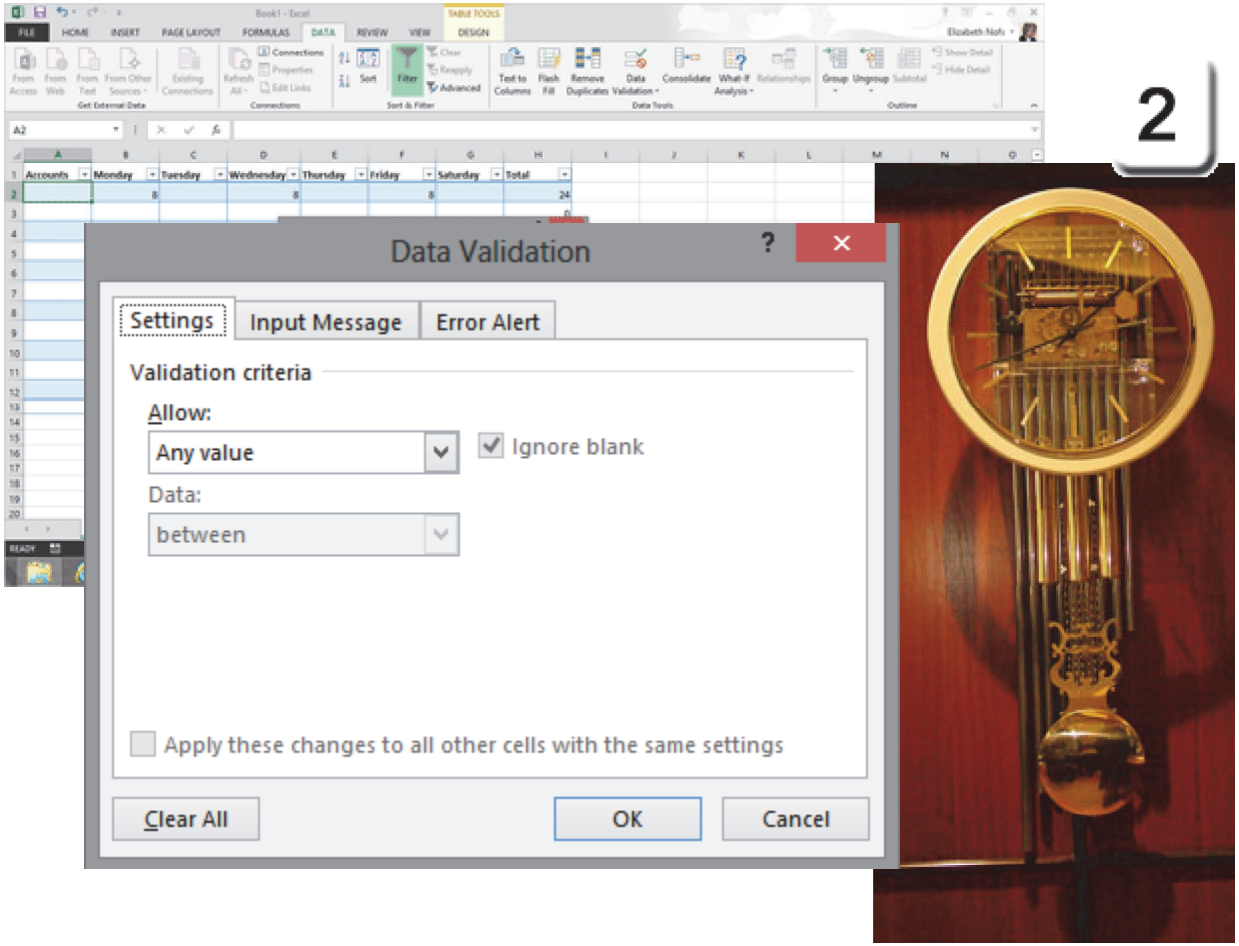
Data Validation: Settings

2. What Do You See? Data Validation has: Settings, Input Message and Error Alert.

What Else Do You See? By default, Excel accepts **Any value**: you can enter an equation or type the words to *Good Night, Moon*.

Keep going...

Data ->Data Tools-> Data Validation



Exam 77-427 Microsoft Excel 2013 EXPERT
3. Create Advanced Formulas
3.2 Look Up Data with Functions: Data Validation (Settings)

Take One

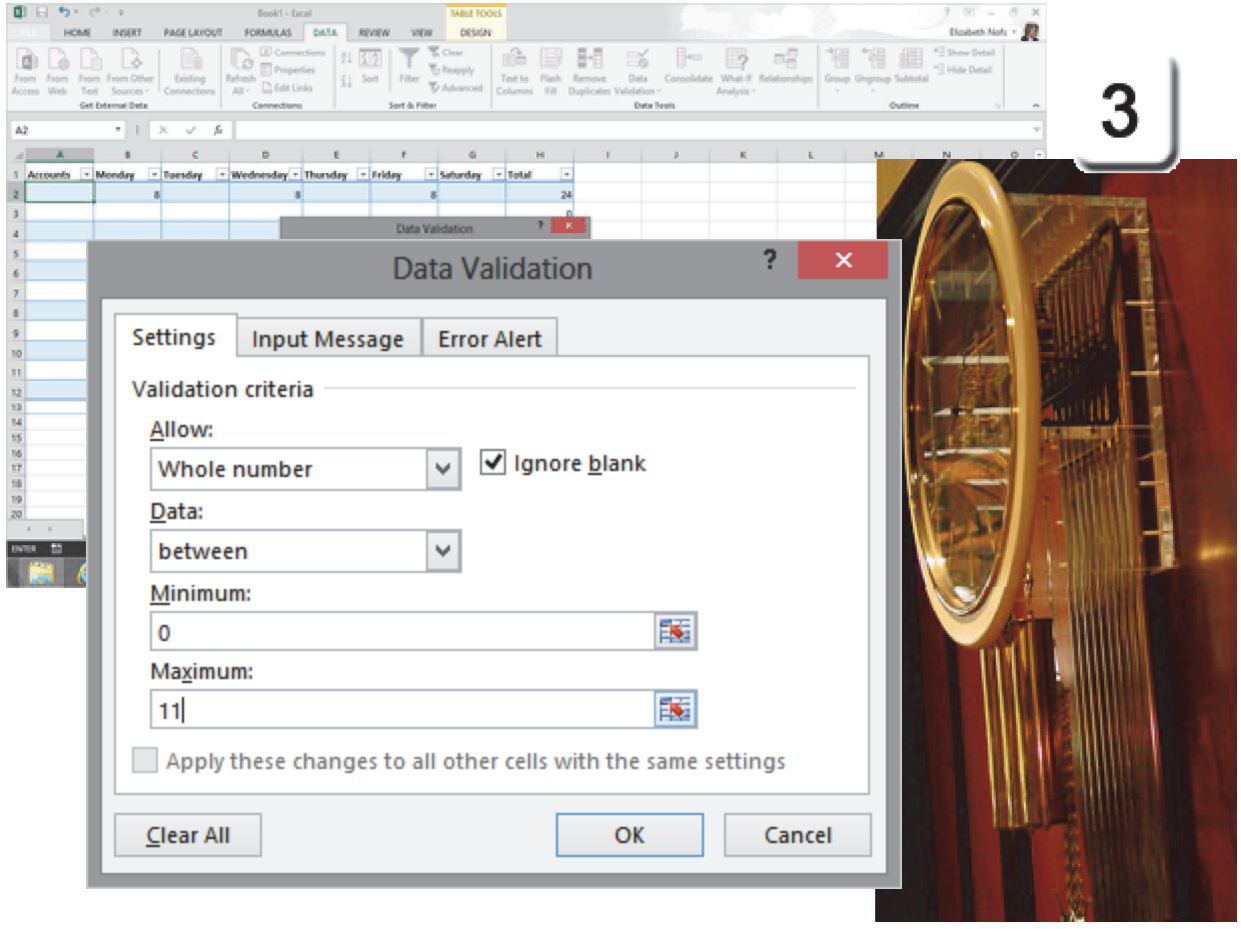
Data ->Data Tools-> Data Validation

Data Validation: Settings

Pick a Number from 1 to 10
Here is an example that allows a Whole Number between 0 and 11.

3. Try it: Enter the Validation criteria
Allow: Whole Number
Data: between
Minimum: 0 (that's a zero)
Maximum: 11

Click **OK** and keep going...



Exam 77-427 Microsoft Excel 2013 EXPERT
3. Create Advanced Formulas
3.2 Look Up Data with Functions: Data Validation (Settings)

Take One

Test the Settings

4. Try it: Enter an invalid number
Go to Cell B2.
Type: 12
Click Tab or Enter to leave the cell.

What Do You See? Well, it's a Microsoft error message that's completely accurate but not exactly clear.

There are three error options:
Retry: Leaves the wrong number in Cell B2.
Cancel: Clears the wrong number in Cell B2.
Help: Opens a Help article.

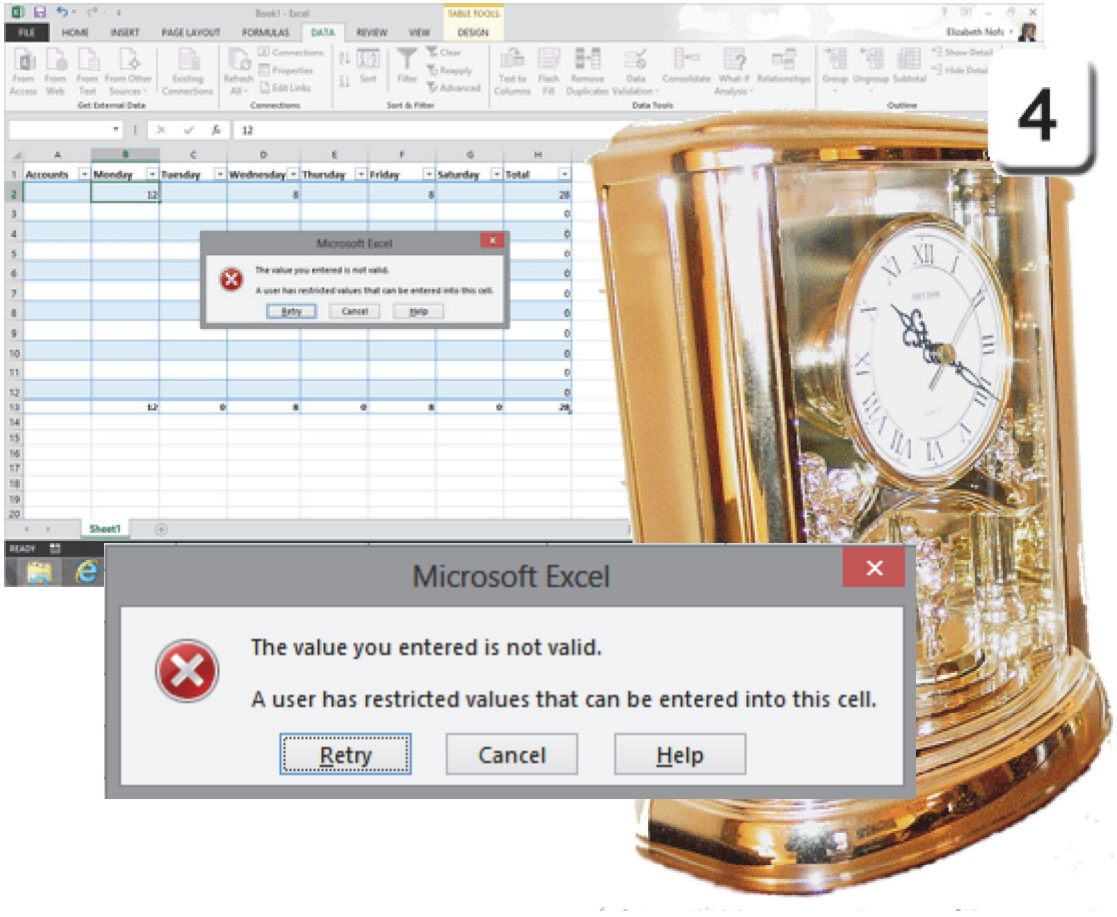
Say this is the first time you saw this error message. How would you know what each button meant? Keep that in mind.

Click CANCEL. Cell B2 should be empty.

Try This, Too: Rename the Sheet
Double-click the tab.
Rename the sheet: Timesheet.

So far, so good. Let's investigate a different validation criteria, please.

Data ->Data Tools-> Data Validation



Take One

Create a Drop Down List

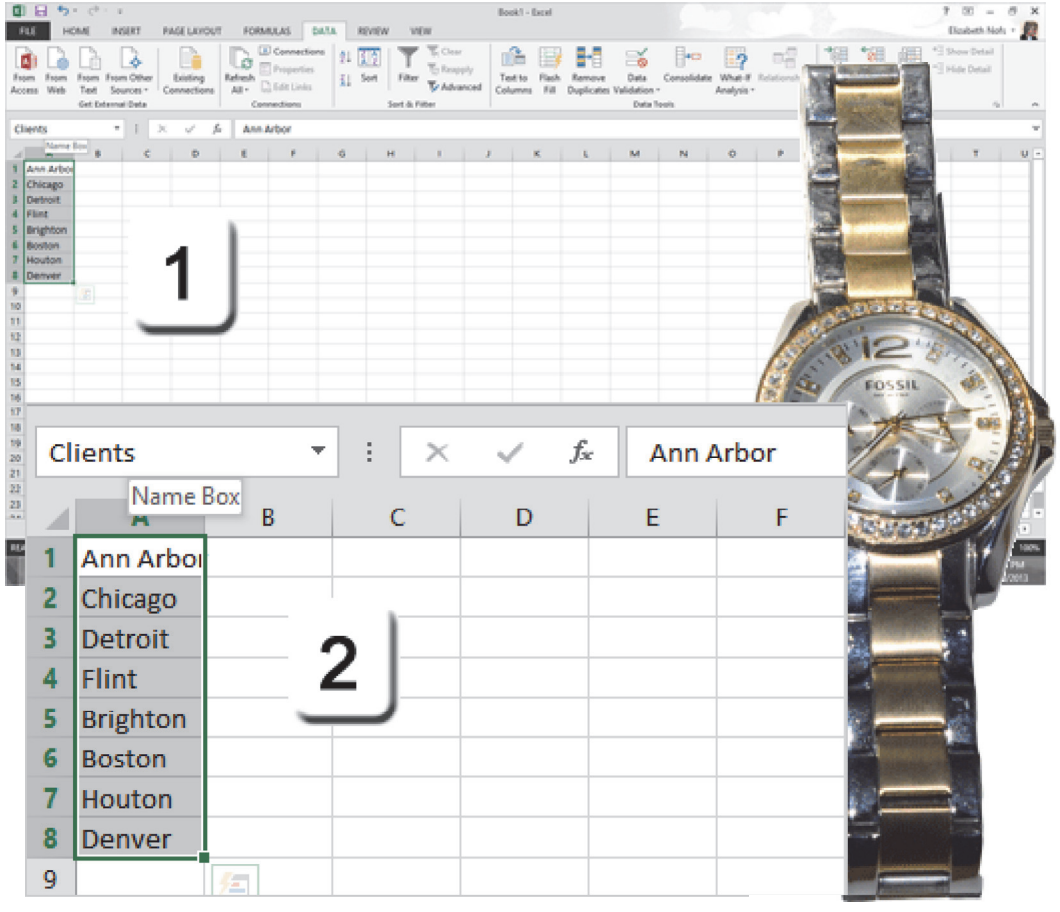
You can use **Data Validation** to create a **Drop Down List** that looks up the values in a table. This Timesheet will lookup a list of clients in a Table. The clients will be names of cities in this example.

There are 3 steps to creating a Drop Down List:
1. Create the reference table
2. Name the reference table
3. Use the Named Range in the Validation Settings.

1. Try This: Create the Reference Table
Create a new, blank sheet. Enter the following:
In Cell A1 type: Ann Arbor
In Cell A2 type: Chicago
In Cell A3 type: Detroit
In Cell A4 type: Flint
In Cell A5 type: Brighton
In Cell A6 type: Boston
In Cell A7 type: Houston
In Cell A8 type: Denver

2. Try This, Too: Name the Reference Table
Select A1:A8.
Name the Range: Clients.

Formulas ->Defined Names-> Define Name



Data Validation: Settings

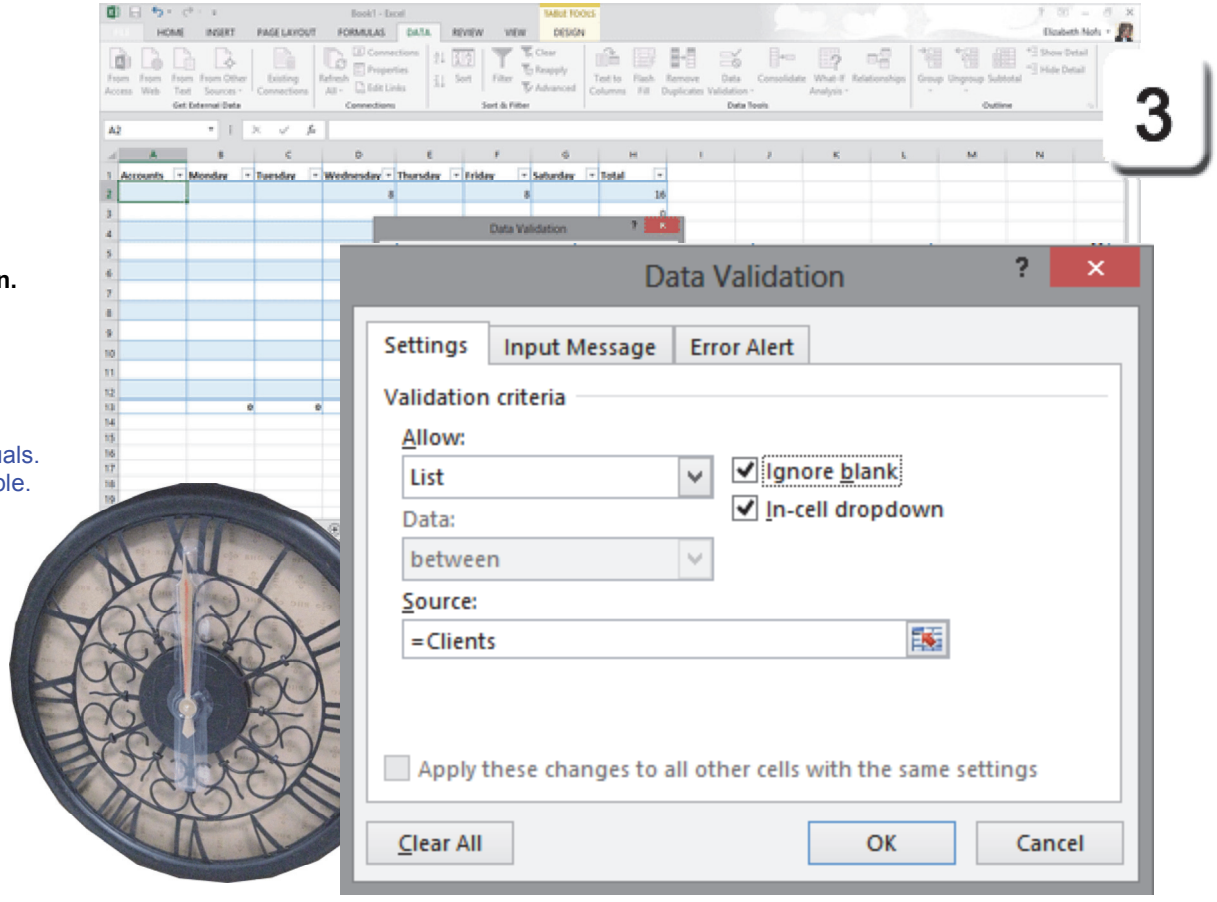
Before You Begin: Rename the Sheet
Double-click the tab.
Rename the sheet: Accounts.

3. Try This: Create a Drop Down List
Go to the Timesheet.
Select Cell A2.
Go to **Data ->Data Tools-> Data Validation.**
Allow: List
Source: =Clients

Keep going...

Memo to Self: All equations begin with equals. (=). Clients is the Name of the reference table.

Data ->Data Tools-> Data Validation



Take One

Data Validation: Input Message

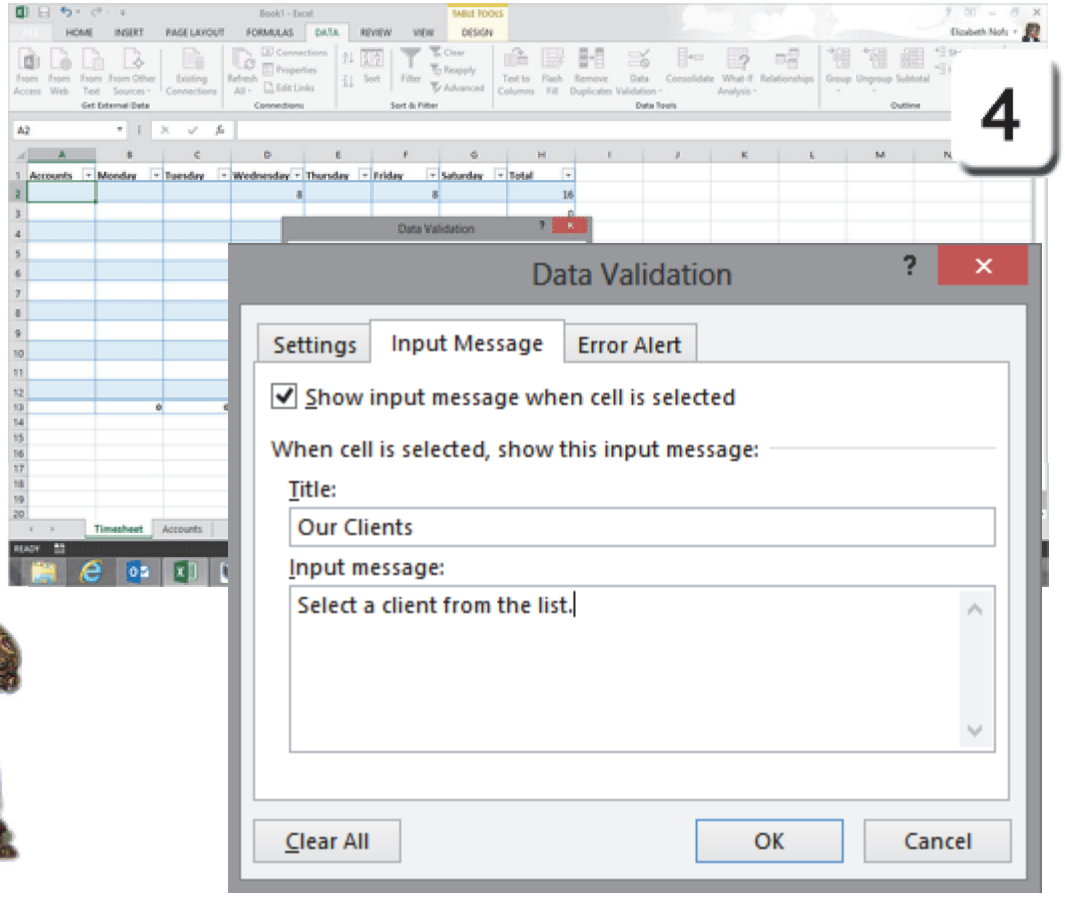
Who wants to be successful? Yes, anyone who fills out your form hopes to complete the task quickly and correctly. So, use the **Input Message** to teach them how to fill in the blanks. Here are the steps:

4. Try This: Edit the Input Message
Go to the Input Message Tab.
Please type the following:
Title: Our Clients
Input Message: Select a client from the list.

Keep going...!



Data ->Data Tools-> Data Validation



Data Validation: Error Alert

The **Error Alert** prompts people to fill in the right data. The Error Alert has a Title, Error message and a Style.

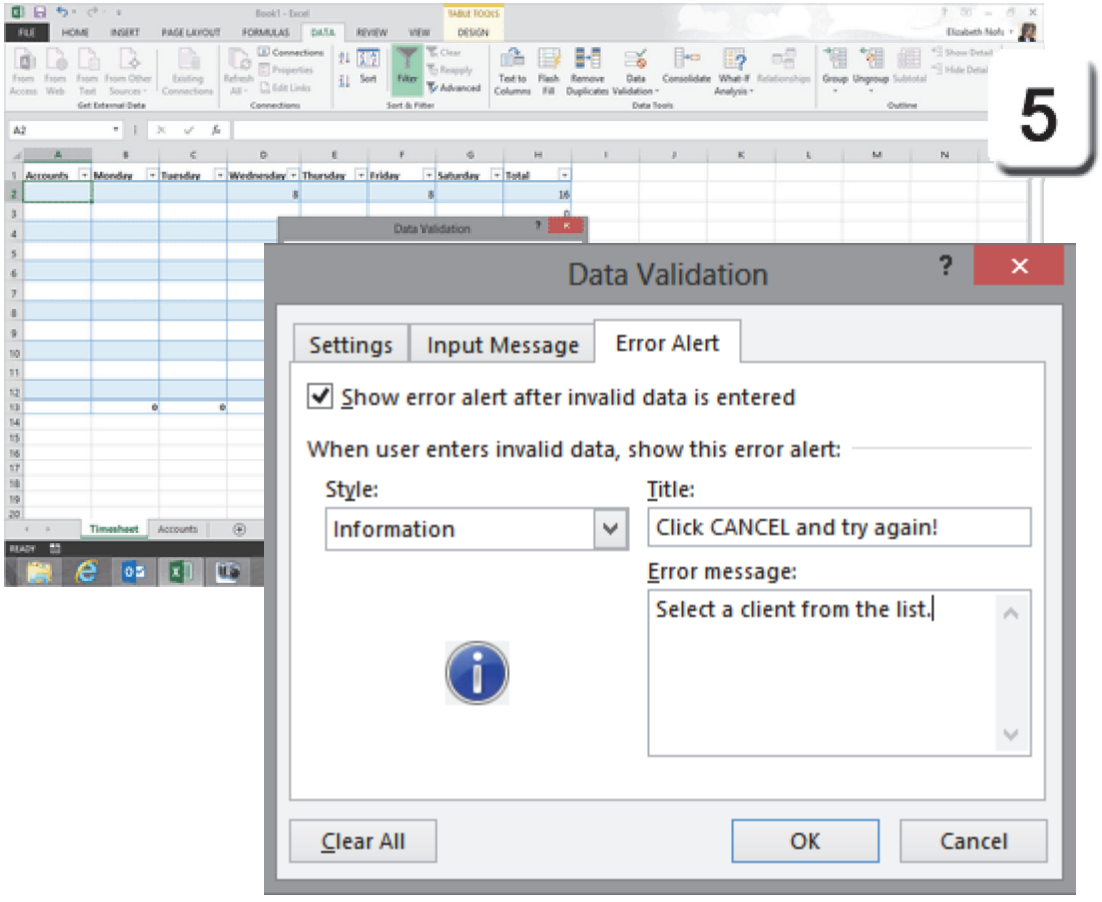
5. Try it: Edit the Error Alert
Go to the Error Alert Tab.
Select the Style: Information
Title: Click CANCEL and try again
Error Message: Select a client from the list.

Click **OK** and keep going...

Memo to Self: There are three **Styles** of Error Alerts: Stop, Warning, or Information. Each one has a different symbol and a different sound. Something as simple as picking a name from a list is Information, not a Critical Stop with every bell and whistle firing....really.

The Computer Mama has a theory that the more you help your users, instead of scaring the wits out of them, the more they will be inclined to use your forms.

Data ->Data Tools-> Data Validation



Take One

Data Validation: Try it

What Do You See? The Input Message has a title and little bit of help.

What Else Do You See? Cell A2 has a Drop-Down list.

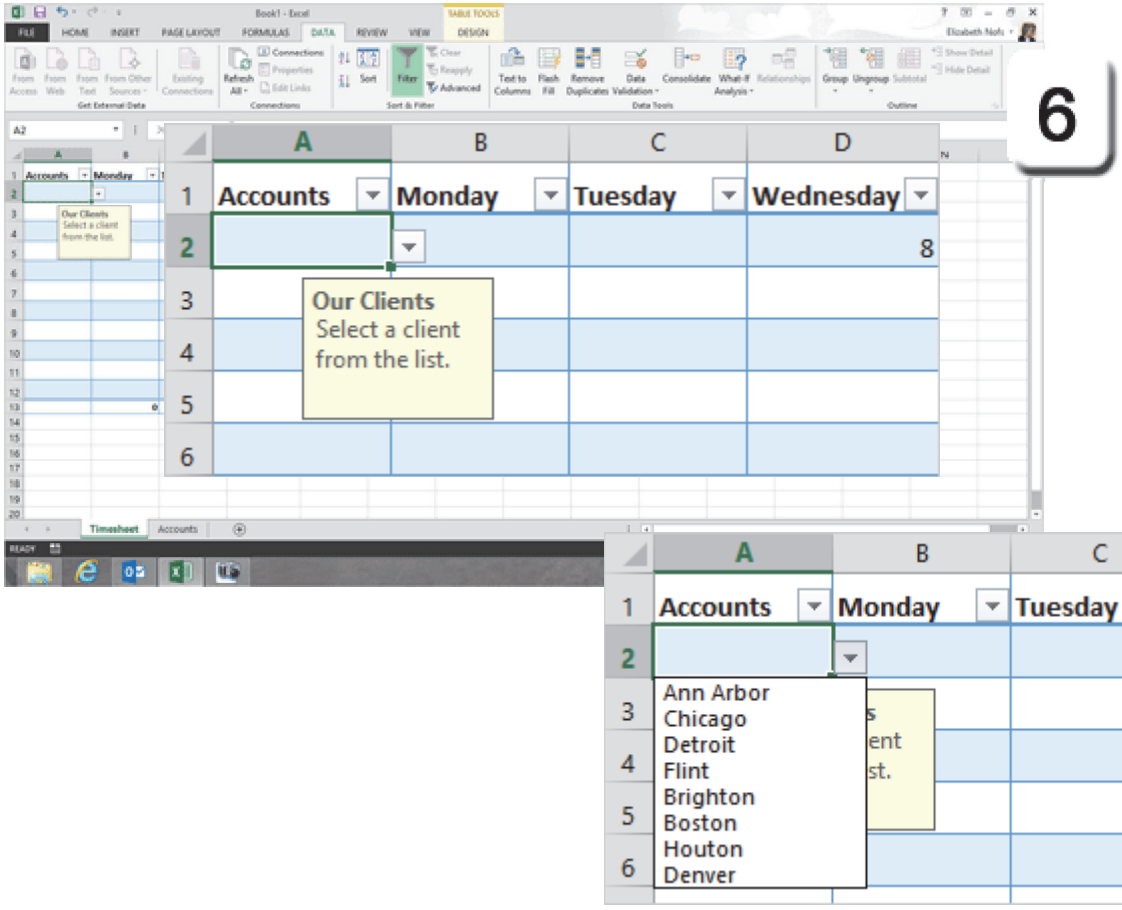
6. Try it: Select a Name from the List
Go to Cell A2.
Select Brighton from the list.
Click TAB on the keyboard to go to B2.

Very good. Keep going...!

What If It Doesn't Work? There are two parts to testing a Drop Down list.
1. Can you see the list?
2. Can you click on an item in the list?

If you cannot see the list, then the name for your reference list is spelled wrong or you forgot to include the equals (=) sign in your Settings.

Data ->Data Tools-> Data Validation



Take One

Data Validation: Errors

What happens if you type a name that is NOT on the list...as many users do?

7. Try it: Type the Wrong Name
Go to Cell A2.
Type: Lansing.
Click TAB on your keyboard to go to B2.

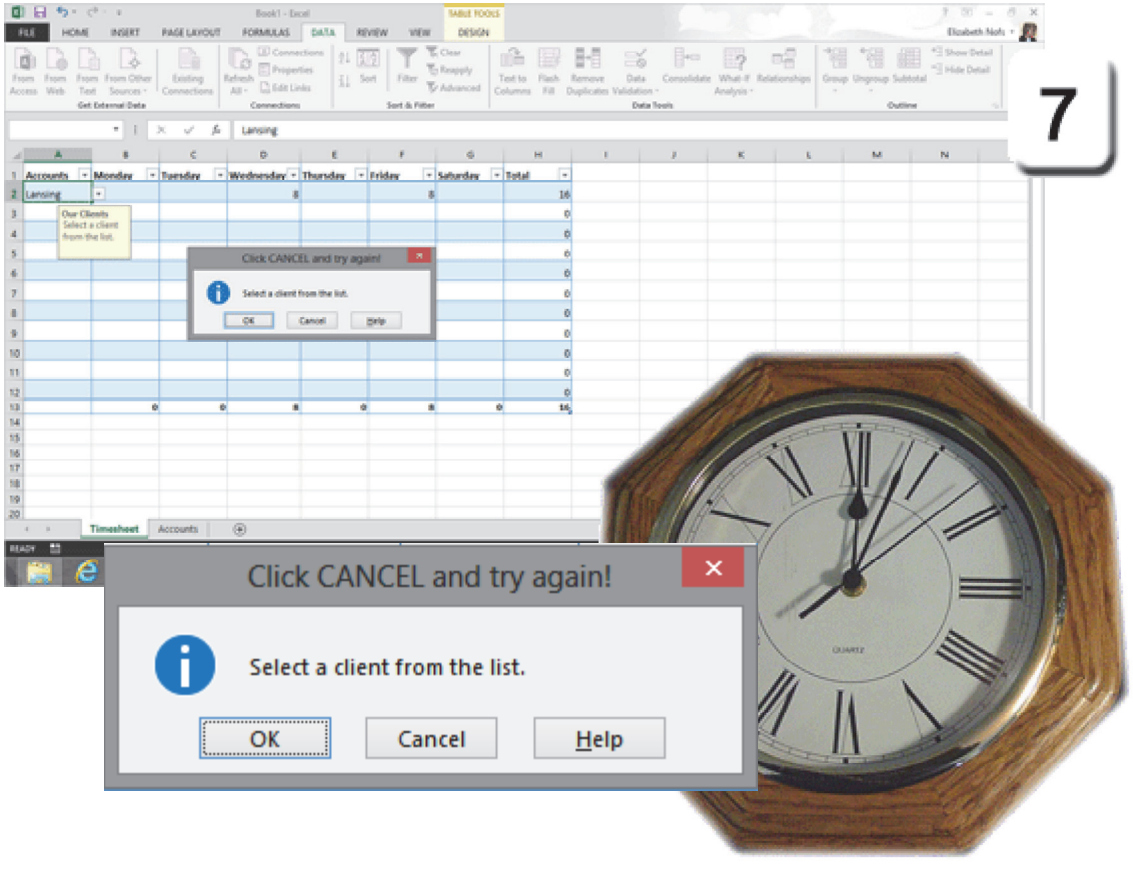
What Do You See? If the data does not match--hence it isn't valid--then you will be prompted with your Error Alert.

What Did You Hear? Did you hear a little chime when you tabbed out of Cell A2?

What Are the Options? If you click **OK** you will return to Cell A2, but selecting OK leaves the wrong name there. If you click **CANCEL** then you will return to Cell A2 and it will be empty.

Click **CANCEL**, please.

Data ->Data Tools-> Data Validation



Take One

Data Validation: Summary

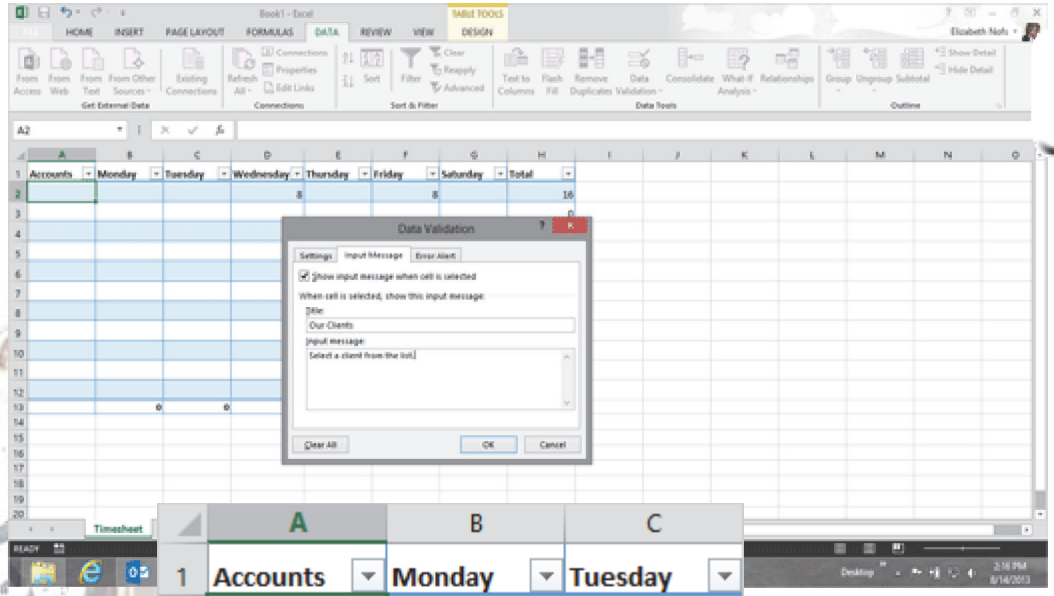
You can Autofill the Data Validation--including the Input Message and Error Alert--to the rest of the cells in Column A.

8. Try it: Autofill the Data Validation
Select Cell A2. Delete the client name, if any. Cell A2 should be blank.
Use the Autofill handle to copy and paste the Data Validation from A2:A12

Do This, Too: Save Your Work
Go to **File->Save**.
File Name: Your Name TimeSheet.
Save. Save. Save.

You done good.

Data ->Data Tools-> Data Validation





Take One

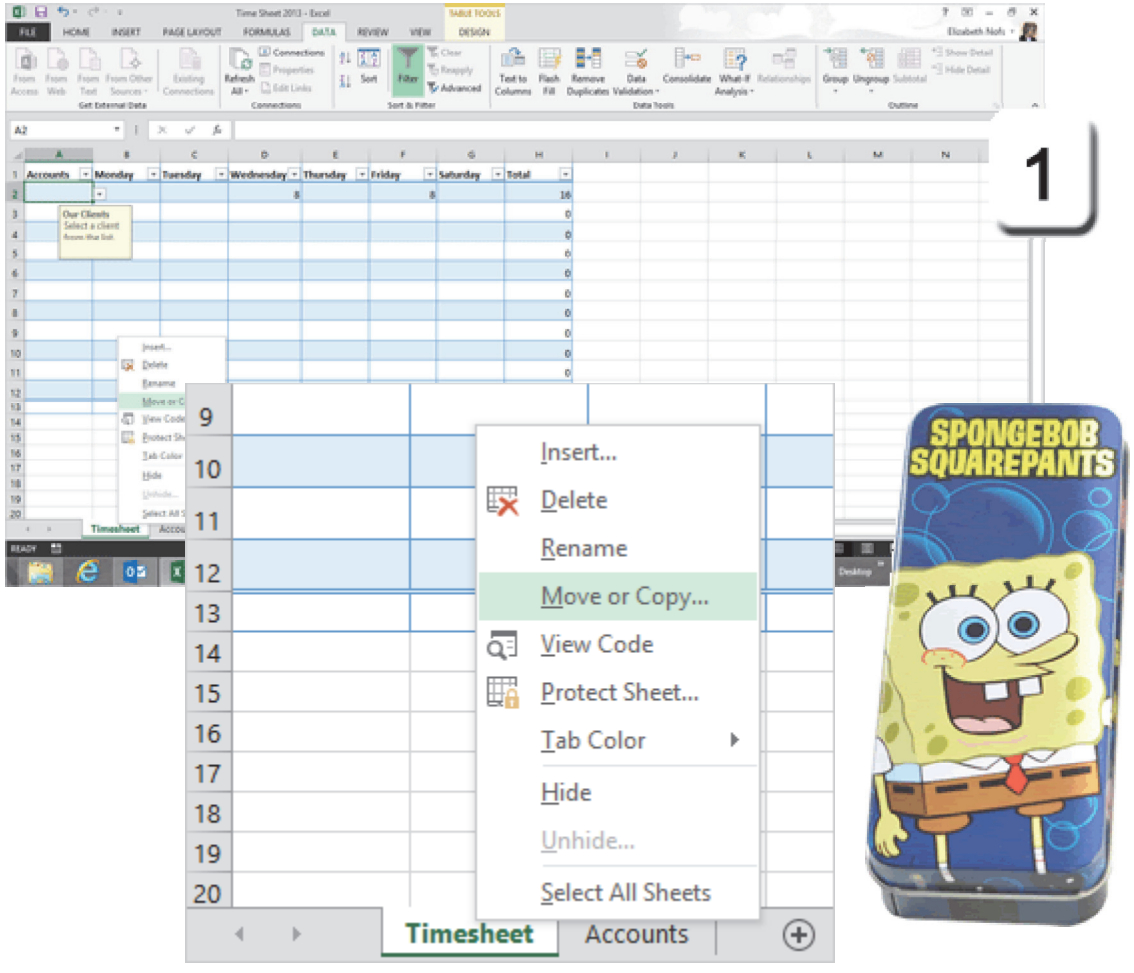
Introduction to Form Design

Microsoft Excel has a more sophisticated set of Form options on the **Developer** Toolbar. This lesson will introduce the Developer Tools and Form Controls.

1. Before You Begin: Make a Copy
Right-click the **Timesheet** tab.
Left-click **Move or Copy.**
Check: **Create a Copy.**
Click **OK**.

What Do You See? There should be a new spreadsheet named Timesheet (2).

Keep going...



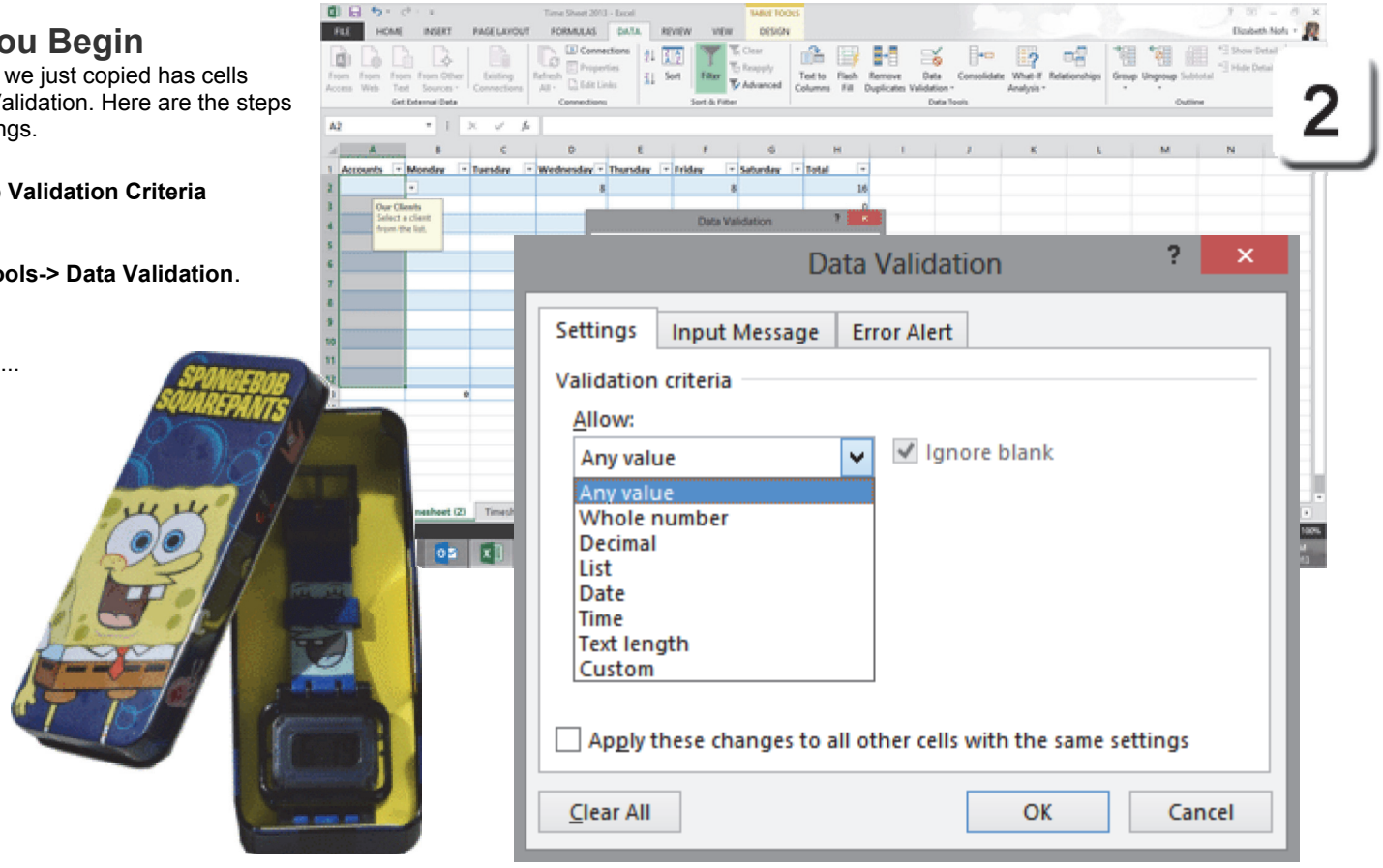
Still Before You Begin

The spreadsheet that we just copied has cells formatted with Data Validation. Here are the steps to remove those settings.

2. Try it: Change the Validation Criteria
Go to Timesheet (2).
Select Cells A2:A12.
Go to **Data ->Data Tools-> Data Validation**.
Click on **Clear All.**

Click **OK**. Keep going...

Data ->Data Tools-> Data Validation



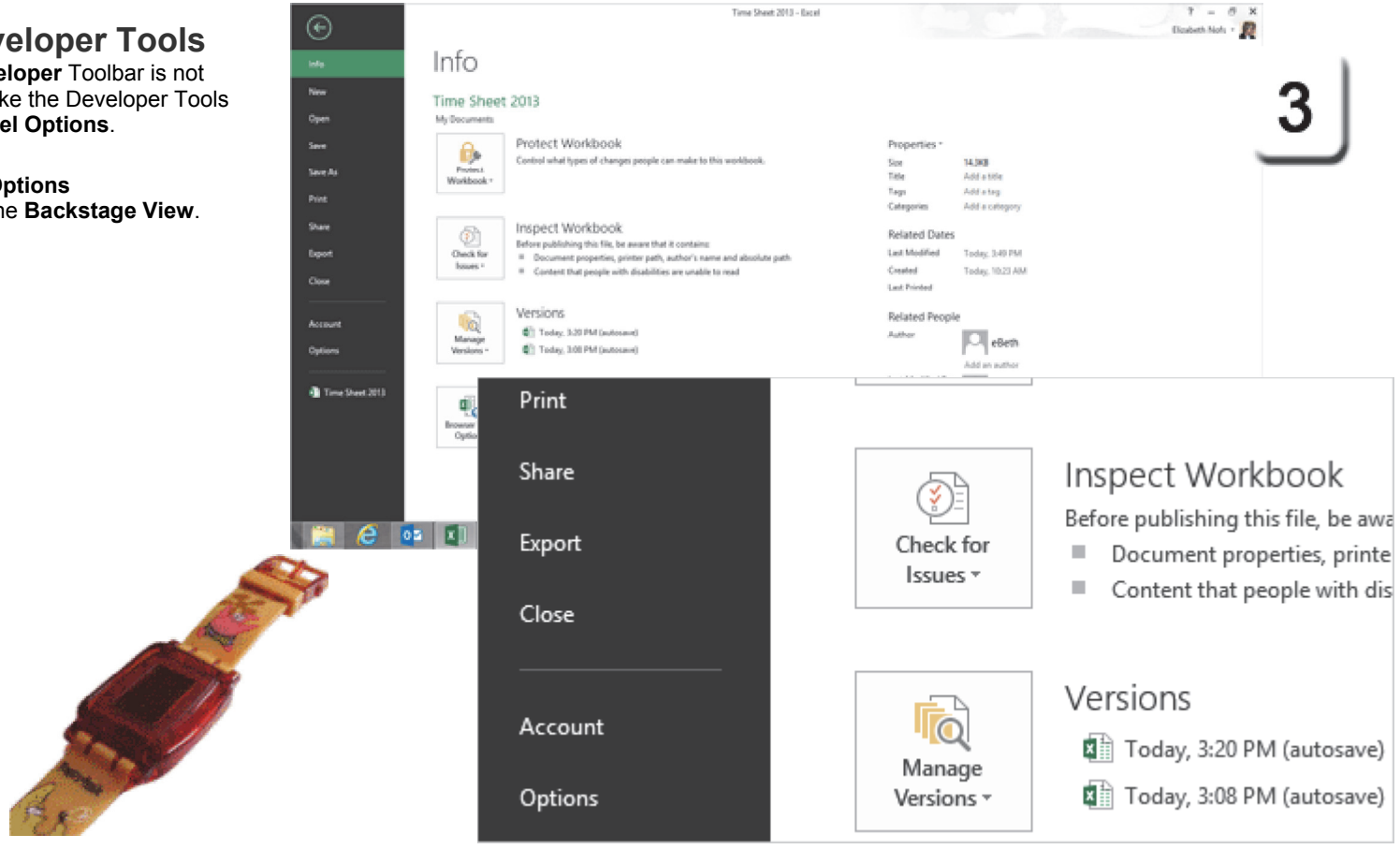
Find the Developer Tools

By default, the **Developer** Toolbar is not visible. You can make the Developer Tools available in the **Excel Options**.

3. Try it: Edit the Options
Go to **File**. This is the **Backstage View**.
Click on **Options**.

Keep going...

File ->Options



Take One

Customize the Ribbons

You can choose which Commands and Ribbons you wish to display in Excel.

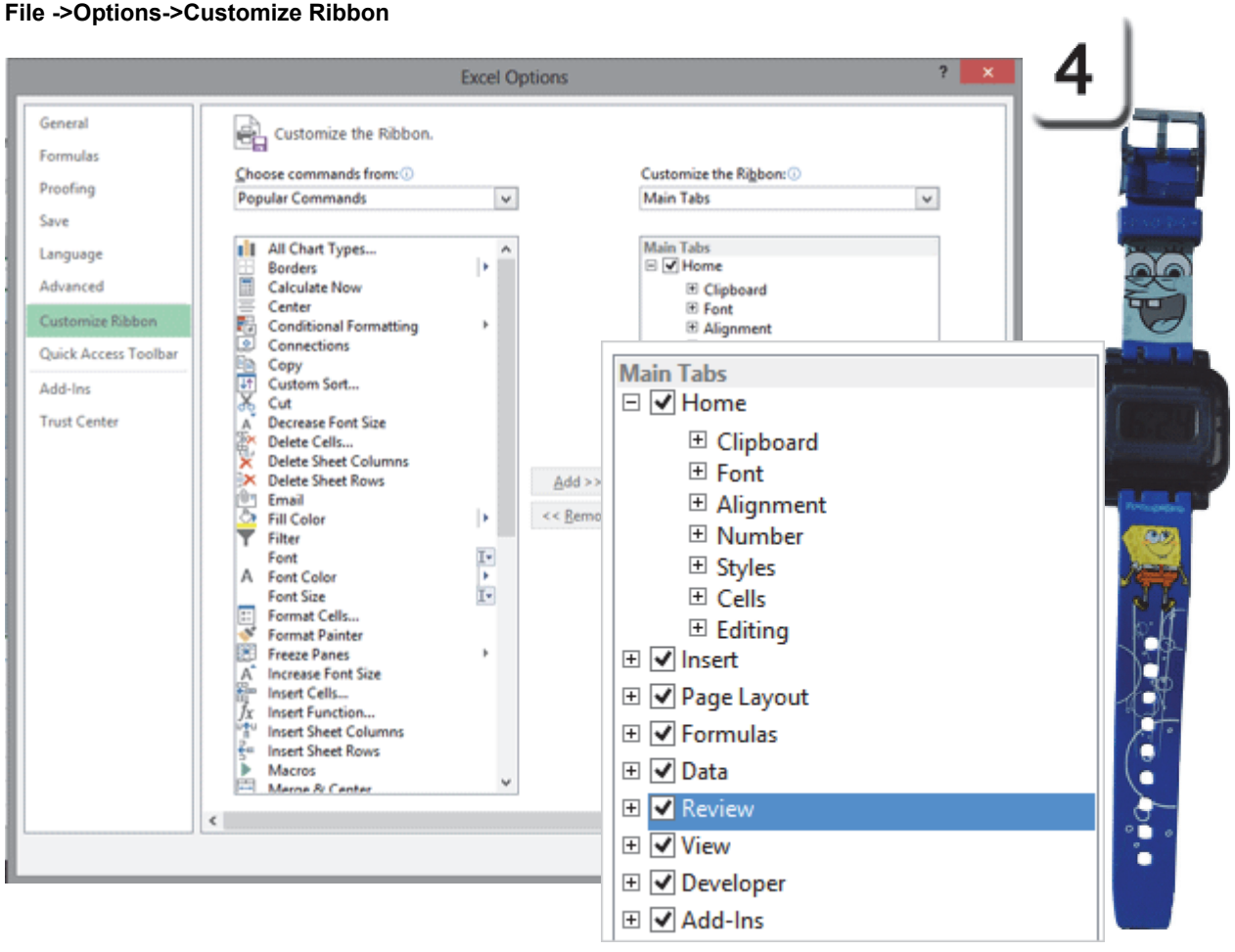
The Main Tabs include:
Home
Insert
Page Layout
Formulas
Data
Review
View
Developer
Add-Ins

4. Try it: Customize the Ribbon
Go to **Customize Ribbon**.
Go to the right column, the **Main Tabs**.
Check: **Developer**
Click **OK.**

Keep going...

Memo to Self: By Default, the **Developer** Tab is not visible. You need to click on the check box to make it available.

File ->Options->Customize Ribbon



Take One

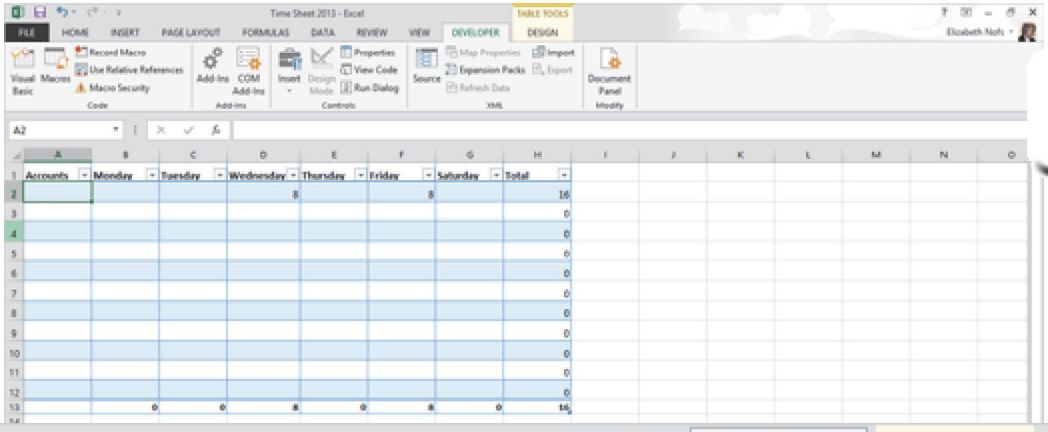
The Developer Tab

The **Developer** Tab is placed at the far right of the other Ribbons.

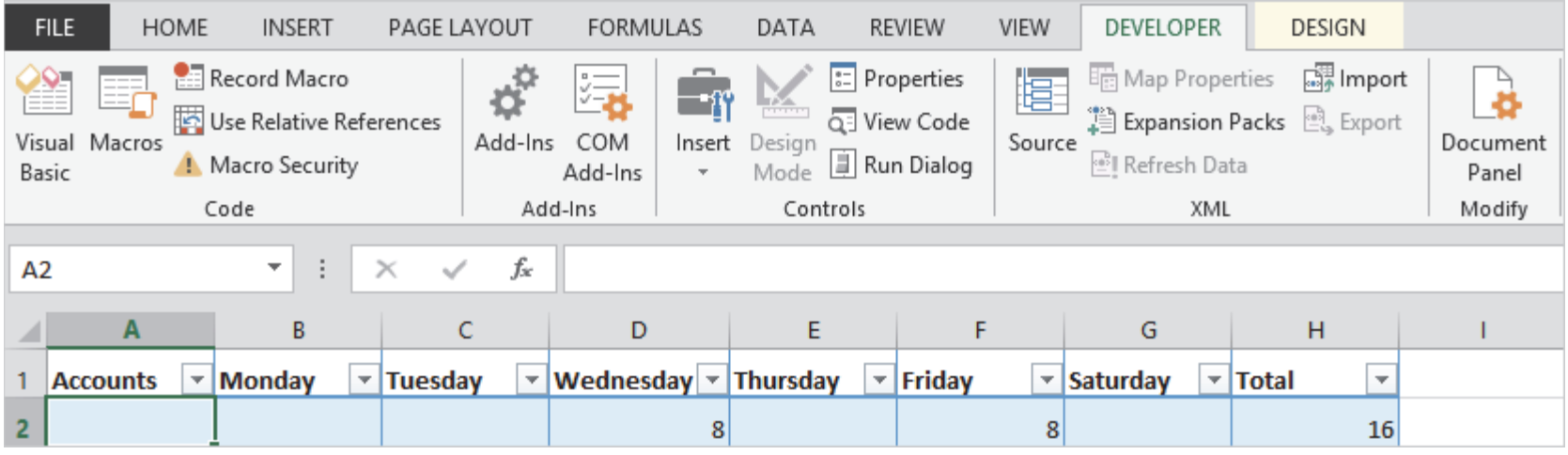
5. Try it: Review the Developer Tools

The Developer groups include:
Code
Add-Ins
Controls
XML
Modify
Very good. Let's build a form.

Developer



5



Take One

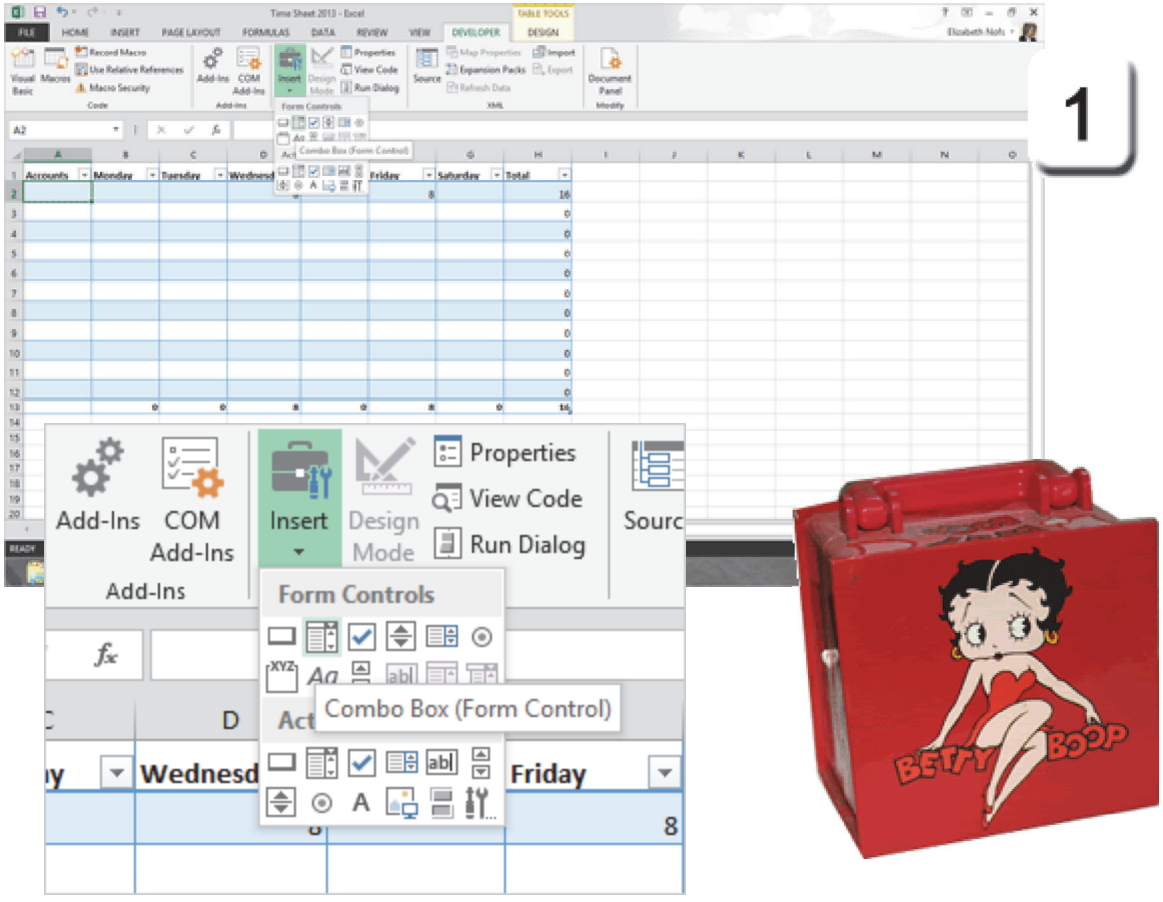
Add a Combo Box

Microsoft Excel has several methods for enabling the user to select an item from a list. Data Validation can be used to create an In-Cell Drop Down. Visual Basic programming is another method.

1. Try it: Add a Combo Box
Go to Timesheet (2)
Select Cell A2.
Go to **Developer ->Controls.**
Click on **Insert->Combo Box.**

Keep going, please.

Developer ->Controls->Insert->Combo Box



Exam 77-428 Microsoft Excel 2013 EXPERT
2. Apply Custom Formats and Layouts
2.3 Apply Custom Styles and Templates: Create Form Fields

Take One

Create the Combo Box

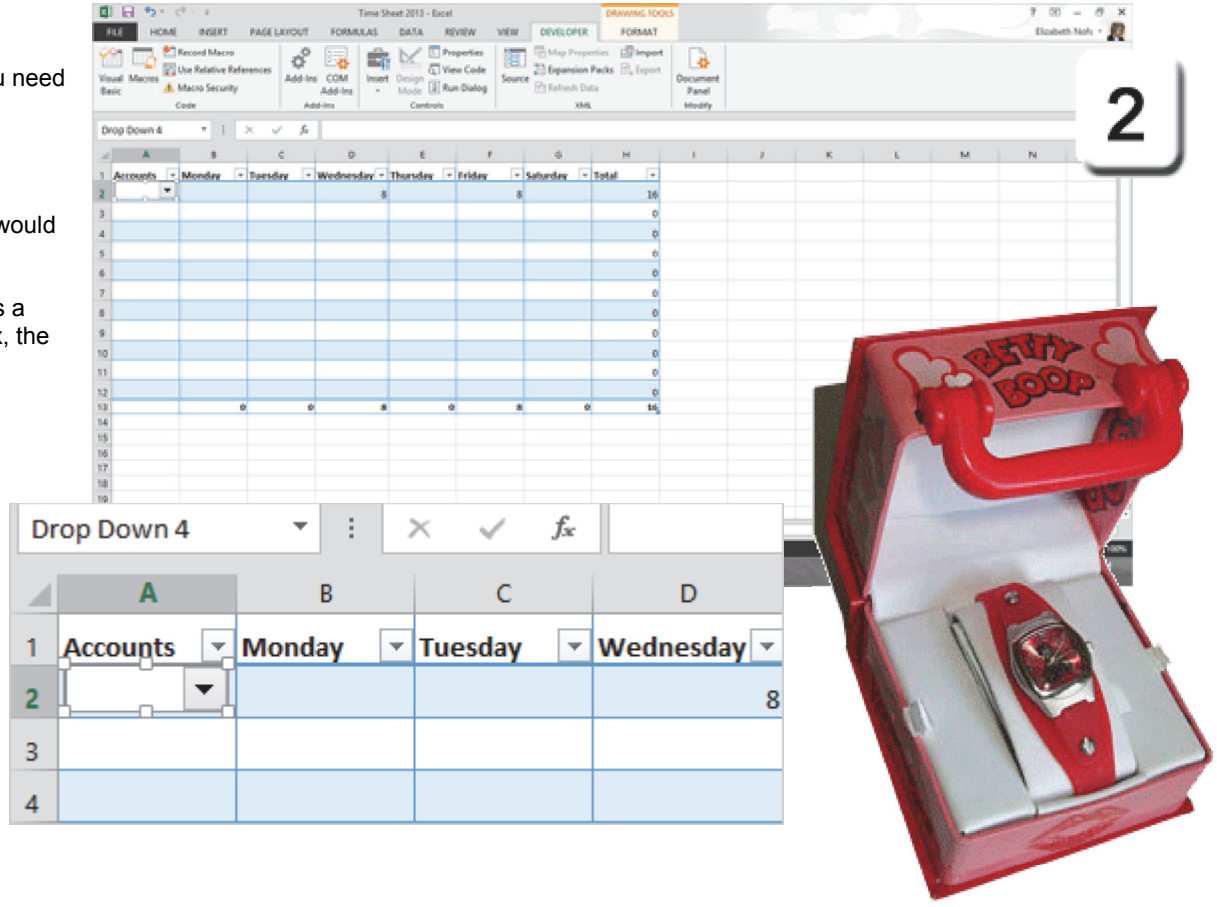
After you select the Combo Box Control, you need to draw the Control in your spreadsheet.

2. Try it: Create the Combo Box
Click on Cell A2. The Combo Box should be visible. Draw the size of the Combo so that would fit in Cell A2.

What Else Do You See? The Combo Box is a Shape. When you right-click the Combo Box, the Drawing Tools should be available as well.

Keep going...

Developer ->Controls



Edit the Control Properties

All Combo Boxes need a reference table to look up the values. Earlier in our lesson, we created a table and named the range Clients.

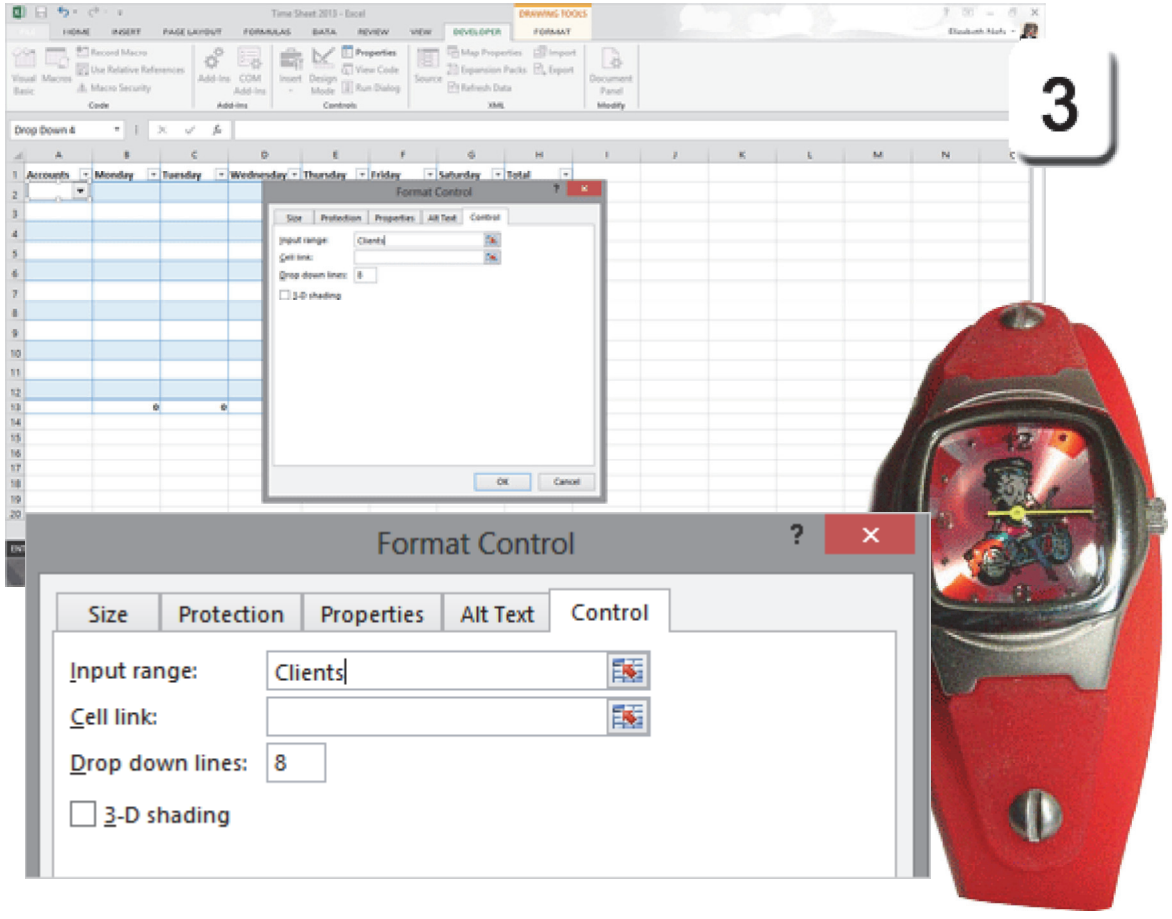
3. Try it: Edit the Control Properties
Click once on the Combo Box to select it.
Go to **Developer ->Controls.**
Click on **Properties.**

What Do You See? Each Control has Properties that you can edit. The Properties include Size, Protection, Properties, Alt Text and Control.

Try This, Too: Edit the Input Range
Go to the Control Tab.
nput Range: Clients

Click **OK**. Keep going...

Developer ->Controls ->Properties



Take One

Test the Control

4. Before You Begin: Deselect the Combo Box
When you are working on a Control, you should see Handles in each corner, just like when you select a Picture or Chart. This is the Developer's view.

When you deselect the Combo Box. (Click on anything else) the Combo Box will look and behave as it should when a user clicks on it.

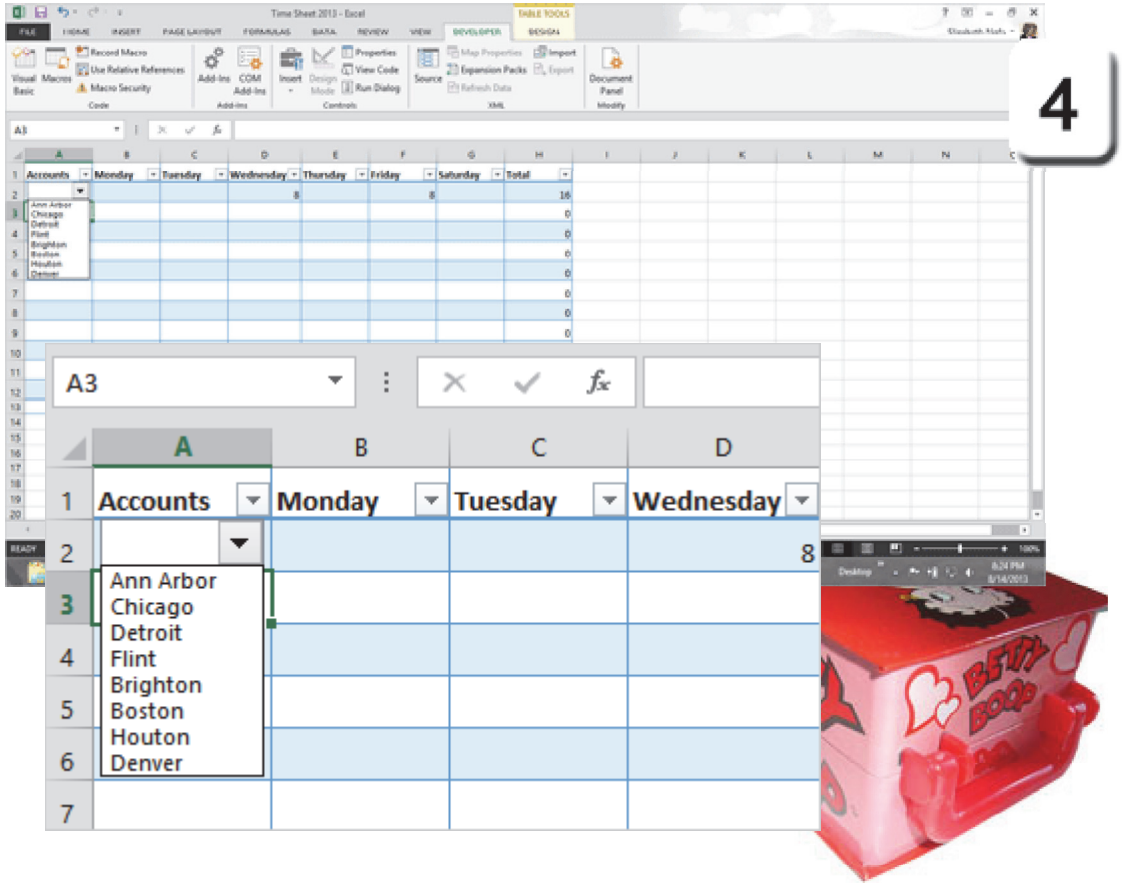
Try This: Test the Control
Go to the Combo Box and select a Client.

What If It Doesn't Work?
There are two parts to the test:
1. Can you click on the Combo Box and see the list of reference names?
2. Can you select an item from the list?

If you cannot see the list, then check the spelling of the Named Range.

Memo to Self: This control does NOT include the equals (=) sign in the Input Range, just the name of the Named Range.

Developer ->Controls



Take One

Copy the Control

This little Combo Box works, now. This is a Control, so you cannot AutoFill the Combo Box. Here are the steps to copy and paste the control to the other Cells in the Time Sheet.

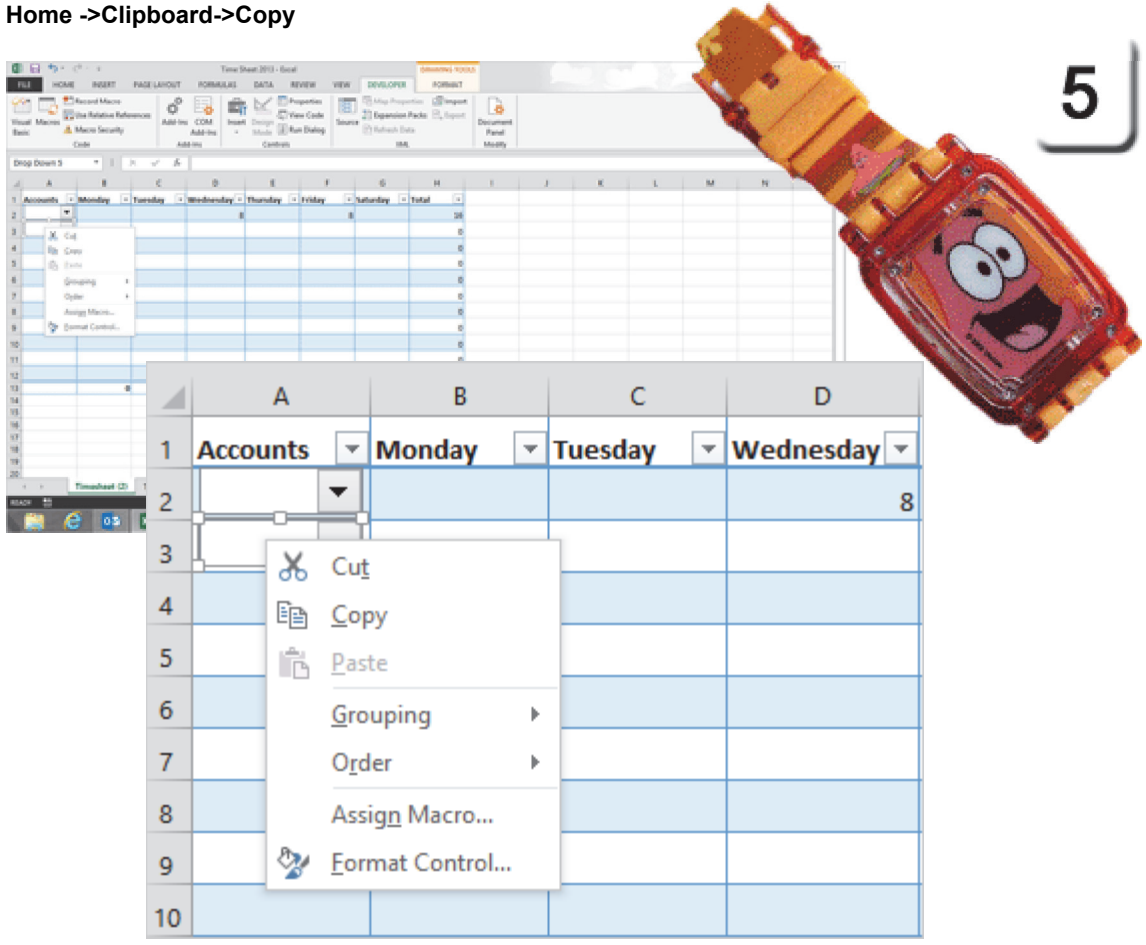
5. Try it: Copy and Paste the Control
Right-click the Control to select it. You should see Handles in each corner.
Go to **Home ->Clipboard->Copy.**
Click on Cell A3.
Go to **Home-> Paste**.

Paste the Control in Cells A4 through A12.

Do This, Too: Save Your Work
Go to **File->Save**.
Type the File Name: MyName Timesheet
Click on **Save**.

Very good.

Home ->Clipboard->Copy



Take One

Developer ->Controls

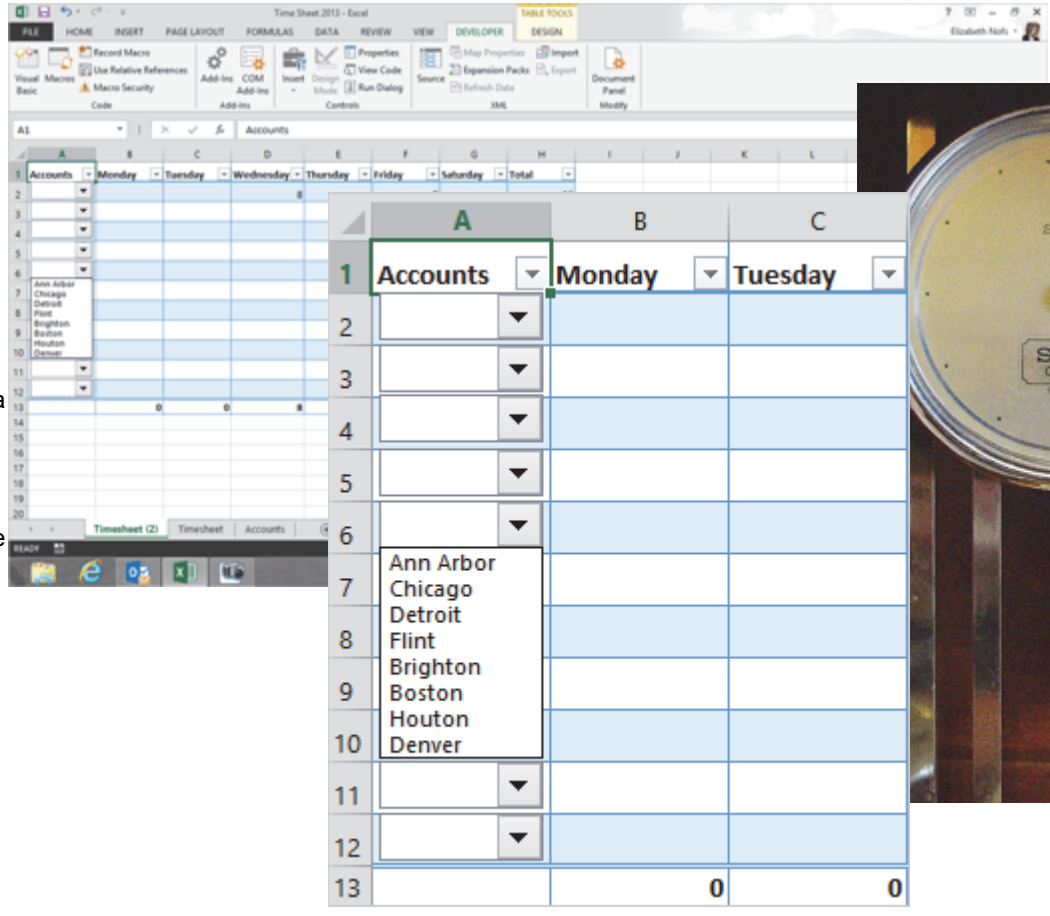
Controlling Data Entry

What Do You Think? Making a Combo Box with Visual Basic is similar to creating a Drop-Down list with Data Validation.

Data Validation is a simple, user-friendly tool. Designing Visual Basic applications takes some thought.

Programming adds a responsive element: What happens when a user selects something from the list? What if a user enters something that isn't on the list?

Both methods look up the data in a reference table. Both Controls enable the user to select an item from a list.





Take One

Developer ->Controls

Summary

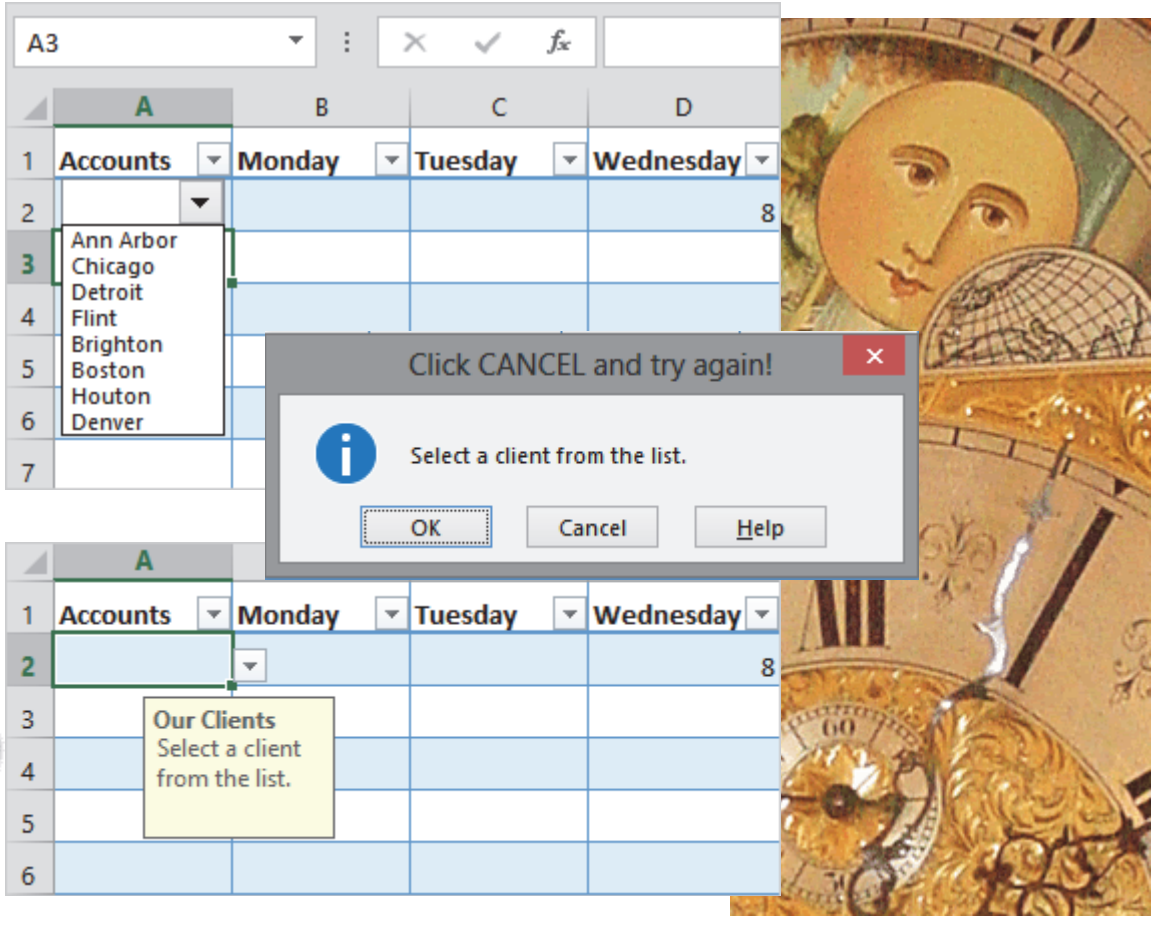
Our lesson began by creating a timesheet that looks up the clients in a reference table. We designed two Combo Boxes and tested them.

This is a good introduction to Form Design. Our discussion continues with a beginner's guide to Macros that can be found in the Appendix at the end of this book.

If you enjoy programming and developing forms, it is an excellent field to consider following up with additional training. Form Design and programming pay well.

You done good.
You get the cookie this time.





Practice Activities

Lesson 5: Working Overtime

Before You Begin: Start Microsoft Excel 2013.

Try This: Do the following steps

1. Open the **MyName Timesheet** that you created earlier in this lesson.

2. Go to the Timesheet and select Cell H13. In this example, it is the Cell that Sums the total hours worked.

3. Go to **Home->Styles-> Conditional Formatting**.

4. Select: **Highlight Cell Rules-> Greater Than...**

5. **Format Cells that are Greater Than**: 40
   With: Green Fill and Dark Green Text

6. Click **OK** and test the formatting as follows:

Enter sample data in the Time Sheet so that each day of the week, (Monday through Saturday has 8 hours. The Sum in Cell H13 should be 48, which is greater than 40.

7. Save this as YOUR NAME Working Overtime Practice.

Test Yourself

1. Data Validation alerts a user if the typed data does not match the set value.
a. True
b. False
Tip: Advanced Excel, page 171

2. Which of the following are options for Data Validation?
(Select all correct answers.)
a. Settings
b. Input Message
c. Error Alert
Tip: Advanced Excel, page 172

3. Which of the following are options for Data Validation error message options?
(Select all correct answers.)
a. Retry: leaves the error
b. Cancel: clears the error
c. Help: opens Excel's help menu
d. Ok: Accepts the error
Tip: Advanced Excel, page 174

4. You can Autofill data validation
a. True
b. False
Tip: Advanced Excel, page 181

5. Which Ribbon has the commands for Form Controls?
a. Developer Ribbon
b. Insert Ribbon
c. Data Ribbon
d. Review
Tip: Advanced Excel, page 186

6. Which of the following is true about Combo Boxes?
(Select all correct answers.)
a. It's a shape
b. It has Drawing Tools available
Tip: Advanced Excel, page 188

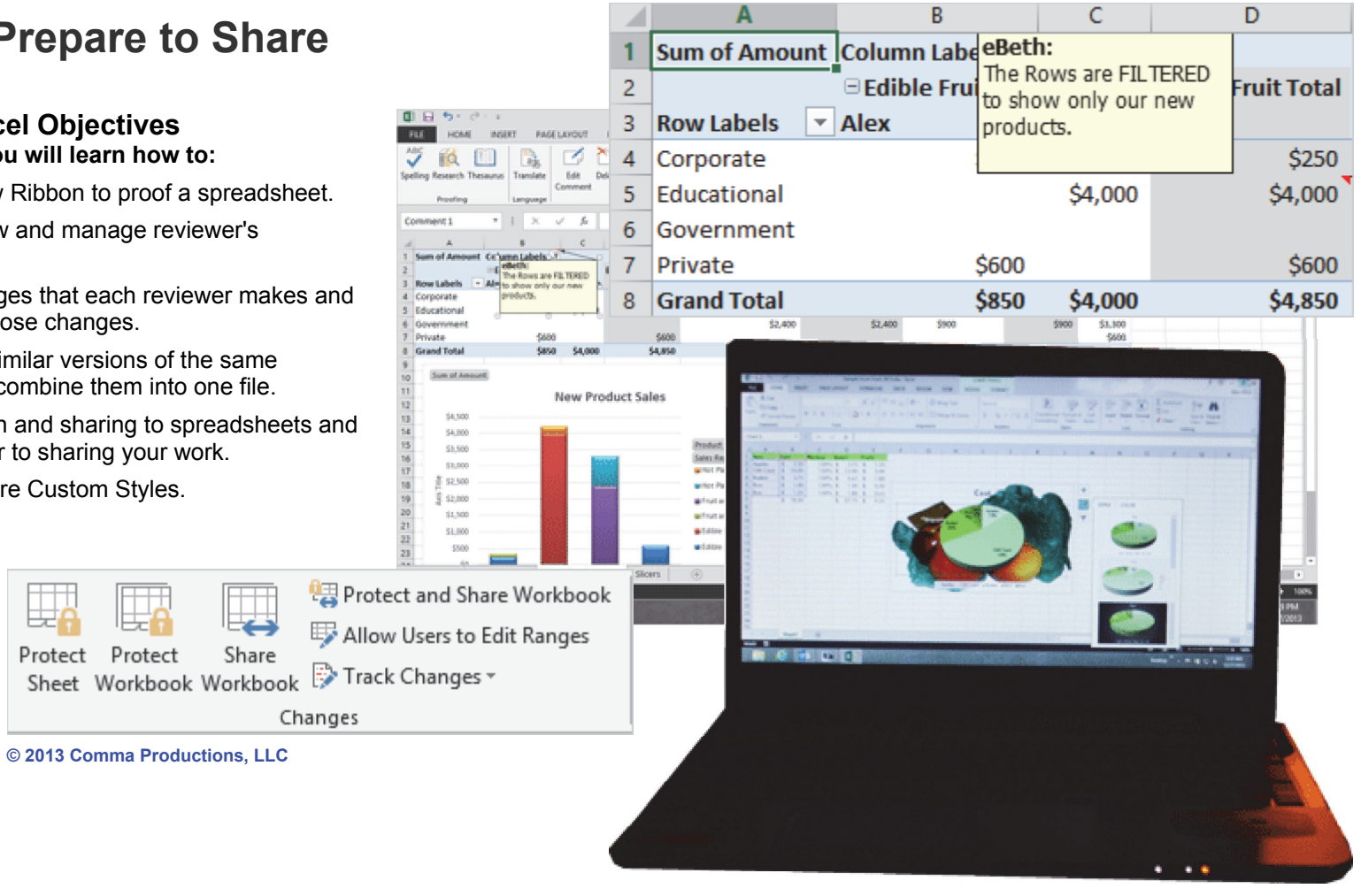


Prepare to Share

Advanced Excel Objectives

In this lesson, you will learn how to:

1. Use the Review Ribbon to proof a spreadsheet.
2. Insert, edit, view and manage reviewer's comments.
3. Track the changes that each reviewer makes and accept or reject those changes.
4. Compare two similar versions of the same spreadsheet and combine them into one file.
5. Apply protection and sharing to spreadsheets and to workbooks prior to sharing your work.
6. Create and share Custom Styles.



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Lesson 6 Sharing and Collaboration: Prepare to Share

1. Readings

Read Lesson 6 in the Advanced Excel guide, page 195-243.

Project

This lesson shows how to prepare a file for sharing including: proofing, comments, and tracking changes. The lessons will show how to protect and share a spreadsheet or a workbook.

Downloads

Customer Sales 2013 PivotChart.xlsx.
Time Sheet 2013.xlsx (Complete)
Sample Excel Chart-2013.xlsx

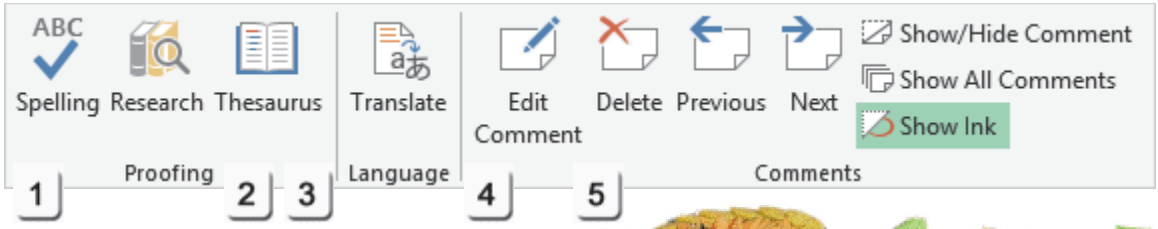
2. Practice

There is no Practice Activity in this lesson.

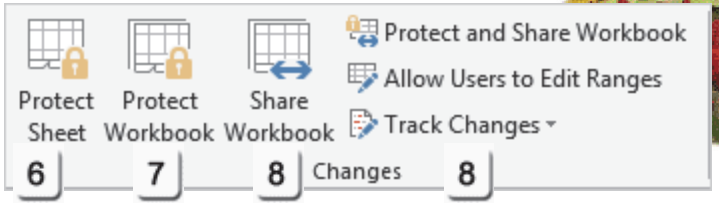
3. Assessment

Review the Test questions on page 244.

Review Ribbon



Review Ribbon





Menu Maps

From the **Review Ribbon**.

1. Review ->Proofing-> Spelling, page 200
2. Review ->Proofing-> Research, page 201
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4. Review ->Language-> Translate, page 205
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7. Review ->Changes-> Protect Workbook, page 207
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Menu Maps

From the Backstage

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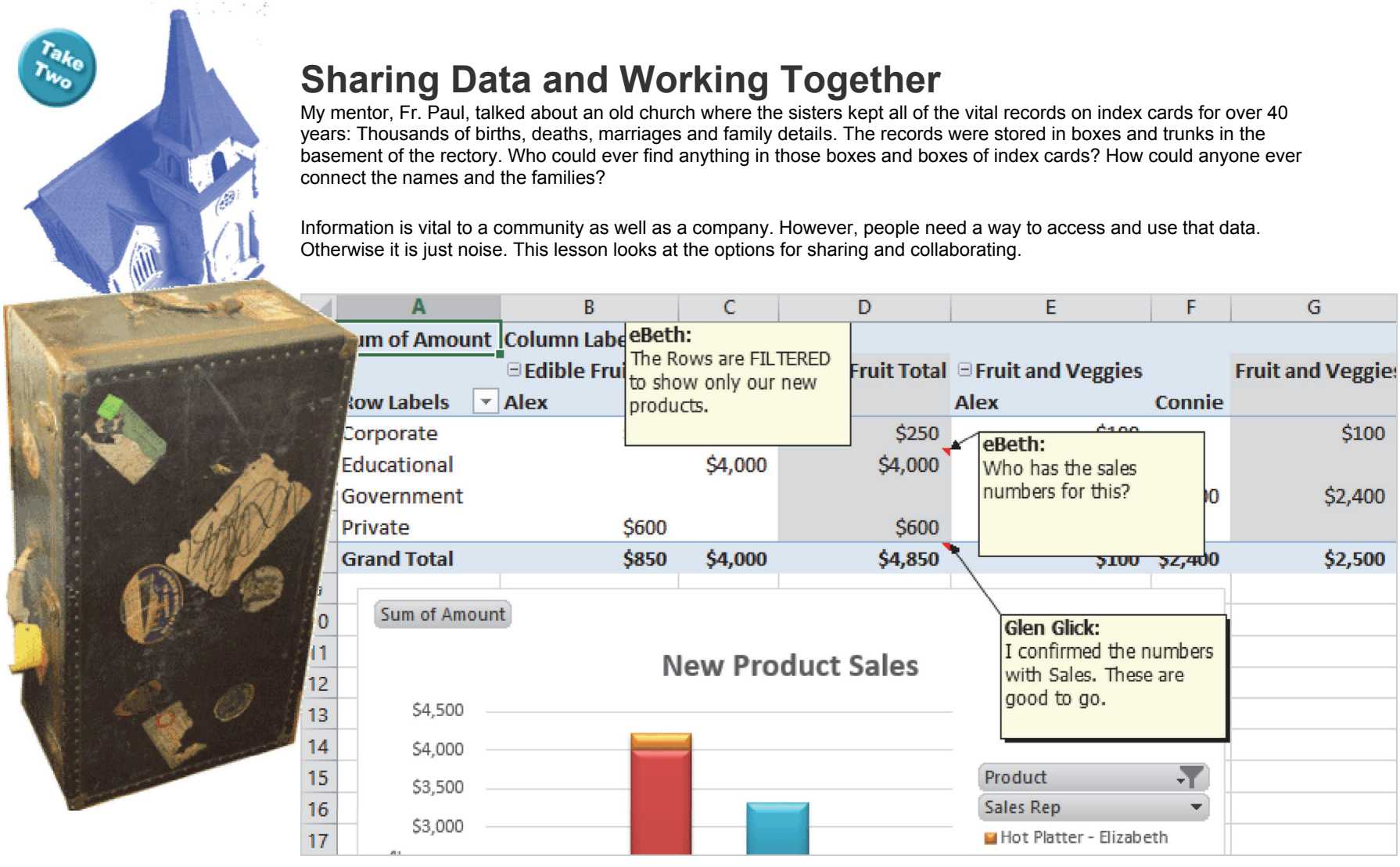
Sharing Data and Working Together

My mentor, Fr. Paul, talked about an old church where the sisters kept all of the vital records on index cards for over 40 years: Thousands of births, deaths, marriages and family details. The records were stored in boxes and trunks in the basement of the rectory. Who could ever find anything in those boxes and boxes of index cards? How could anyone ever connect the names and the families?

Information is vital to a community as well as a company. However, people need a way to access and use that data. Otherwise it is just noise. This lesson looks at the options for sharing and collaborating.



Row Labels	Alex		Fruit Total	Fruit and Veggies: Alex	Fruit and Veggies: Connie	Fruit and Veggies
Corporate			$250			$100
Educational		$4,000	$4,000			
Government						$2,400
Private	$600		$600			
Grand Total	$850	$4,000	$4,850	$100	$2,400	$2,500

Before You Begin

This lesson uses a sample spreadsheet which is available online. You can create your own spreadsheet if you wish. When you are ready, please start Microsoft Excel.

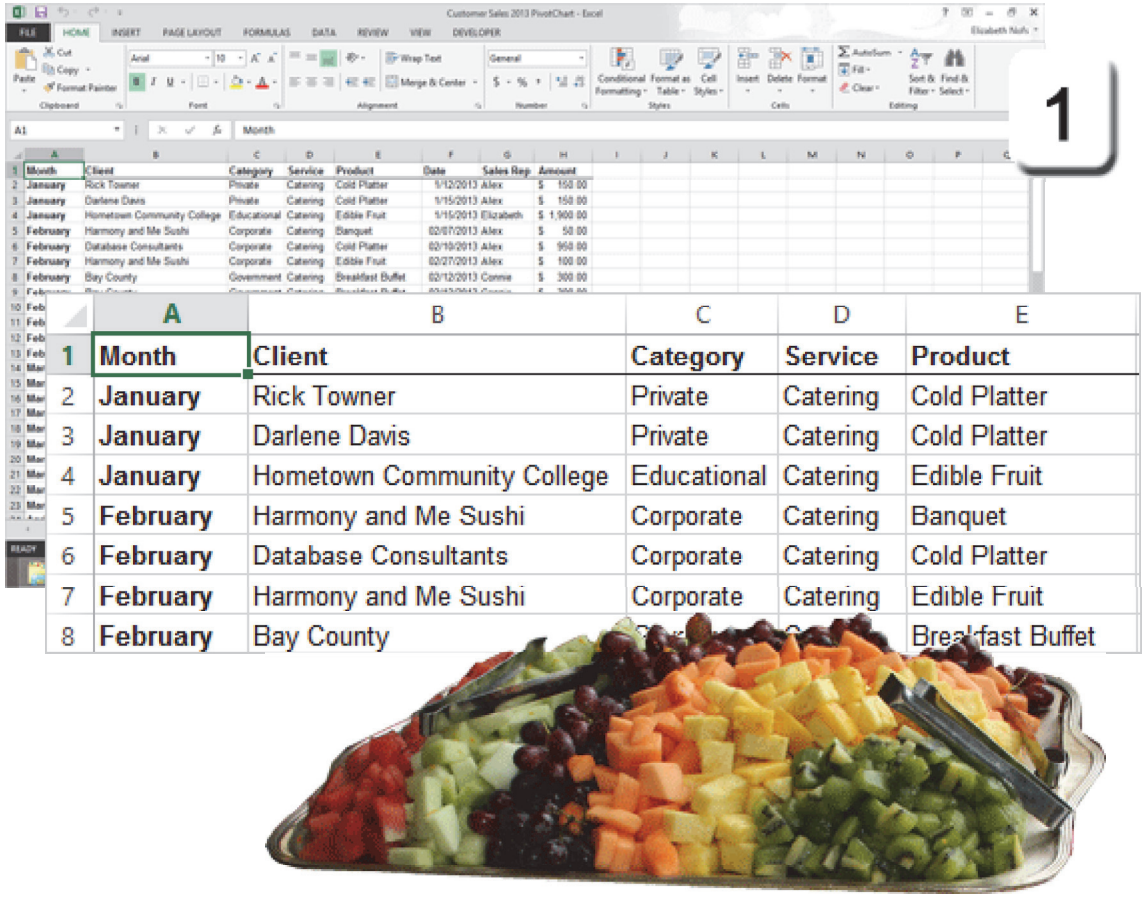
1. Try This: Open a Sample Spreadsheet
Open a sample spreadsheet:
Customer Sales 2013 PivotChart.xlsx.
Go to the **Original Data** sheet.

What Do You See? This sheet shows the product sales for Charlotte's Website. The first row is BOLD: It is the Header Row. There are many rows of data. The example on this page has been sorted by Column D, Service.

Please keep going...

Memo to Self: You do not have to MATCH the numbers shown on these pages. It is more important that you begin with some data and understand the options.

File->Open



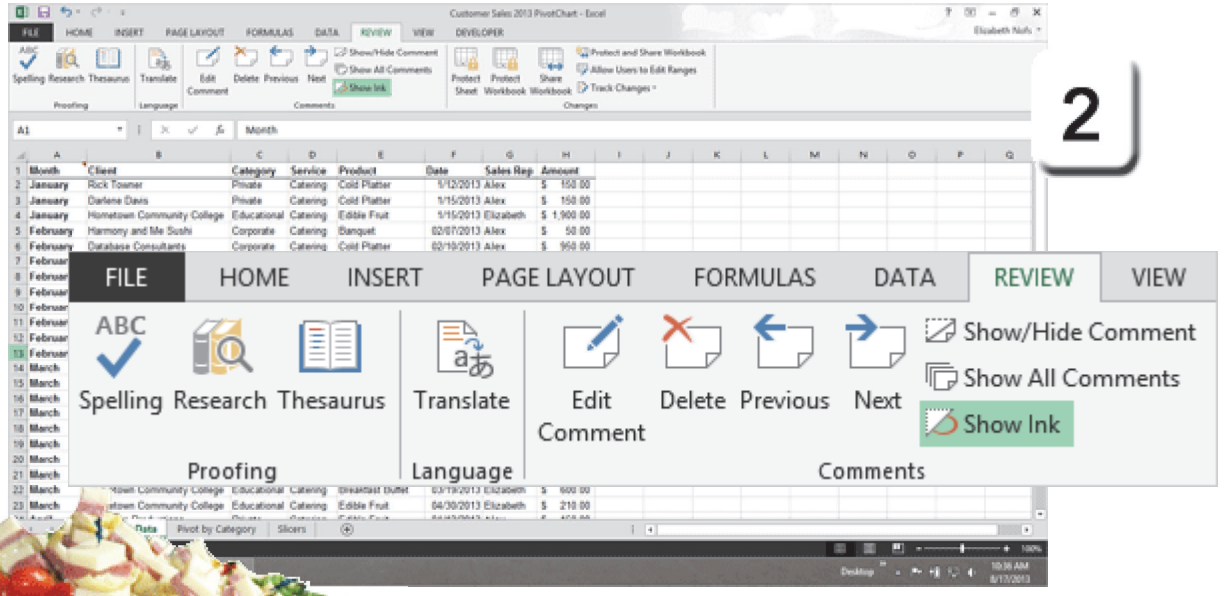
Review: Proofing

Microsoft Excel gathers all of the proofing tools on the **Review** Ribbon..

2. Try it: Review Your Spreadsheet
Go to the **Review** Ribbon.

What Do You See? There are four groups on the **Review** Ribbon:
Proofing
Language
Comments
Changes

Keep going...

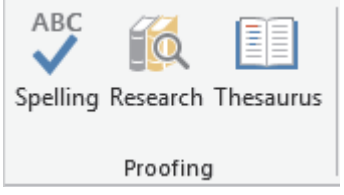




Review: Spelling

Most people see Numbers when they think of spreadsheets. However, our products and customers names are Text. So, you need to proof and spell check your spreadsheets.

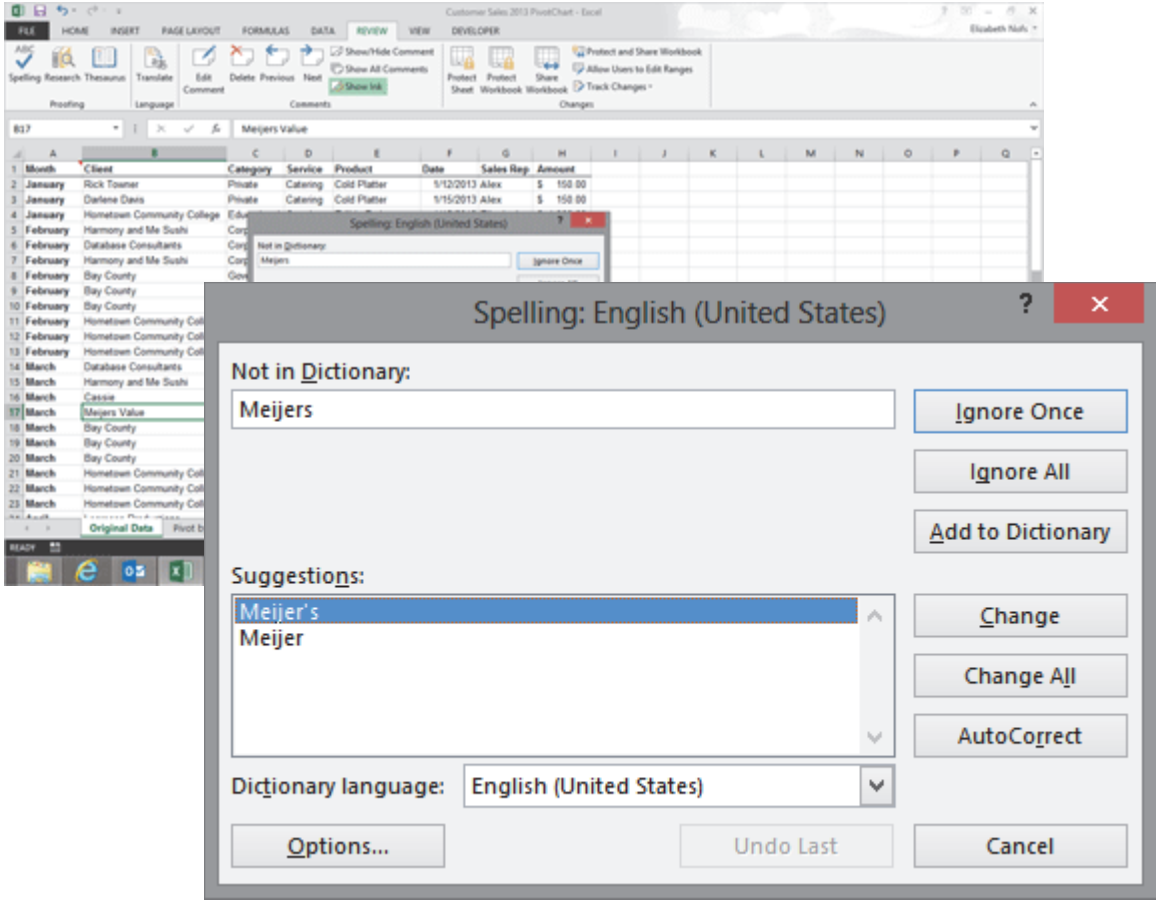
Try it: Check the Spelling
Go to **Review ->Proofing**.
Click on **Spelling.**



Excel will review the **Spelling** in your data and alert you when there is something that does not match a word in the dictionary.

You can choose **Suggestions** from the list. You can also **Ignore** or **Add to Dictionary**.

Review ->Proofing-> Spelling



Review: Research

Sometimes it is better to look something up, rather than just guess at the right answer. You can use the **Proofing** tools to **Research** the spelling as well as the meaning.

1. Try it: Research a Word

In this sample spreadsheet, there is a client named Harmony and Me Sushi. This example will research the word "sushi."

Select Cell B4.

Go to Review ->Proofing-> Research

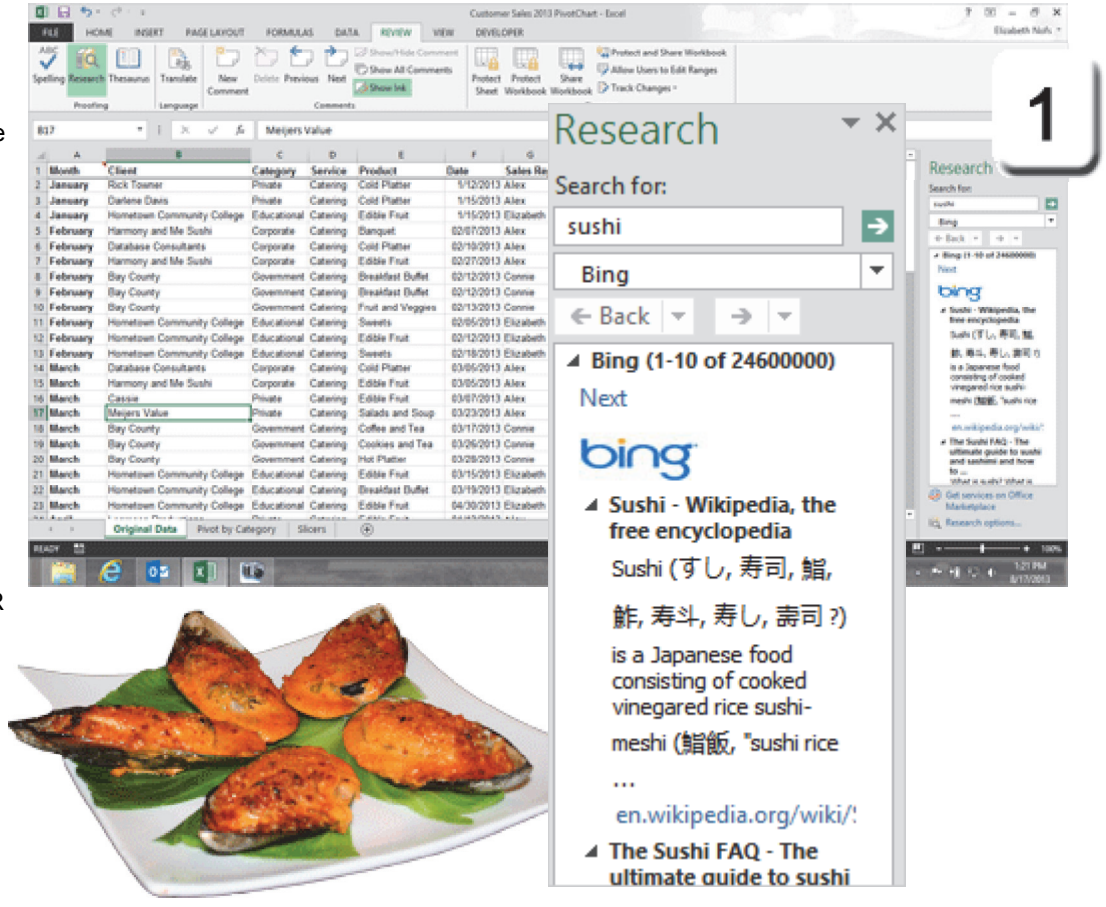
The **Research Pane** should be available on the right. The default search option is Reference Books. Select: **All Research Sites.**

Search For: Sushi

Click the green arrow to the right (or press the ENTER key on the keyboard.)

What Do You See? The Research results on this page shows answers from Wikipedia, an online encyclopedia, as well as many other sites.

Review ->Proofing-> Research



Review: Research Options

Microsoft Office uses the Internet to find answers. By default, the Research Pane may show only one website.

You can edit the Search options to show:
All Reference Books (Dictionary, Thesaurus)
All Research Sites
All Business and Financial Sites

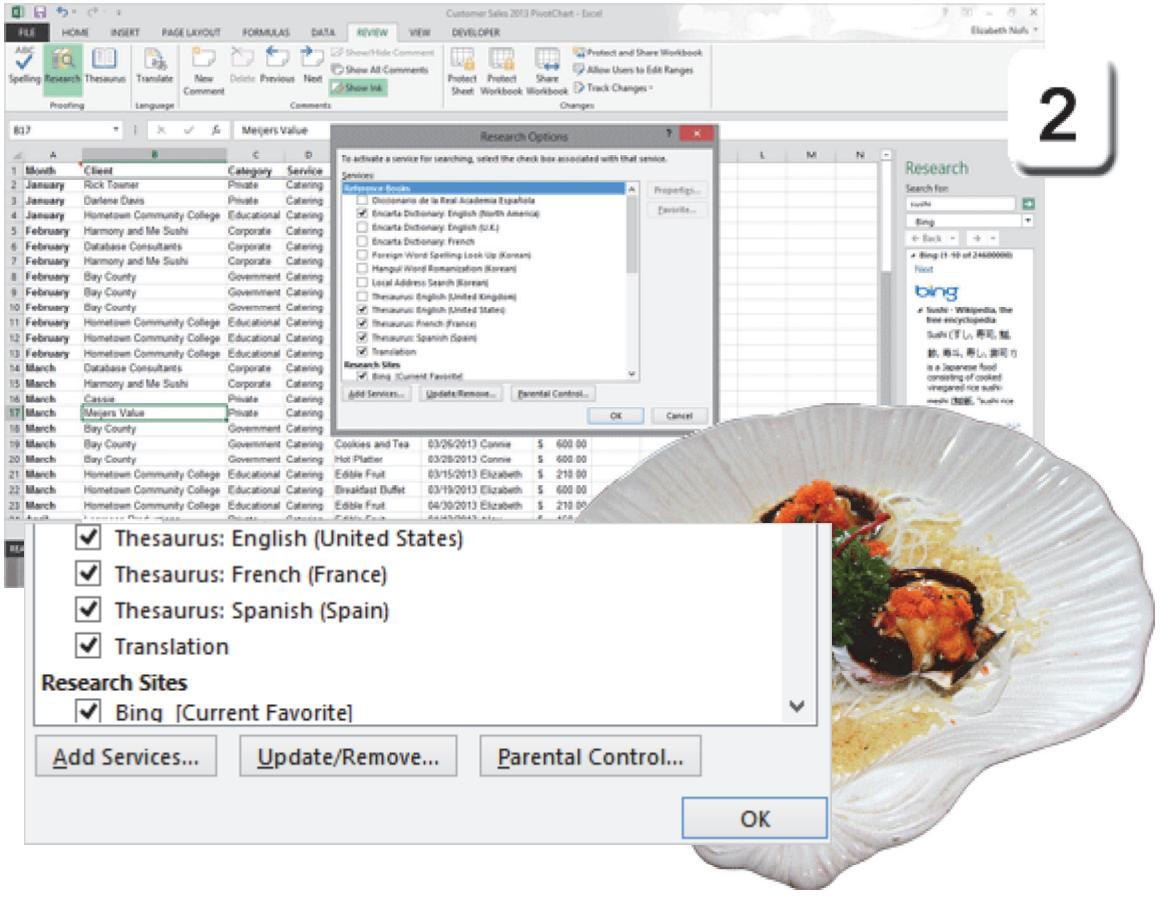
2. Try This: Edit the Research Options
At the bottom of the Research Pane you may see a link for **Research Options**.

When you click that link you should see a list of the sites you can use.

If you don't see the site you want for your work, you can also edit this list. The options include **Add Services**, **Update/Remove** and **Parental Control**.

Please click **OK** and keep going...

Review ->Proofing-> Research-> Research Options

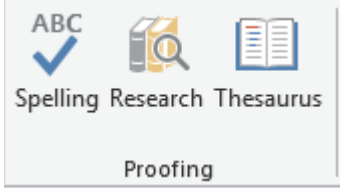


Research: Thesaurus

A **Dictionary**, like the research answers on the previous page, offers the correct spelling, definition and pronunciation of words.

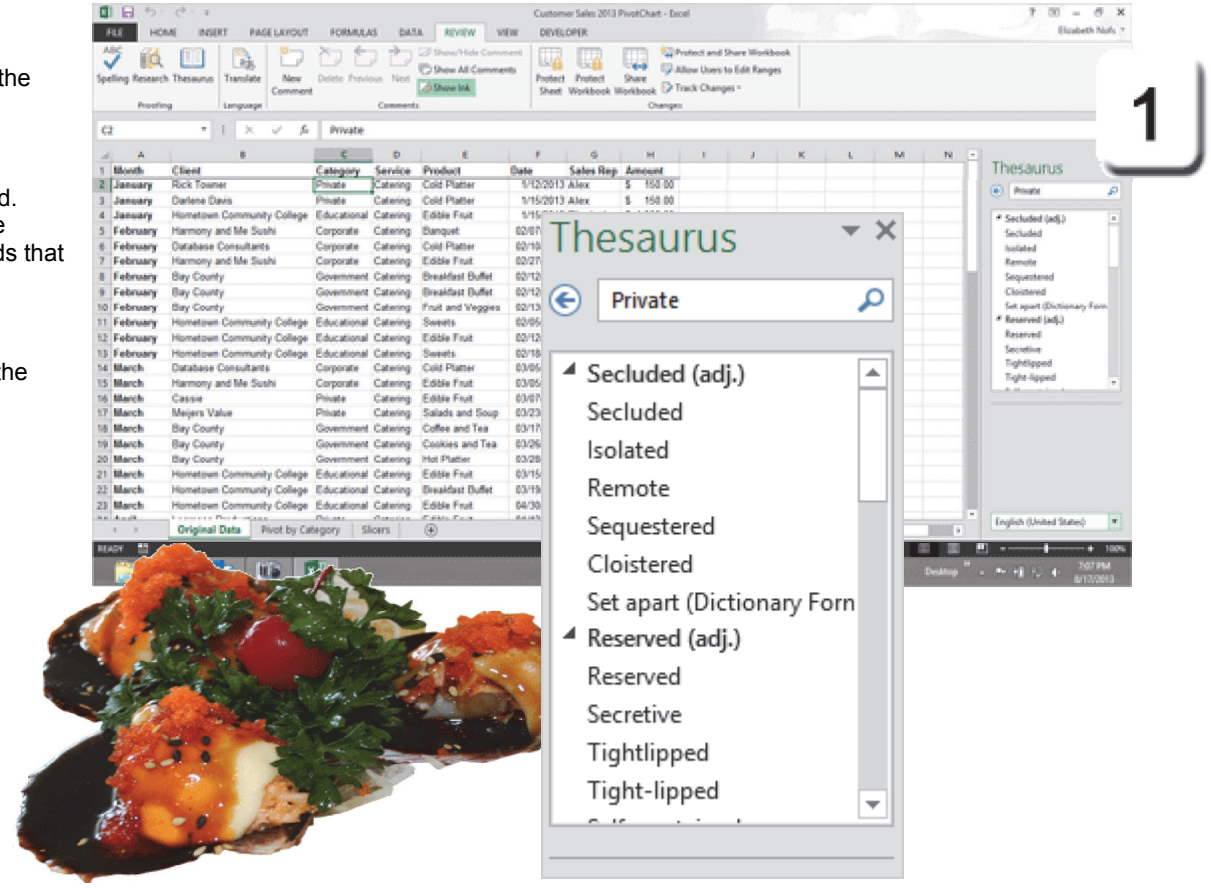
A **Thesaurus** looks up words that are related. They can have a similar meaning. These are synonyms. The Thesaurus can also list words that mean the opposite: the antonyms.

1. Try This: Use the Thesaurus
Select Cell C2, or any sample Cell that has the word: Private.
Go to **Review ->Proofing**.
Click on **Thesaurus.**



Keep going please...

Review ->Proofing-> Thesaurus



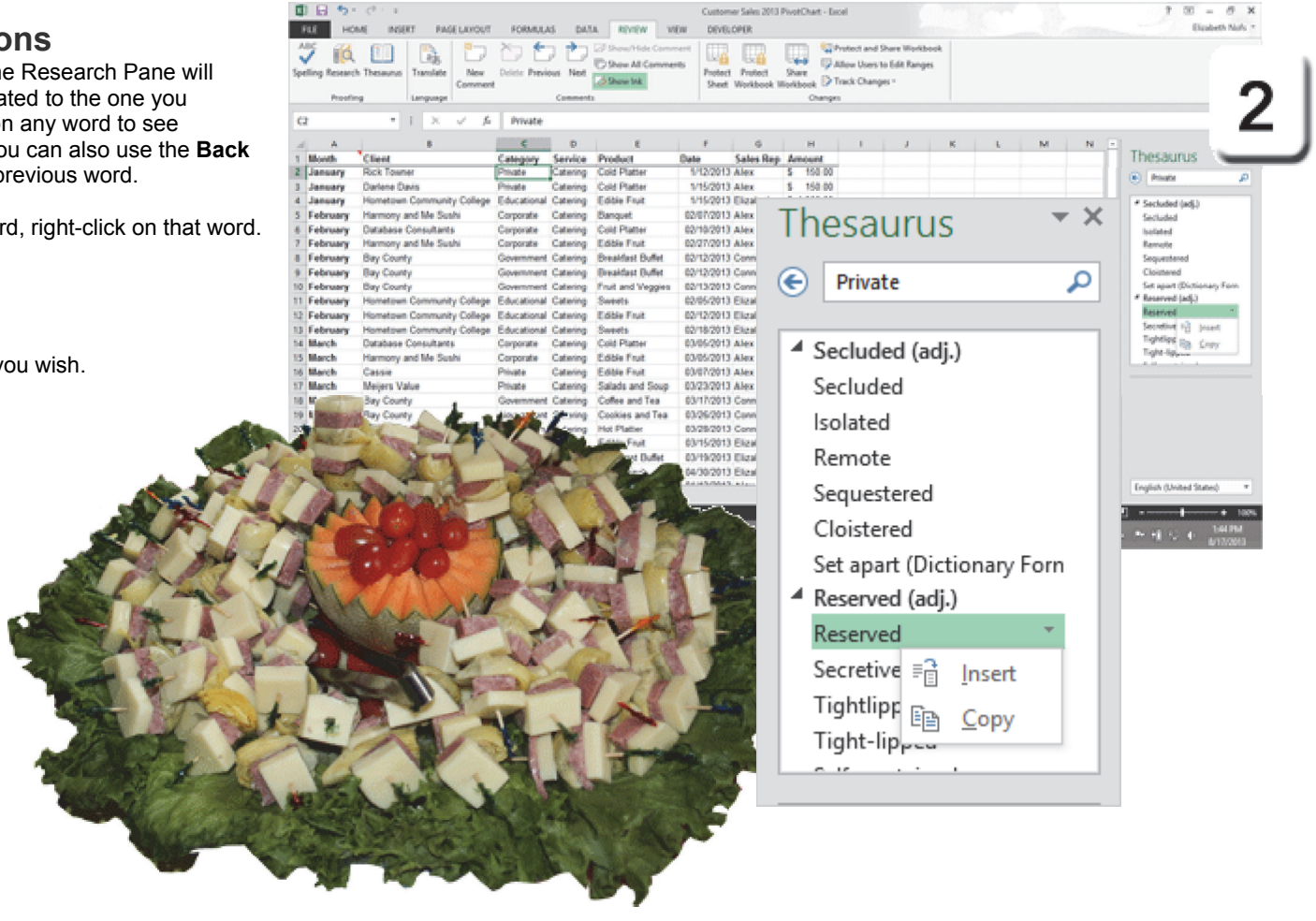
Thesaurus Options

2. What Do You See? The Research Pane will display words that are related to the one you searched. You can click on any word to see additional suggestions. You can also use the **Back** button to page back to a previous word.

When you find a good word, right-click on that word. There are two options:
Insert
Copy

You can **Insert** a word if you wish.

Review ->Proofing-> Thesaurus



Review: Translate Text

You can use the **Translate** option to translate your text into a different language.

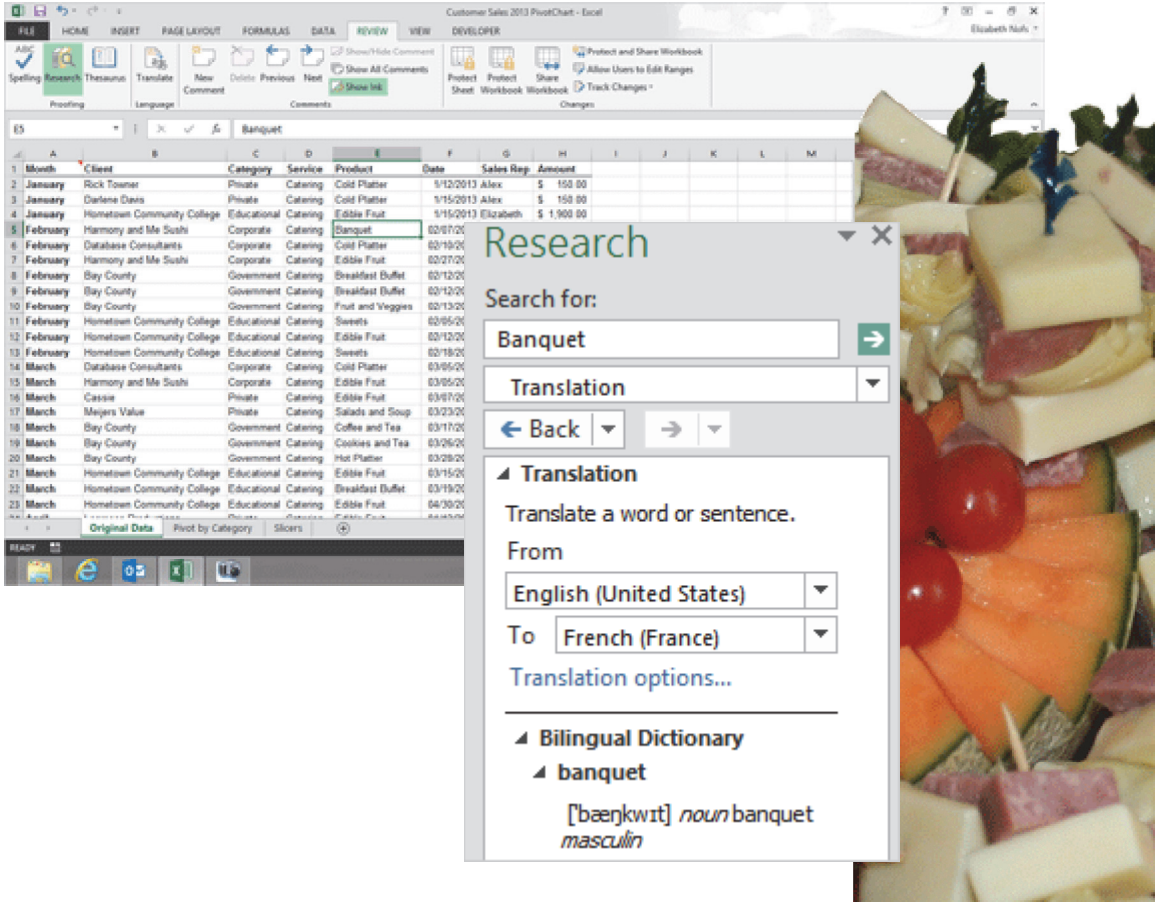
Try This: Translate Selected Text
Select any sample Cell and type: Banquet.
Go to **Review ->Language-> Translate.**
Choose a **Language** in the **To** drop-down list.



What Do You See? The Research Pane should bring up different translations.

Memo to Self: The Computer Mama sez it would be a good idea to have a professional review your translations if you are not fluent in the language. There are legends about the translation mash up that happened when WANG computers introduced their desktop computers in the United States in the 1980's.

Review ->Language-> Translate



Prepare to Share

Say you are ready to E-mail this file around the office for comments and review. Before you send it out you may wish to consider if you should **Share** or **Protect** your work. Let's think about what protecting the data means. When you **Protect** a sheet or workbook, you are restricting what users can or cannot do.

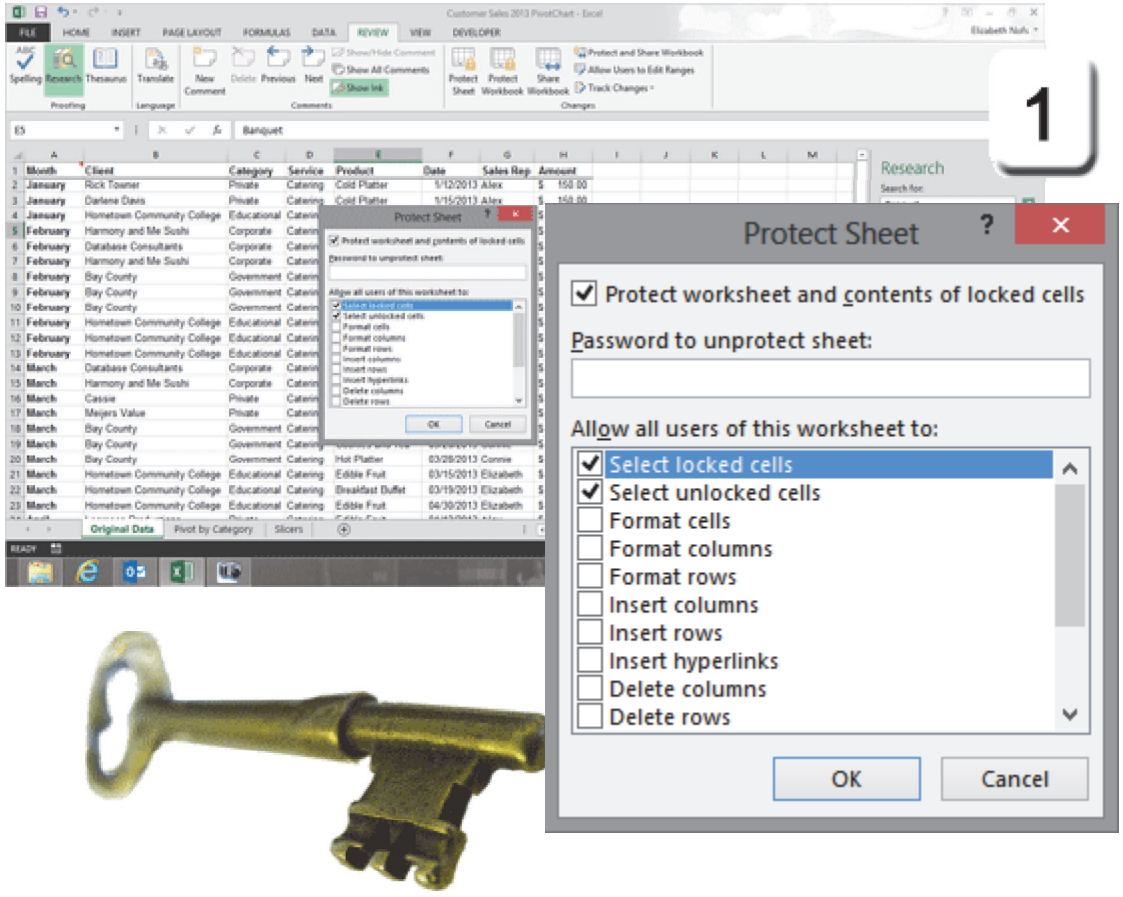
1. Try it: Protect the Sheet
Go to **Review->Changes**.
Select **Protect Sheet**.

What Do You See? You will be prompted to **Protect worksheet and contents of locked cells.** By default, when you Protect a worksheet all of the cells will be locked. You can select which options you would allow your users to do, such as Insert row or Format cells.

You can enter a **Password** to unprotect the sheet, or not.

Click **CANCEL** and keep going, please...

Review ->Changes-> Protect Sheet



Protect the Workbook

Every Microsoft Excel Workbook has a **structure**. The workbook structure includes sheets that are visible, others that are hidden. The structure can also include the size and position of the windows.

When you **Protect a Workbook**, you prevent the users from finding hidden sheets or changing the data. **Workbook Protection is applied to the entire workbook and all of the spreadsheets in it.** Before you lock the Workbook you can choose cells you would like unlocked so the users can enter data.

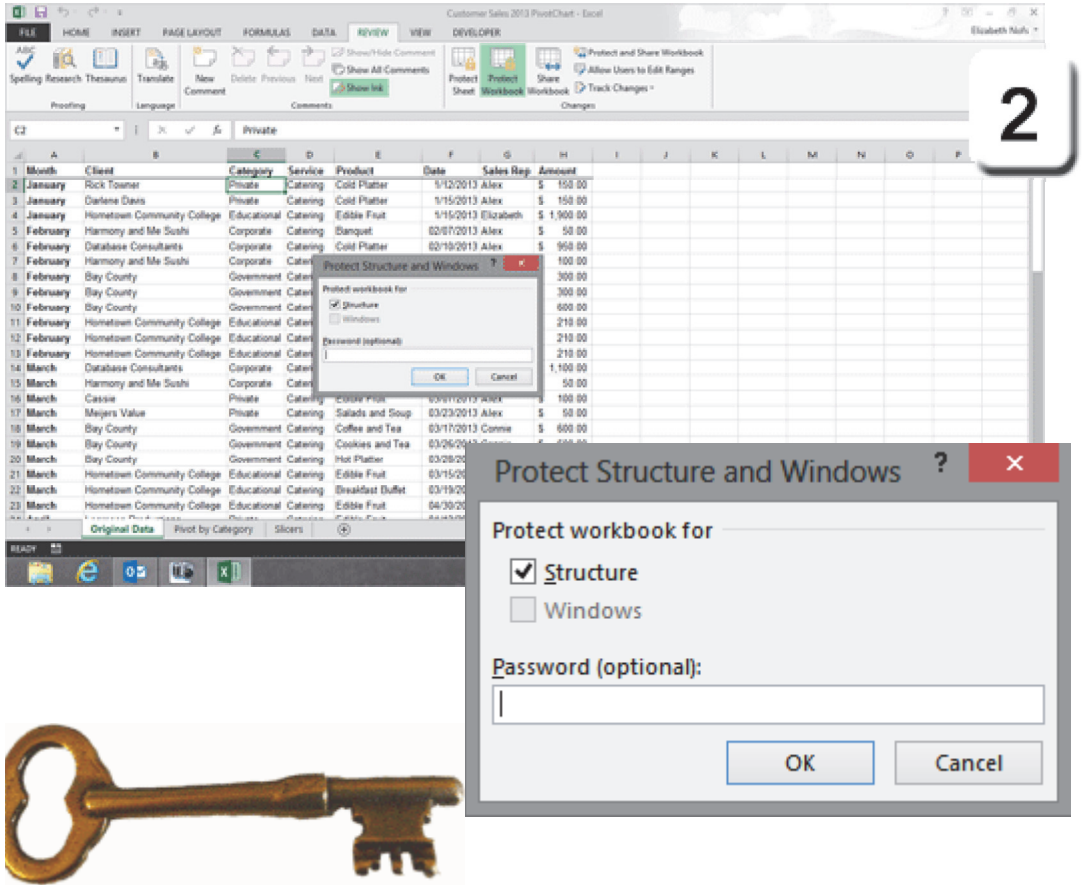
2. Try it: Protect a Workbook
Go to a **Review ->Changes.**
Click on **Protect Workbook.**

What Do You See? By default, there is checkmark to Protect the Structure.

You will be prompted to enter a **Password**. Write it down. Not even Microsoft can unlock a Workbook if you lose the Password.

Click **CANCEL** and keep going...

Review ->Changes-> Protect Workbook



Share a Workbook

This discussion began by reviewing the steps to **Protect** a sheet or workbook. The next pages will look at how to **Share**.

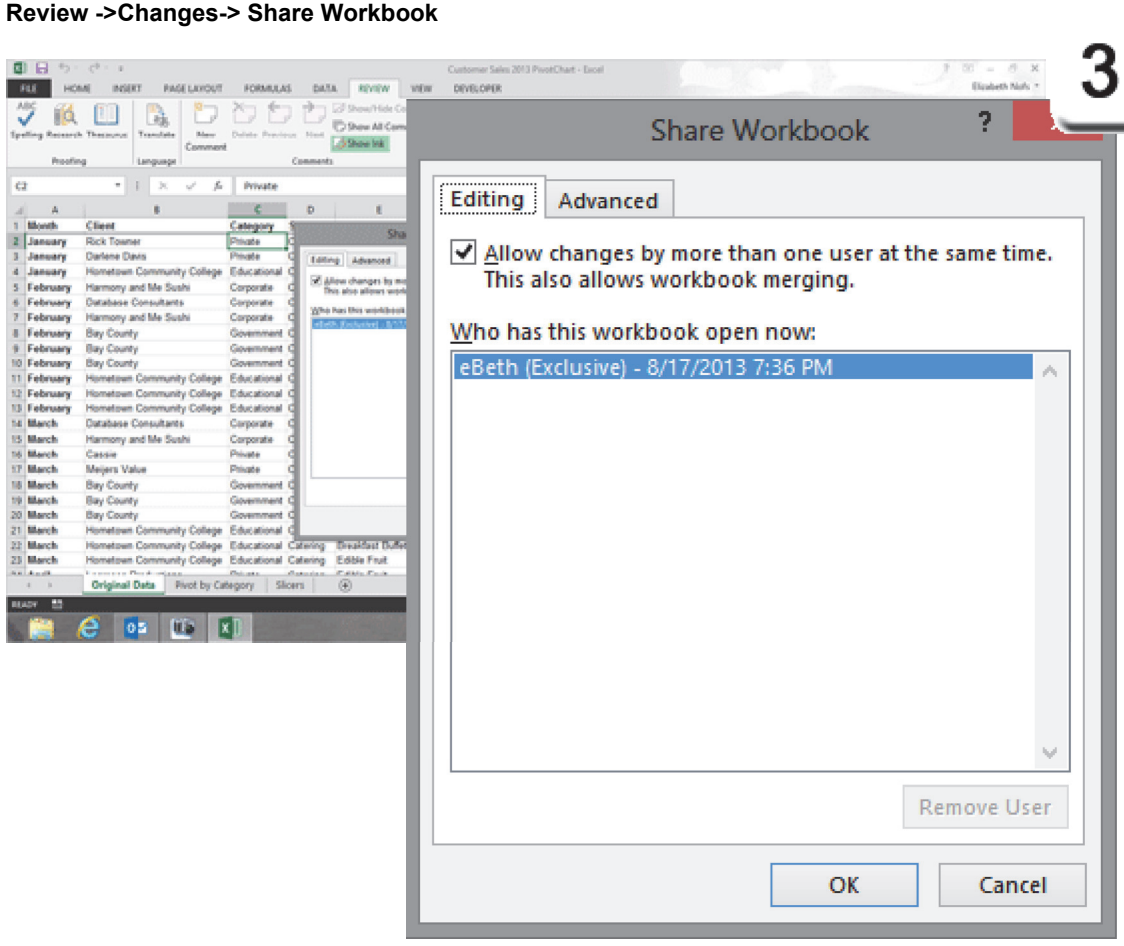
3. Try it: Share a Workbook
Go to **Review ->Changes.**
Click on **Share Workbook.**

What Do You See? By default, there is a check mark to allow changes by more than one user at the same time. The **Editing** tab also displays who currently has the workbook open.

What Else Do You See? Before you Share a Workbook, it will be marked as **Exclusive**: only one person can edit it at a time. After you Share a Workbook, it will no longer be listed as Exclusive.

Keep going...

Review ->Changes-> Share Workbook



Advanced Sharing Options

In addition to the **Editing** options, there are **Advanced** options when you **Share a Workbook**. Let's review them now.

4. Try it: Review the Advanced Options
The **Advanced** Sharing options include:

Track Changes: You can keep a history of all the changes and specify how many days you need to keep in the log.

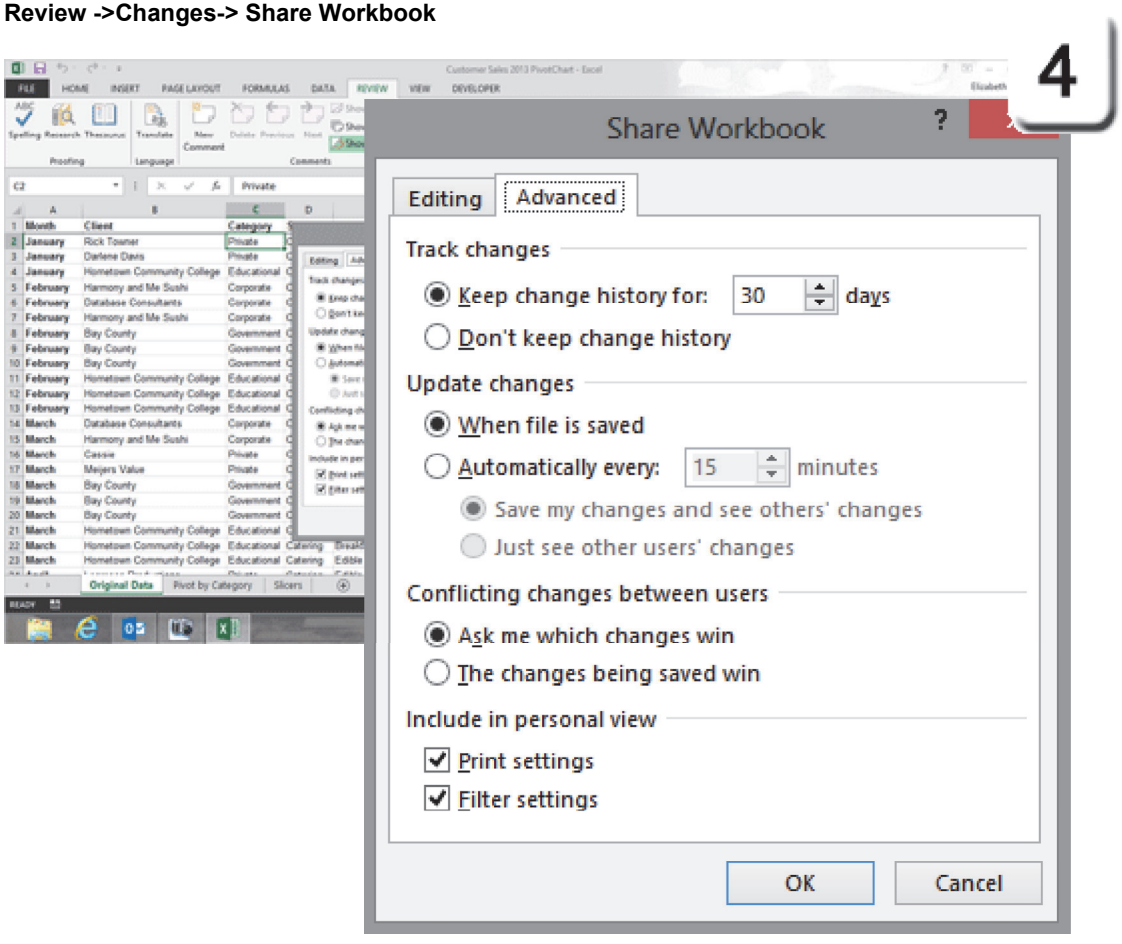
Update Changes: By default, the changes are updated each time a file is saved. They can also be set to update automatically.

Conflicting changes between users: You can choose to be asked or to let the last saved change "win."

Include in personal view: The Print and Filter settings are both included by default.

Click **CANCEL** and keep going...

Review ->Changes-> Share Workbook



Protect and Share

If you are editing this workbook in a group or department, you can **Protect and Share** your workbook. Here are the steps.

5. Try it: Protect and Share
Go to **Review->Changes**.
Select **Protect and Share**.

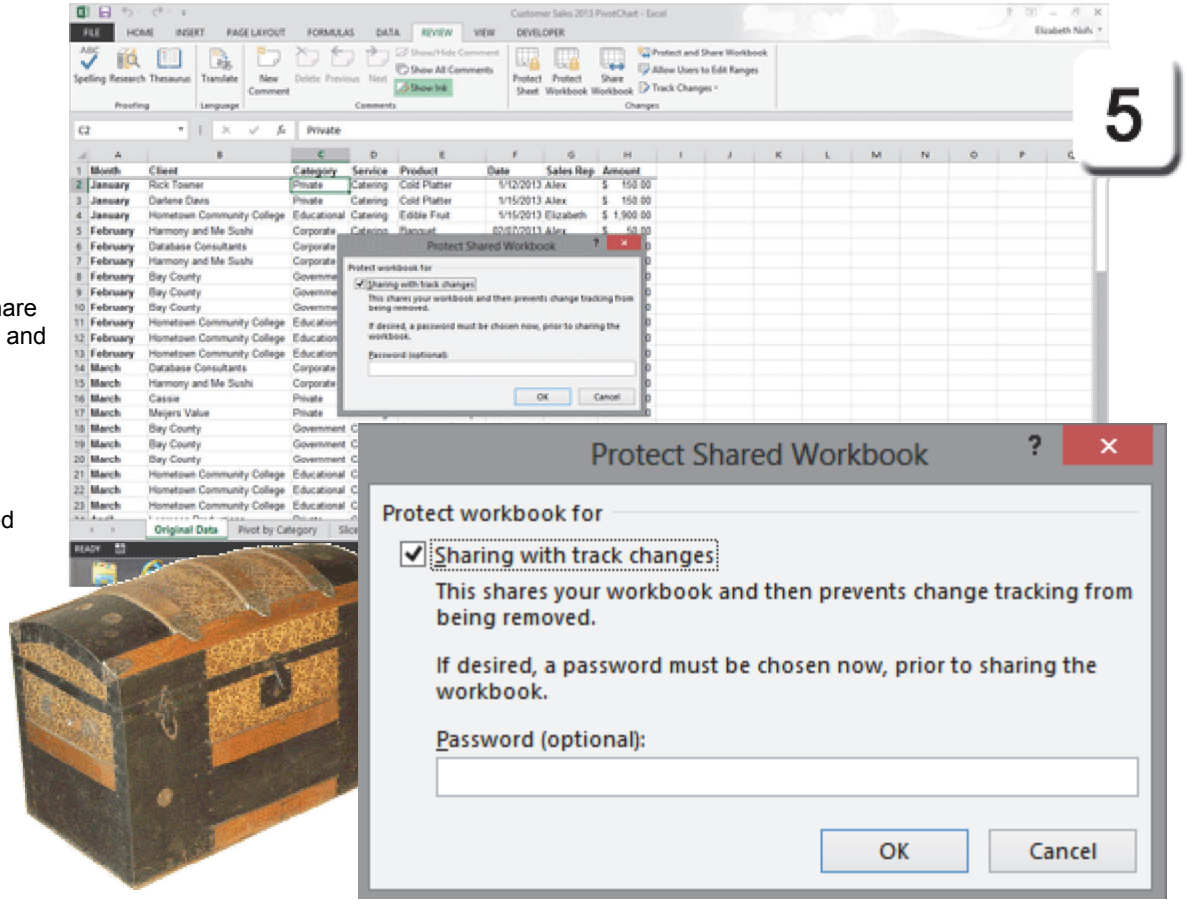
What Do You See? When you Protect and Share a Workbook, this option turns on the **Tracking** and prevents folks from turning the Tracking off.

What Else Do You See? You can enter a **Password** as well. The Password is optional.

When you click **OK** this workbook will be Saved and Shared.

Keep going...

Review->Changes-> Protect and Share



Exam 77-428 Microsoft Excel 2013 EXPERT
1. Manage and Share Workbooks
1.2 Prepare a Workbook for Review: Protect and Share Workbook

Review: Track Changes

You can **Track** each person who reviews this spreadsheet and if they made any changes.

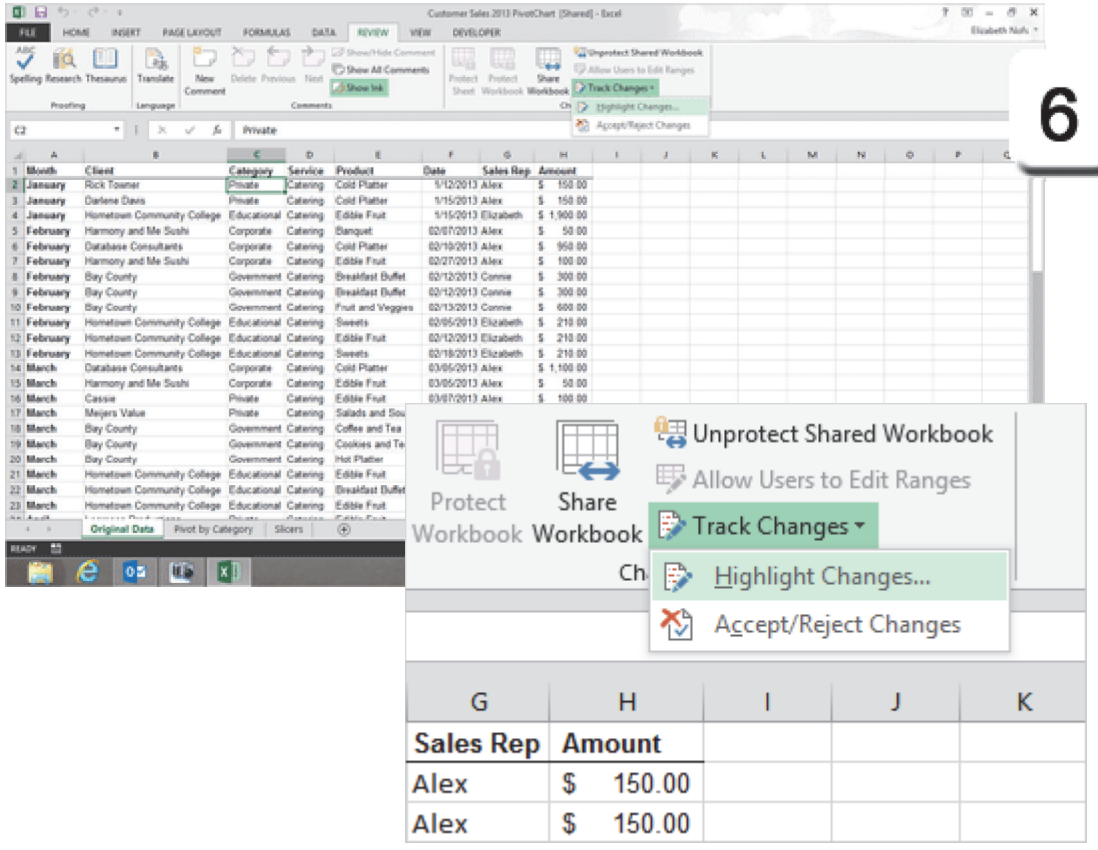
Each reviewer's changes can be highlighted in a different color. If you choose **Track Changes**, you can see which changes were made and who made these changes.

6. Try it: Track Changes
Go to **Review->Changes.**
Go to **Track Changes->Highlight Changes.**

Keep going...



Review ->Changes-> Track Changes->Highlight Changes



Review ->Changes-> Track Changes->Highlight Changes

Track Change Options

7. What Do You See? You will be prompted to choose which changes you would like to highlight. The options include:

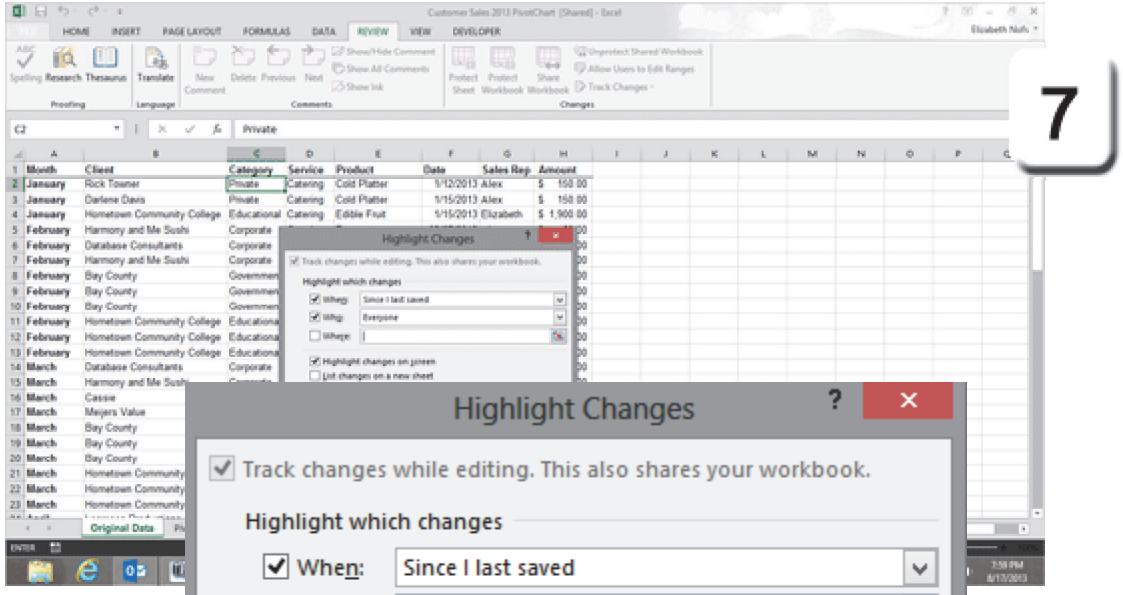
When: Since I last saved.
The other options are All, Not Yet Reviewed, and Since Date...

Who: Everyone.
The other option is Everyone but me.

Where: By default this is blank.
You can select a range of cells to Track.

What Else Do You See? There should be a check mark to **Highlight changes on screen.**

Click **OK** and keep going...





Exam 77-427 Microsoft Excel 2013 EXPERT
1. Manage and Share Workbooks
1.3 Manage Workbook Changes: Track Changes

Review the Tracked Changes

So, what does **Tracking** look like? In this sample spreadsheet there are 7 records for "Cold Platter." Let's **Find and Replace** "Cold Platter" with "Pita Platter."

8. Try it: Make Some Changes
Select Column E: Product.
Go to **Home->Editing->Find & Select**.
Click on **Replace**.

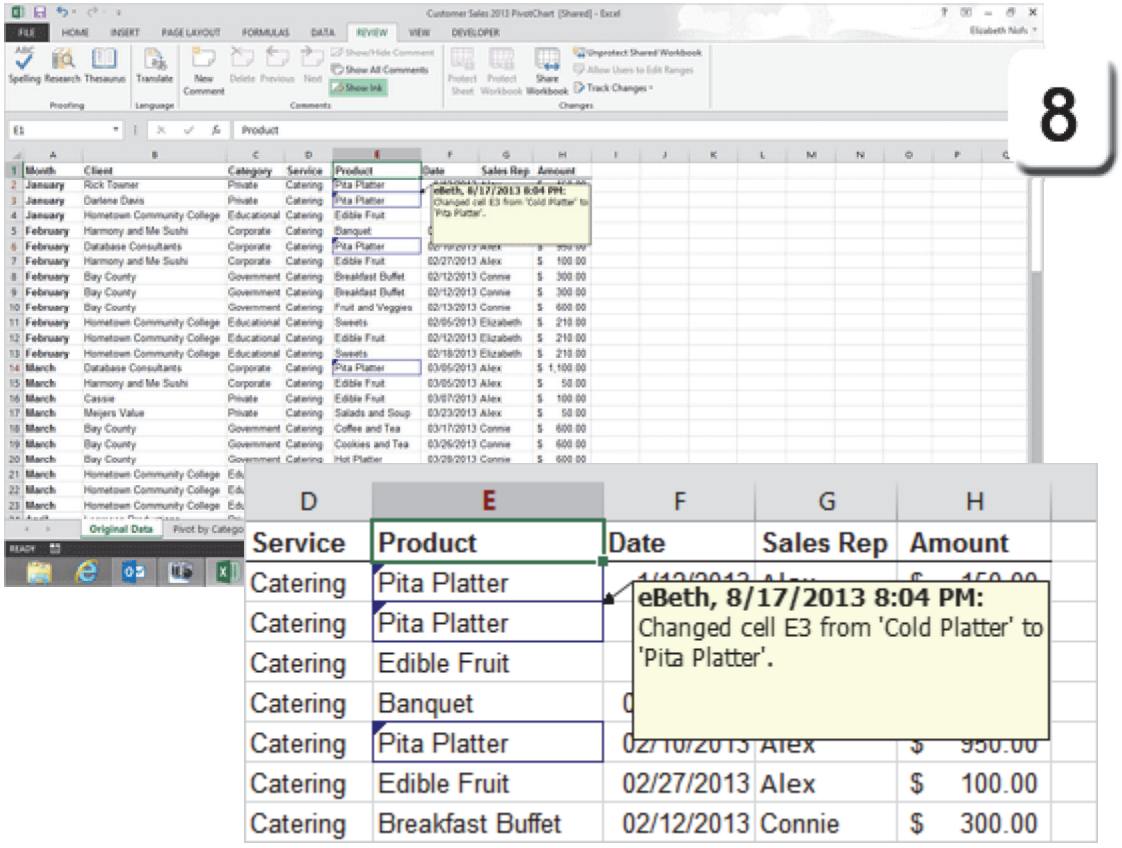
You will be prompted to enter the following:
Find What: Cold Platter
Replace With: Pita Platter
Click **Replace All** to make 7 replacements.
Close the Find and Replace window.

So, What Do You See? There should be a border around the cells that were changed.

When you run your cursor over the highlighted cell you should see the name of the person **who** changed the data, **when** it was changed and **what** was changed.

One more time, keep going...!

Home->Editing->Find & Select-> Replace



Review ->Changes-> Track Changes-> Accept or Reject Changes

9

Accept or Reject the Changes

As you review the tracked changes, you can choose to **Accept** or **Reject** those changes.

9. Try it: Select Changes
Go to **Review ->Changes-> Track Changes**.
Click on **Accept or Reject Changes.**

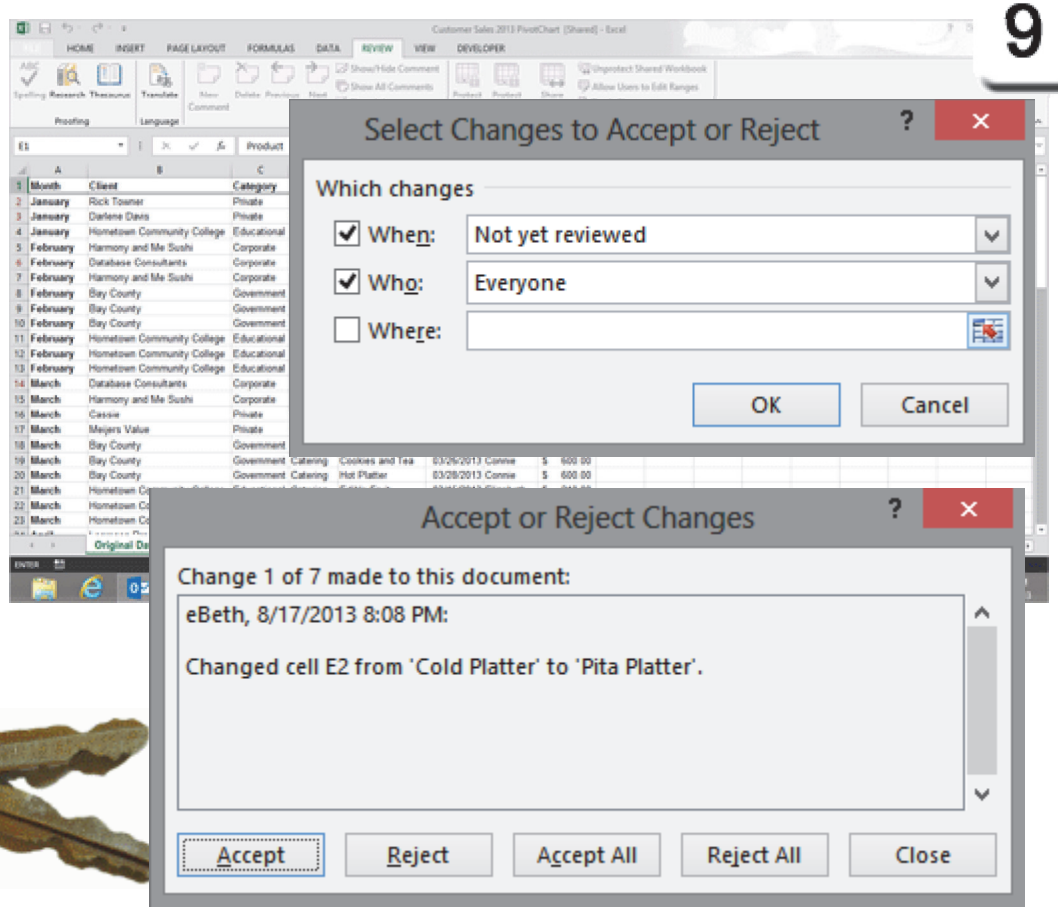
You will be prompted to select which changes. When:
Not yet reviewed
Who: Everyone
Click **OK**.

Try This, Too: Accept or Reject Changes
The options include:
Accept
Reject
Accept All
Reject All

Click **Accept All** and **Close** the window.

Very good.





Review: Add a Comment

How do you scribble your observations or corrections on a spreadsheet? In Microsoft Excel you can use **Comments** to share your thoughts with your team.

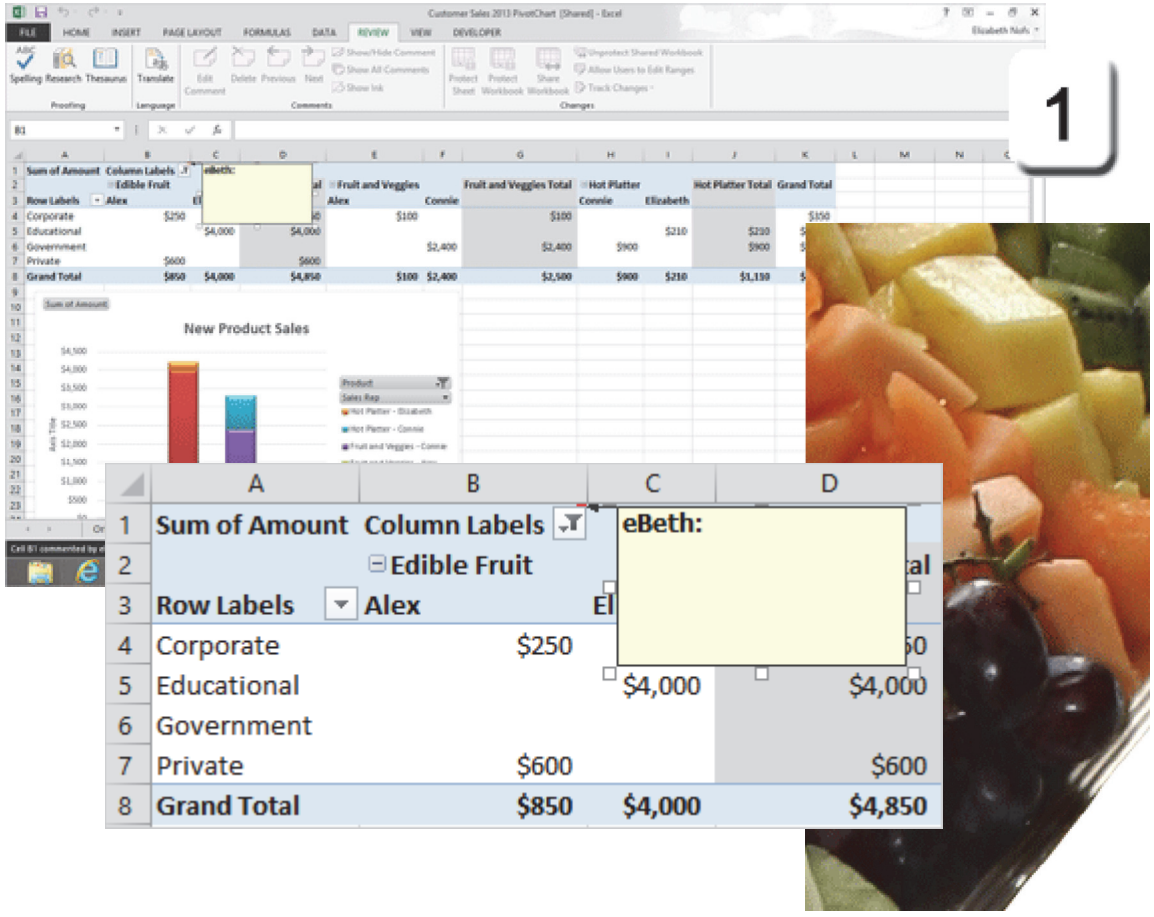
Before You Begin: These screen captures are from Pivot by Category. Any spreadsheet will be fine: You do not need to MATCH this one.

1. Try This: Add a Comment
Select Cell B4.
Go to **Review ->Comments**.
Click on **New Comment**.

What Do You See? A new comment will be placed in your spreadsheet. The comment on this page shows that it was added by eBeth.

Keep going, please...

Review ->Comments-> New Comment



Review: Edit Comments

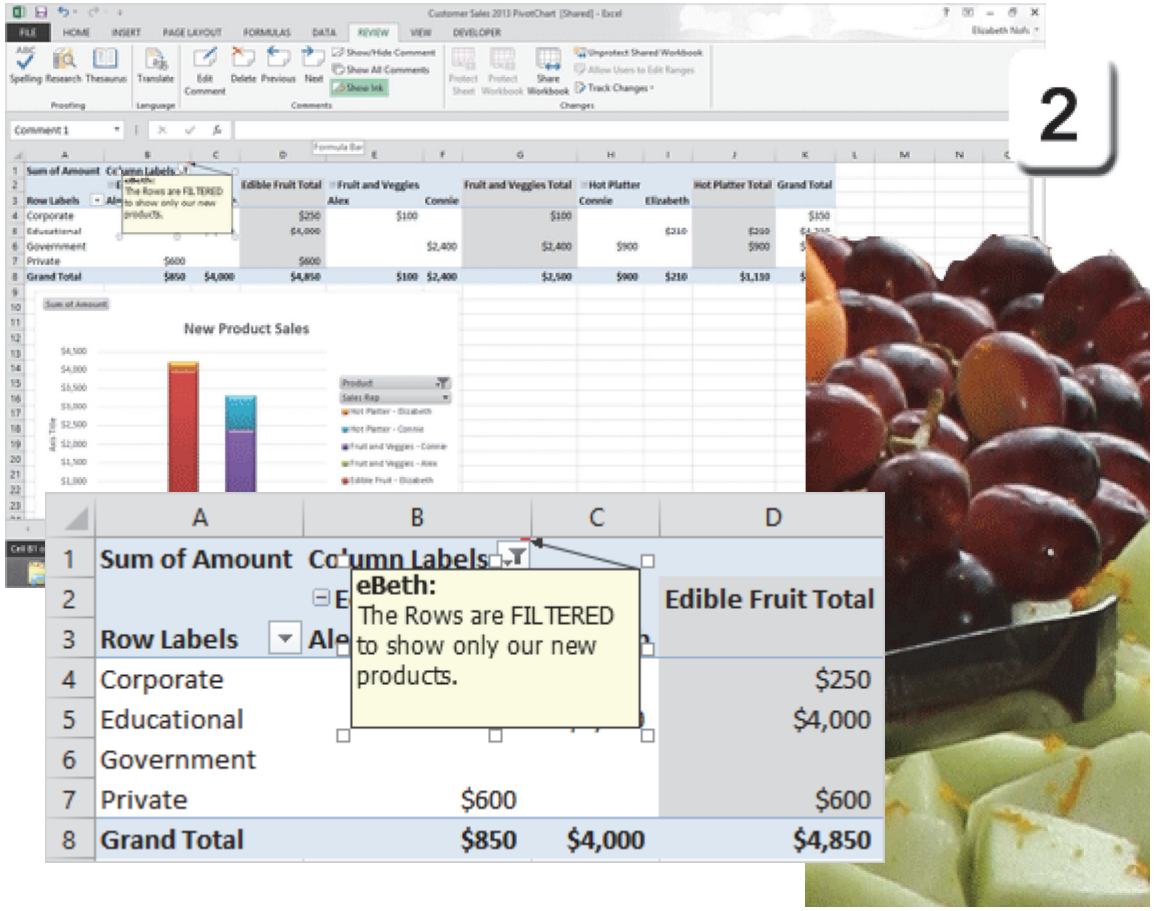
When you create a new comment, your cursor should be in the balloon, ready to type. Here are the steps to **Edit** the Comment.

2. Try it: Edit the Comment
Select Cell B4 (The one with the Comment.)
Go to **Review ->Comments.**
Click on **Edit Comment**.
Type: The rows are FILTERED to show only our new products.

What Do You See? A Comment is a special Text Box. You can edit the Comment to make it taller or wider. You can also move the Comment to a different place if you wish.

Keep going...

Review ->Comments-> Edit Comment



Review the Comments

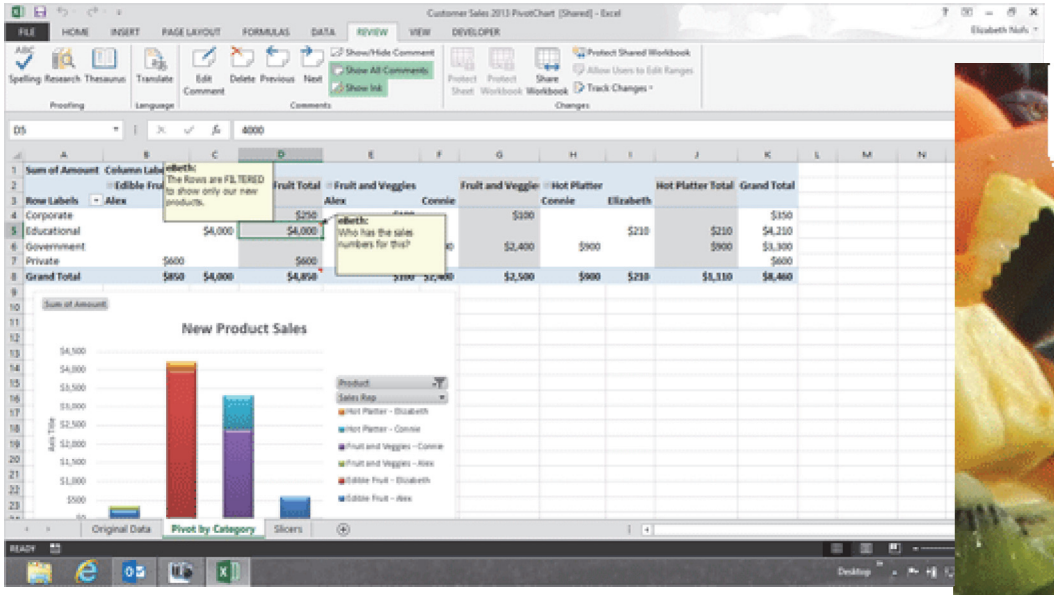
Look again at the **Review** Ribbon. The **Comments** group has a couple of useful buttons for navigation and display.

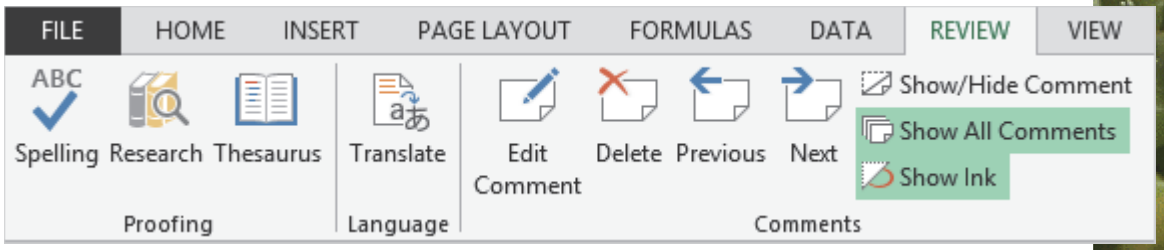
Before You Begin: Select 2 or 3 different cells and add a Comment (e.g. Comment1, Comment2) to each one.

3. Try This: Review the Options
Go to **Review ->Comments**.
Navigate around the Comments with the **Previous** and **Next** options.

What Else Do You See? When you select a Comment you can also **Delete** it.

Review ->Comments-> Next





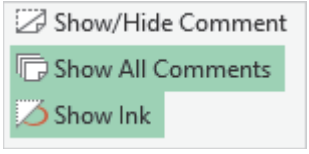


Exam 77-427 Microsoft Excel 2013 EXPERT
1. Manage and Share Workbooks
1.3 Manage Workbook Changes: Manage Comments (Edit, Delete)

Show/Hide Comments

Say your workbook has Comments from several Reviewers. You can choose which ones should be shown or hidden.

4. Try This, Too: Show/Hide the Comments
Click on a Cell that has a Comment.
Go to **Review ->Comments.**
Click on **Show/Hide Comment.**

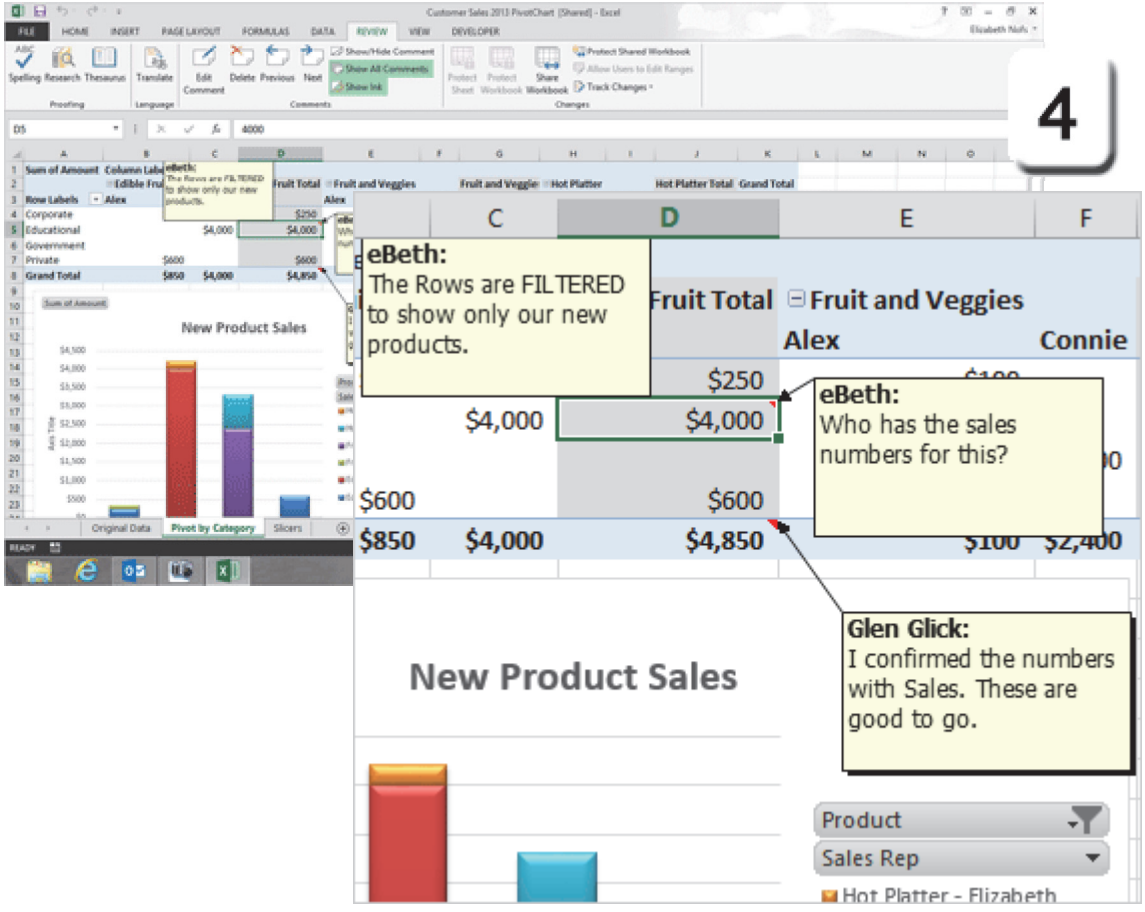


What Do You See? There should be a small triangle in the upper right corner of the cell that has a Comment.

OK, that completes this discussion on the **Review** Ribbon: Proofing, Language, Comments and Changes.

SAVE your changes, please.

Review ->Comments-> Show/Hide Comment



Exam 77-427 Microsoft Excel 2013 EXPERT
1. Manage and Share Workbooks
1.3 Manage Workbook Changes: Manage Comments (Show/Hide)

Working Together

Say two people need to work on the same file at the same time. How would you compare the two files and merge the changes? Microsoft Excel has a tool you can add that automates the steps: **Compare and Merge Workbooks.**

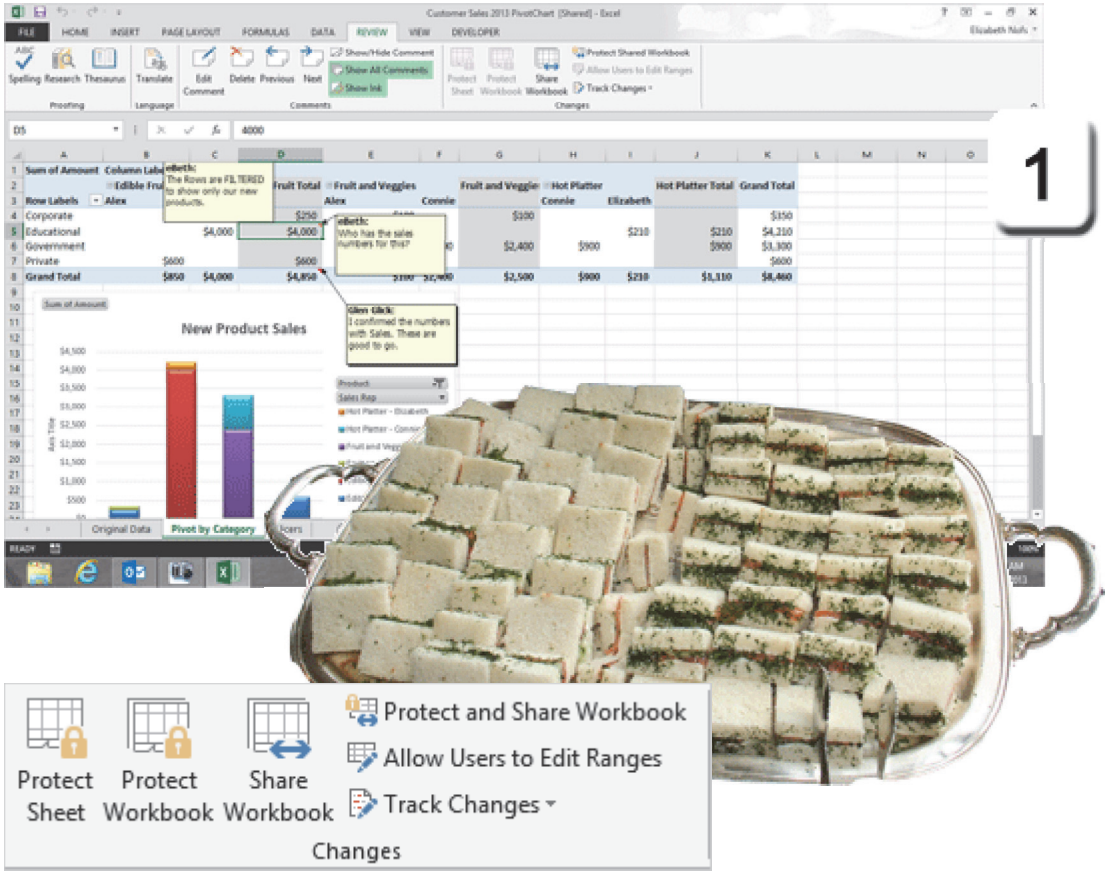
1. Here are some thoughts to consider:

Where are you sharing your work?
For the best results, you need to save all of the shared copies in the same folder on the server.

Where is the command button?
You also need to customize the Quick Access and add the **Compare and Merge Workbooks** button. This option is NOT available in the **Review** Ribbon by default.

Working With the Same Shared Copies
Compare and Merge Workbooks only works with copies of the same **Shared** workbook. It cannot be used to combine workbooks that are not Shared.

Keep going...



Add a Command to the Quick Access Toolbar

Here are the steps to customize the **Quick Access Toolbar** and add the **Compare and Merge Workbooks** button.

Before You Begin: The sample workbook,Customer Sales 2013 PivotChart.xlsx. is open and **Shared**.

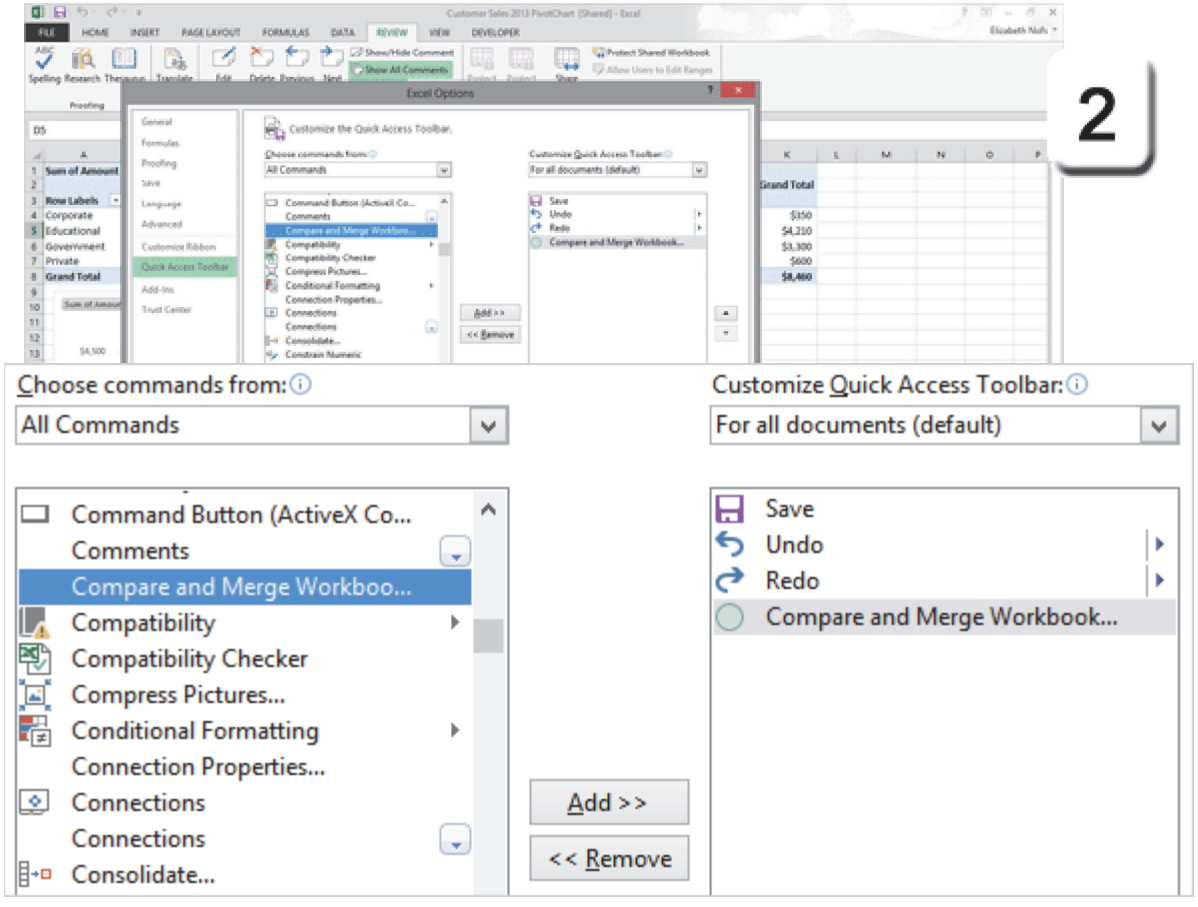
2. Try This: Add Compare and Merge Workbooks to the Quick Access Toolbar
Go to **File ->Options.**
Click on the **Quick Access Toolbar** tab.

Customize the Quick Access Toolbar
Choose commands from: All Commands.
Select **Compare and Merge Workbooks.**
Click **Add.**

The **Compare and Merge Workbooks** command should be displayed on the right.
Click **OK.**

Keep going...

File ->Options-> Quick Access Toolbar



Compare and Merge

The **Quick Access Toolbar** should have a new button, **Compare and Merge Workbooks**. In the image on this page the custom button is to the right of the Undo and Redo arrows.

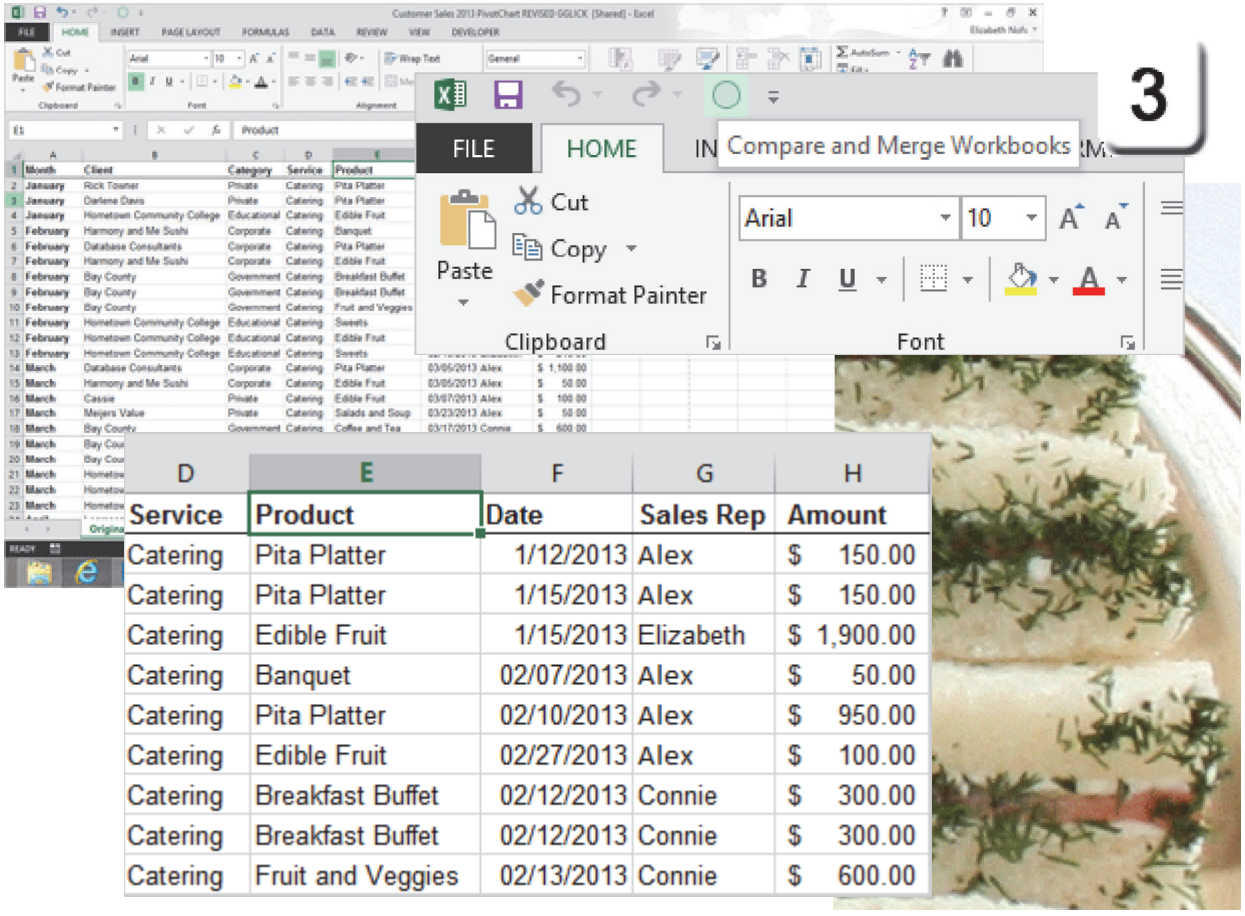
3. What if two people edit the same file? Say there are two people who go to the same folder and open the same Shared workbook.

Say User2 clicked on **Find and Replace** to get all of the Pita Platter sales and format the data orange. User2 then SAVED her changes.

Keep going...

Memo to Self: Some of these examples cannot really be tested if you are working alone.

Quick Access Toolbar ->Compare and Merge Workbooks



Service	Product	Date	Sales Rep	Amount
Catering	Pita Platter	1/12/2013	Alex	$ 150.00
Catering	Pita Platter	1/15/2013	Alex	$ 150.00
Catering	Edible Fruit	1/15/2013	Elizabeth	$ 1,900.00
Catering	Banquet	02/07/2013	Alex	$ 50.00
Catering	Pita Platter	02/10/2013	Alex	$ 950.00
Catering	Edible Fruit	02/27/2013	Alex	$ 100.00
Catering	Breakfast Buffet	02/12/2013	Connie	$ 300.00
Catering	Breakfast Buffet	02/12/2013	Connie	$ 300.00
Catering	Fruit and Veggies	02/13/2013	Connie	$ 600.00

Updating the Shared File

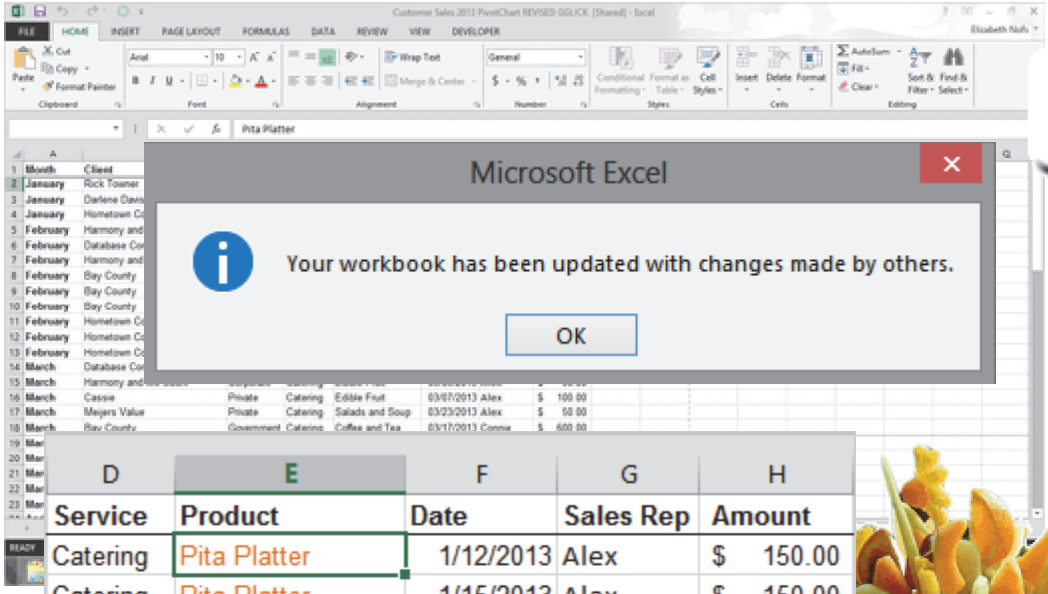
4. What happens when you click on Compare and Merge Workbooks?
User1 and User2 both made changes to the same workbook. Say User1 went to the Quick Access toolbar and clicked **Compare and Merge Workbooks.**

Microsoft Excel will update User1's copy of the spreadsheet with User2's changes. A small window will pop up confirming that your workbook has been updated.

That was it: Excel compared both versions of the Shared workbook and updated User1's copy.

That's that...Let's take up a new topic.

Quick Access Toolbar ->Compare and Merge Workbooks



D	E	F	G	H
Service	Product	Date	Sales Rep	Amount
Catering	Pita Platter	1/12/2013	Alex	$ 150.00
Catering	Pita Platter	1/15/2013	Alex	$ 150.00
Catering	Edible Fruit	1/15/2013	Elizabeth	$ 1,900.00
Catering	Banquet	02/07/2013	Alex	$ 50.00
Catering	Pita Platter	02/10/2013	Alex	$ 950.00
Catering	Edible Fruit	02/27/2013	Alex	$ 100.00
Catering	Breakfast Buffet	02/12/2013	Connie	$ 300.00
Catering	Breakfast Buffet	02/12/2013	Connie	$ 300.00
Catering	Fruit and Veggies	02/13/2013	Connie	$ 600.00



Document Properties

Every file has **Properties**. The basic Properties include the name of the file and when it was created or modified.

1. Try it: Find the Properties
Go to **File->Info->Properties**.

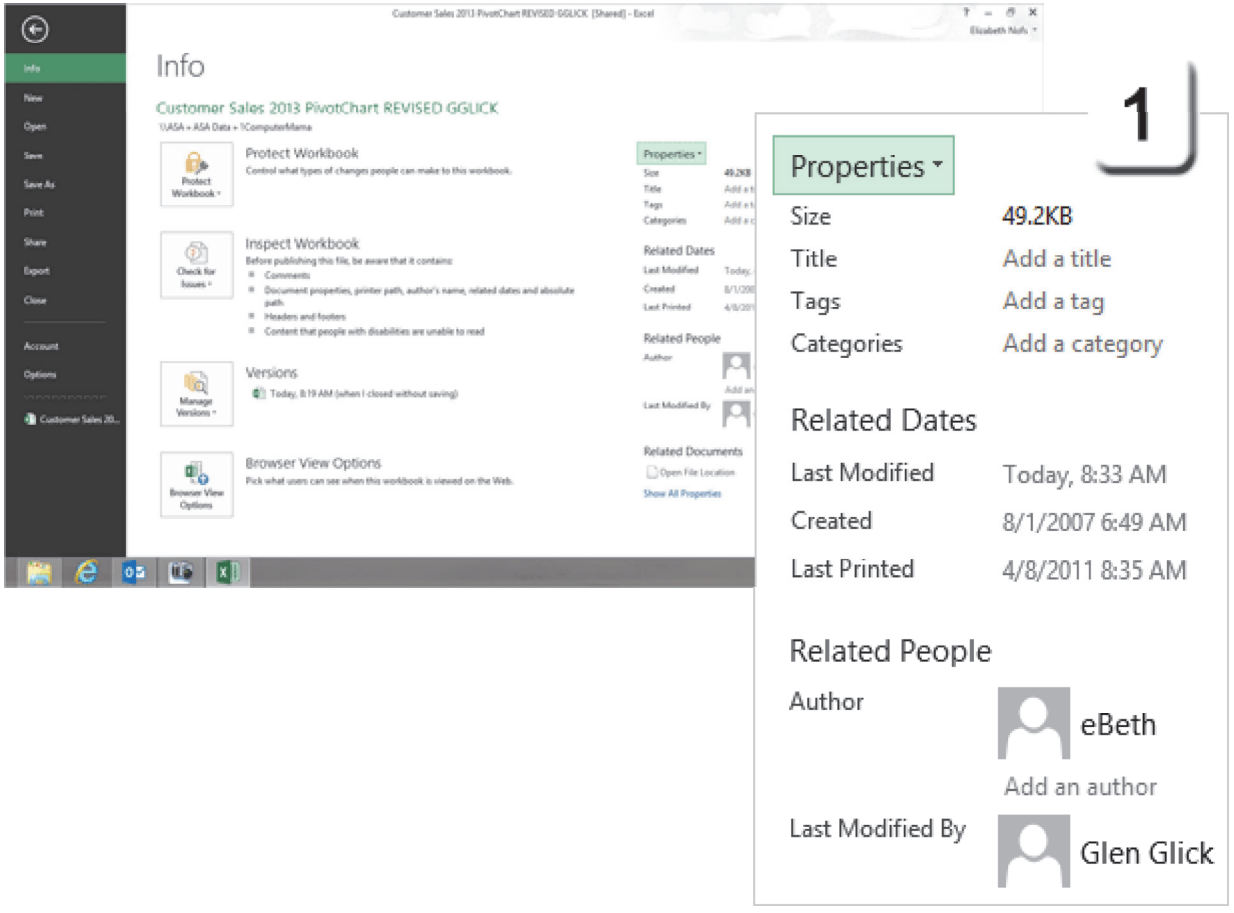
What Do You See? The Properties are:
Size
Title
Tags
Catgories

The Related Dates include:
Last Modified
Created
Last Printed

The Related People shows:
Author
Last Modified By

Keep going, there's more...

File ->Info-> Properties



Exam 77-420 Microsoft Excel 2013
1. Create and Manage Worksheets and Workbooks
1.4 Customize Options and Views for Worksheets and Workbooks: Add Values To Workbook Properties

Info: Edit the Properties

Most of the **Properties** are updated by the computer when you SAVE a file. Some of the Properties can be customized.

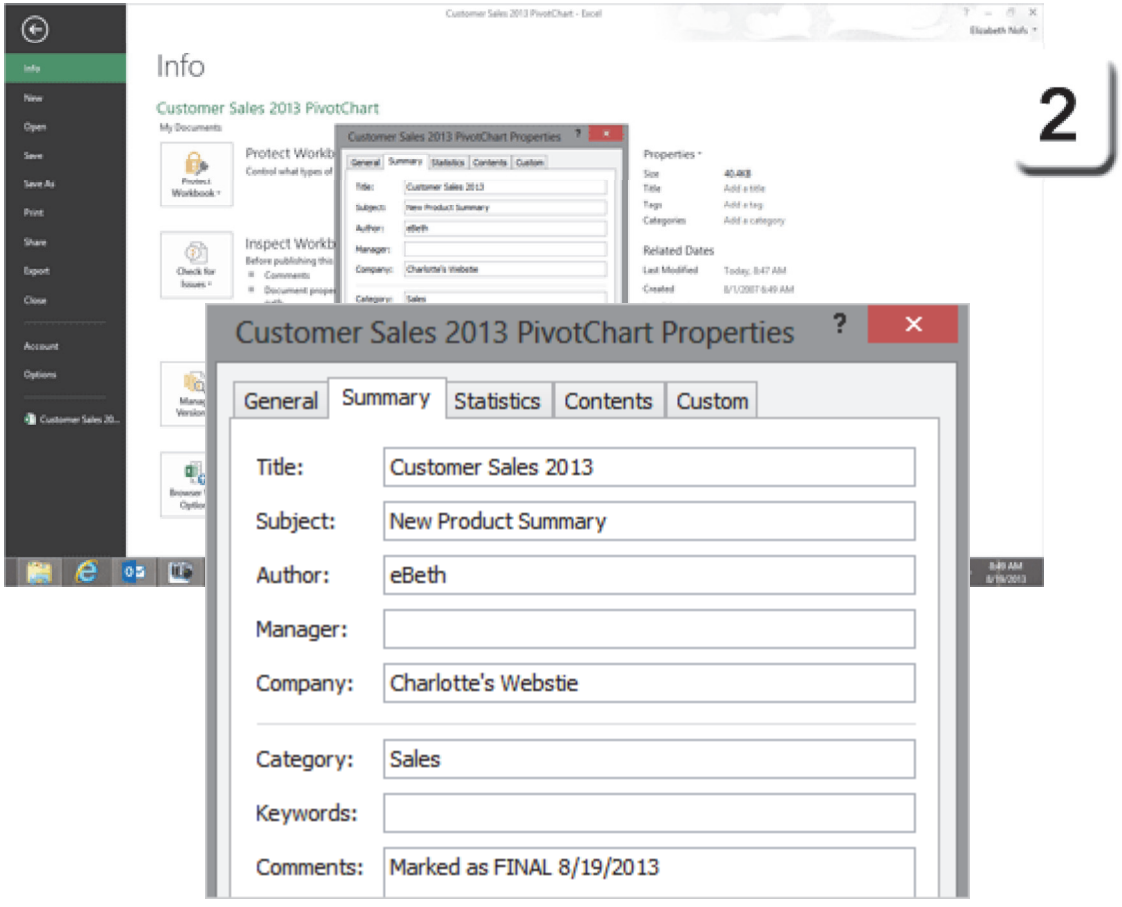
2. Try it: Open the Advanced Properties
Go to **File ->Info-> Properties.**
Click on **Advanced Properties**.

What Do You See? A Property Sheet with 5 tabs should open. The **General** tab displays the same basic information that was available in the Backstage View: name and dates.

Try This, Too: Edit the Summary
You can edit many fields on the Summary tab:
Title
Subject
Author
Manager
Company
Category
Keywords (that's metadata)
Comments

Click **OK** and keep going...

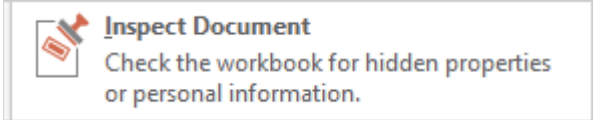
File ->Info-> Properties



Info: Inspect Document

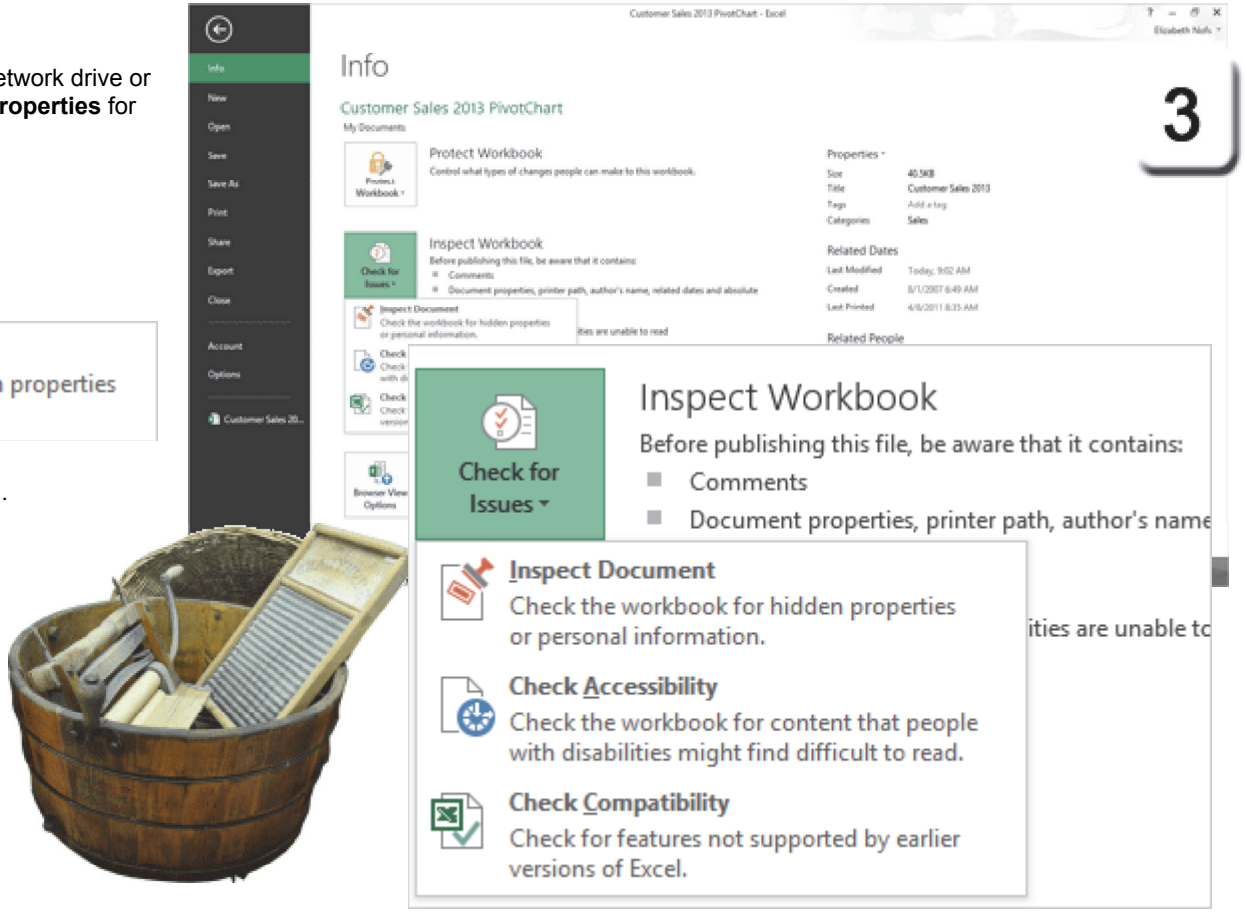
Prior to posting your work on a shared network drive or on the Internet you should **Inspect** the **Properties** for metadata or personal information.

3. Try it: Inspect the Document
Go to **File->Info.**
Go to **Check for Issues.**
Click on **Inspect Document.**



What does it do? Keep going to find out...

File ->Info->Check for Issues-> Inspect Document



Exam 77-428 Microsoft Excel 2013 EXPERT
1. Manage and Share Workbooks
1.2 Prepare a Workbook for Review: Inspect Workbook Metadata

The Document Inspector

4. What Do You See?

Meet the **Document Inspector**.

This tool reviews your work and looks for:
Comments and Annotations
Document Properties and Personal Information
Data Model
Content Apps
Task Pane Apps
Custom XML Data
Headers and Footers
Hidden Rows and Columns
Hidden Worksheets
Invisible Content

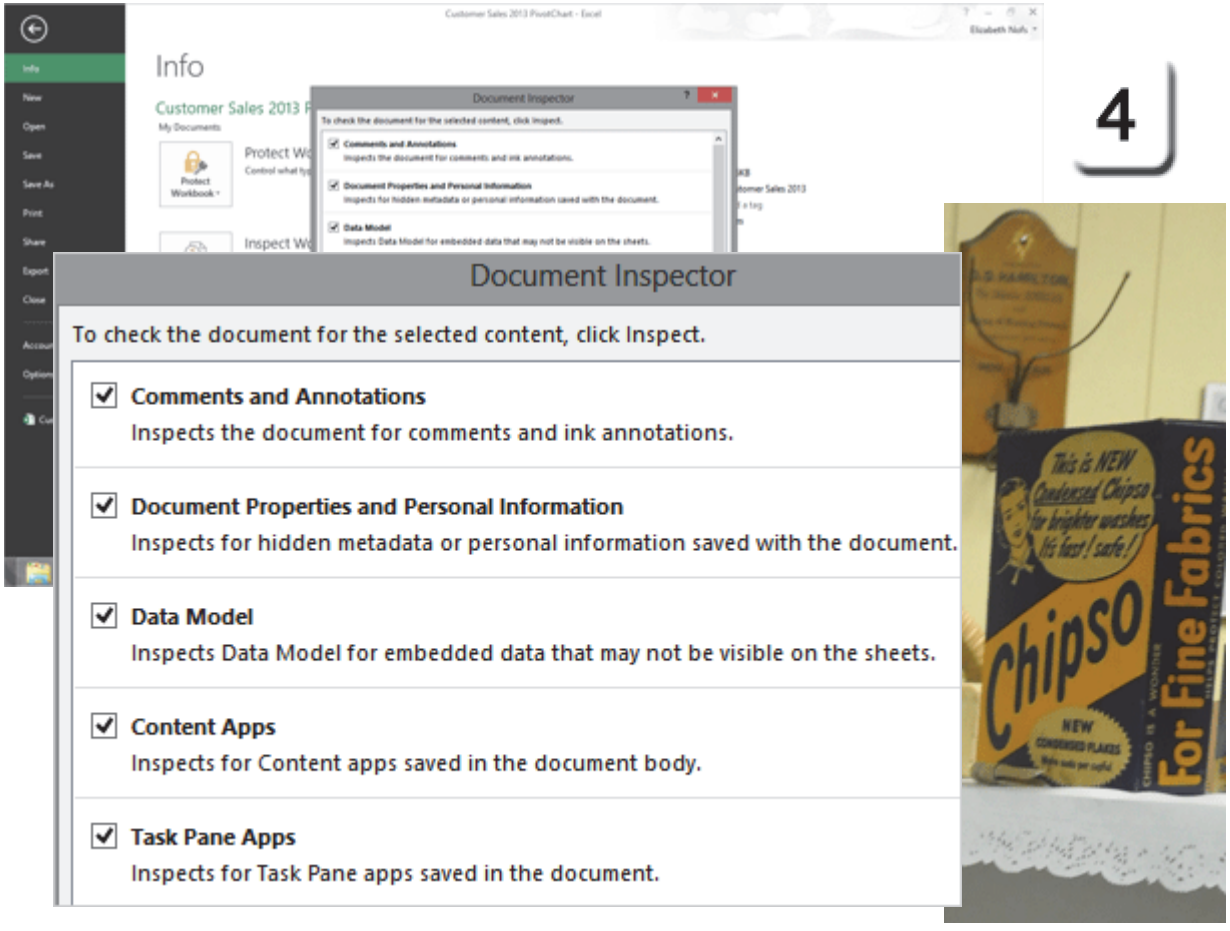
If the **Document Inspector** finds any metadata or personal information, you will be prompted to ignore or delete it.

Click **Close**.

Keep going...

Memo to Self: Hidden Data cannot be removed in Shared Workbooks.

File ->Info->Check for Issues-> Inspect Document



Exam 77-428 Microsoft Excel 2013 EXPERT
1. Manage and Share Workbooks
1.2 Prepare a Workbook for Review: Inspect Workbook Metadata (The Document Inspector)

Info: Check Compatibility

Microsoft Office 2007, 2010 and Office 2013 have a new file format: XML (Extended Markup Language). All new files now have four letter extensions. For example, Excel 2013 workbooks are saved as myname.xlsx.

The format is so different that older versions of Microsoft Office cannot even open the new files without a free add-on. People are slow to upgrade their systems. So, there may be some **Compatibility** issues.

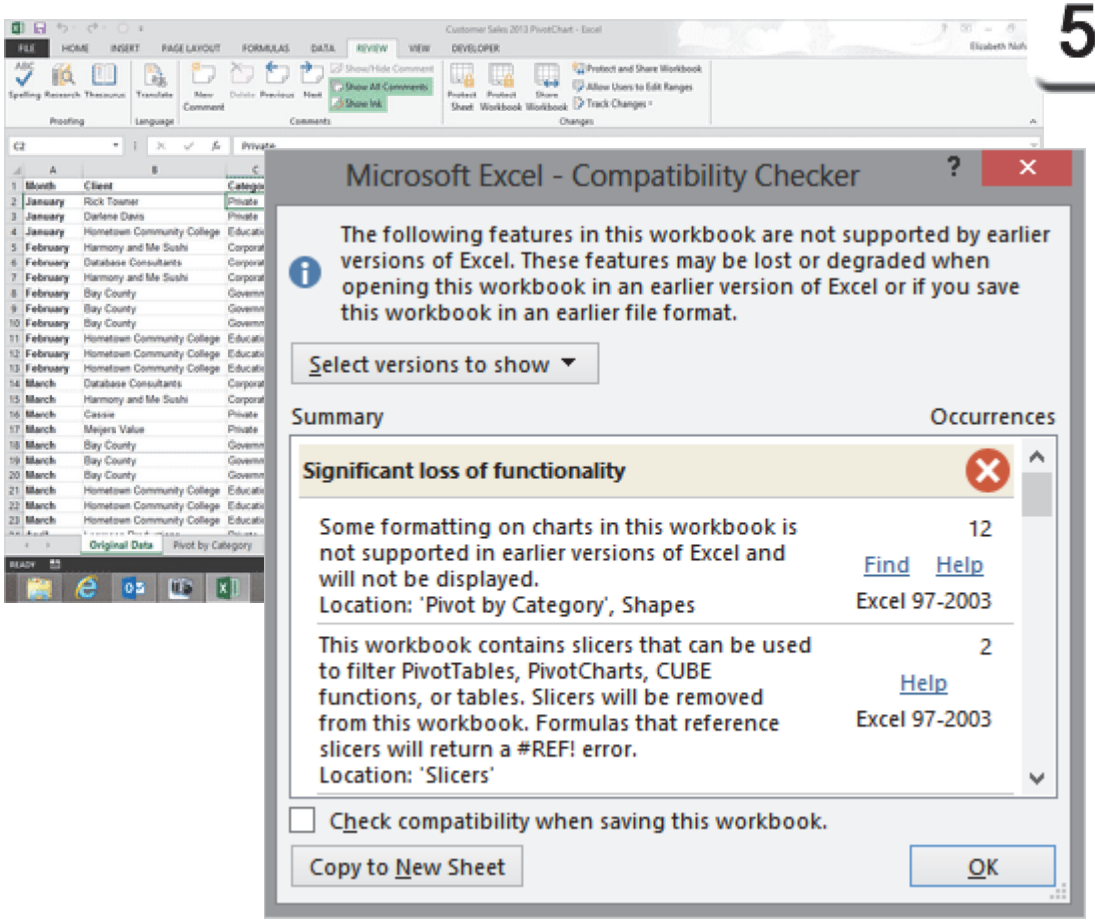
5. Try it: Check Compatibility
Go to **File ->Info->Check for Issues.**
Click on **Check Compatibility.**

Compatibility issues are grouped into 2 categories: **Significant** and **Minor loss of functionality**. What do you lose?

Themes and Styles are not supported by earlier versions of Microsoft Office. New functions such as Slicers, Sparklines and PivotTable Slicers are not supported, either. Click **OK**.

(Aw, you never let me have any fun.)

File ->Info->Check for Issues-> Check Compatibility



Exam 77-428 Microsoft Excel 2013 EXPERT
1. Manage and Share Workbooks
1.2 Prepare a Workbook for Review: Check for Issues (Compatibility Checker)

Info: The Accessibility Checker

Computers have always helped people with disabilities access information. Since the early days of Windows 95, computers could read text out loud as well as type what was said. The assistive technology needs your input, though. For example, pictures and charts should have Alternative Text (Alt Text) that describes the graphic.

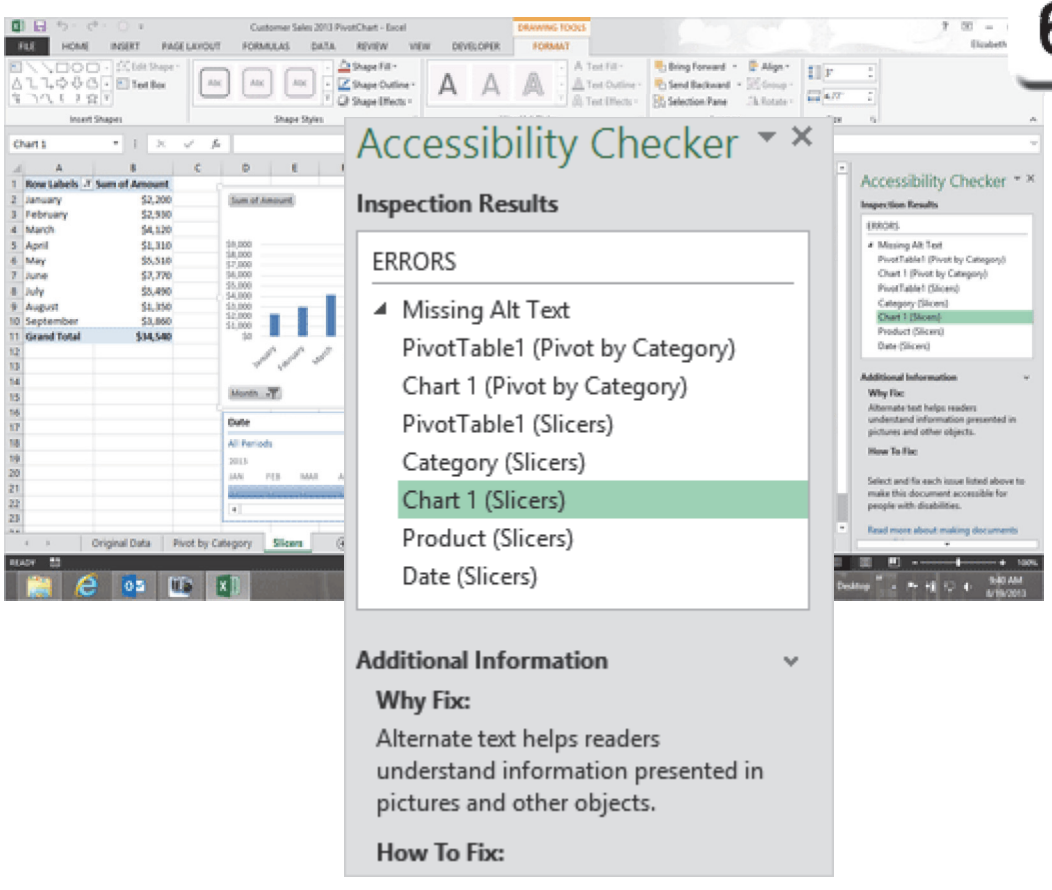
6. Try it: Run the Accessibility Checker
Go to **File ->Info->Check for Issues**.
Click on **Check Accessibility.**

What Do You See? The **Accessibility Checker** should be available on the right side of your screen. The **Inspection Results** will list **Errors** and **Warnings**.

What Else Do You See? Select an Error or Warning and look at the bottom of the **Accessibility Checker** for Additional Information. There should be a summary of the problem and how to fix it.

OK, **SAVE** and **CLOSE** this workbook.

File ->Info->Check for Issues-> Check Accessibility



Permissions and Protection

Security and permissions can be set at many levels. Earlier in this lesson we looked at how to Share or Protect a sheet or a workbook for changes and comments.

The following pages will discuss **Permissions** using the Backstage properties.

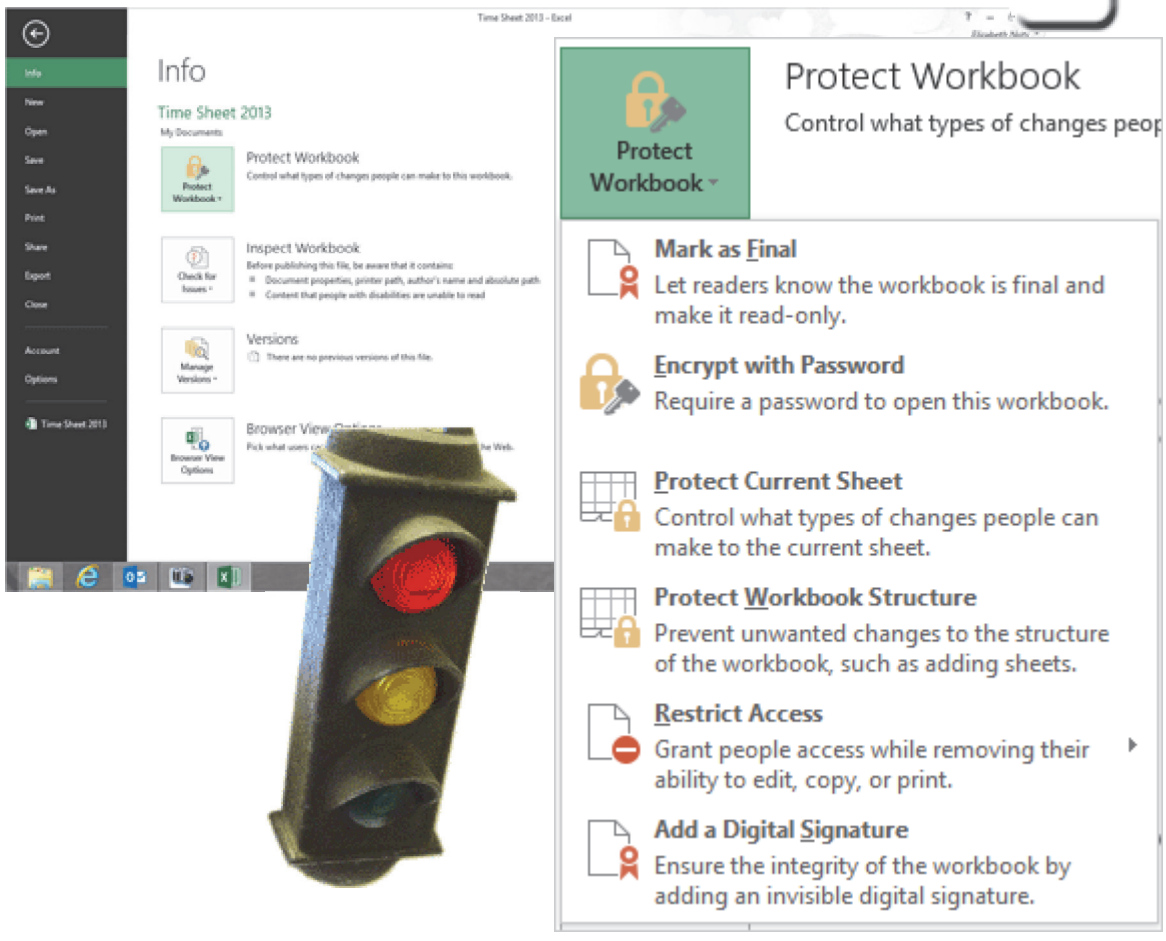
Before You Begin: This lesson will use a different file that has NOT been Shared or Protected.

1. Try it: Review the Permissions
Open the sample spreadsheet:
Time Sheet 2013.xlsx (Complete)
Go to **File ->Info-> Protect Workbook**.

What Do You See: The Permissions are:
Mark as Final
Encrypt with Password
Protect Current Sheet
Protect Workbook Structure
Restrict Access
Add a Digital Signature.

Let's consider these options. Keep going...

File ->Info->Protect Workbook



Permissions: Mark As Final

Say the spreadsheets are proofed, corrected and ready to go. When you **Mark as Final** you are indicating that this file is done: do not edit it anymore.

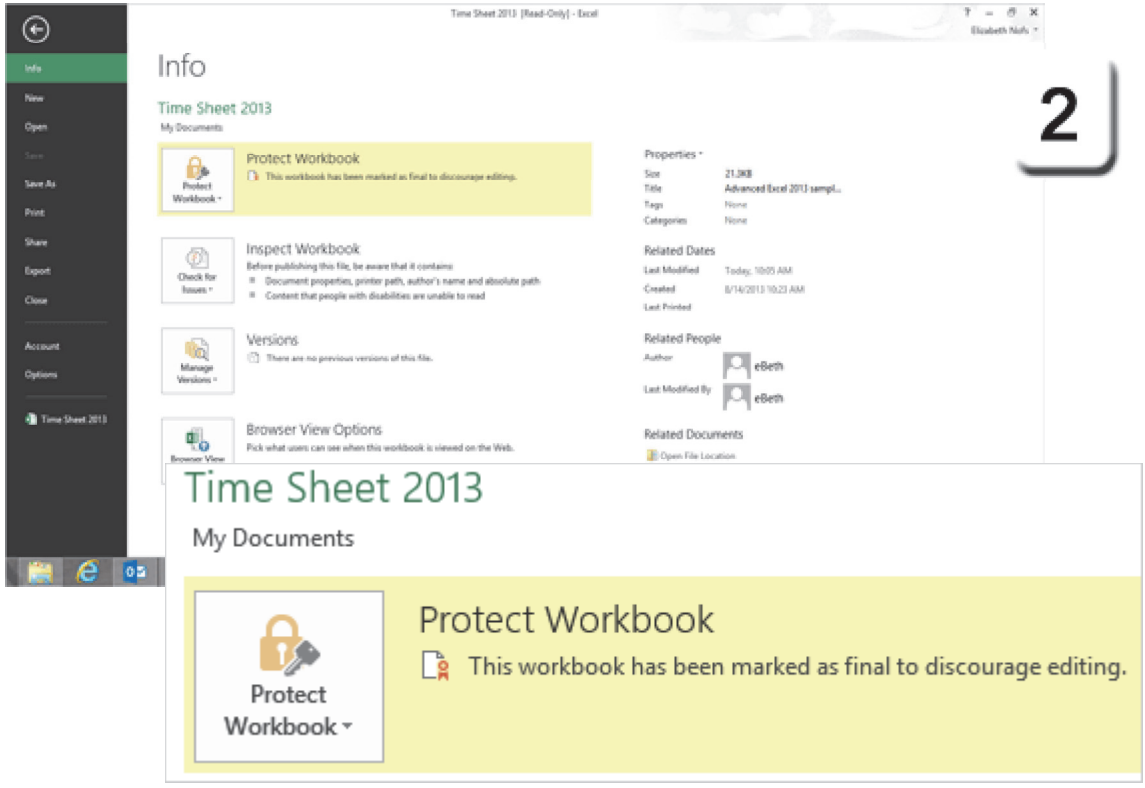
2. Try it: Mark As Final
Go to **File ->Info->Permissions.**
Go to **Protect Workbook.**
Click on **Mark As Final**

What Do You See? You may be prompted to **SAVE** your work before it is Marked Final.
Click **OK**.

A second message may pop up saying that this step will make the file **Read Only**.
Click **OK**.

Keep going...

File ->Info->Permissions->Protect Workbook->Mark As Final



Mark As Final: Edit Anyway

3. What Do You See? If you return to the Home Ribbon, you will see a yellow security banner at the top of the spreadsheet indicating that the file has been marked as final.

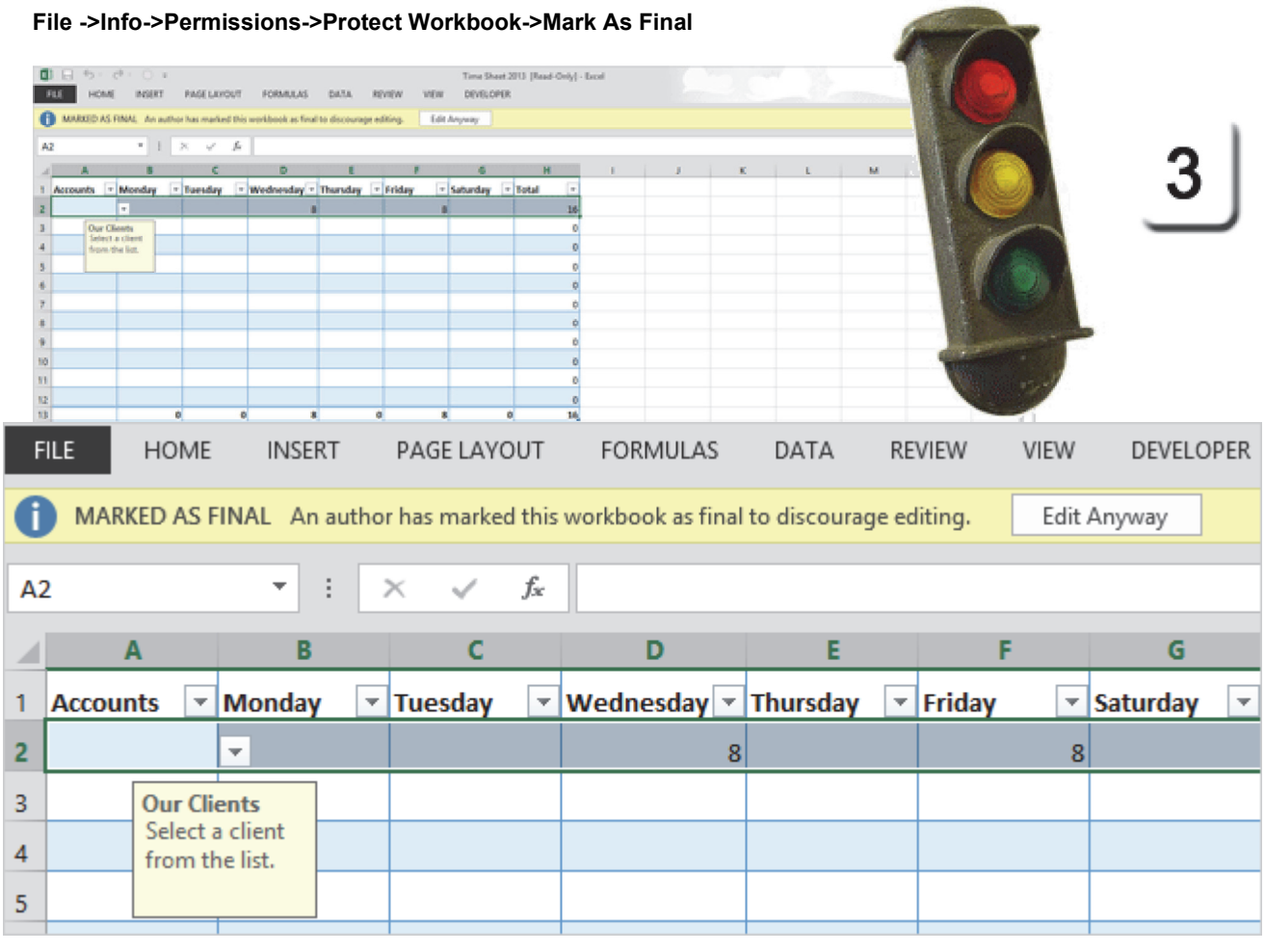
What Else Do You See? There is an option to override the author and edit the file anyway.
When you click **Edit Anyway**, the file will no longer be Read Only and you can change the data.

So, this is not secure.

Do This, Too: Edit Anyway
Click on **Edit Anyway**.

Keep going...

File ->Info->Permissions->Protect Workbook->Mark As Final



Exam 77-428 Microsoft Excel 2013 EXPERT
1. Manage and Share Workbooks
1.2 Prepare a Workbook for Review: Protect Workbook (Mark as Final)

Info: Password Protect a File

Adding a **Password** to a file increases the security. This is called **encryption**.

Passwords should not be easy to guess, such as your name or birthday. You should choose a password that is at least 6 characters long and includes letters and numbers.

4. Try it: Encrypt the Document
Go to **File ->Info_>Protect Workbook.**
Click on **Encrypt with Password**.

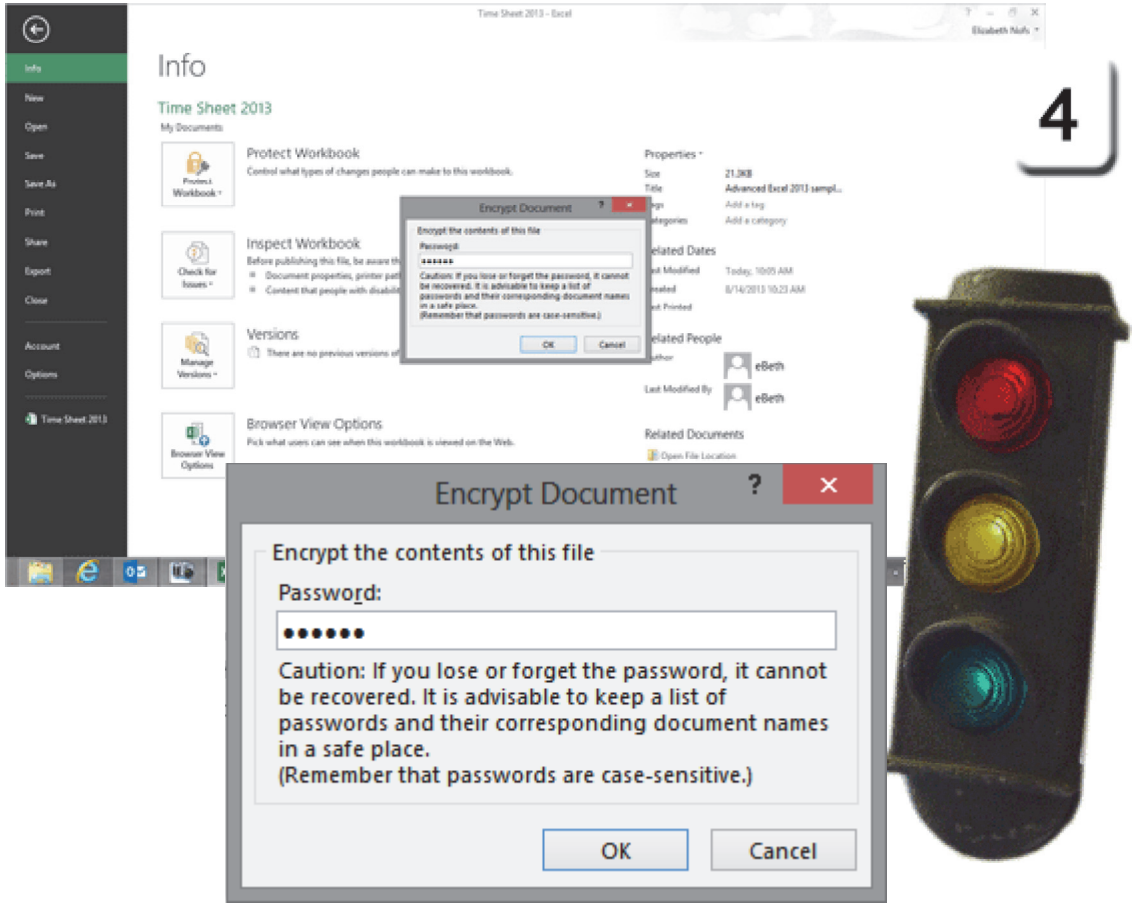
What Do You See? You will be prompted to enter a password. Anyone who opens your file will be asked for a password as well.

Click **CANCEL**.

Keep going...

Memo to Self: Microsoft takes security seriously and strives to meet Department of Defense standards. There is NO UNDO if you forget the password!

File ->Info->Protect Workbook->Encrypt with Password



Exam 77-428 Microsoft Excel 2013 EXPERT
1. Manage and Share Workbooks
1.2 Prepare a Workbook for Review: Protect Workbook (Encrypt with Password)

Info: User Permissions

5. Consider This: Restricting Access

The security settings shown in the previous pages are "all or nothing." Either the file is locked or it is not. The Permissions are applied to the sheet or to the entire workbook.

Permission can also be based on Users and Groups. When you **Restrict Access** you can decide who has access to your spreadsheet.

The Permissions are authenticated by **Digital Signatures**: each person has a secure ID that identifies them.

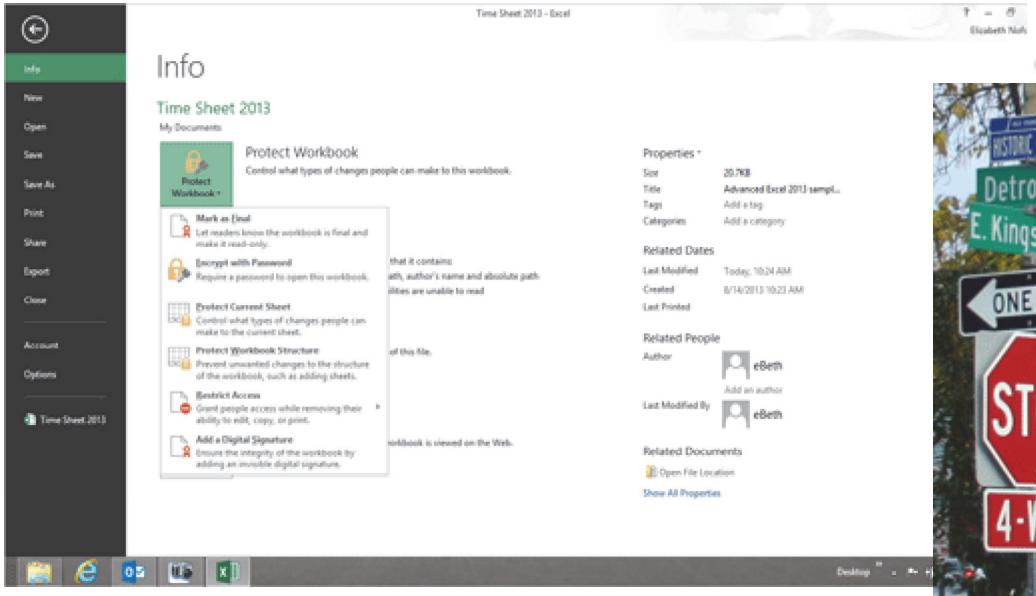
So, this process has two steps: getting a Digital ID, and then granting Permission to Digital IDs that you trust.

A **Digital Signature** shows who signed this document and if it was changed since it was signed. It is a way of determining if the E-mail, spreadsheet or document is authentic. Both of these options require a server which authenticates the Users. This is FYI-no demo.

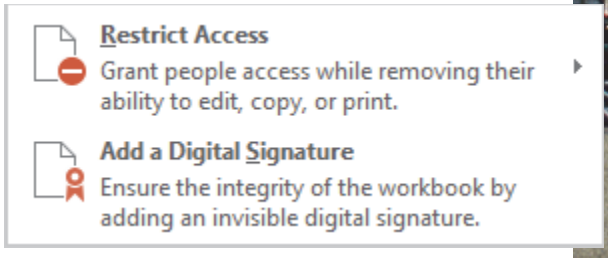
Close the Time Sheet.

File ->Info->Protect Workbook->Restrict-Access->Add a Digital Signature

5







Exam 77-428 Microsoft Excel 2013 EXPERT
1. Manage and Share Workbooks
1.2 Prepare a Workbook for Review: Protect Workbook (Encrypt with Password)

Prepare to Share

The following pages look at the options for saving Styles, Charts and Formatting as Templates and copying those customizations from one Template to another.

1. Try it: Open a Sample File
Sample Excel Chart-2013.xlsx

What Do You See? The sample spreadsheet has a price list and a Chart that shows the data. This bare bones format will become our company Template, one that we can use for all of the products we sell.

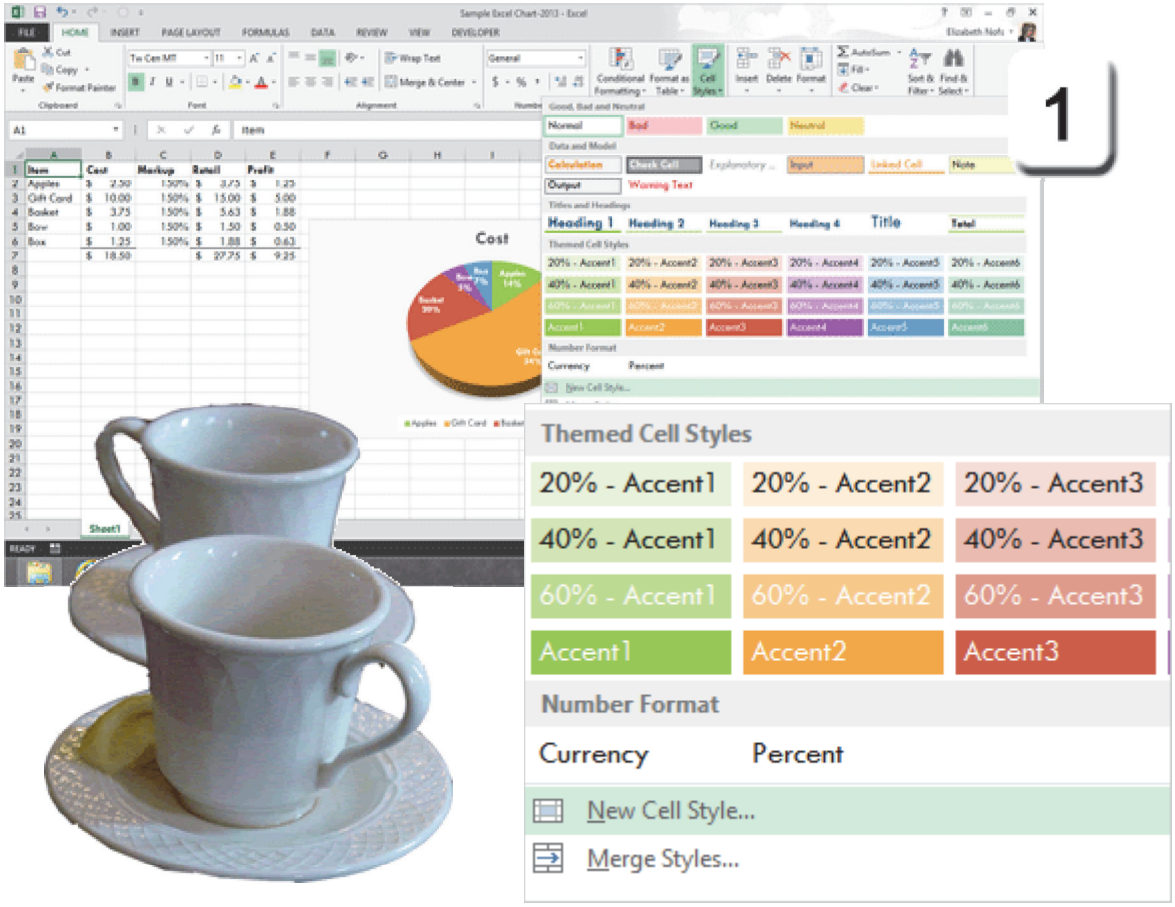
Here is the Plan:
Create a Custom Color Format
Create a Custom Style
Create a Custom Chart Style

Save it all as a Template. That's the plan.
OK, let's get started.

And Try This: Create a New Cell Style
Go to **Home ->Styles->Cell Styles.**
Click on **New Cell Style...**

Keep going...

File ->Open



Create a Custom Color Format

Excel has several Cell Styles including Good, Bad, Neutral, Data Model, Titles and Headings and Themed. The Styles format the Number, Alignment, Font, Border, Fill and Protection.

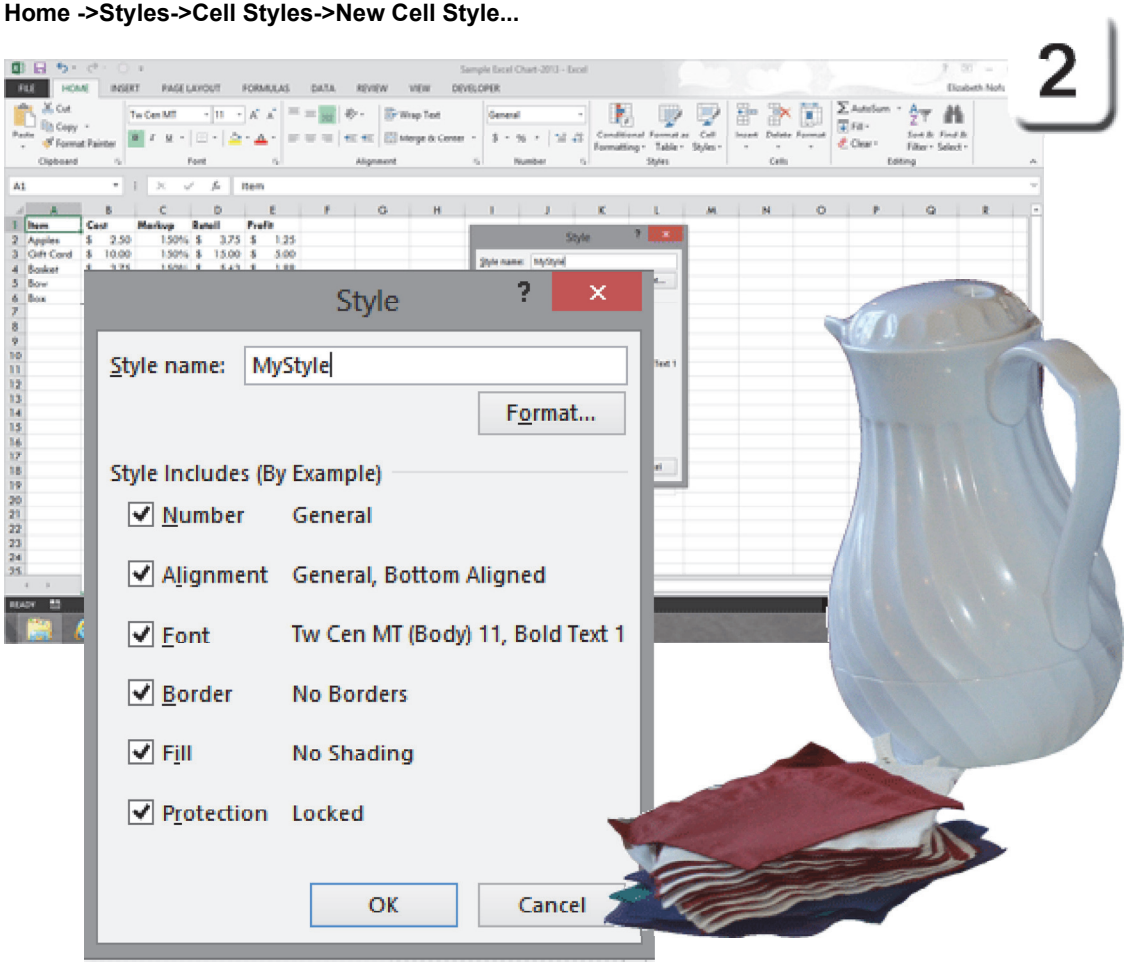
We played with the Cell Styles in some of the beginning lessons. This example looks at creating a **Custom Color Format**.

2. Try it: Create a New Cell Style
Type the Style Name: MyStyle
Click **Format...**

The **Format Cells** window should open.

Keep going...

Home ->Styles->Cell Styles->New Cell Style...



Exam 77-428 Microsoft Excel 2013 EXPERT
2. Apply Custom Formats and Layouts
2.3 Apply Custom Styles and Templates: Create and Modify Cell Styles

Home ->Styles->Cell Styles->New Cell Style... ->Format

Edit the Custom Color

3. Try it: Find the Custom Colors Formats
The **Format Cells** window is open.
Go to the **Fill** Tab.
Click on **More Colors...**

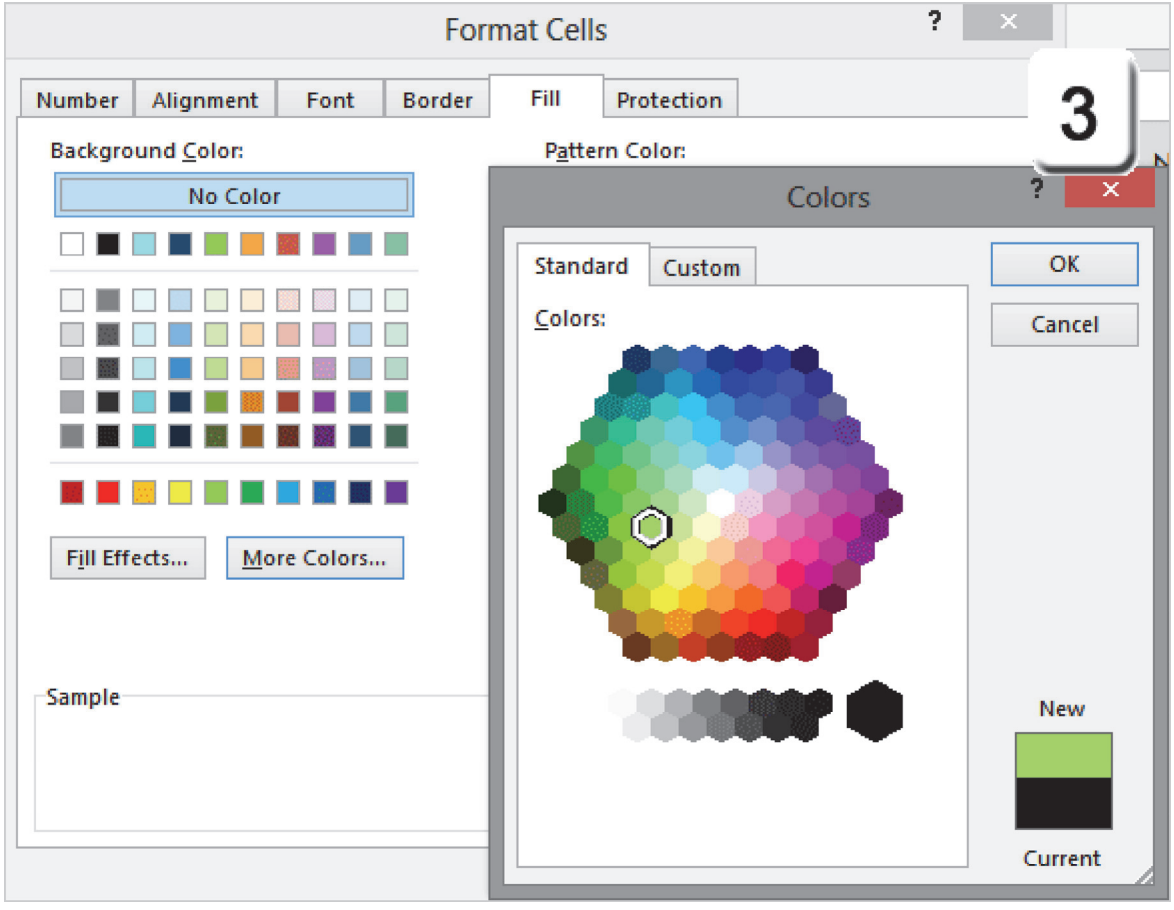
What Do You See? The **Standard Colors** can be displayed by any Internet browser or operating system: Computer, tablet or smart phone. The **Custom Colors** include all of the possible colors: RGB (red, green, blue) for monitors and CYMK (cyan, yellow, magenta, black) for print. Many computers, devices and browsers cannot see these colors.

So Try This: Format the Fill
Go to the **Standard Colors**.
Select a light green color from the palette.
Click **OK**.

You will return to the **Fill** Tab.
The Sample color will display your choice.

Click **OK** to Close the Format Cells window.
You will return to the options for MyStyle.
Click **OK** the Save this new Style.

Keep going...



Apply a Custom Style Format

So far, so good. In the previous pages we created a simple Custom Style. So, how does it work?

4. Try it: Find the Custom Cell Style
The sample spreadsheet is still open.
Select Cells A1: E1.
Go to **Home ->Styles->Cell Styles**.

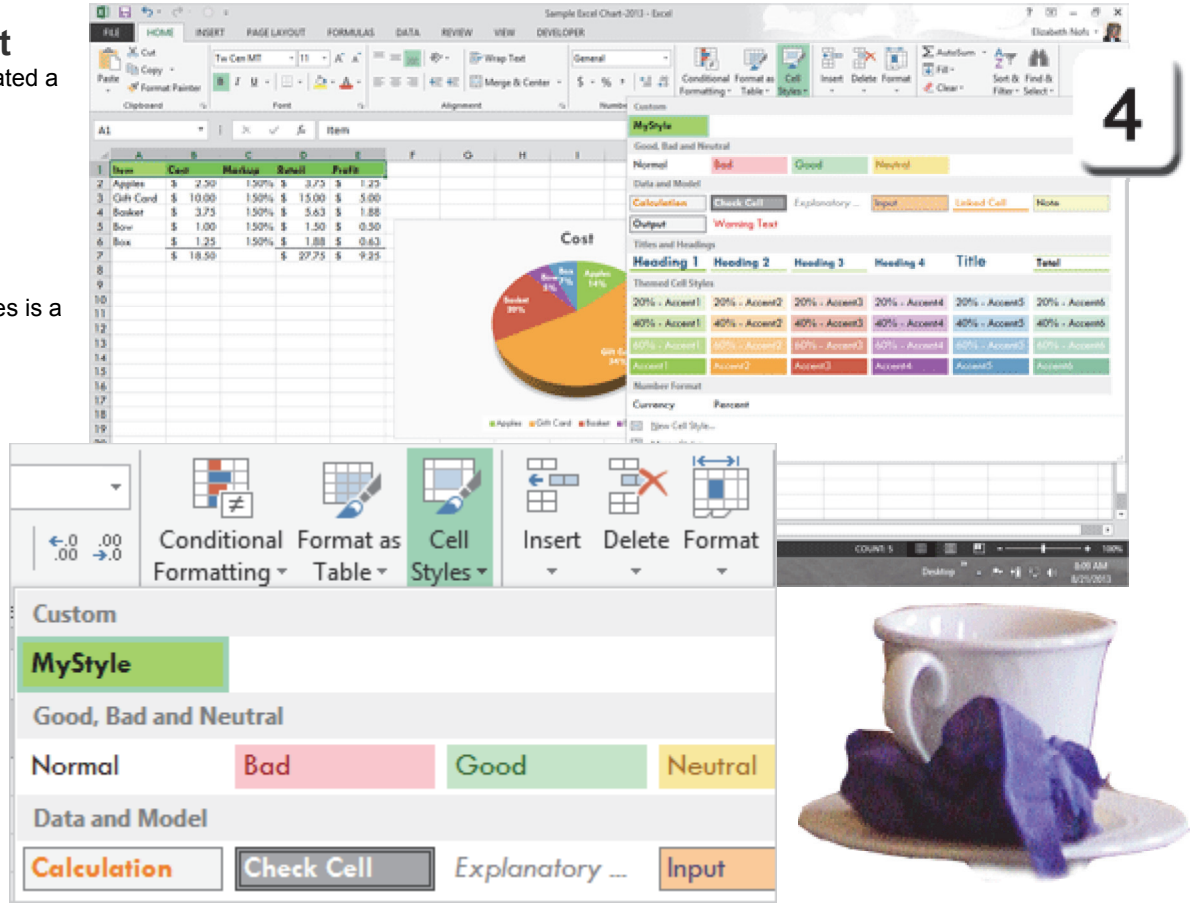
What Do You See? At the top of the Cell Styles is a new **Custom** category that includes MyStyle.

OK, Do This: Apply the Custom Cell Style
Go to **Custom->MyStyle**.

That was easy.

Keep going...

Home ->Styles->Cell Styles



Create a Custom Chart Style

This Custom Chart Style will be designed for our little company: Charlotte's Website. Their corporate color is green. The formatting will be applied to the Chart Colors as well as the Chart Background. We will use the same Custom Color that we applied to the Cell Styles.

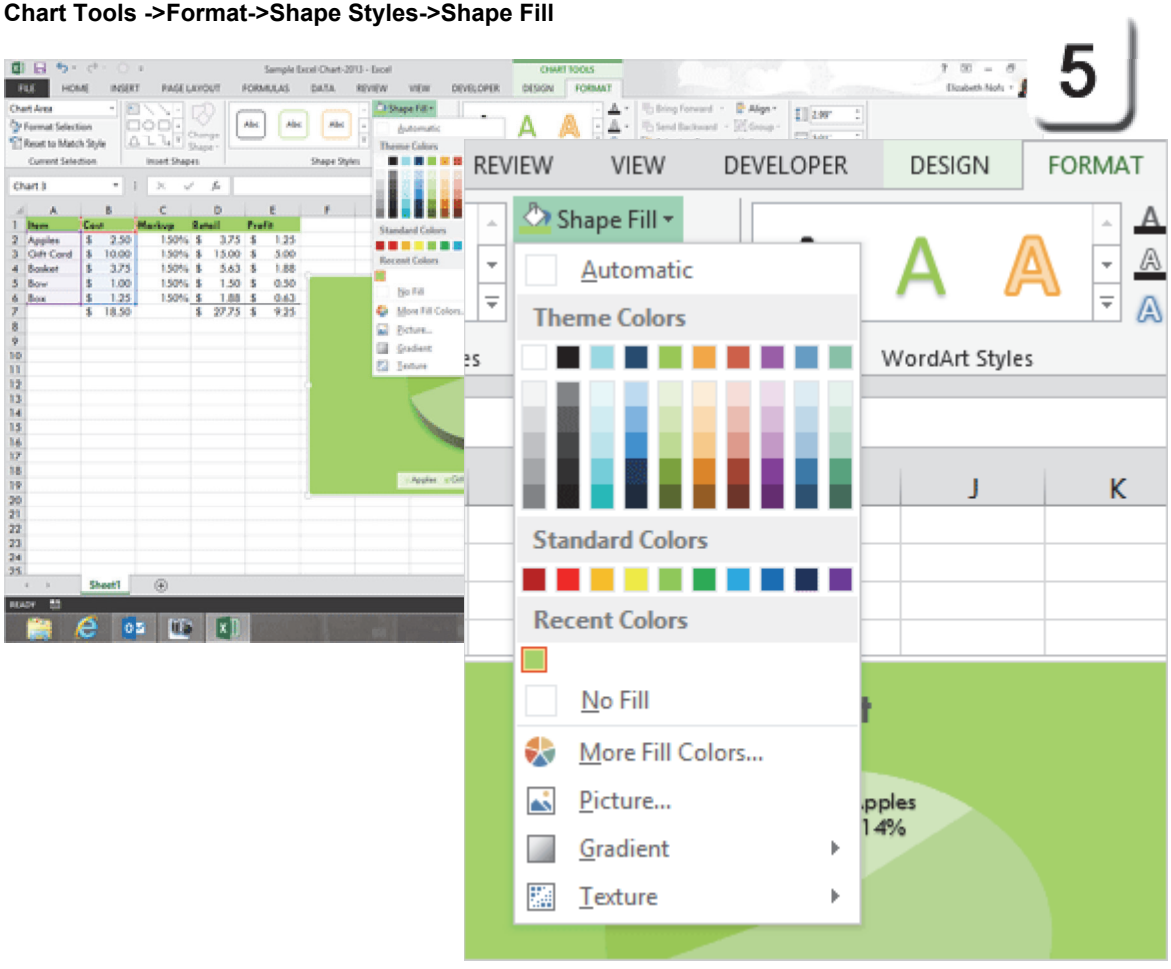
5. Try it: Change the Chart Design
Select the Chart.
The Chart Tools should be available.
Go to **Chart Tools ->Design->Chart Styles**.
Go to **Change Colors->Monochromatic**.
Click on **Green**.

Yes, Try This, Too: Apply a Custom Color
Click on the Chart Background.
Go to **Chart Tools ->Format->Shape Styles**.
Go to **Shape Fill->Recent Colors**.
Click on **Green**.

What Do You See? The Shape Fill includes Theme and Standard Colors. The new Custom Color is shown in the Recent category.

Keep going...

Chart Tools ->Format->Shape Styles->Shape Fill



Edit the Chart Style

Green, more green and lime green can be too much of a good thing. Chart Styles can include product images or company logos as well.

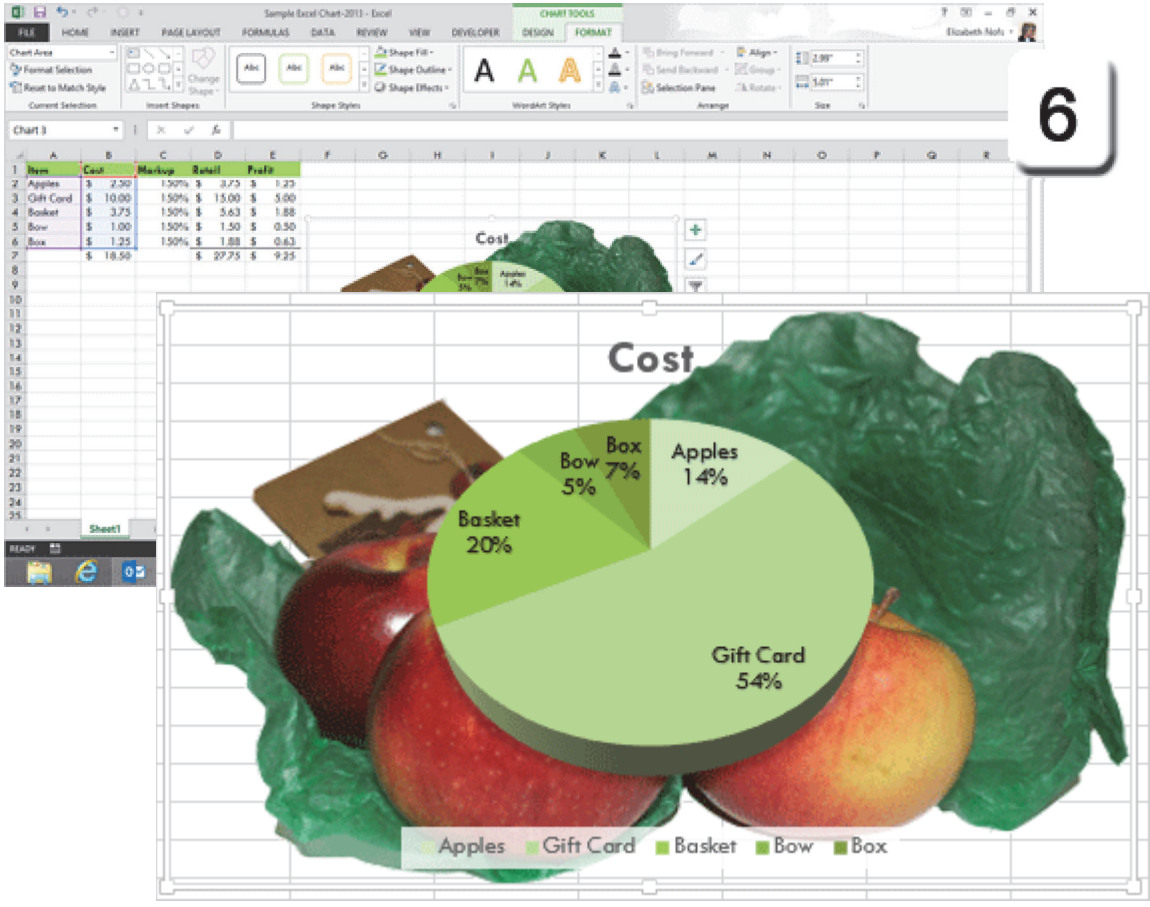
6. Try it: Edit the Chart Style
The Chart Background is still selected.
Go to **Chart Tools ->Format->Shape Styles**.
Go to **Shape Fill->Picture**.
Browse to the Document folder.
Click on Applebox-8.gif

What Do You See? The Chart has a Custom Style and background. This looks good.

Keep going...

Memo to Self: This example uses a picture that we worked with in a Beginning Excel lesson. You can use any sample picture if you wish.

Chart Tools ->Format->Shape Styles->Shape Fill



Save the Custom Chart Style

All of this custom formatting can be saved as a Chart Template. Here are the steps.

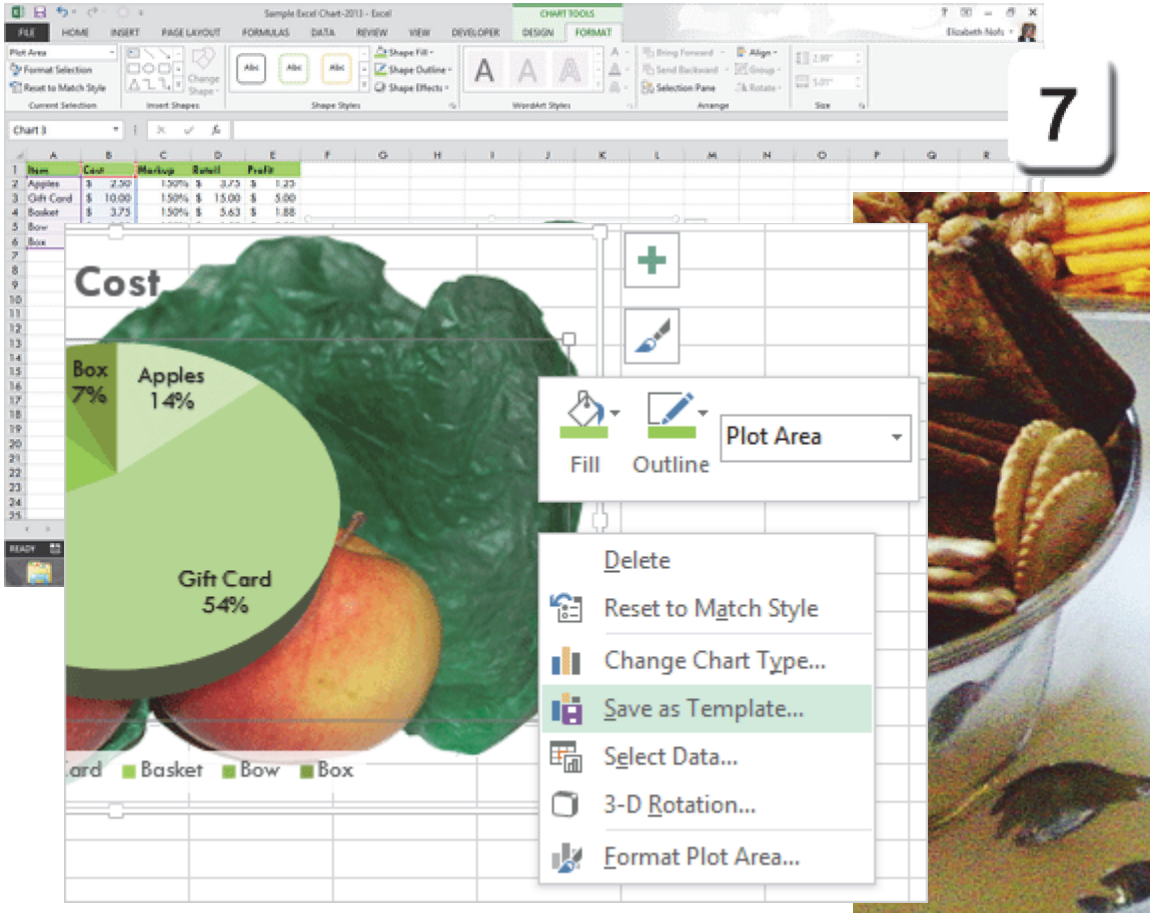
6. Try it: Save the Custom Chart Style
Right-click the Chart.
The Chart options should be available.
Click on **Save as Template...**.

What Do You See? You will be prompted to Save the Chart Template. The default location is the Microsoft Templates folder.

Enter the File name: MyChart.
Click **SAVE** and keep going...

(We're almost done...really!)

Right Click->Save as Template...



Save as Template

These pages show how to save the spreadsheet as a Template and then use the Template.

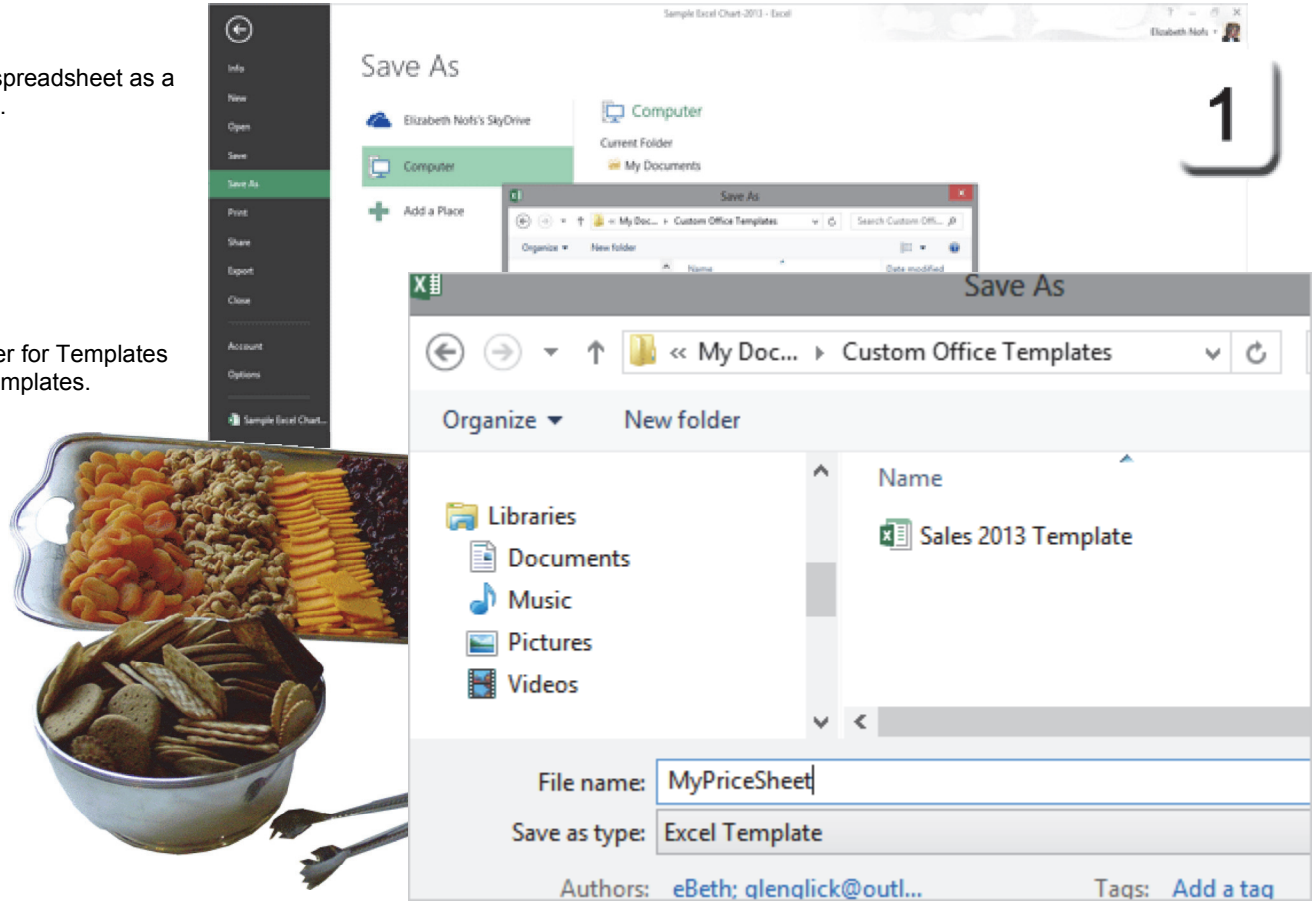
1. Try it: Save as Template
Go to **File ->Save As->Computer**.
Browse to the Document folder.
Enter the File Name: MyPriceSheet
Save as Type: Excel Template.
Click **Save**.

What Do You See? The default folder for Templates is My Documents->Custom Office Templates.

Please **Close** all of the sample files.

Keep going...

File ->Save As



Modify a Template

Now, in addition to opening a blank spreadsheet, the folks at Charlotte's Website also have the option to open a custom Price Sheet template.

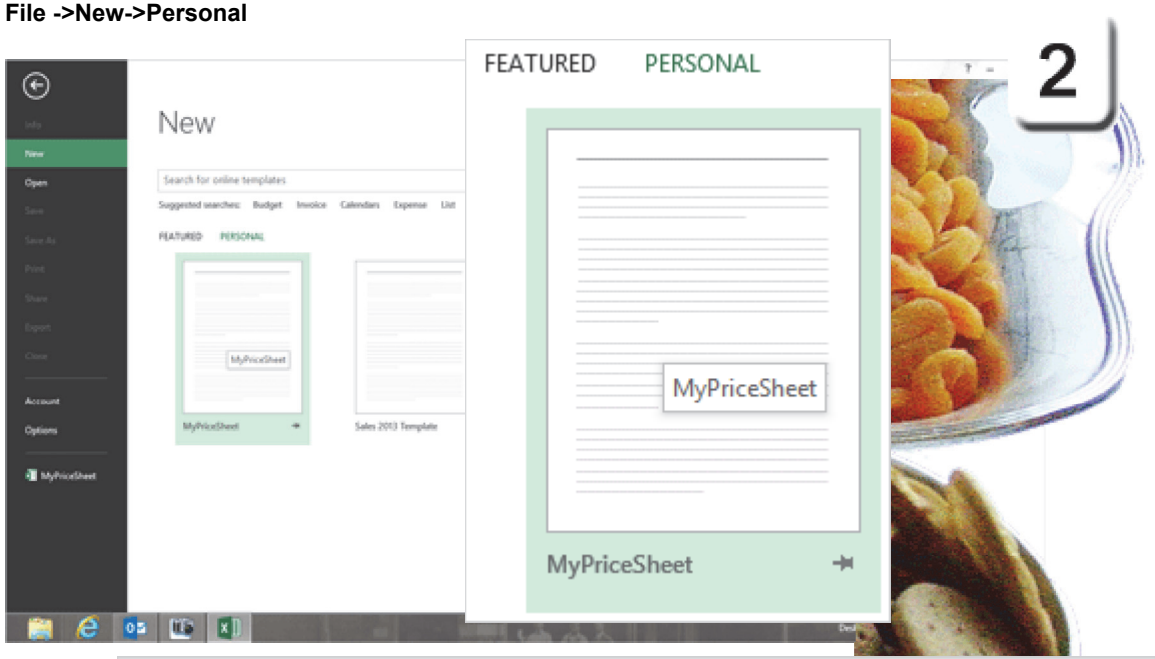
The default folder for Templates is **Featured**. The custom Templates can be found in **Personal**.

2. Try it: Modify a Template
Go to **File ->New->Personal**.
Select a Template: MyPriceSheet.

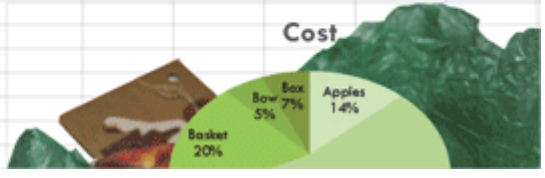
The Price Sheet should open, ready to be changed and modified for a different product.
One more way to collaborate: sharing Styles.
Please leave this spreadsheet open.

Go to the next page...

File ->New->Personal



	A	B	C	D	E
1	Item	Cost	Markup	Retail	Profit
2	Apples	$ 2.50	150%	$ 3.75	$ 1.25
3	Gift Card	$ 10.00	150%	$ 15.00	$ 5.00
4	Basket	$ 3.75	150%	$ 5.63	$ 1.88
5	Bow	$ 1.00	150%	$ 1.50	$ 0.50
6	Box	$ 1.25	150%	$ 1.88	$ 0.63
7		$ 18.50		$ 27.75	$ 9.25



Share and Share Alike

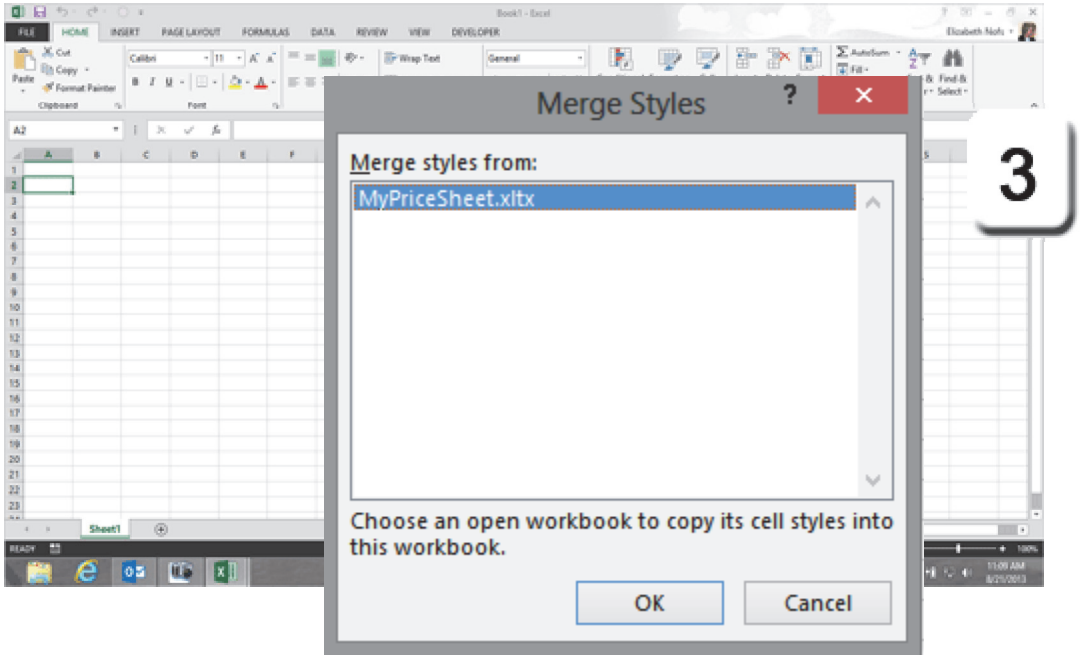
Say you wanted to use the Custom Styles from MyPriceSheet in a new spreadsheet. This option works when **both** spreadsheets are open: The one with the Styles and the one that needs Styles.

3. Try it: Copy Styles from a Template
The MyPriceList Template is open.
Go to **File ->New.**
Open a new, blank Workbook.
Go to **Home->Styles->Cell Styles**.
Click on **Merge Styles**.

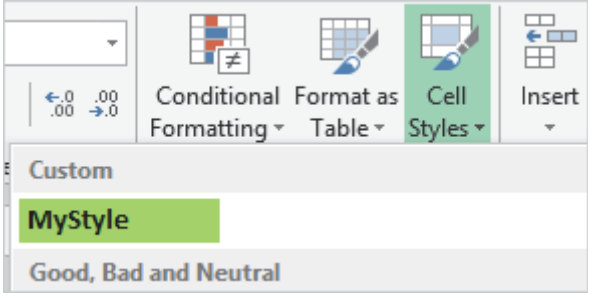
What Do You See? You will be prompted to Merge Styles from the open Template.
Select: MyPriceSheet
Click **OK**.
The Custom Styles will be added to this Template.

Summary
This lesson began by preparing your work for distribution or publication. The **Review** options included Proofing, Tracking, Comments and Changes. We considered how to collaborate and combine different versions into one final workbook.

Well, you done good on this one.
You get two cookies if you wish.







Test Yourself

1. Which Group(s) are on the Review Ribbon? (Select all correct answers.)
a. Proofing
b. Language
c. Comments
d. Changes
Tip: Advanced Excel, page 199

2. Spreadsheets can be spell-checked.
a. True
b. False
Tip: Advanced Excel, page 200

3. Which of the following actions can be restricted in the Protect Sheet command? (Select all correct answers.)
a. Format Cells
b. Format Columns
c. Format Rows
d. Insert Rows
e. Insert Columns
Tip: Advanced Excel, page 206

4. Which of the following are true about the Protect and Share options? (Select all correct answers.)
a. The Tracking is turned on
b. The Workbook is shared
c. A Password is required
Tip: Advanced Excel, page 210

5. Which of the following are Reviewing options? (Select all correct answers.)
a. Accept
b. Reject
c. Accept all
Tip: Advanced Excel, page 214

6. More than one person can add a comment on an Excel spreadsheet.
a. True
b. False
Tip: Advanced Excel, page 218

7. Which is true about Compare and Merge? (Select all correct answers.)
a. Only works on a Shared Workbook
b. Command is NOT available in Reviewing Ribbon by default
c. Works on any workbook
Tip: Advanced Excel, page 219

8. Which of the following are document properties? (Select all correct answers.)
a. Size
b. Title
c. Last Modified
d. Created
e. Author
f. Last Printed
Tip: Advanced Excel, 223

9. What is the new Excel file format used in Office 2007, 2010 and 2013?
a. .xls
b. xlsx
c. .xlst
d. .exl
Tip: Advanced Excel, page 227

10. Which of the following is true about the Mark as Final command? (Select all correct answers.)
a. It is to discourage editing
b. A file marked as Final has the ribbons removed
c. A file marked as Final cannot be edited
Tip: Advanced Excel, page 230

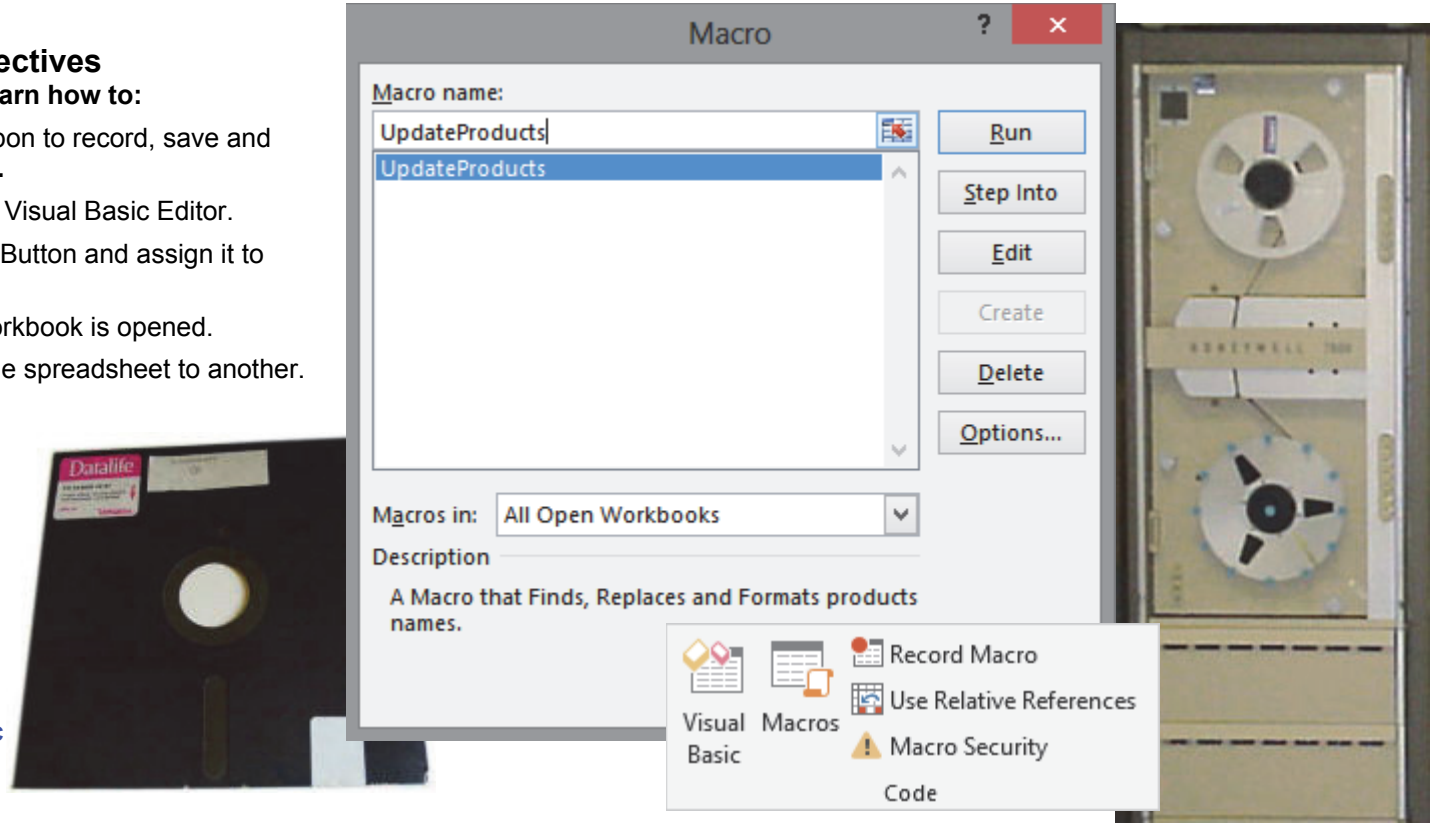


Introduction to Macros

Advanced Excel Objectives

In this lesson, you will learn how to:

1. Use the **Developer** Ribbon to record, save and run a simple **Event Macro.**
2. Modify a Macro with the Visual Basic Editor.
3. Create a custom Macro Button and assign it to the Quick Access Toolbar.
4. Run a Macro when a workbook is opened.
5. Copy the Macro from one spreadsheet to another.



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Lesson 7 : Introduction to Macros

1. Readings
Read Lesson 7 in the Advanced Excel guide, page 245-277.

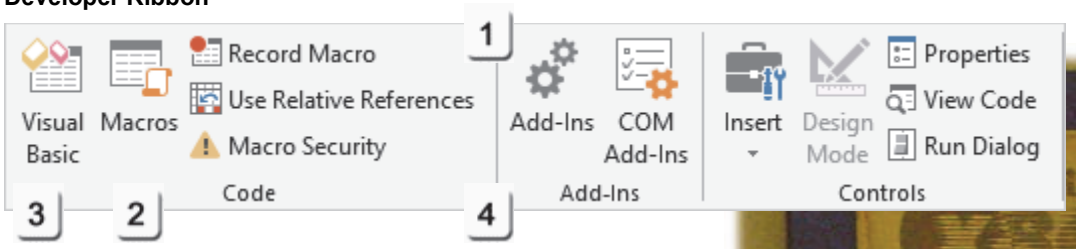
Project
This lesson provides an introduction into Visual Basic programming and Macros.

Downloads
Sales 2013 Original Data.xlsx
Sales 2013 with Macros.xlsm (Completed)
Sales 2013 More Macros.xlsm
Brown Bag Sales Team.xlsx

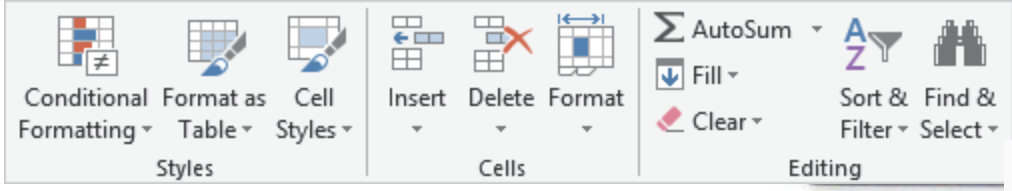
2. Practice
There is no Practice Activity.

3. Assessment
Review the Test questions on page 278.

Developer Ribbon



Home Ribbon



Menu Maps
From the **Developer Ribbon**.
1. Developer ->Code-> Record Macro, page 251
2. Developer ->Code-> Macros, page 254
3. Developer ->Code-> Visual Basic, page 255
4. Developer ->Code->Macro Security, page 271

From the Home Ribbon.
5. Home ->Editing->Find&Select, page 252

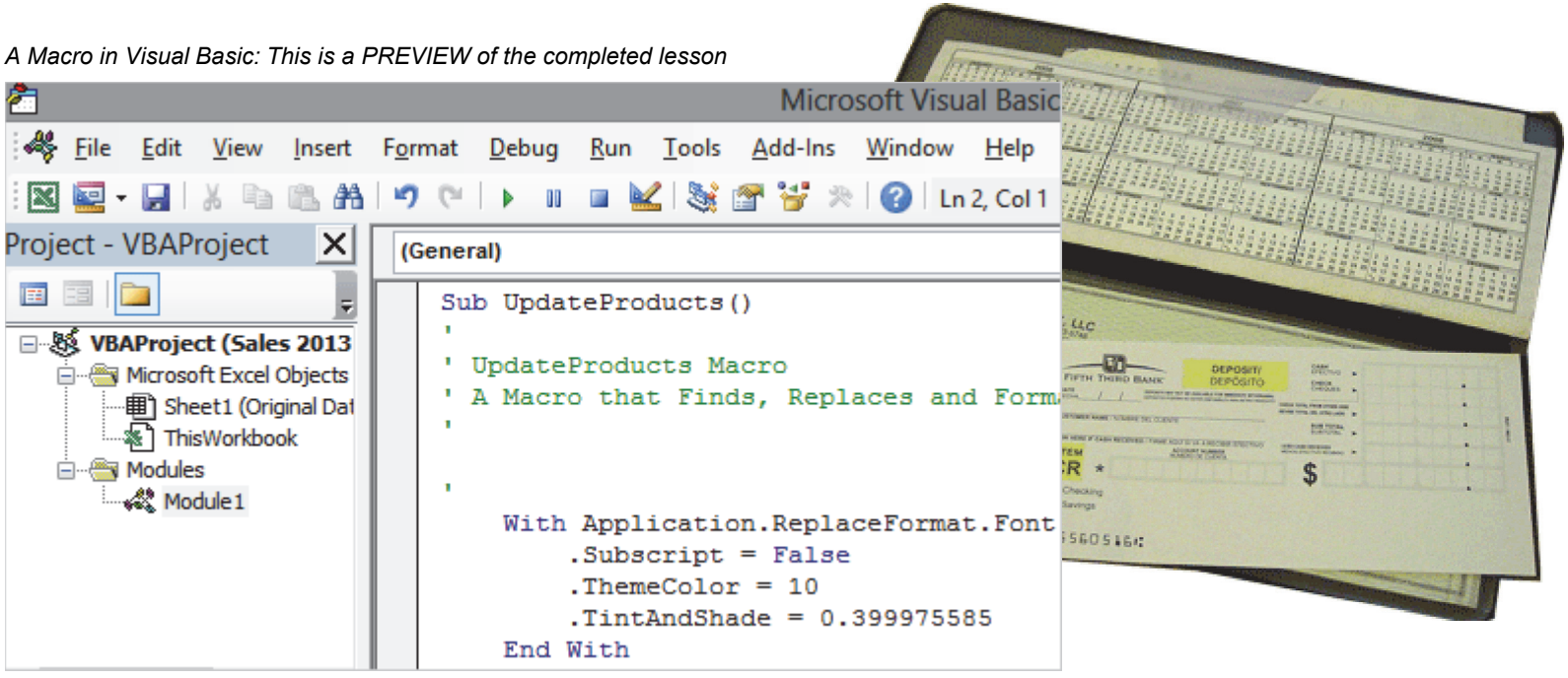
More Menu Maps
From the **Backstage**
1. File ->Options-> Customize Ribbon, page 262
2. File ->Save As Macro Enabled, page 269
3. File->Info->Enable Content, page 271
4. File ->Options->Trust Center, page 273

Working with Macros

A **Macro** is a series of steps that can be recorded and played back in order. A Macro can be created by recording your menu selections and clicks. There are several kinds of Macros, depending on the purpose and the actions. An **Event Macro** does something when you click on a button or a cell. A **User-Defined Macro** is programming that makes the computer do the work.

My mentor, Fr. Paul, wrote a financial database. He watched the church staff go through the process to create a new check entry: 8 steps. Count them again: 8 steps. So, he created a Macro that walked through the menus automatically.
That's what Macros do: **simplify the task**.

A Macro in Visual Basic: This is a PREVIEW of the completed lesson



What is a Macro?

Creating a Macro can be as simple as recording your mouse clicks as you go through a process in Microsoft Excel, Word, PowerPoint or Access. The steps are named and saved so that you can repeat the process again with one click.

All of the Microsoft Office programs use **Visual Basic for Applications (VBA)** to create and edit **Macros**.

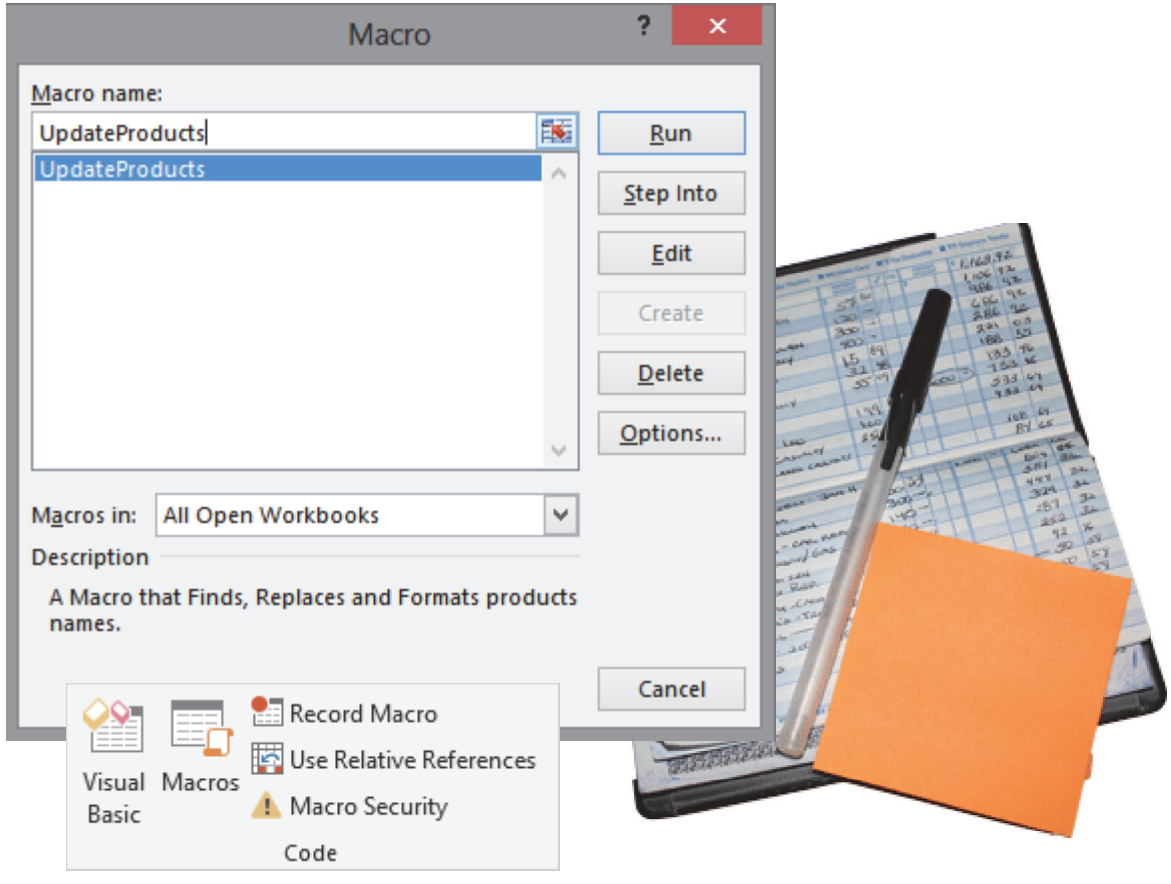
What Are We Going to Do?

This lesson is an introduction to Macros and Visual Basic for Applications. It is not a comprehensive demonstration on Macro programming.

As you go through these simple examples consider how you can program Excel to make your tasks easier and efficient.

Please keep going...

A Macro in Visual Basic: This is a PREVIEW of the completed lesson



Take Three

Before You Begin

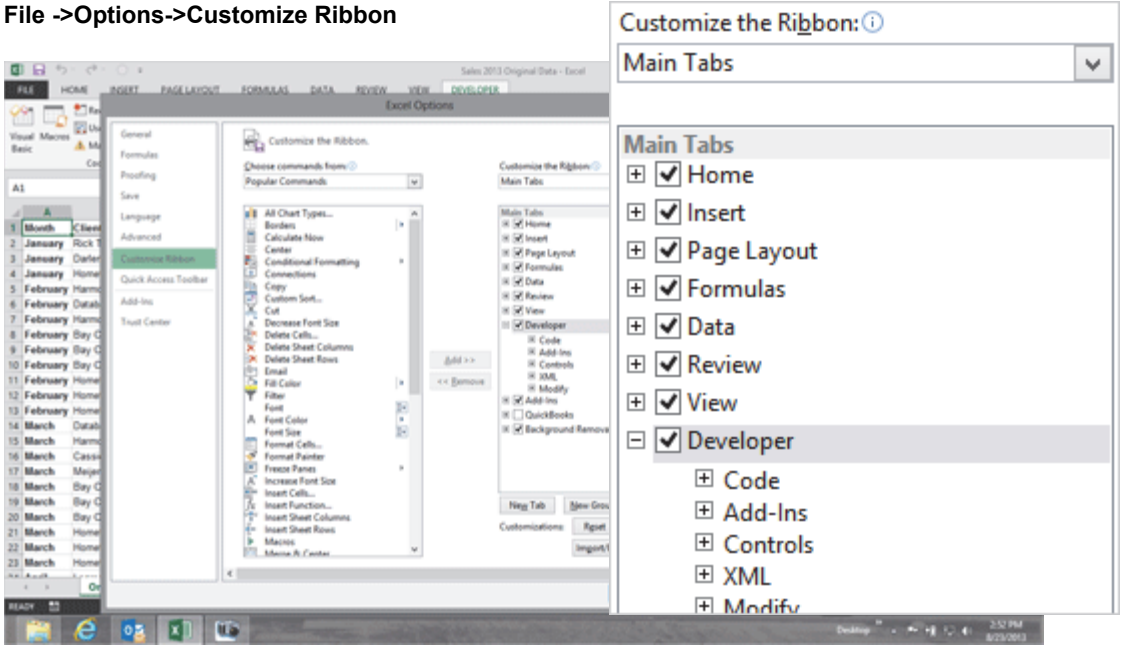
This lesson requires some preparation.
Here is a **summary** of the requirements:

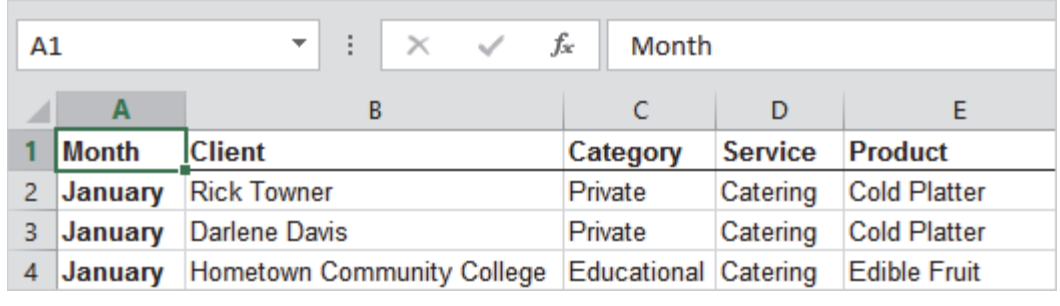
1. Enable the Developers Toolbar
You can review how to turn on the **Developers** toolbar in the ***Advanced Guide to Excel 2030*** Page 184.

2. Download a Sample Spreadsheet
The lesson has a sample file which you can download: Sales 2013 Original Data.xlsx

3. Enable the Macros
After the Macro is programmed and saved, Macros need to be enabled in Excel so they can run. The steps to enable Macros can be found on ***Advanced Guide to Excel 2013*** Page 270. This lesson includes a discussion on macro security levels.

File ->Options->Customize Ribbon





	A	B	C	D	E
1	Month	Client	Category	Service	Product
2	January	Rick Towner	Private	Catering	Cold Platter
3	January	Darlene Davis	Private	Catering	Cold Platter
4	January	Hometown Community College	Educational	Catering	Edible Fruit

Still Before You Begin...

Try it: Open the Sample Spreadsheet
Open the spreadsheet you downloaded:
Sales 2013 Original Data.xlsx
Go to the **Original Data** spreadsheet.

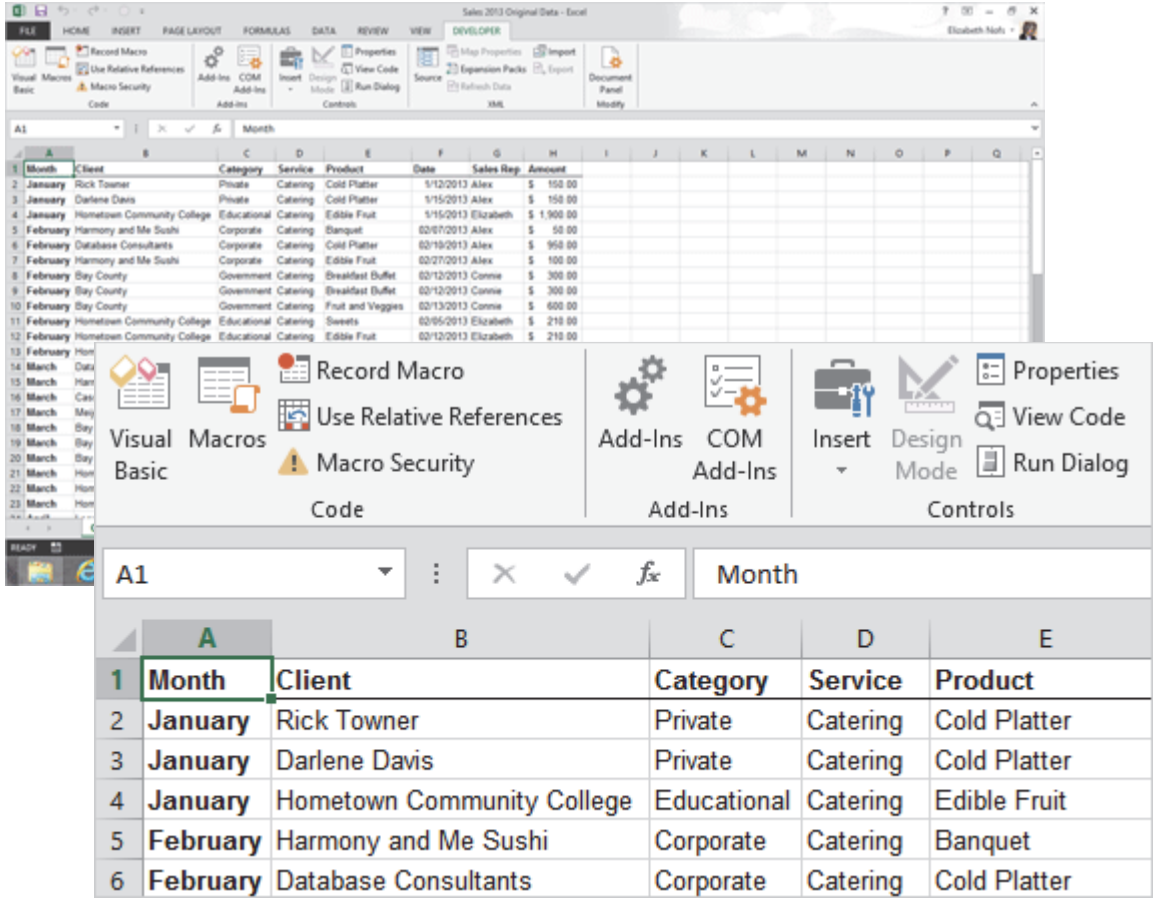
What Do You See? The fields in the Header Row are Month, Client, Category, Service, Product, Date, Sales Rep and Amount. and Revenue.

What Else Do You See? The **Developer** Ribbon is shown In the example on this page.

Keep going...

Memo to Self: You do not have to MATCH the numbers shown on these pages. It is more important that you begin with some data and understand the options.

File ->Open



	A	B	C	D	E
1	Month	Client	Category	Service	Product
2	January	Rick Towner	Private	Catering	Cold Platter
3	January	Darlene Davis	Private	Catering	Cold Platter
4	January	Hometown Community College	Educational	Catering	Edible Fruit
5	February	Harmony and Me Sushi	Corporate	Catering	Banquet
6	February	Database Consultants	Corporate	Catering	Cold Platter

Take Three

Record a Macro

The **Macro Recorder** follows your actions as you go through a process. Let's record a simple Macro that **Finds** specific text, replaces the text and Formats the replacement text a different color.

What are the steps?
Find the Text.
Use **Replace** to substitute different text.
Format the color of the new text.
Then **Replace All**.

1. Try it: Record a Macro
Go to **Developer ->Code.**
Click on **Record Macro**.

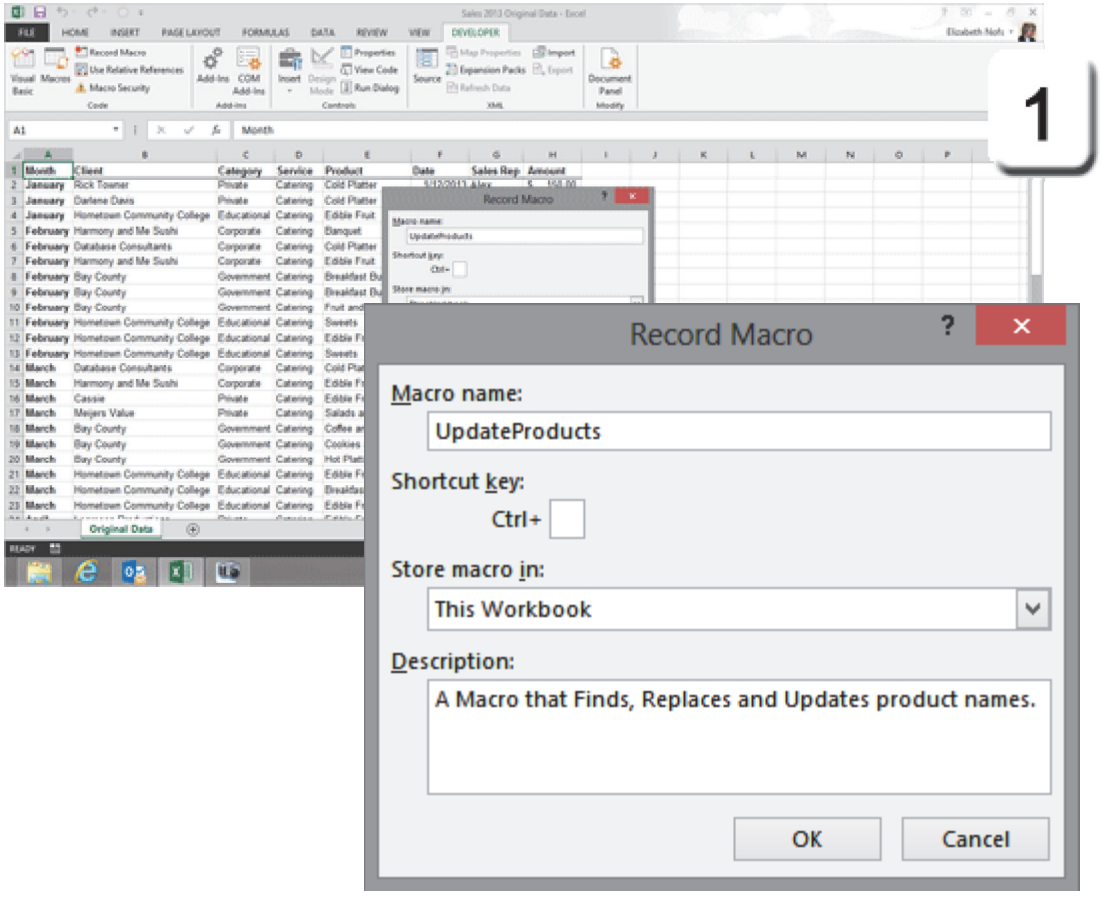
What Do You See? You will be prompted to type a name for your Macro.
Type: UpdateProductsA
(No spaces, please)

What Else Do You See? Your new Macro will be stored in **This Workbook.** Enter the description shown on this page if you wish.

Click **OK**.

Keep going...

Developer ->Code-> Record Macro



Record the Steps

The Macro Recorder is ready, although you will not see a little media player or device.

Go through the steps to Find, Replace and Format the text. The Macro Recorder will follow your actions.

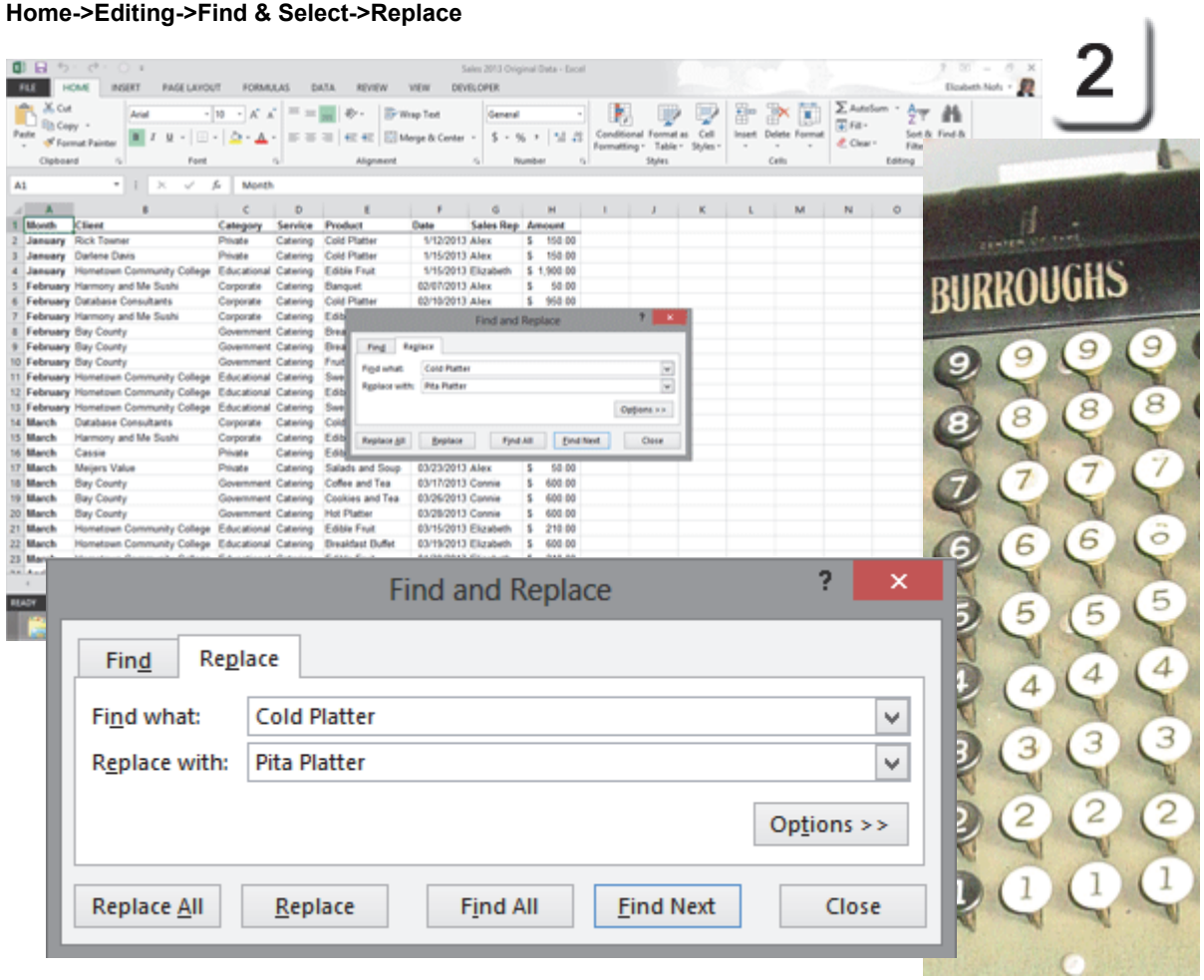
2. Try it: Find and Replace Text
The sample spreadsheet is open.
The Macro recorder is playing.

Go to **Home->Editing->Find & Select.**
Go to **Replace.**
Find what: Cold Platter
Replace with: Pita Platter

Keep going...

Memo to Self: The Macro Recorder tracks when the steps are right as well as when you make a mistake. You may wish to practice the steps a couple of times before you start the Macro Recorder.

Home->Editing->Find & Select->Replace



Take Three

Record the Formatting Options

You can format the text at the same time that you replace it. Here are the steps.

3. Try This, Too: Format the Text
The Find and Replace window is open.
Click on **Options**.

What Do You See? The **Format...** button should be available to the right.

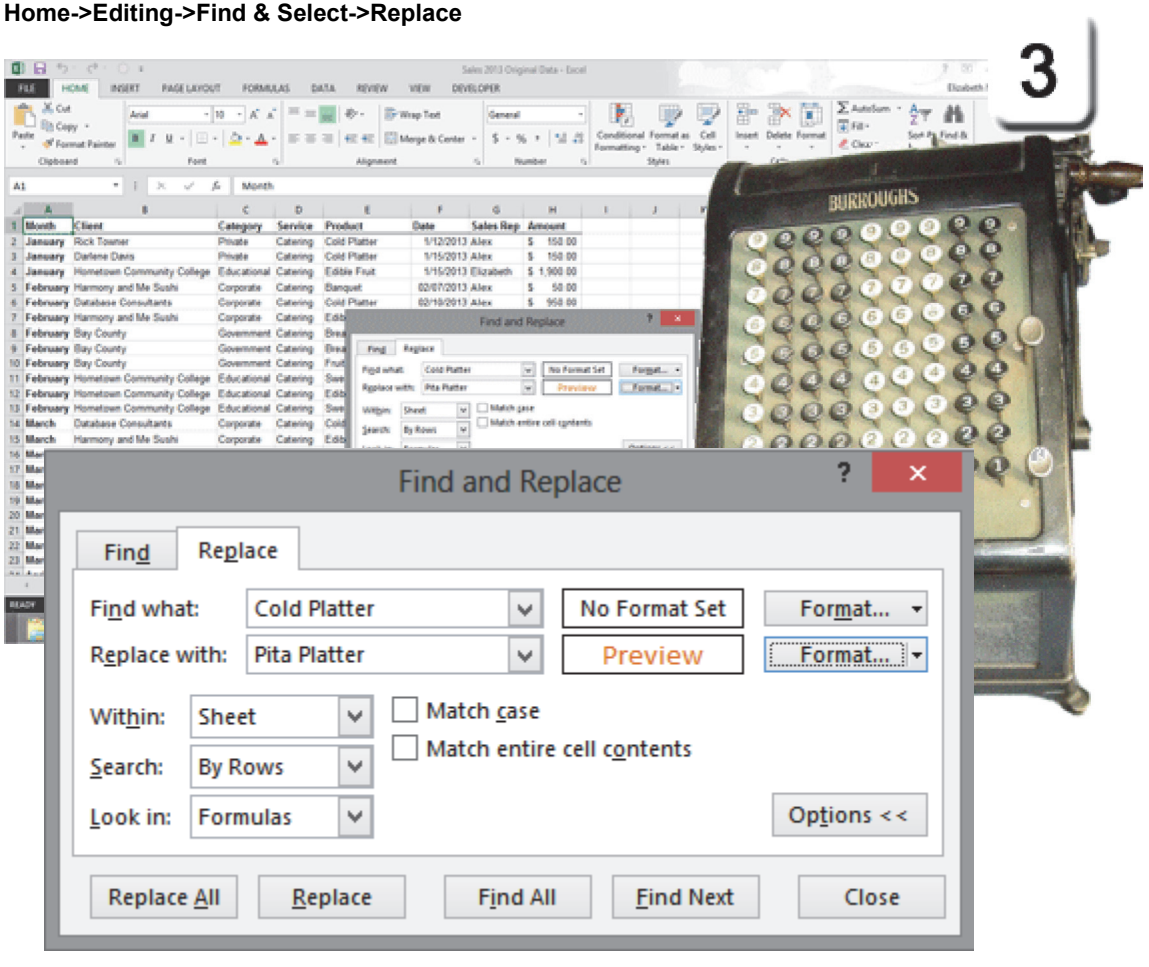
OK, Do This: Format the Text
Go to right of the text in Replace with.
Click on **Format...**

The **Replace Format** options will open.
Go to the **Font** tab.
Change the **Font**: Arial.
Change the **Size**: 10.
Change the **Color** to orange.
Click **OK** to return to the Find and Replace window.

Finally, Do This: Run the Action
Click **Replace All**.
Click **OK** when the replacements are done.
Close the Find and Replace window.

Keep going. The Macro is still recording...

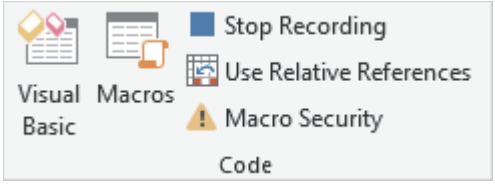
Home->Editing->Find & Select->Replace



Stop the Recording

After you close the Find and Replace window you need to **Stop Recording.**

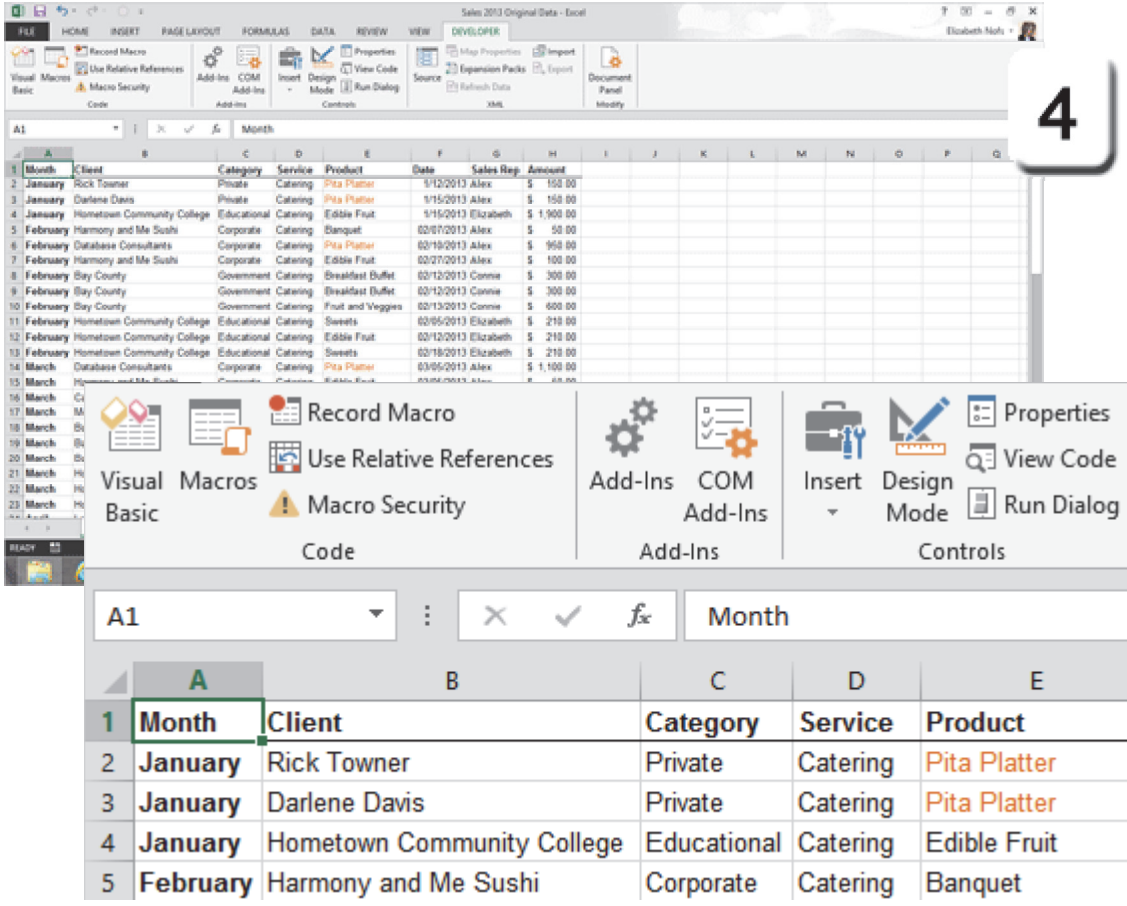
4. Try This, Now: Stop the Recording
Go to **Developer ->Code.**
Click on **Stop Recording**



What Do You See? The Find and Replace was successful: The text was updated and formatted.

Keep going...

Developer ->Code



Find the Macro

Where is the Macro? You can manage your Macros with the **Macros** button.

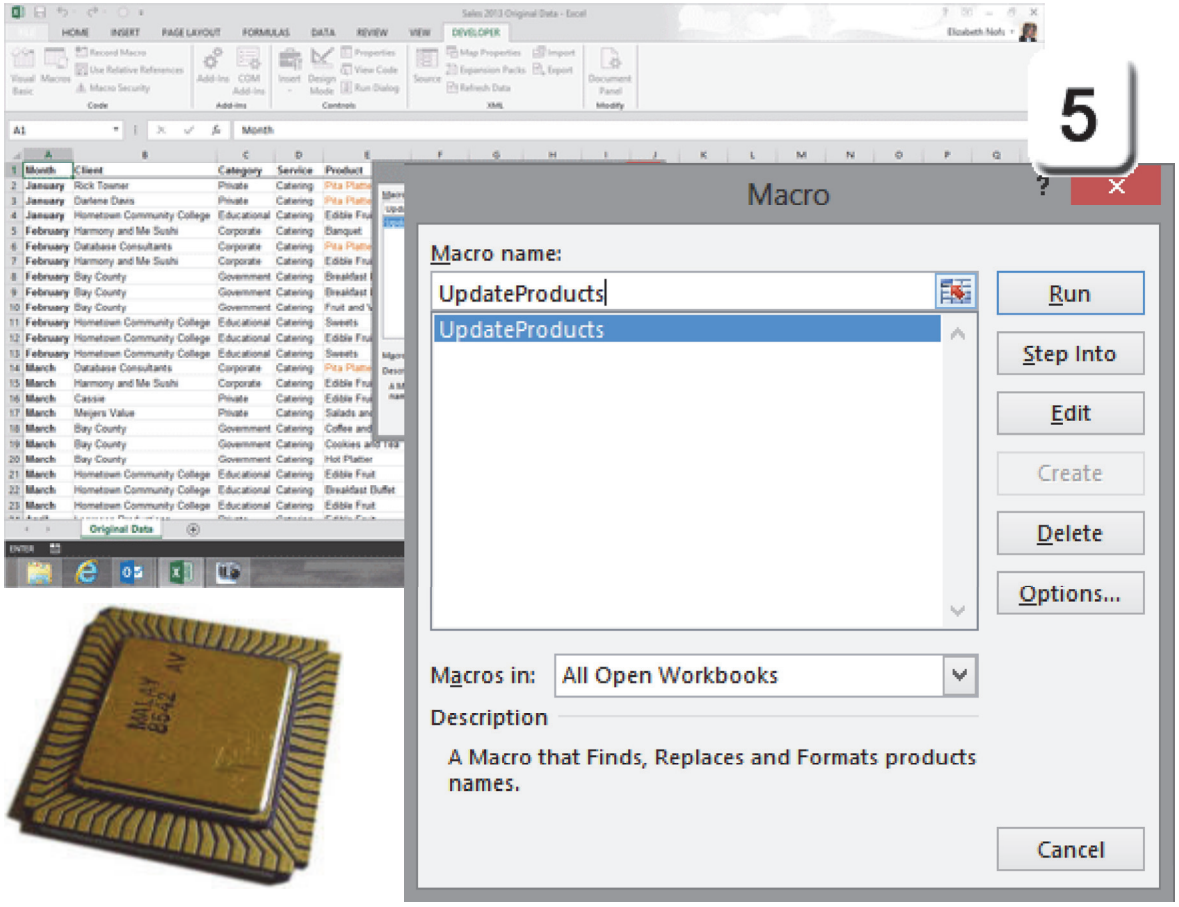
5. Try This: Find the Macro
Go to **Developer ->Code-> Macros**.

What Do You See? You should see UpdateProducts listed in the Macro names. The Macro options include:
Run
Step Into
Edit
Create
Delete
Options...

The **Description** at the bottom of this example was added when the Macro was created and named. You can edit the description if you click on **Options..**

What Else Do You See? You can review the **Macros in** All Open Workbooks or This Workbook. Keep going...

Developer ->Code-> Macros



Take Three

Hello, Visual Basic!

The Macros are written in Microsoft's **Visual Basic for Applications** (VBA) programming language. Here are the steps to **Edit** a Macro in VBA.

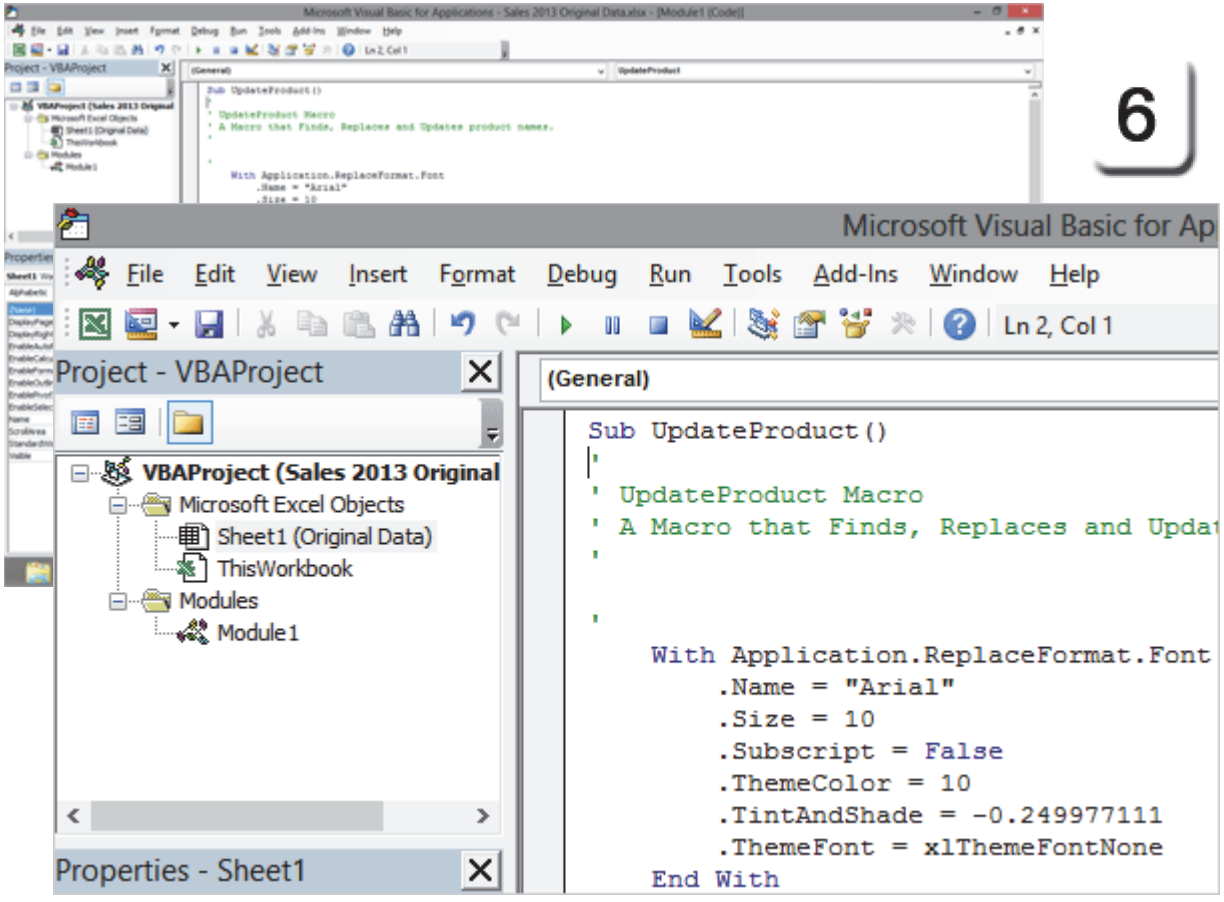
6. Try it: Edit the Macro
Go to **Developer ->Code->Macros.**
The Macro Manager should be open.
Select a Macro: UpdateProducts.
Click on **Edit**.

What Do You See? The VBA Editor will open in a new window. On the left side should be a **VBAProject**. Each sheet and the tab name is listed in the Microsoft Excel Objects. On the right side is the code.

Keep going...

Memo to Self: This is the same VBA editor that you can use in Microsoft Access, Outlook, PowerPoint and Word to program Macros.

Developer ->Code->Macros-> Edit



Exam 77-420 Microsoft Excel 2013
1. Create and Manage Worksheets and Workbooks
1.4 Customize Options and Views for Worksheets and Workbooks: Edit Simple Macros

Review the Code

7. Try it: Review the Code
The Macro Code starts with:
Sub UpdateProducts()
Where Sub means Subroutine.
It finishes at the bottom with:
End Sub

The next five lines are **Comments**. The Comments have a quote mark. These Comments include the name and description for the Macro.

Application.ReplaceFormat.Font goes from: **With** to **End With**. This Visual Basic code edits the Font, Size, and Themecolor.

The second action, Cells.Replace, defines where to look (Cells), what to look for, (Replace What), the Replacement, and the SearchOrder.

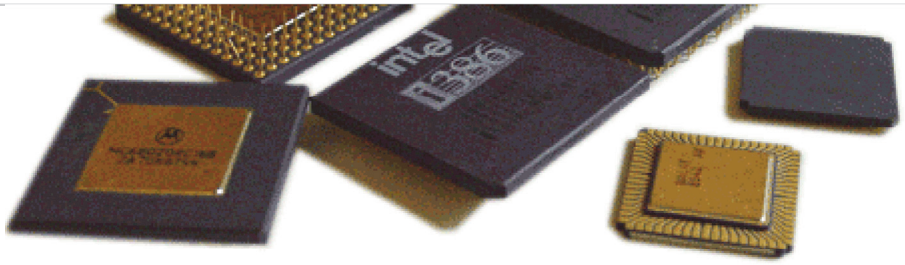
So, VBA code makes some sense if you look for the clues.

Keep going...

Developer ->Code-> Macros-> Edit

```
Sub UpdateProduct()
'
' UpdateProduct Macro
' A Macro that Finds, Replaces and Updates product names.
'

'
    With Application.ReplaceFormat.Font
        .Name = "Arial"
        .Size = 10
        .Subscript = False
        .ThemeColor = 10
        .TintAndShade = -0.249977111
        .ThemeFont = xlThemeFontNone
    End With
    Cells.Replace What:="Cold Platter", Replacement:="Pita Platter", LookAt:= _
        xlPart, SearchOrder:=xlByRows, MatchCase:=False, SearchFormat:=False, _
        ReplaceFormat:=True
End Sub
```



Return to Microsoft Excel

By default, this little Macro has been saved as Module1. Visual Basic modules are part of the Excel spreadsheet and not a separate file. Say this code is done and good. How do you save the programming and go back to Excel?

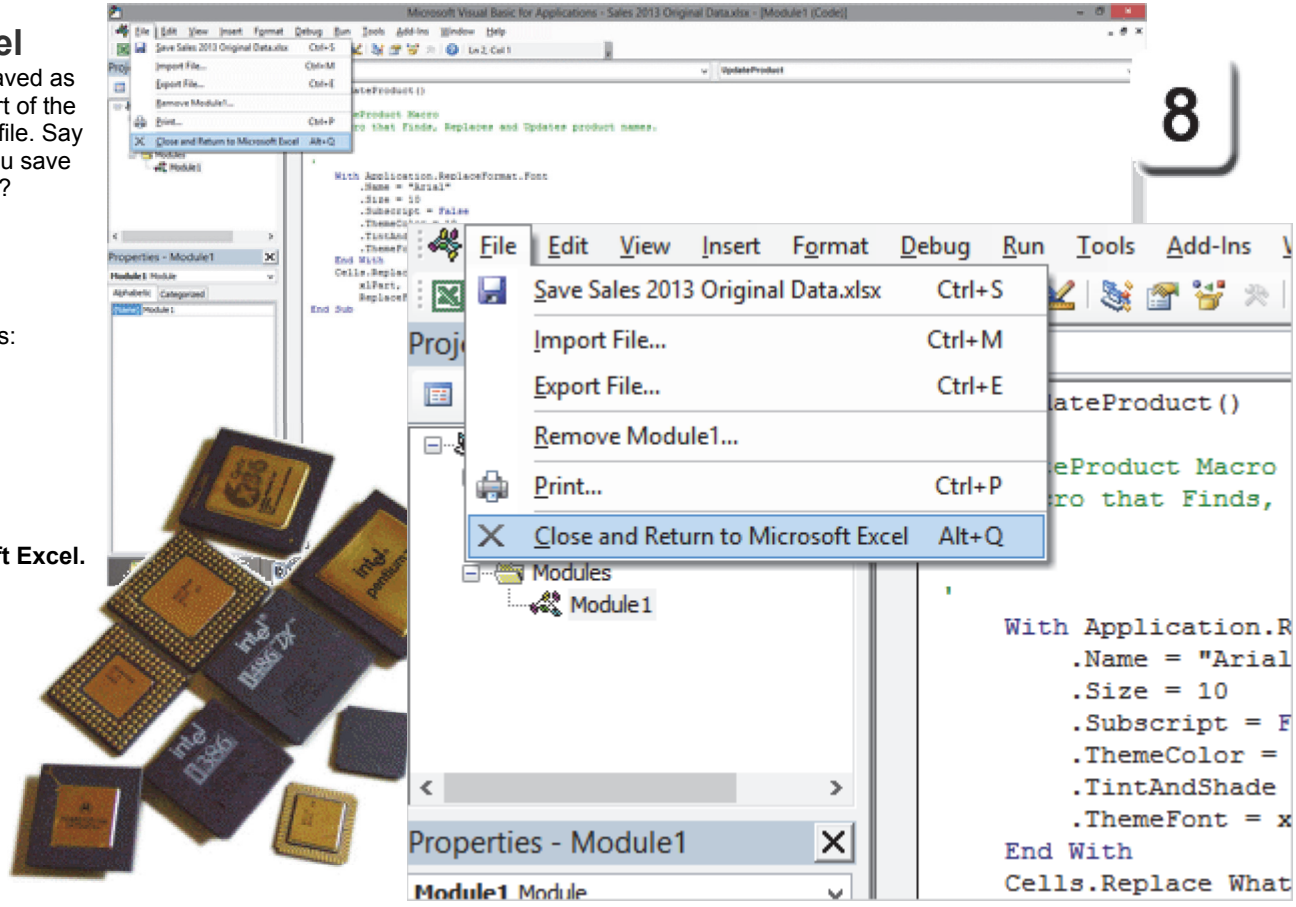
8. Try it: Return to Microsoft Excel
Go to **File.**

What Do You See? The menu includes:
Save Sales 2013 Original Data.xlsx
Import File...
Export File...
Remove Module1...
Print...
Close and Return to Microsoft Excel

Select: **Close and Return to Microsoft Excel.**

Keep going, please...

File->Close and Return to Microsoft Excel



Exam 77-420 Microsoft Excel 2013
1. Create and Manage Worksheets and Workbooks
1.4 Customize Options and Views for Worksheets and Workbooks: Edit Simple Macros

Take Three

Macro Options

9. Try it: Edit the Macro Options
Go to **Developer ->Code-> Macros.**
Select a Macro**: UpdateProducts.**
Click on **Options...**

What Do You See? Programmers take note! You can edit the description to document who changed the Macro.

What Else Do You See? The **Shortcut Key** is blank. You can assign the Macro to a keyboard command so that it will run when you want.

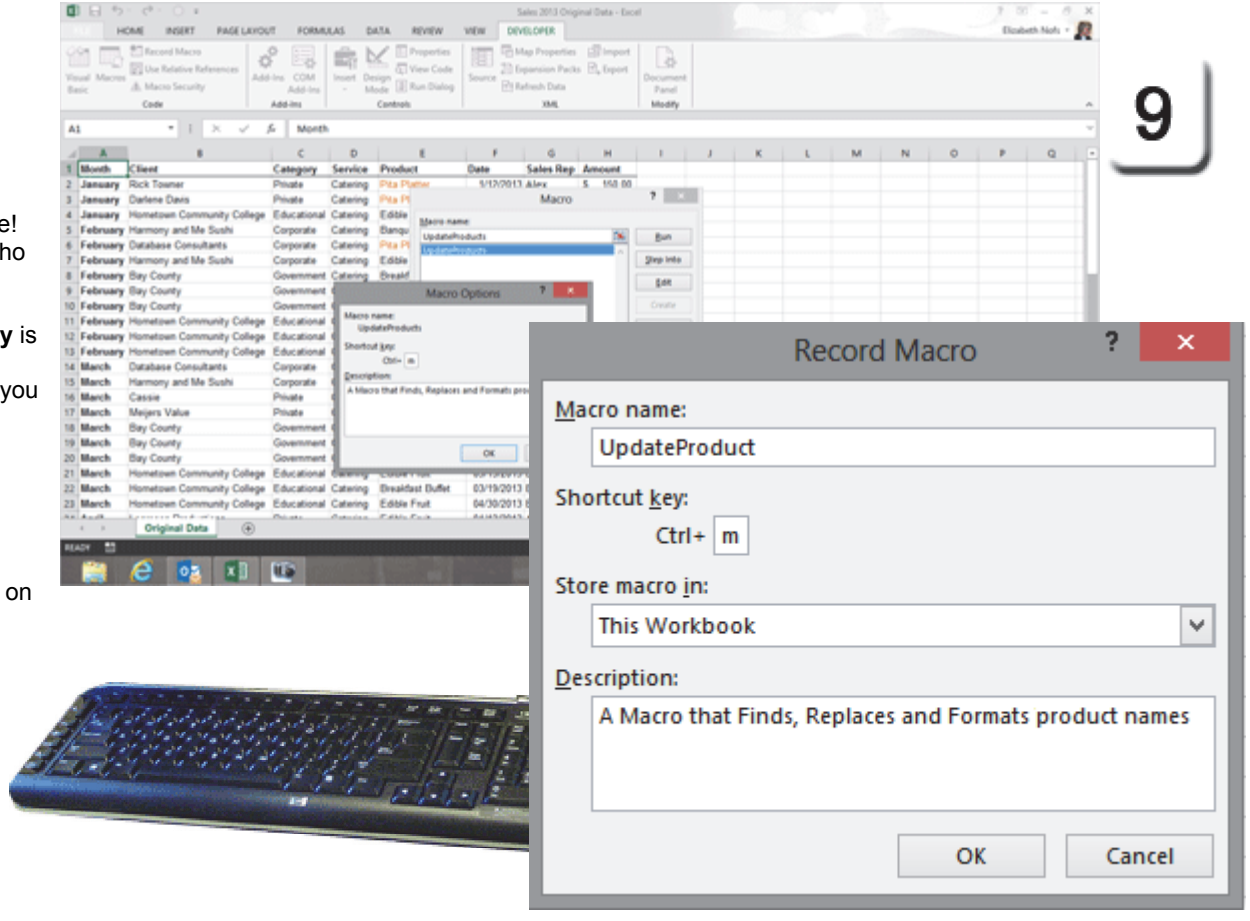
Try This as Well: Assign a Shortcut Key
Edit the Shortcut Key: **m**.
Click **OK**.

You will return to the Macro Manager. Click on the red "X" to **Close** the Macro Manager.

When you type Ctrl+m this Macro will run. That'll work.

Developer ->Code-> Macros->Options

9



Exam 77-420 Microsoft Excel 2013
1. Create and Manage Worksheets and Workbooks
1.4 Customize Options and Views for Worksheets and Workbooks: Assign Shortcut Keys

Take Three

Save the Macro

When you add Macros to a spreadsheet you need to save your work as a **Macro-Enabled** file. **Macros are code.** It is different than the default Excel file format. This page shows how to save a Macro.

1. Try it: Save the Macro
Go to **File->Save As**.

What Do You See? The **Save As** window will prompt you to fill in the following:

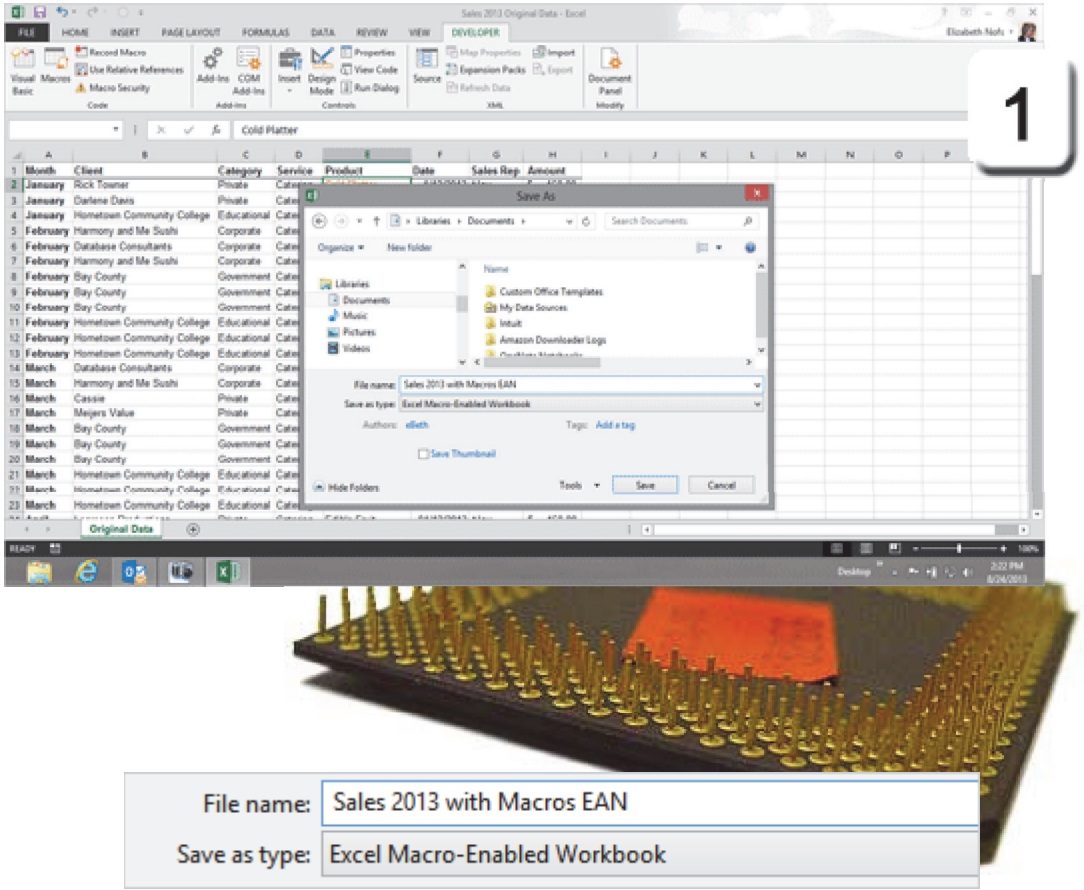
Location: The Documents folder

File name: Sales with Macros EAN, where EAN are your initials.

Save as type: Excel Macro-Enabled Workbook

Click on **Save**.

File ->Save As



Take Three

Add the Macro to a Button

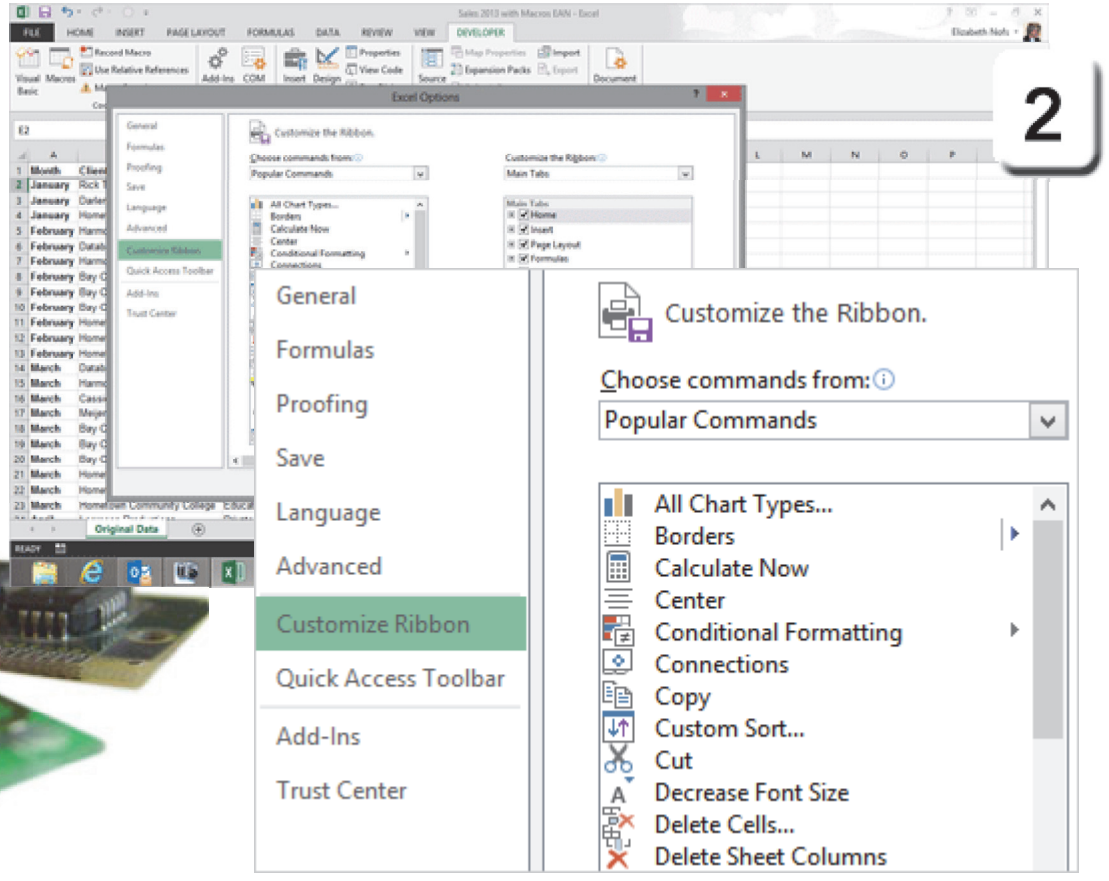
When we programmed the Macro we added a Shortcut Key. You can also run the Macro from the one of the Ribbons.

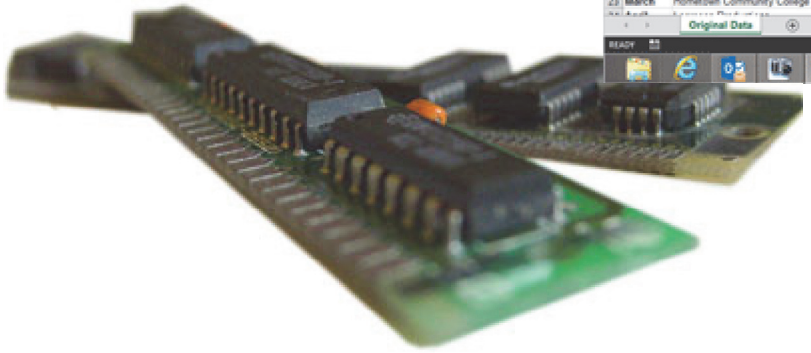
The quickest way to add a Macro to a button is with the Backstage Options. On the following pages, we will create a new Group on the Home Ribbon, then add the Macro to the Group.

2. Try it: Go to the Backstage
Go to **File ->Options->Customize Ribbon.**

Keep going...

File ->Options->Customize Ribbon





Exam 77-420 Microsoft Excel 2013
1. Create and Manage Worksheets and Workbooks
1.4 Customize Options and Views for Worksheets and Workbooks: Customize the Ribbon

Take Three

Customize the Ribbon

What Do You See? There are two columns in Customize Ribbon. The first column shows the Popular Commands. The second column lists the Main Tabs: Home, Insert, Page Layout, Formula, Data, Review, View and Developer.

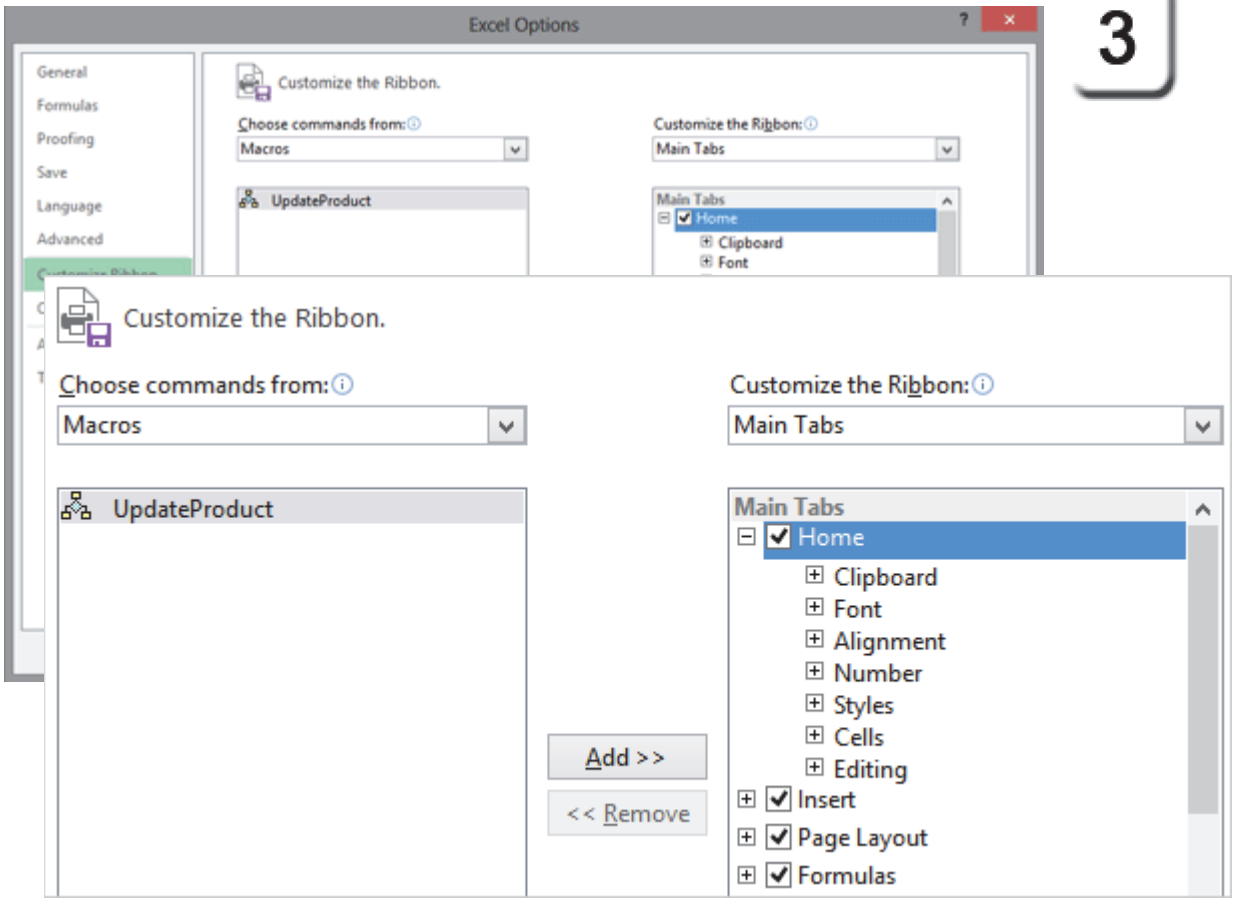
3. Try it: Customize the Ribbon
Choose commands from: Macros.

What Else Do You See? In this example there is only one Macro: UpdateProduct

So far, so good. We found the Macros.

Keep going...

File ->Options-> Customize Ribbon



3

Exam 77-420 Microsoft Excel 2013
1. Create and Manage Worksheets and Workbooks
1.4 Customize Options and Views for Worksheets and Workbooks: Customize the Ribbon

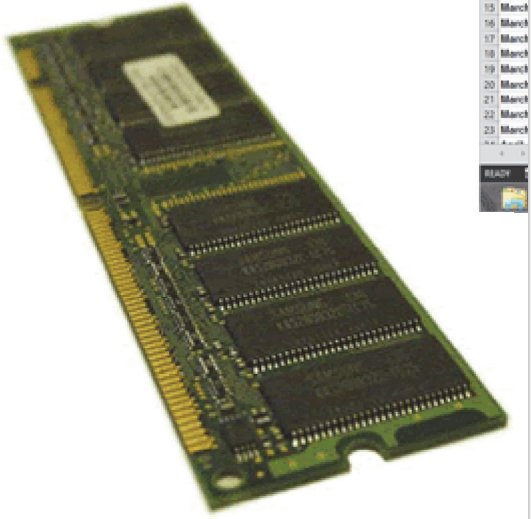
Take Three

Add a New Group

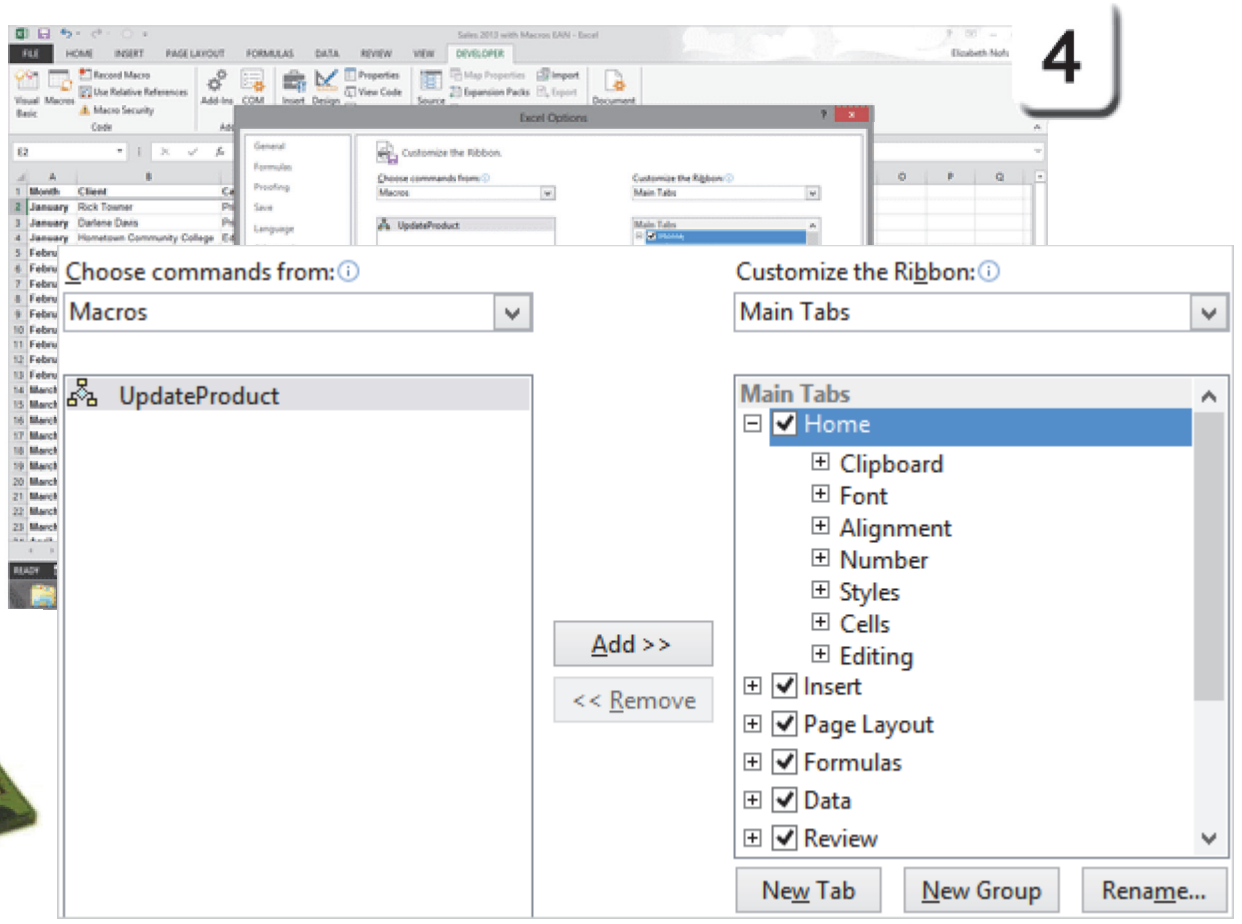
Custom buttons need to be placed in a Custom Group. Here are the steps to create a **New Group** on the Home Ribbon.

4. Try it: Create a New Group
Select the **Home** Ribbon on the right side.
Click on **New Group.**

Keep going...



File ->Options-> Customize Ribbon-> New Group



Exam 77-420 Microsoft Excel 2013
1. Create and Manage Worksheets and Workbooks
1.4 Customize Options and Views for Worksheets and Workbooks: Customize the Ribbon

Take Three

File ->Options-> Customize Ribbon-> New Group

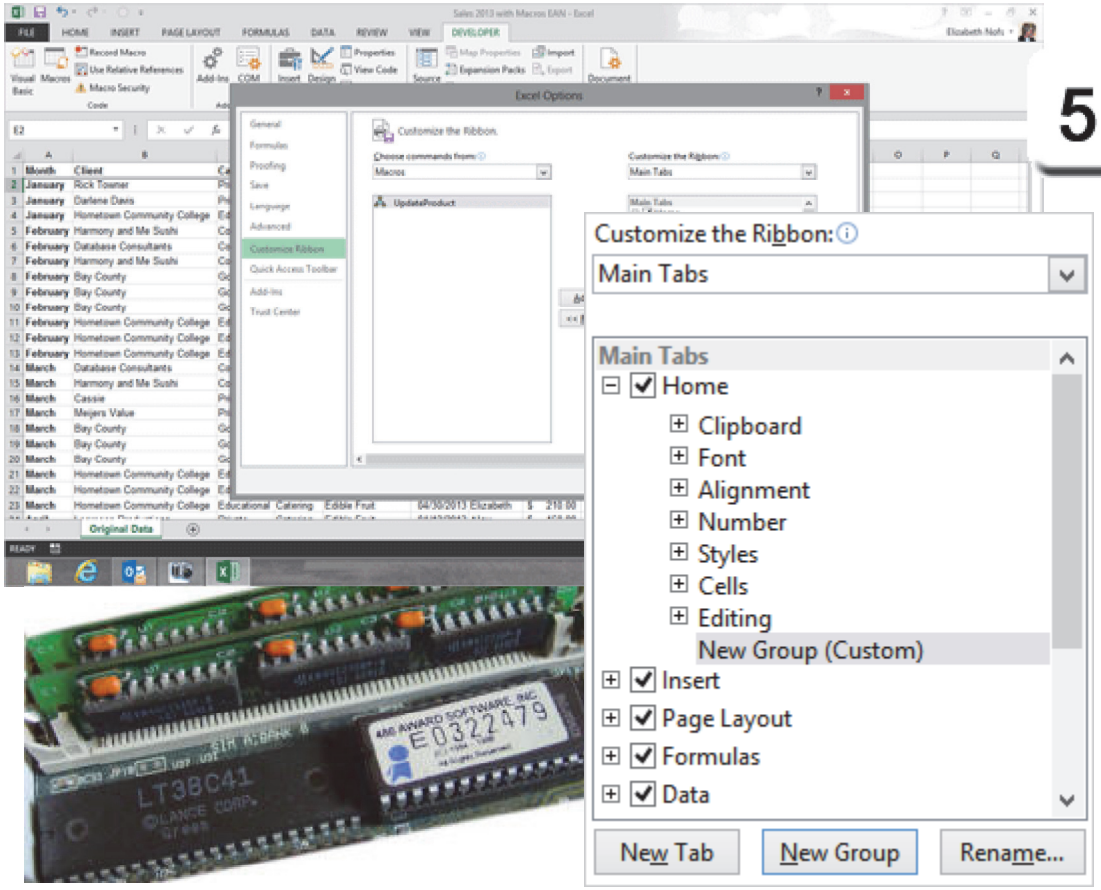
Hello, New Group

5. What Do You See? A **New Group (Custom)** has been placed on the right side on the Home Ribbon. By default, the New Group has been placed last on the list, under the Editing group. You can use the Up and Down arrows to reorganize the Main Tab, if you wish.

Keep going...

Memo to Self: Say you changed the order of the Groups on the Home Ribbon but that made it more difficult to find anything.

You can **Reset** the Main Tabs and return the Home Ribbon to the way it is by Default in Microsoft Excel.



Exam 77-420 Microsoft Excel 2013
1. Create and Manage Worksheets and Workbooks
1.4 Customize Options and Views for Worksheets and Workbooks: Customize the Ribbon

Take Three

Edit the New Group

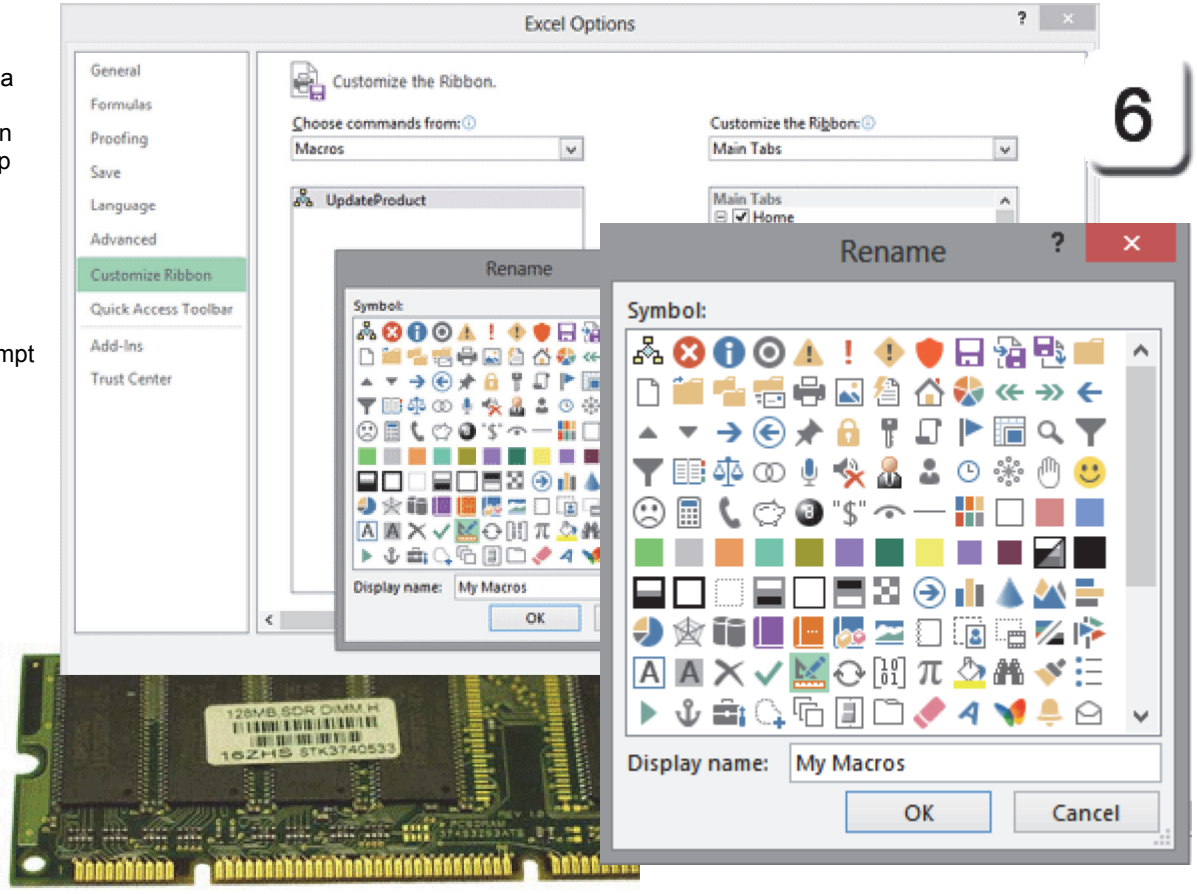
New Group (Custom) doesn't really mean a whole lot to my users. Let's rename this Group. When you **Rename** a Group you can choose a Symbol to help Users find a Group as well as a Display Name.

6. Try This: Rename the Group
Select **New Group (Custom).**
Click on **Rename.**

Whet Do You See? A new window will prompt you to select a **Symbol.**
Choose a Symbol: Pick any one you like.
Type a Display Name: My Macros.
Click **OK**.

Keep going...

File ->Options-> Customize Ribbon-> New Group



Take Three

Add the Macro to the Group

Here are the steps to add the Macro to your new Macro group on the Home Ribbon.

7. Try This: Add a Macro to a Group
Choose Commands From: Macros.
Click on UpdateProduct

Customize the Ribbon: Main Tabs
Select the new Macro Group.
Click on **Add**.

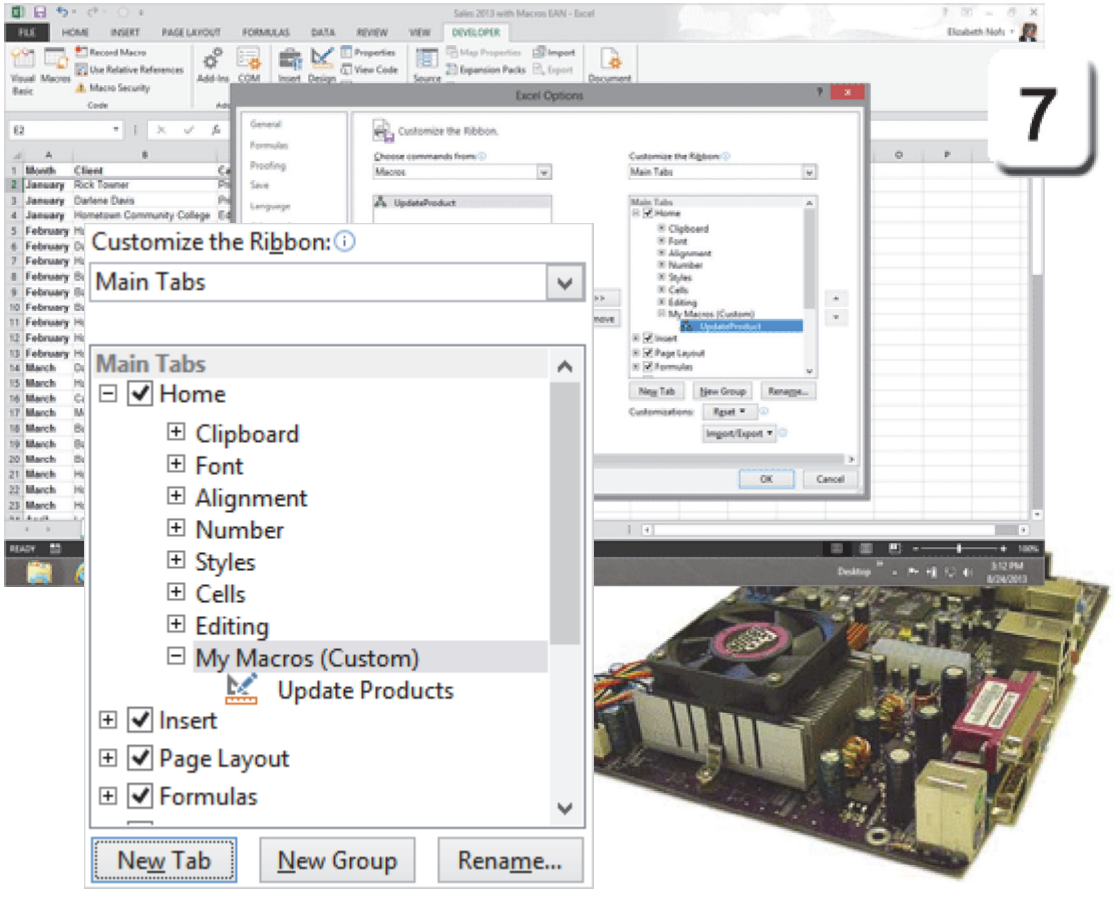
Try This, Too: Change the Display Name
Select **UpdateProduct.**
Click on **Rename.**

Whet Do You See? A new window will prompt you to select a **Symbol.**
Choose a Symbol: Pick another one you like.
Type a Display Name: Update Products.
Click **OK**.

Click **OK** on the Excel Options window, too.

Keep going...

File ->Options-> Customize Ribbon-> Add



Take Three

Home ->My Macros-> Update Products

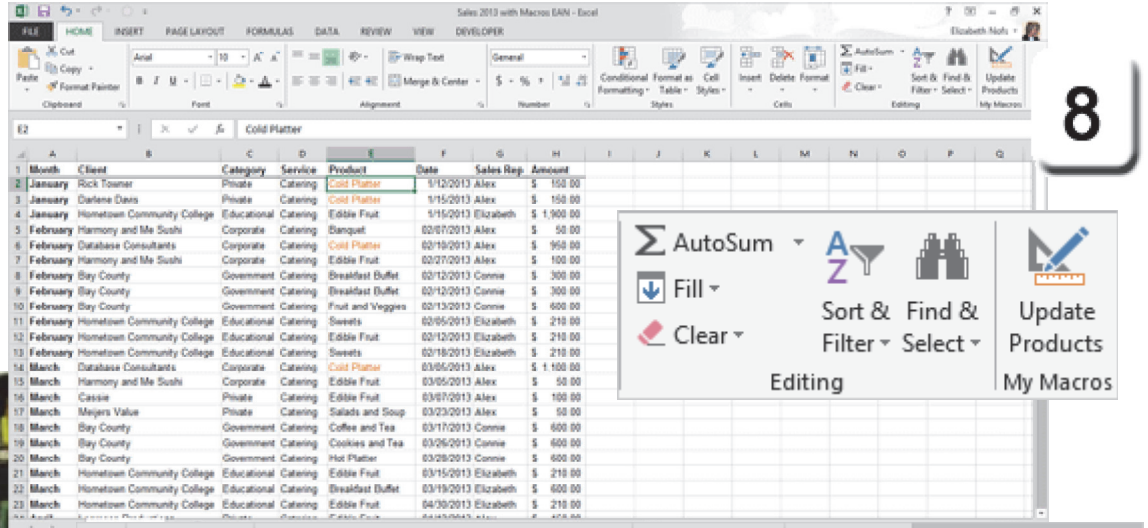
Hello, Little Macro!

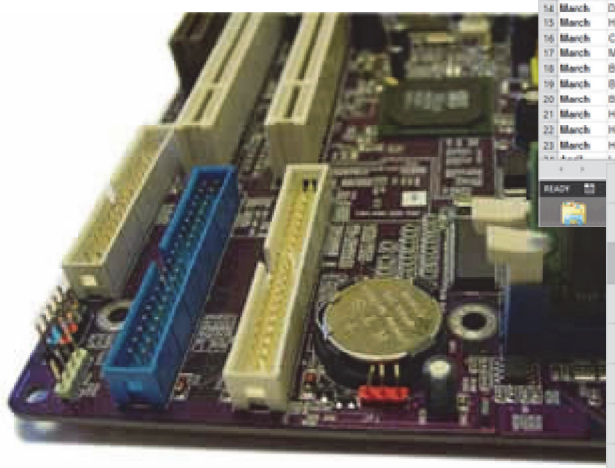
8. What Do You See? There should be a new Group, **My Macros** on the **Home** Ribbon.

The **Update Products** button should be in this Group. OK, that even looks good.

One more way to run a Macro.

Sure, turn the page...





	A	B	C	D	E
1	Month	Client	Category	Service	Product
2	January	Rick Towner	Private	Catering	Cold Platter
3	January	Darlene Davis	Private	Catering	Cold Platter
4	January	Hometown Community College	Educational	Catering	Edible Fruit
5	February	Harmony and Me Sushi	Corporate	Catering	Banquet
6	February	Database Consultants	Corporate	Catering	Cold Platter
7	February	Harmony and Me Sushi	Corporate	Catering	Edible Fruit
8	February	Bay County	Government	Catering	Breakfast Buffet

Exam 77-420 Microsoft Excel 2013
1. Create and Manage Worksheets and Workbooks
1.4 Customize Options and Views for Worksheets and Workbooks: Customize the Ribbon

Add the New Macro to the Quick Access Toolbar

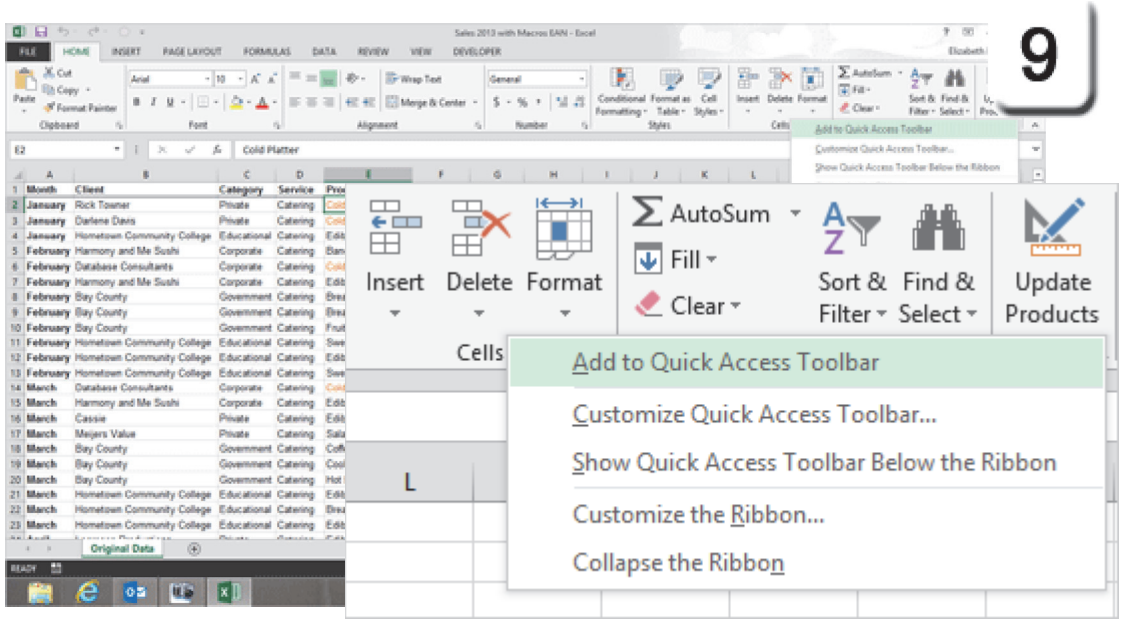
You can add your mighty Macro to the **Quick Access Toolbar** if you wish.

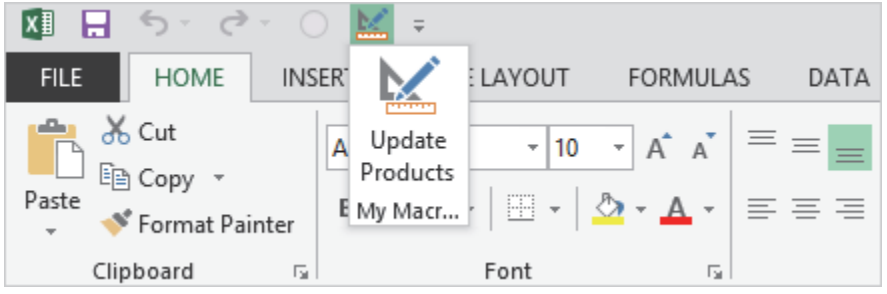
9. Try it: Add a Macro to the Toolbar
Right-click the My Macro Group.
Click on **Add to the Quick Access Toolbar**.

What Do You See? In the example on this page, the Macro is shown on the Quick Access Toolbar, to the right of the Undo and Redo arrows. When you click on the icon, the My Macro Group opens.

Memo to Self: If you choose the other option, **Customize the Quick Access Toolbar,** the steps will be similar to the ones we just walked through for the Home Ribbon.

Add to the Quick Access Toolbar





Exam 77-420 Microsoft Excel 2013
1. Create and Manage Worksheets and Workbooks
1.4 Customize Options and Views for Worksheets and Workbooks: Customize the Ribbon

Macro Security

1. Review the Macro Security

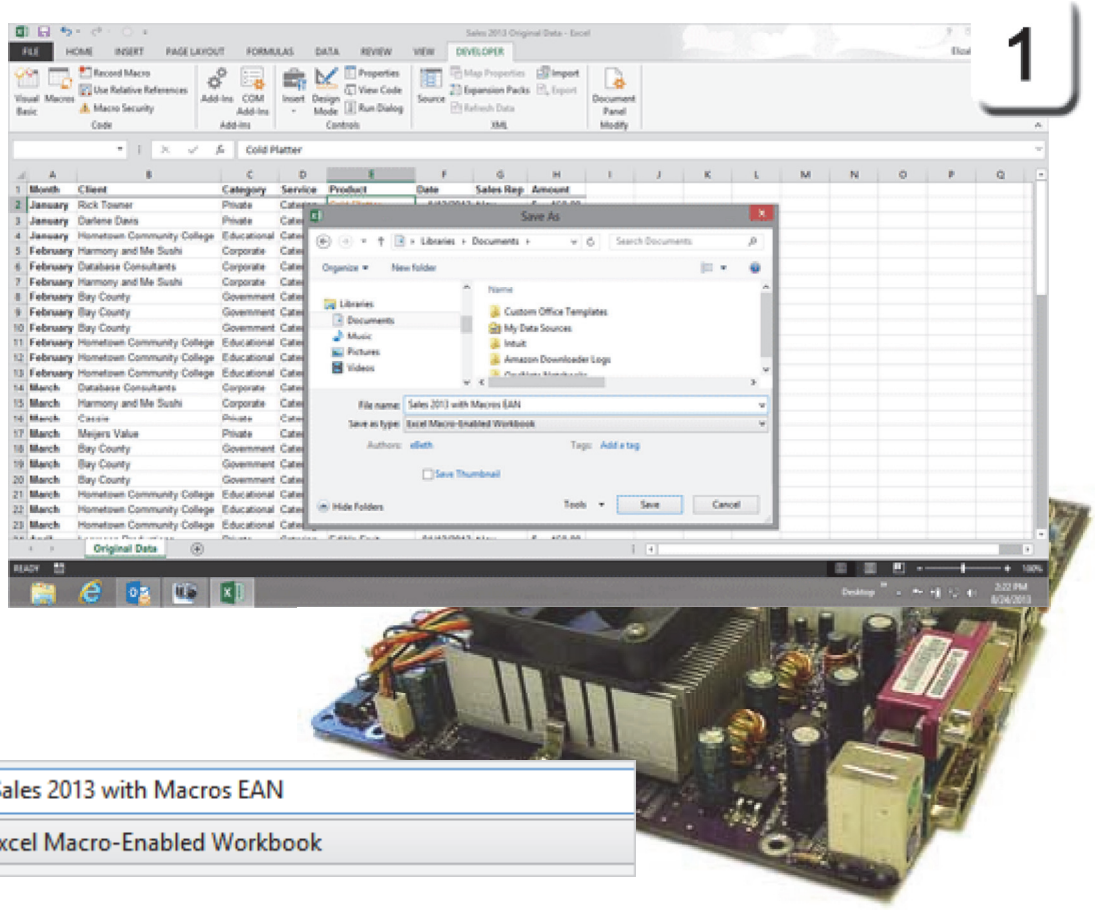
Earlier we saved this spreadsheet as a **Macro-Enabled** file. **Macros are code.** Working with Macro-enabled files is different than the default Excel file format.

Who Do You Trust? Macros are code: code can be programmed to run viruses or malware that can compromise your security and your privacy. The next couple of pages discuss the security issues.

Please **Close** the Macro-Enabled file Sales 2013 with Macros EAN. When you are prompted, please Save, Save, Save.

Keep going...

File ->Save As->Excel Macro-Enabled Worksheet



Enable Macros in a Workbook

What happens when you open a file that has Macros?

2. Try This: Open a File With a Macro
Open the file you just closed: Sales 2013 with Macros EAN (where EAN are your initials).

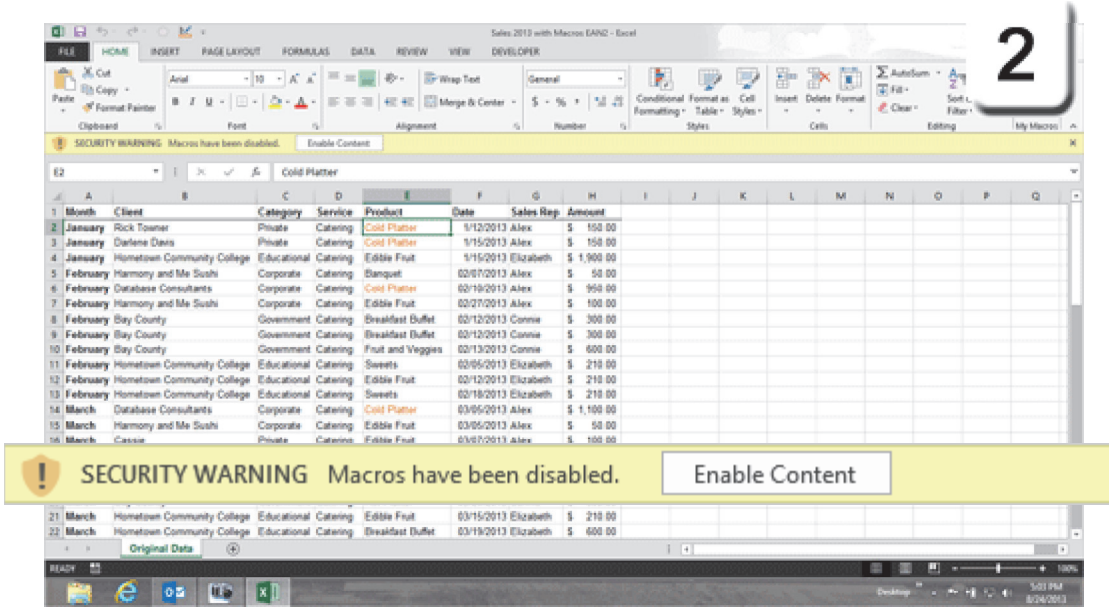
What Do You See? The Macro Enable workbook icon has a security warning: an exclamation point.



Consider This: Enable Content?
When the file opens you should see a yellow security banner at the top of the spreadsheet. By default, all Macros are disabled in Excel. Only **Enable Content** from trusted sources!

Okaaaaay, keep going...

File ->Open





Exam 77-420 Microsoft Excel 2013
1. Create and Manage Worksheets and Workbooks
1.4 Customize Options and Views for Worksheets and Workbooks: Manage Macro Security

Take Three

Security Warnings

Macros are a security risk. Microsoft Excel also displays the security warning in the Backstage View of the workbook.

3. Try it: View the Security Information
The macro-enabled workbook is still open.
Go to **File->Info**.
Click on **Enable Content**.

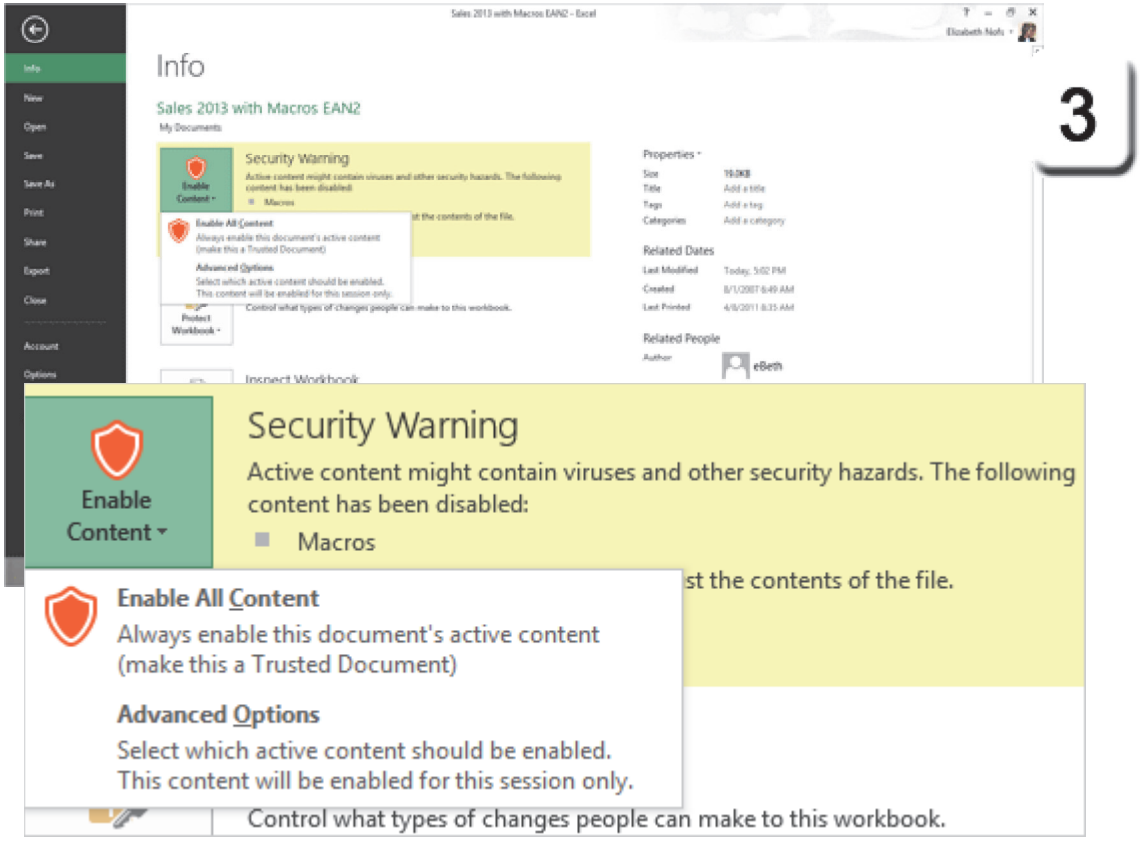
What Do You See? By default, Active Content, including Macros, are disabled because of the potential hazards.

You can **Enable All Content** and make this workbook a Trusted Document.

The **Advanced Options** allows you to enable the macro for this session, only.

Click on **Advanced Options** and keep going, please...

File->Info->Enable Content-> Advanced Options



Exam 77-420 Microsoft Excel 2013
1. Create and Manage Worksheets and Workbooks
1.4 Customize Options and Views for Worksheets and Workbooks: Manage Macro Security

Take Three

Security Alert-Macros

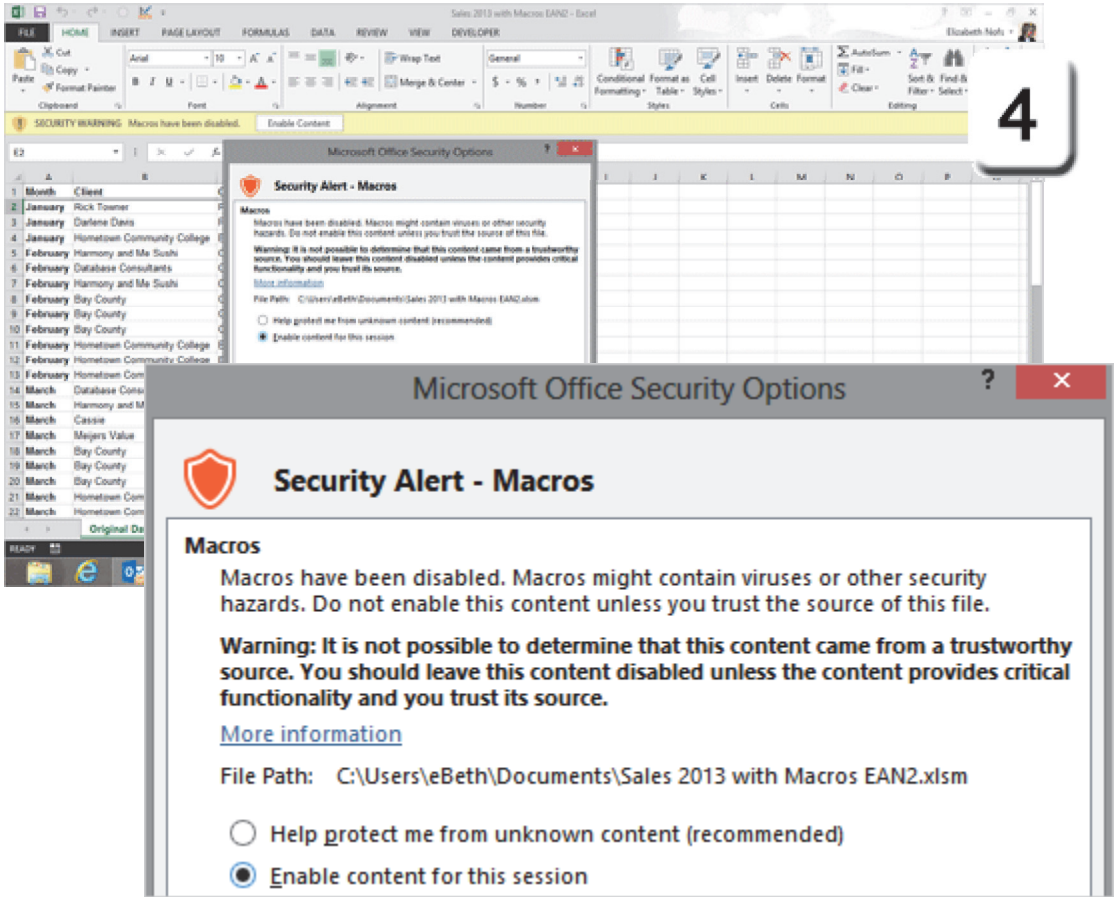
4. What Do You See? The Macros in the workbook are disabled. When you click on Advanced Options you will be notified with a **Security Alert** for Macros.

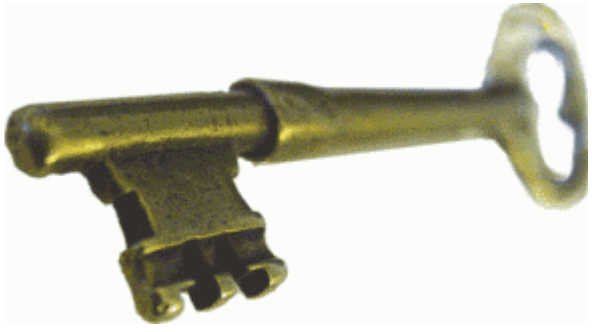
What Are the Options? One of the Advanced Options is to **Enable content for this session**, only. That means the permissions are revoked and the Macros are disabled when you close the workbook

Click on: **Enable content for this session.**

Click **OK**, Keep going...

File->Info->Enable Content-> Advanced Options





Exam 77-420 Microsoft Excel 2013
1. Create and Manage Worksheets and Workbooks
1.4 Customize Options and Views for Worksheets and Workbooks: Manage Macro Security

More Macro Security

The example on the previous pages showed the options for enabling Macros when you open a workbook. Macro Security does not have to be "all or nothing." Some Macros may be quite useful while others are risky.

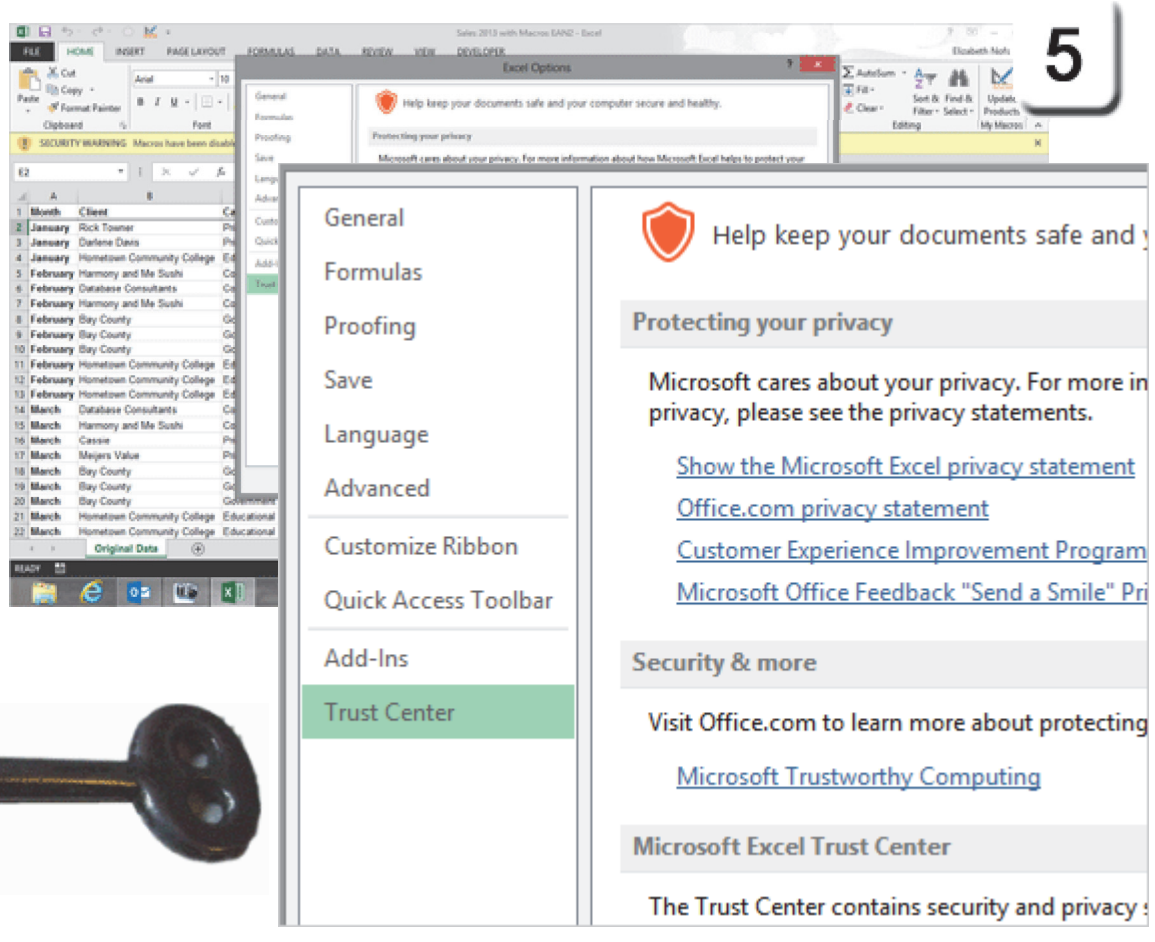
Security can be managed in the **Trust Center**.

5. Try This: Find the Trust Center
Go to **File->Options**.
Click on **Trust Center.**

What Do You See? The **Trust Center** offers several links to teach you how to protect your privacy and security.

Keep going...

File ->Options->Trust Center



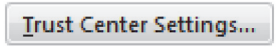


Exam 77-420 Microsoft Excel 2013
1. Create and Manage Worksheets and Workbooks
1.4 Customize Options and Views for Worksheets and Workbooks: Manage Macro Security

Take Three

Trust Center Settings

6. Try This: Find the Trust Center
Go to **File ->Options->Trust Center**.
Click on **Trust Center Settings**.



What Do You See? You can edit the Macro Settings for **Trusted Publishers, Trusted Locations,** and **Trusted Documents.**

Microsoft, for example, is a Trusted Publisher with thousands of macro enabled templates on their websites. You can also choose to trust macros that have been digitally signed.

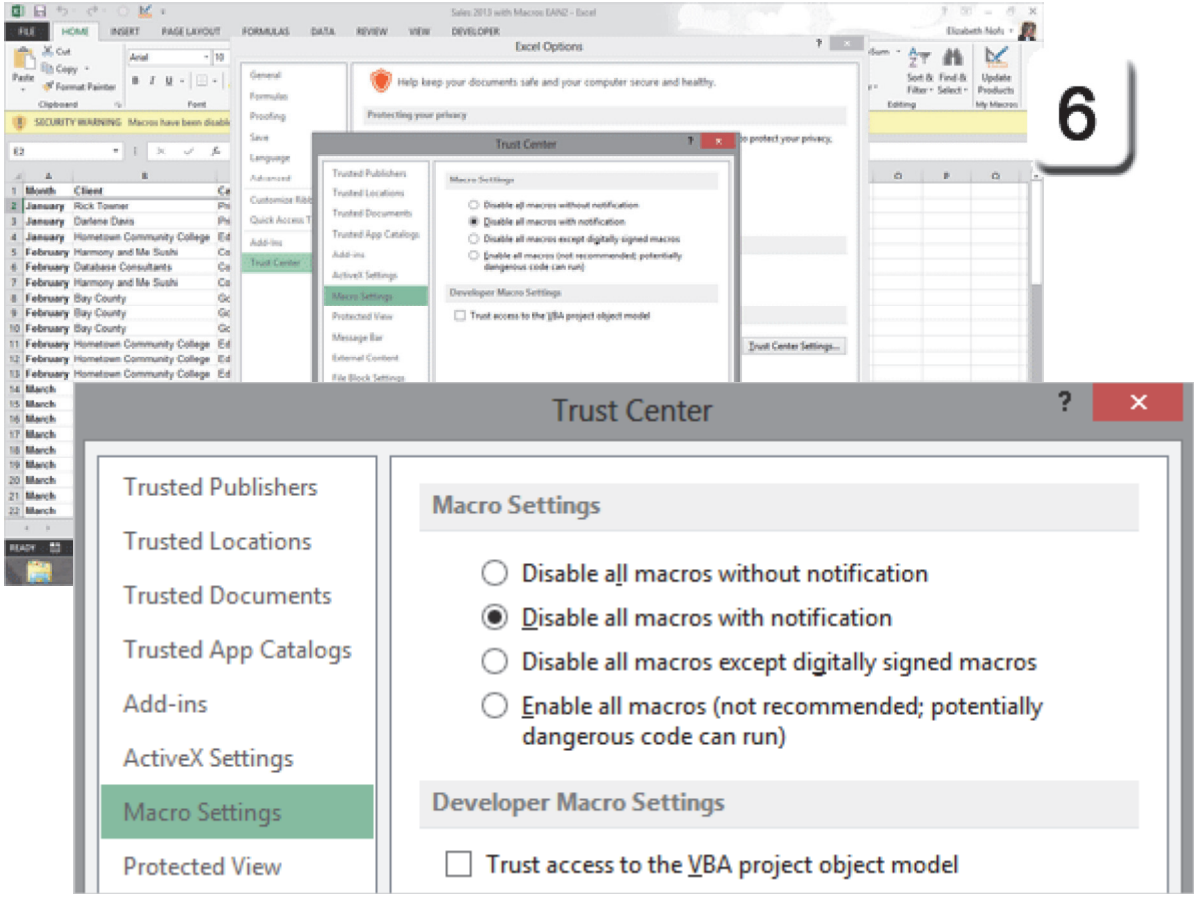
The **Macro Settings** by default **Disable all macros with notification**. Microsoft does NOT recommend that you **Enable all macros.**

Click **CANCEL**. Do not make any changes to the Macro Settings.

Click **OK** to Close the Excel Options.

Home again, Home again.

File ->Options->Trust Center-> Trust Center Settings



Exam 77-420 Microsoft Excel 2013
1. Create and Manage Worksheets and Workbooks
1.4 Customize Options and Views for Worksheets and Workbooks: Manage Macro Security

Take Three

Copy a Macro to Another Macro Enabled Spreadsheet

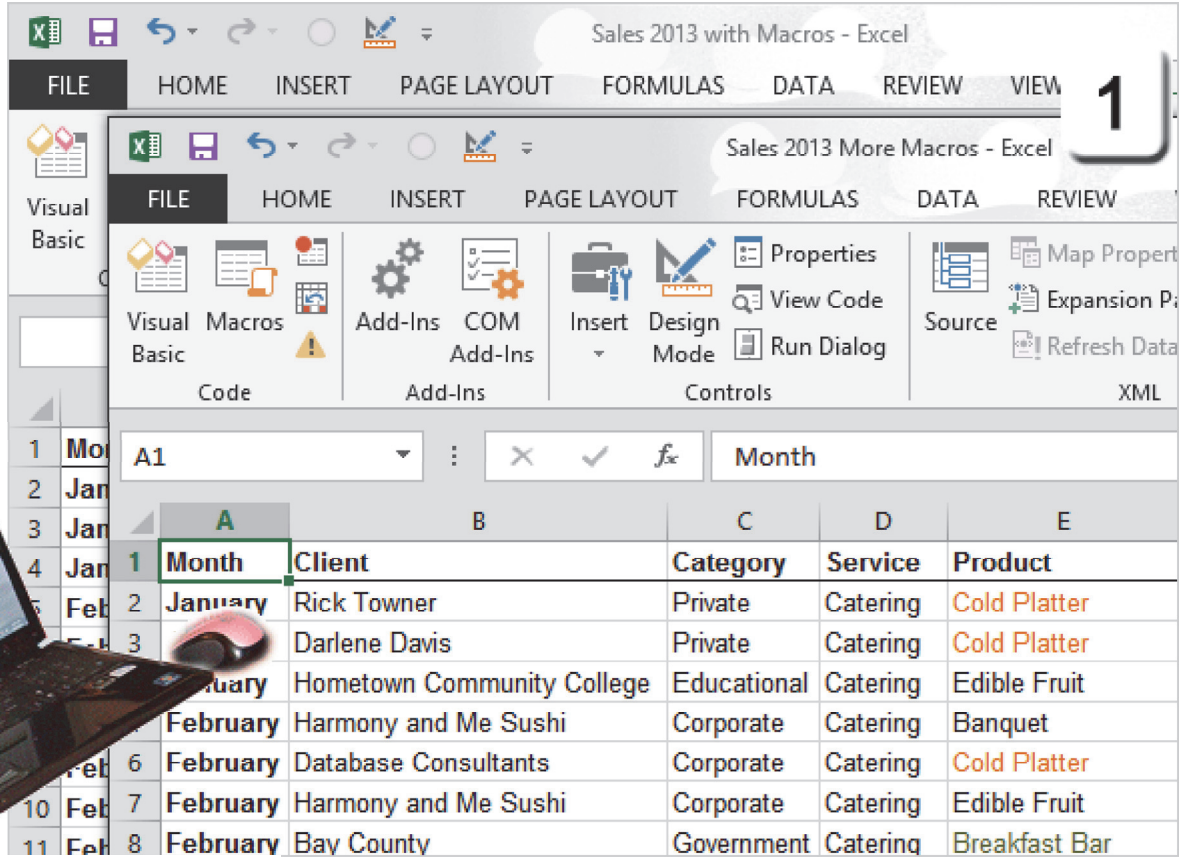
The process to copy a Macro from one spreadsheet is not as simple as "Copy and Paste." Microsoft Excel uses Visual Basic to copy a Macro from one Macro Enabled file to another. Here are the steps.

1. Before You Begin: Open Another File
This example needs two Macro Enabled spreadsheets open at the same time. Please download, open and enable the sample file:
Sales 2013 More Macros.xlsm

Keep going...



File ->Open



Back to Visual Basic

2. Try This: Review the Code in Visual Basic
Two spreadsheets are open:
Sales 2013 with Macros.xlsm (Completed)
Sales 2013 More Macros.xlsm
Go to **Developer ->Code->Visual Basic.**

What Do You See? Visual Basic for Applications will open. There are are two Projects on the left side: One for each Macro Enabled spreadsheet that is open.

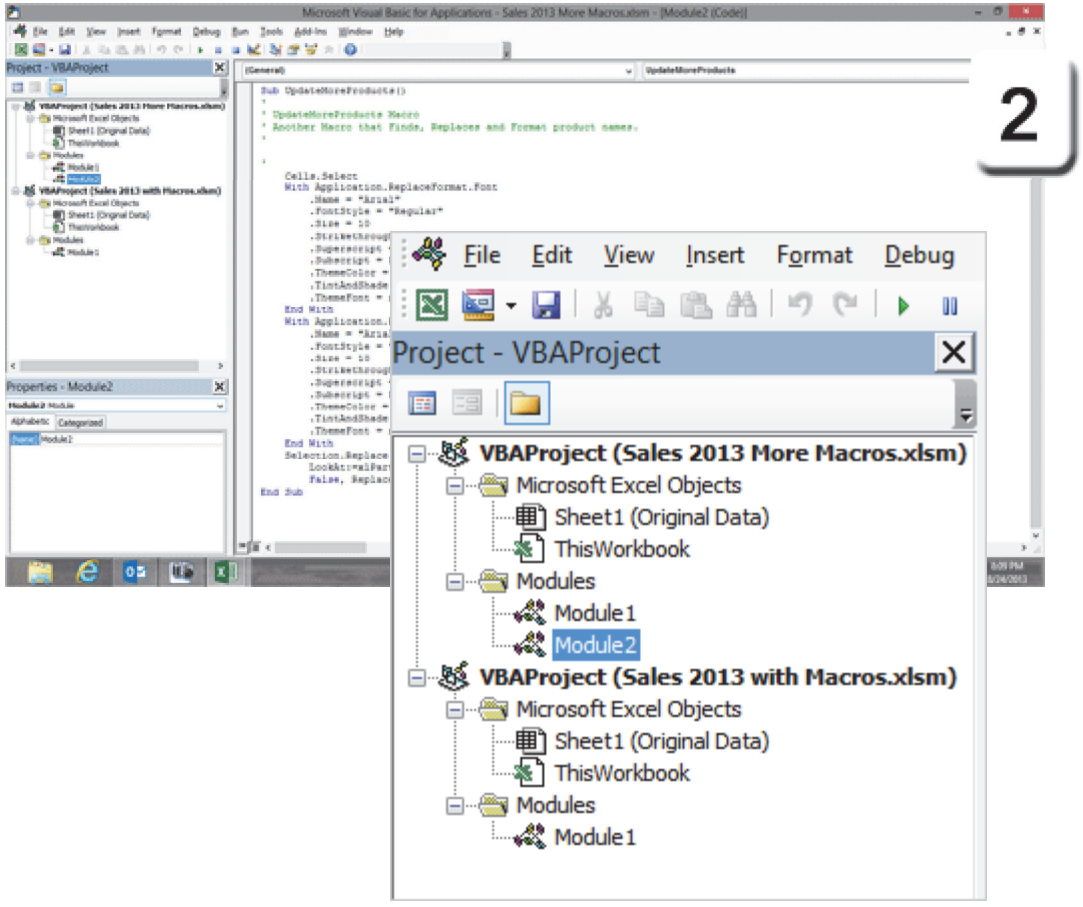
The Macros are in the Modules folder.

Now, Try This: Copy a Module
Go to VBAProject (Sales 2013 More Macros.xlsm) Select Module2 and drag it down to the Modules folder under VBAProject (Sales 2013 with Macros.xlsm).

Done and Done. That's how to copy Macros from one workbook to another.

Go to **File->Close and Return to Microsoft Excel.**

Developer ->Code->Visual Basic

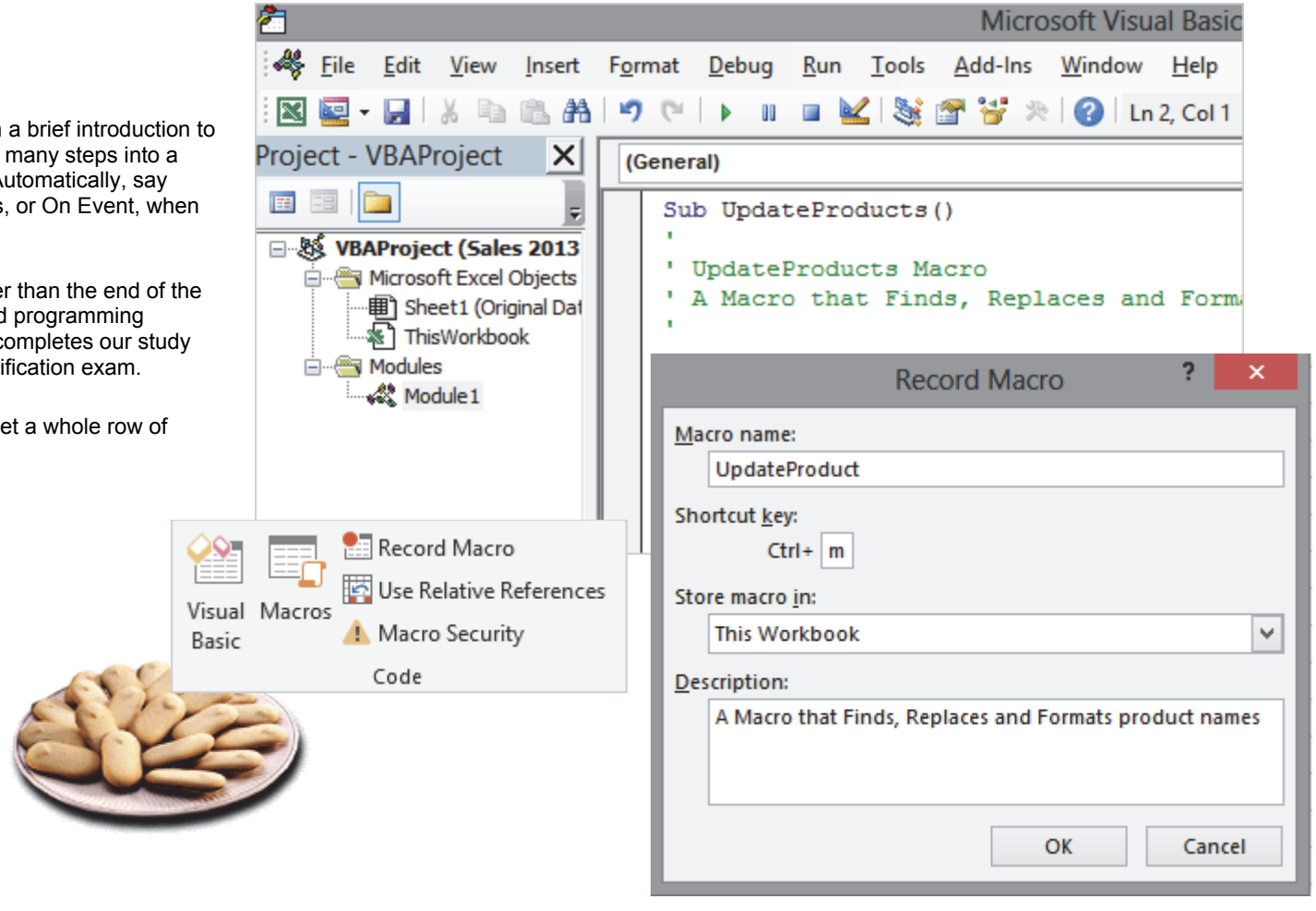


Summary

This discussion began with a brief introduction to Macros. **Macros** automate many steps into a simple program that runs Automatically, say when a spreadsheet opens, or On Event, when a user clicks on a button.

This is the beginning, rather than the end of the options for customizing and programming Microsoft Excel. And, this completes our study for the Microsoft Excel certification exam.

You done good. You can get a whole row of cookies if you wish.



Test Yourself

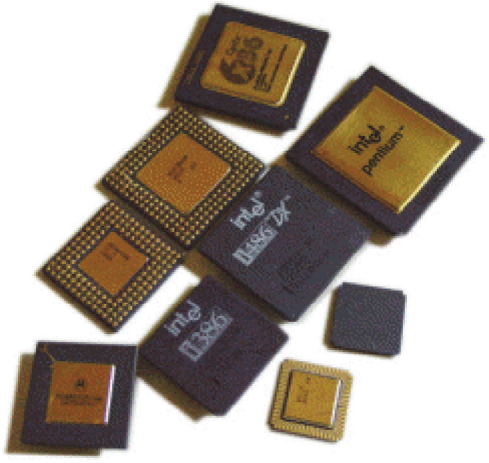
1. Which of the following is true about Macros?
(Select all correct answers)
a. Macros record actions as you complete a task
b. The user must specify the start and stop to a macro recording
c. Macros will record mistakes
Tip: Advanced Excel, page 248, 252

2. Which Ribbon has commands for Macros?
a. Home
b. Review
c. Developer
d. Tools
Tip: Advanced Excel, 250

3. Microsoft Office allows users to do what with Macros?
(Select all correct answers)
a. Add macros to the Ribbon
b. Create a new group for a user-created macro.
c. Use a custom icon for a user-created macro
Tip: Advanced Excel, page 263, 264, 265

4. Which of the following is true about Macro Security?
a. Macros are disabled by default because they are a security risk
b. Macros can be permanently enabled in a spreadsheet
c. Macros can be temporarily enabled in a spreadsheet for only the current session
d. The settings for Macros are found in the Trust Center
Tip: Advanced Excel, page 271, 272, 274

5. Which of the following can be customized in Excel?
(Select all correct answers)
a. Ribbons
b. Quick Access Toolbar
c. Document Properties
Tip: Advanced Excel, page 268

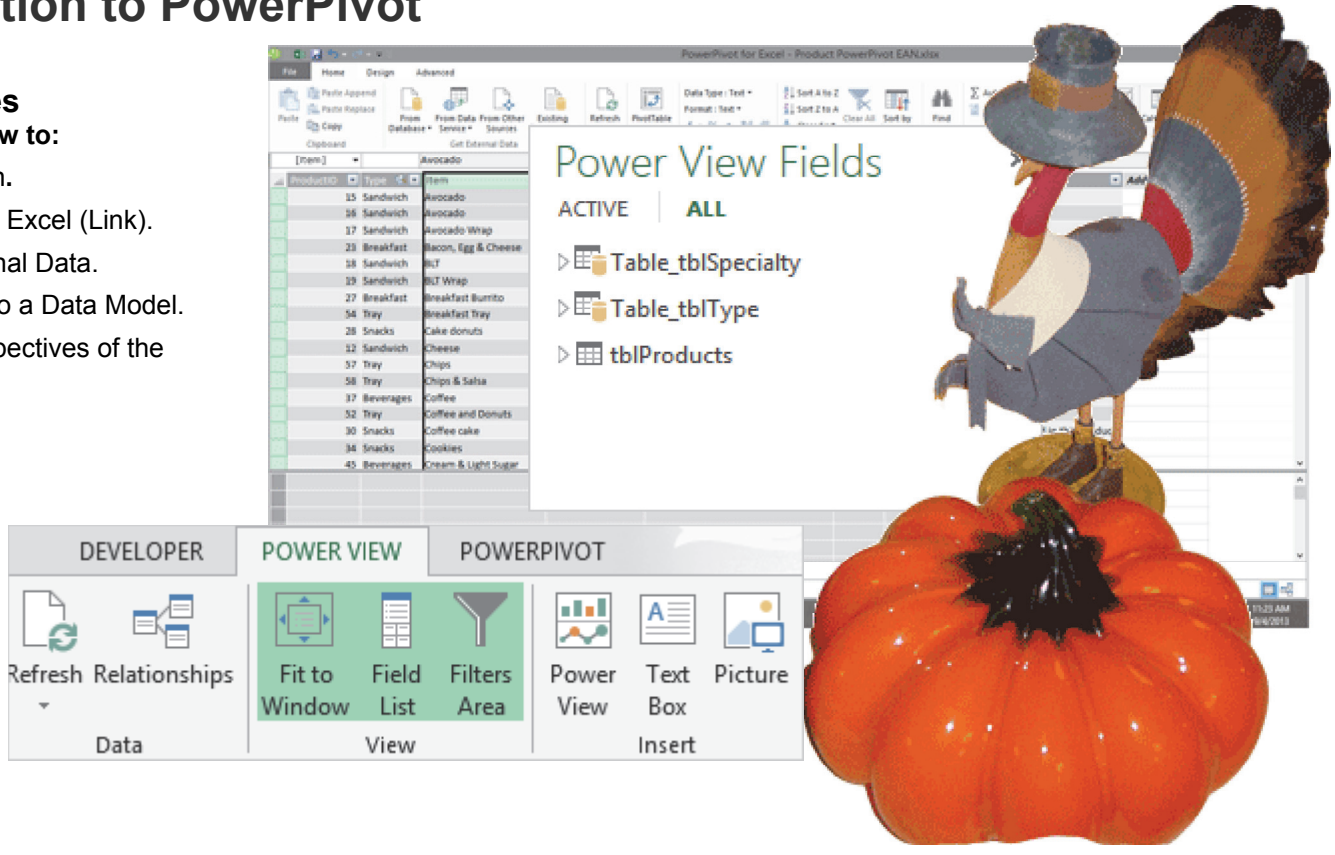


Introduction to PowerPivot

Advanced Excel Objectives

In this lesson, you will learn how to:

1. Enable the **PowerPivot** Ribbon**.**
2. Open Access Tables directly in Excel (Link).
3. Create a PivotChart with External Data.
4. Import External Data and add to a Data Model.
5. Create different views, or Perspectives of the data.



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Lesson 8 : Introduction to PowerPivot

1. Readings
Read Lesson 8 in the Advanced Excel guide, page 279-326.

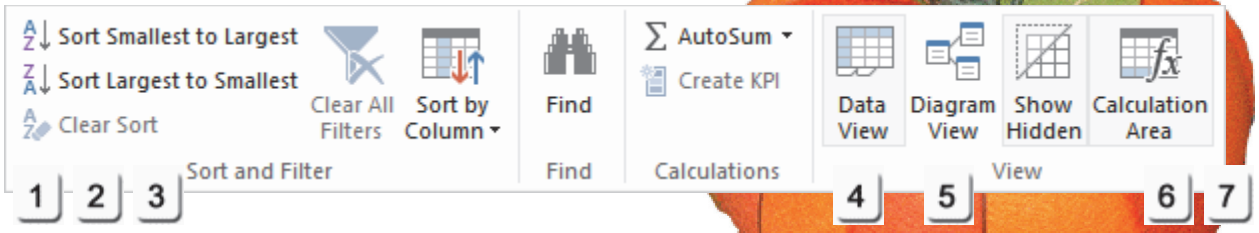
Project
This lesson provides an introduction into creating relationships between Tables and creating Workspaces with different views.

Downloads
Charlottes Website Data.accdb
Product PowerPivot COMPLETED.xlsx

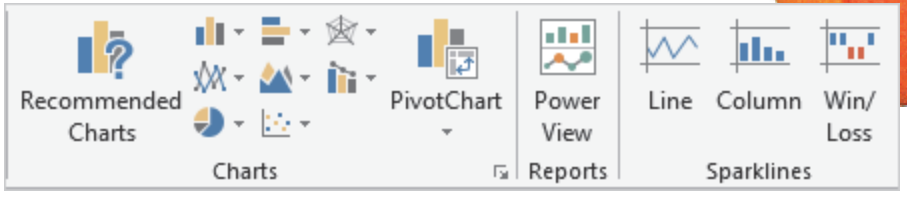
2. Practice
Do the Practice Activity on page 327.

3. Assessment
Review the Test questions on page 328.

PowerPivot Home Ribbon



PowerView Ribbon



Menu Maps
From the **PowerPivot Ribbon**
Power Pivot->Data Model->Manage, page 298

From the **PowerPivot** Home and Advanced Ribbons
1. Home->Formatting->Accounting, page 299
2. Home->Sort and Filter, page 300
3. Home->Formatting->PivotTable, page 301
4. Home->View->Data View, page 313
5. Home->View->Diagram View, page 314
6. Advanced->Show Implicit Calculated, page 315
7. Advanced->Perspective, page 316

More Menu Maps
From the **Data Ribbon**.
Data->Get External Data->From Access, page 293

From the **PivotChart Tools**
Analyze->Calculations->Relationships, page 309

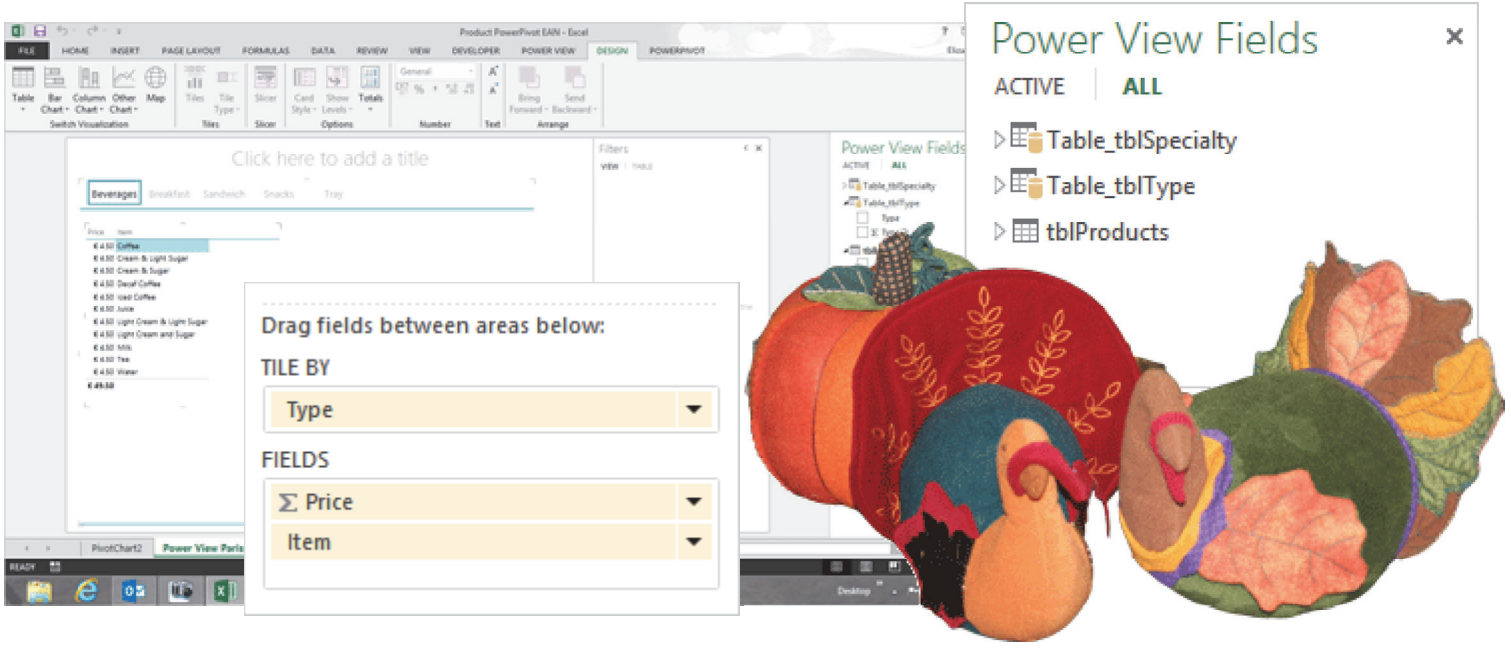
From the **Insert Ribbon**
Insert->Reports->Power View, page 320

Working with PowerPivot

Business runs on databases. People in government, education, and manufacturing have to manage thousands (maybe millions!) of records. Databases provide forms for accurate data entry, pre-formatted reports, and secure, robust data management. Databases can be big, automated systems for accounts payable or online order processing. Databases can be small and customized as well.

So, the customer and product records may be in a Mighty Access database but the really good tools are in Excel. Fortunately, Excel can lookup Tables in a database live: in real time. **PowerPivot** is a new, sophisticated tool for data analysis. PowerPivot lets you analyze massive amounts of data in Excel and create relationships between the Tables. This, you gotta see!

A Power View Report: This is a PREVIEW of the completed lesson



Take One

What Are We Going to Do?

The first task is to get the right tools. PowerPivot is part of Microsoft Excel, however the Add-In software needs to be enabled.

The second task is to get the data. The Tables are in a Microsoft Access database. This lesson will use PowerPivot to get the External Data.

The purpose of creating the PowerPivot is to create a relationship between the Tables. So the third task is to create a Data Mode and use that model in a PivotTable.

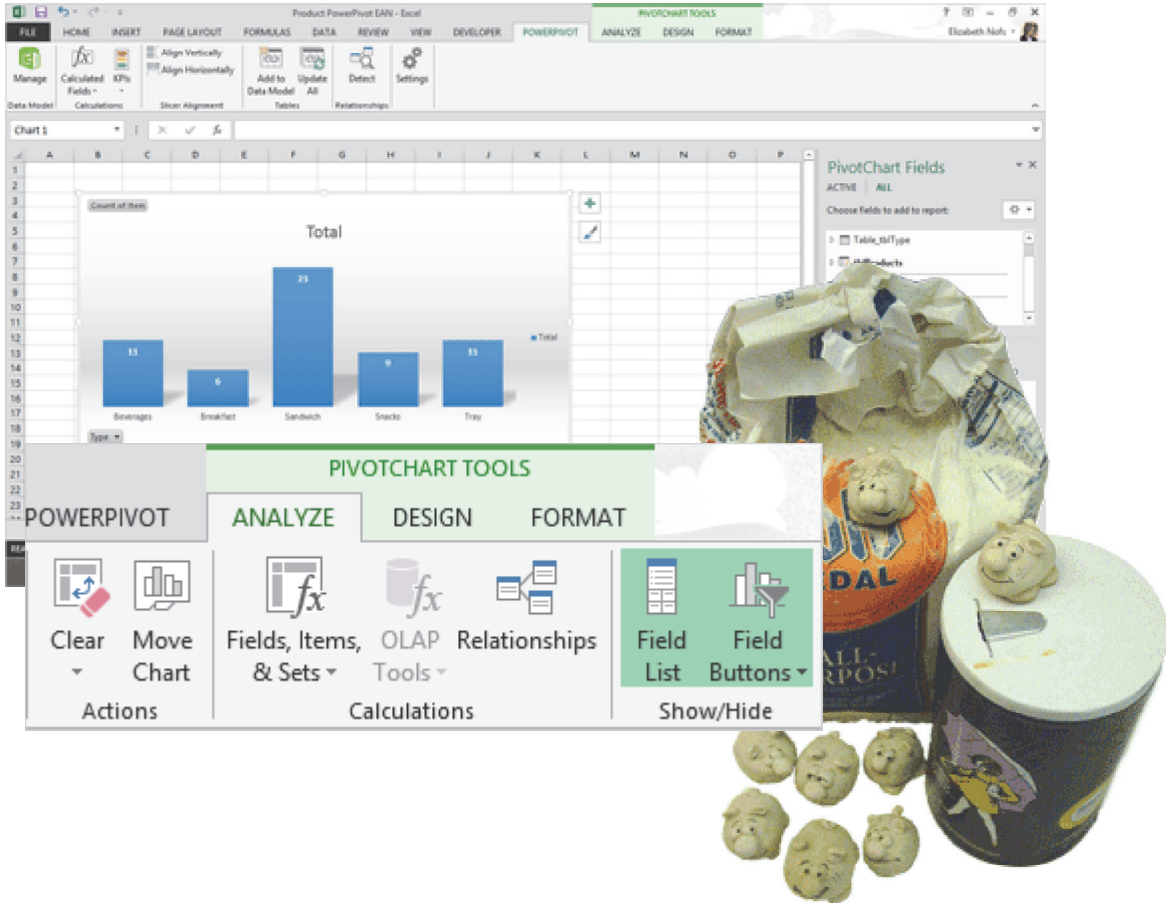
Finally, the Data Model can be used to create Power View Reports as well. That's the plan.

What are the Requirements?
This lesson is an introduction to Advanced Excel and Access. Both Microsoft Excel and Microsoft Access should be installed on your computer.

Please keep going...

Memo to Self: As of this writing, PowerPivot does not work with the version of Microsoft Office available on Slate computers: Windows RT.

An example of a PowerPivot: This is a PREVIEW of the completed lesson



Before You Begin

1. Start Here: Open a New, Blank Workbook
Start Microsoft Excel. When the Welcome screen comes up, select a new, blank workbook.

Try This: Find the Add-Ins
Go to **File->Options->Add-Ins.**

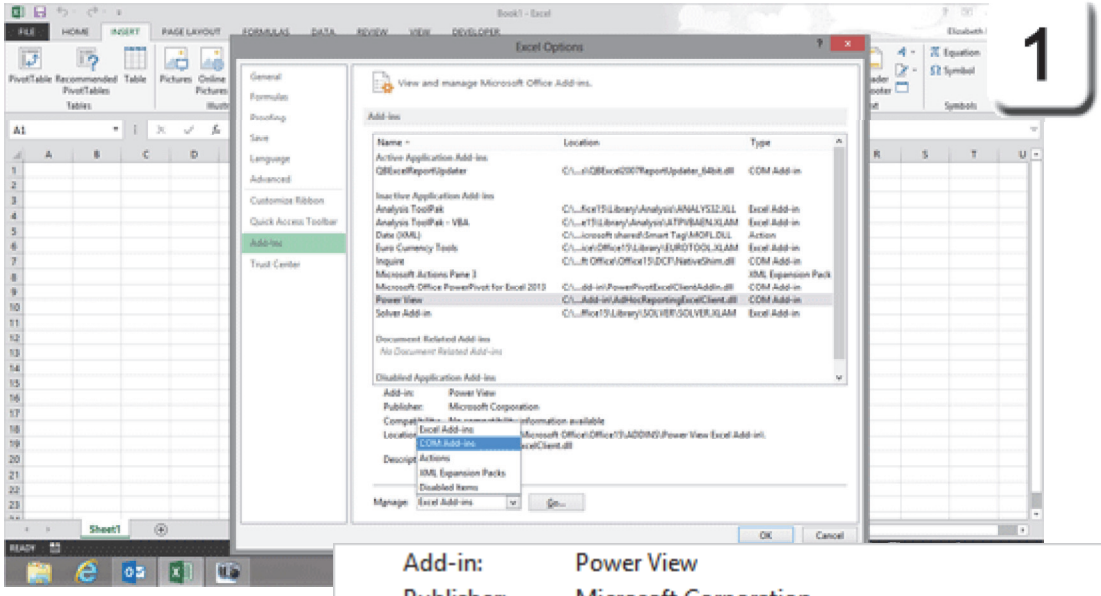
What Do You See? Microsoft Excel has a list of all of the Add-in software already installed on this system. The Add-ins include Analysis ToolPaks as well as other programs, such as QuickBooks.

Now Try This: Enable the PowerPivot Add-In
Go to **File->Options->Add-Ins.**

Go to **Manage** and select COM Add-ins.
Click on **Go...**

Keep going....

File ->Options->Add-Ins





Exam 77-427 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Enable PowerPivot

Take One

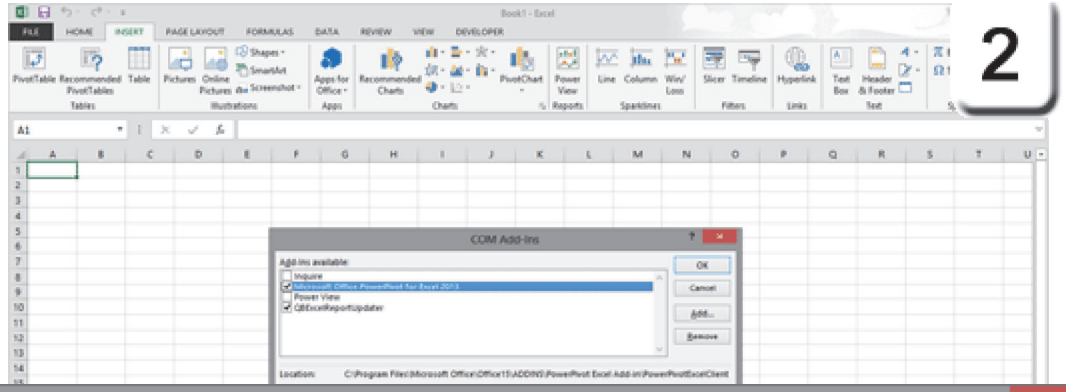
File ->Options->Add-Ins->Manage

Add the PowerPivot

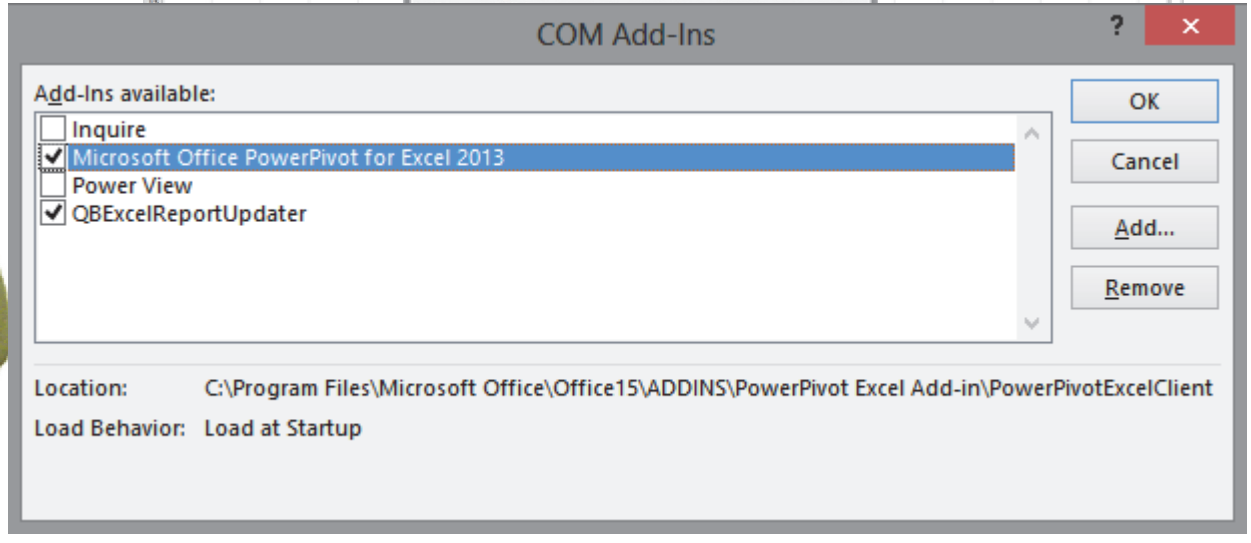
2. Try it: Select the PowerPivot Add-in
You will be prompted to choose an Add-In.
Select: **Microsoft Office PowerPivot for Excel 2013**
Click **OK**.

Keep going...

Memo to Self: By default, Add-Ins **Load at Start Up.** That means PowerPivot will run whenever you start Microsoft Excel.







Exam 77-427 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Enable PowerPivot

Take One

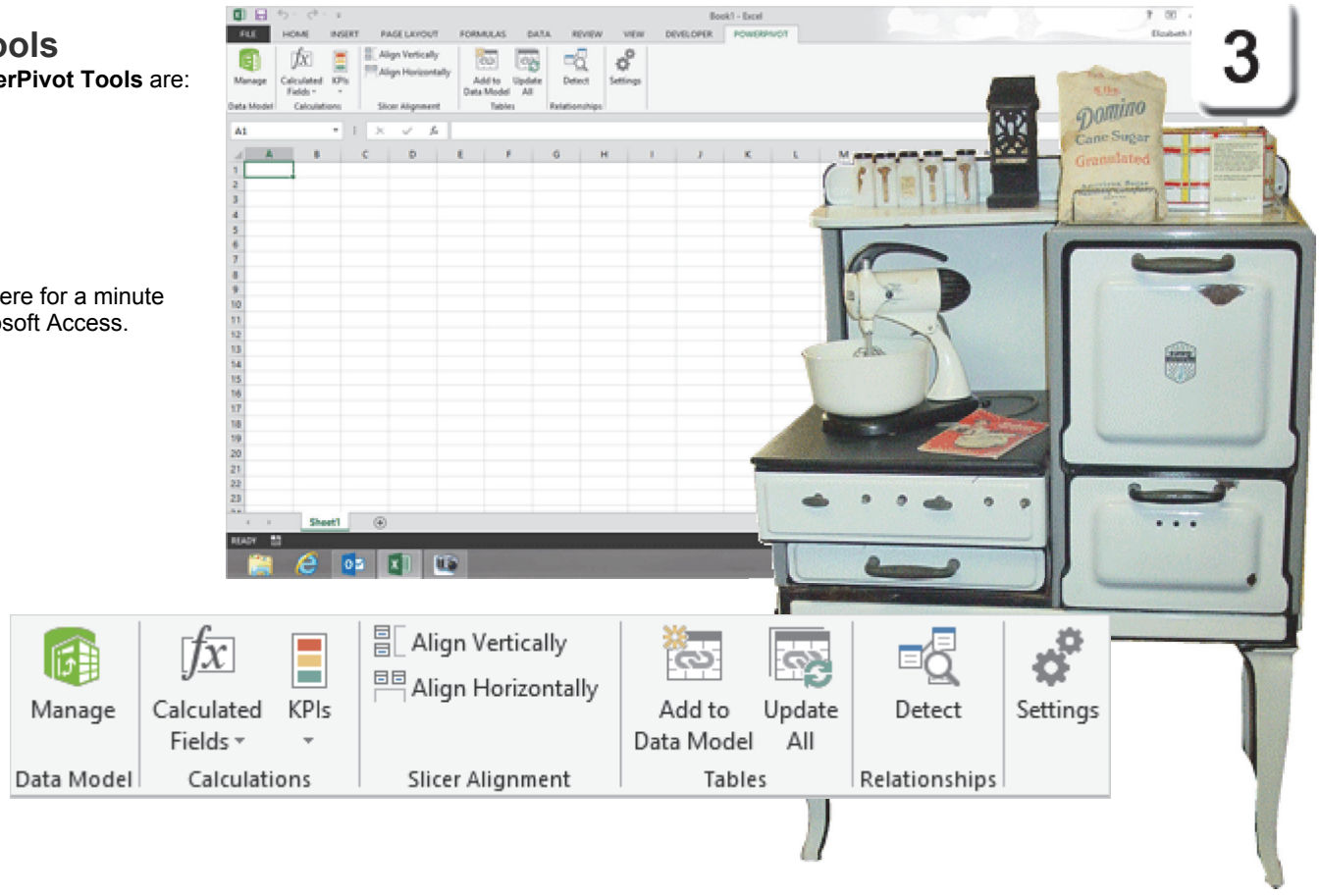
Hello, PowerPivot Tools

3. What Do You See? The **PowerPivot Tools** are:
Data Model
Calculations
Slicer Alignment
Tables
Relationships
Settings

So far, so good. Excel can wait here for a minute while we review the data in Microsoft Access.

Keep going...

PowerPivot Tools



Exam 77-427 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Enable PowerPivot

Still Before You Begin...

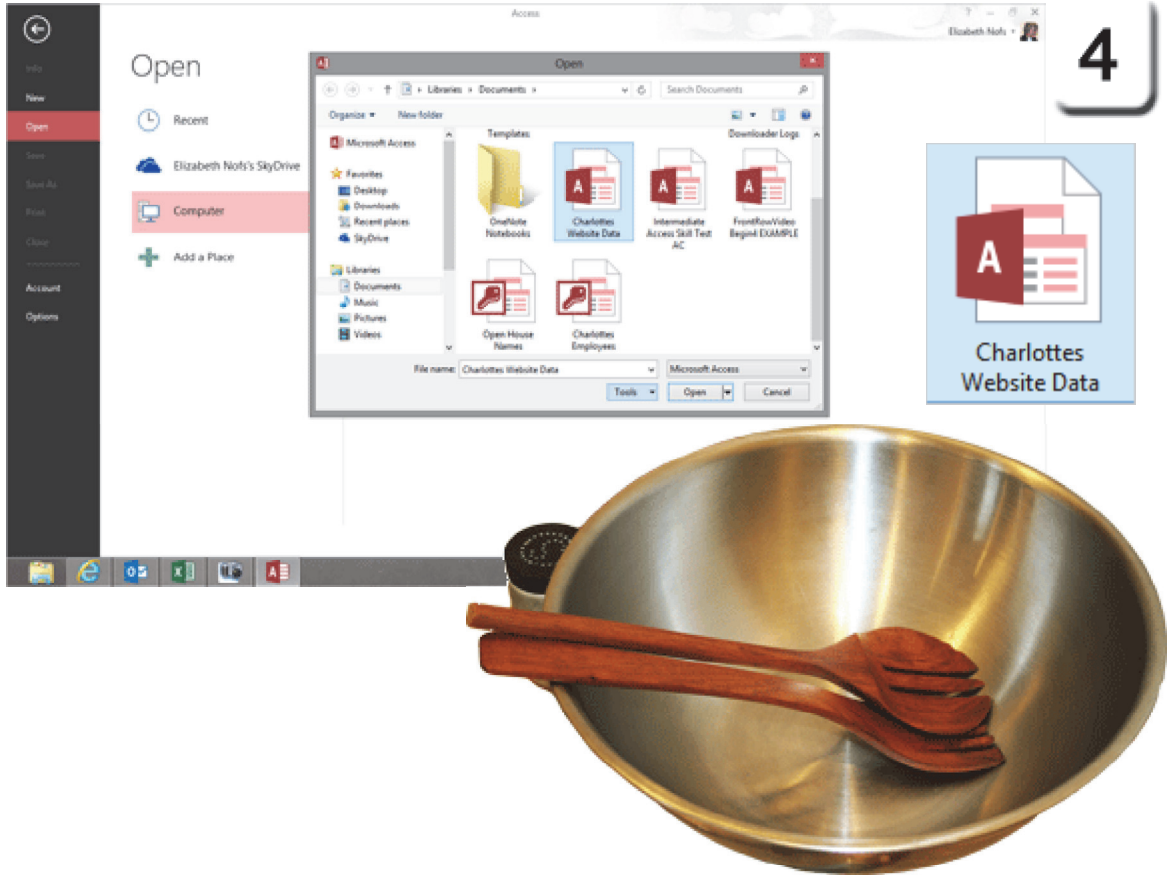
Our data is in a Microsoft Access database. Here are the steps to download the database and open it in Microsoft Access.

Start Here: Download the Database
Download the Microsoft Access database:
Charlottes Website Data.accdb
Browse to the **Documents** folder.
Click **Save**.

4. Try it: Open the Sample Database
Start Microsoft Access. When the Welcome screen comes up click on **Open Other Files**.
Go to **Computer->My Documents**.
Select Charlottes Website Data.accdb.
Click **Open**.

Keep going...

Start->Microsoft Access->Open Other Files



Take One

Why Hello, Microsoft Access

5. Try This: Meet the Database

This is the database for Charlotte's Website. It has information on products, customers and receipts.

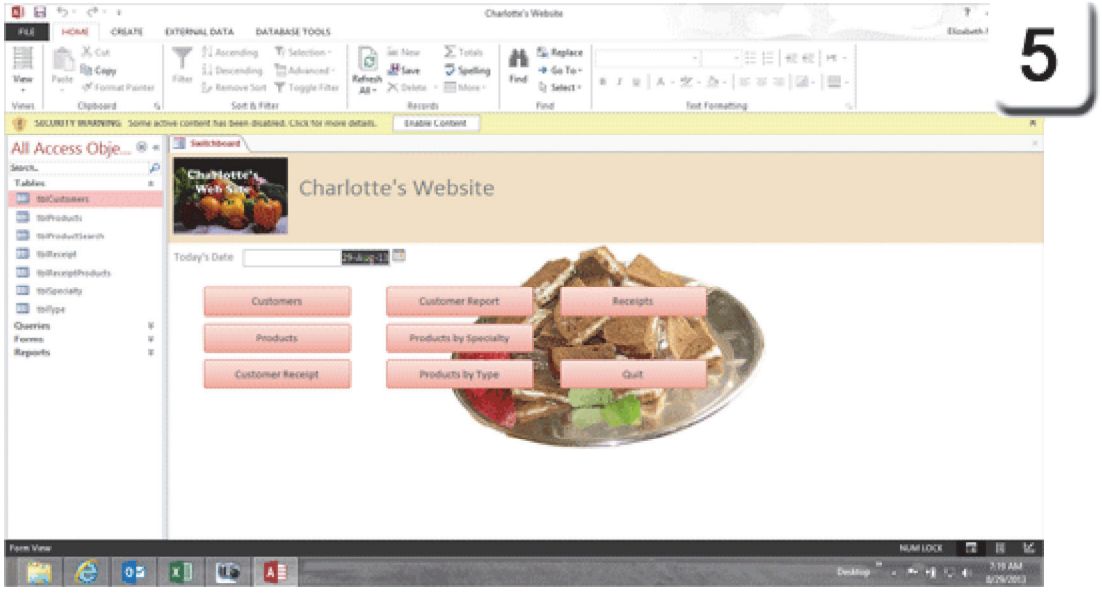
What Do You See? The Access database opens with a **Switchboard Form** that has several buttons.

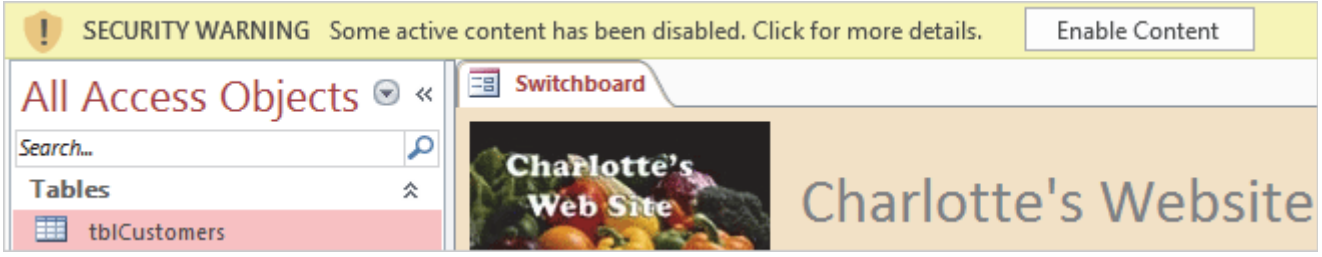
On the left are the **Access Objects**:
Tables
Queries
Forms
Reports

Keep going...

Memo to Self: Databases need to Read and Write. Click Enable Content if you see the Security Warning at the top of the database.

Home





Review the Data in the Tables

6. Try This: Find the Data
Go to **All Access Objects->Tables.**
There are seven Tables:
tblCustomers
tblProducts
tblProductSearch
tblReceipt
tblReceiptProducts
tblSpecialty
tblType

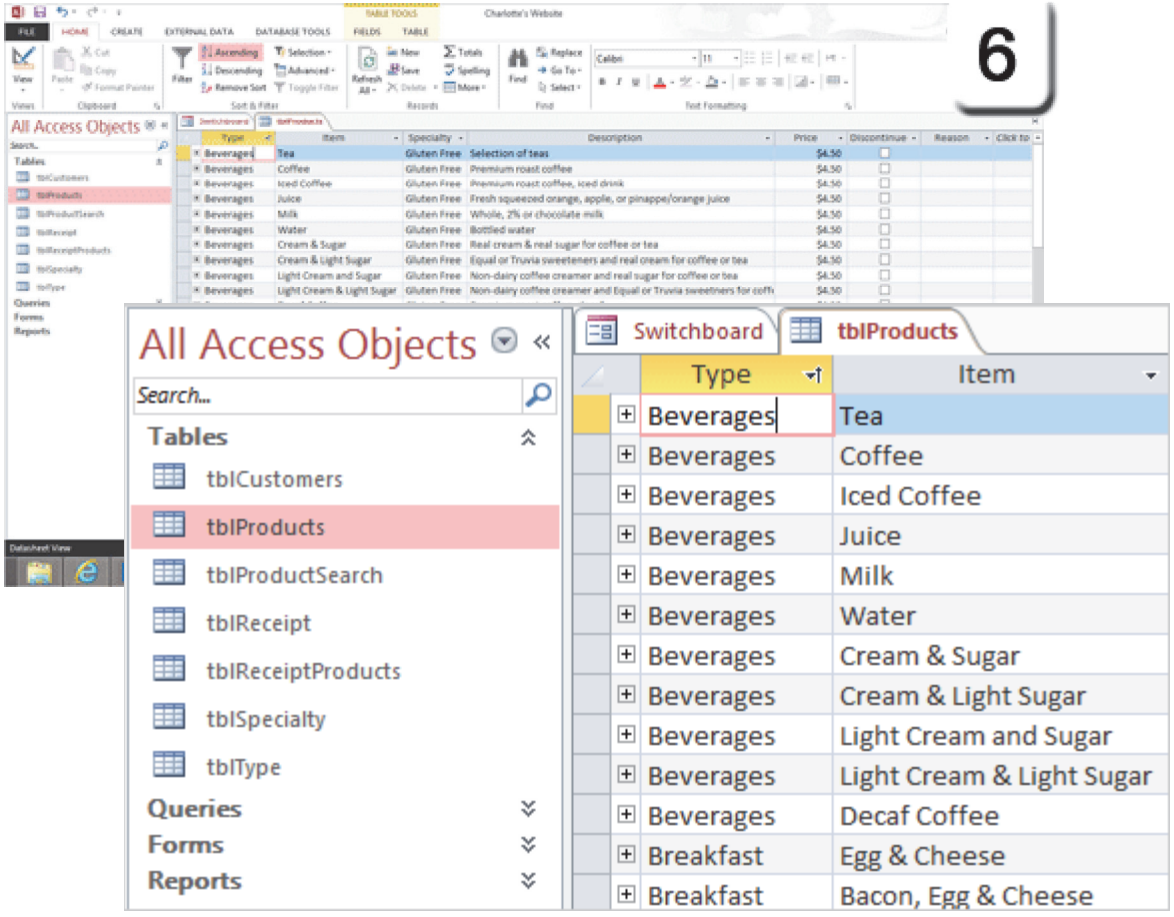
OK, Now Try This: Know Your Data
Double-click a Table to open it: tblProducts.

What Do You See? tblProducts should open in a new Tab. The Table will open in Datasheet View, so it looks like a spreadsheet. At the top of the Table are the Fields. Each Field has a little filter. At the bottom of the Table are the Record selectors. There are 60 Records.

Click on the X to **Close** tblProducts. The X is on the far right of Table just above the scroll bar.

Keep going...

All Access Objects->Tables



Take One

Tables and More Tables

Each Product record includes Type and Specialty. This information is saved in two separate Tables: tblType and tblSpecialty.

7. Try This: Review tblType
Go to **All Access Objects->Tables.**
Double-click a Table: tblType.

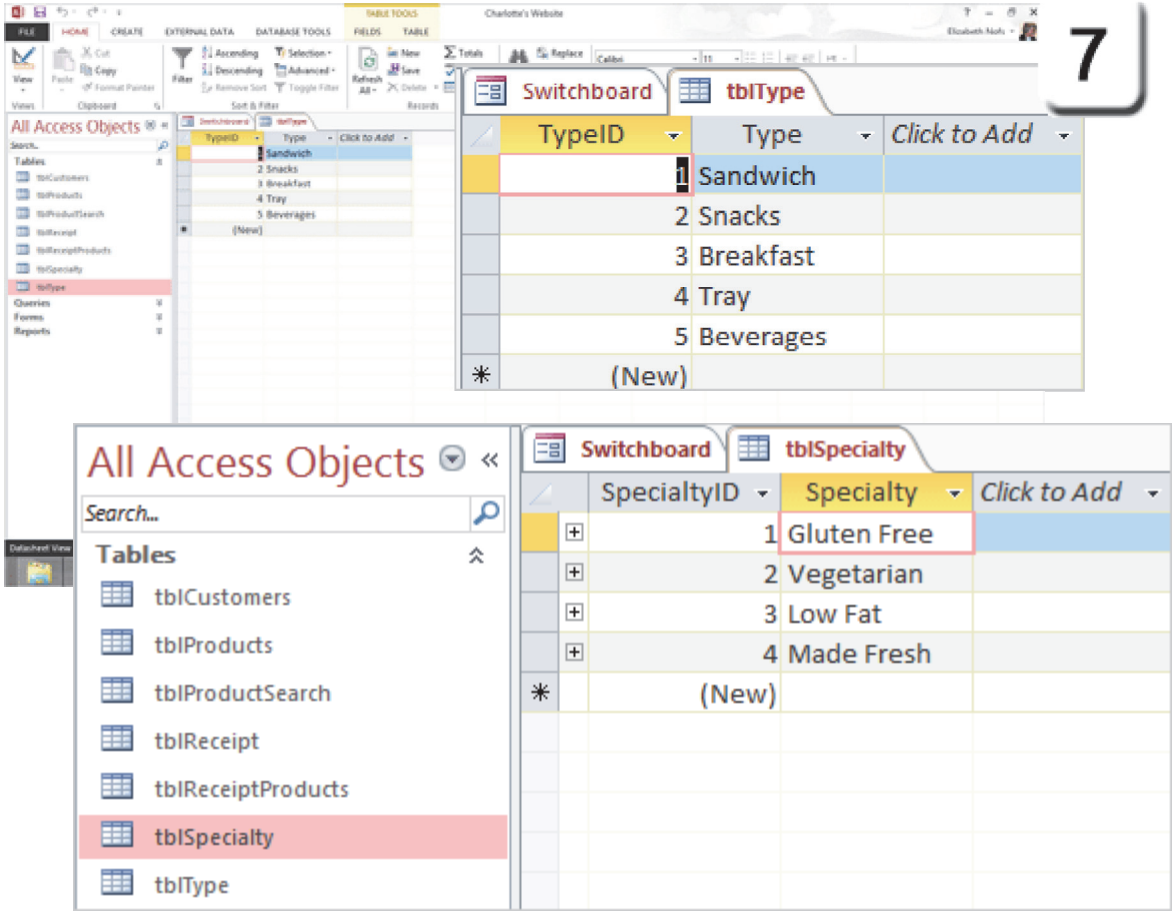
What Do You See? tblType should open in Datasheet View. There are 5 Records.
Click on the X to **Close** tblType.

And Try This: Review tblSpecialty
Go to **All Access Objects->Tables.**
Double-click a Table: tblSpecialty.

What Do You See? tblSpecialty should open in Datasheet View. There are 4 Records.
Click on the X to **Close** tblSpecialty.

Keep going...

All Access Objects->Tables



Take One

Open the Product Form

Databases use Forms instead of typing directly in the Datasheet View. Forms can be programmed to enable accurate data entry (and maybe make the Users' job easier.)

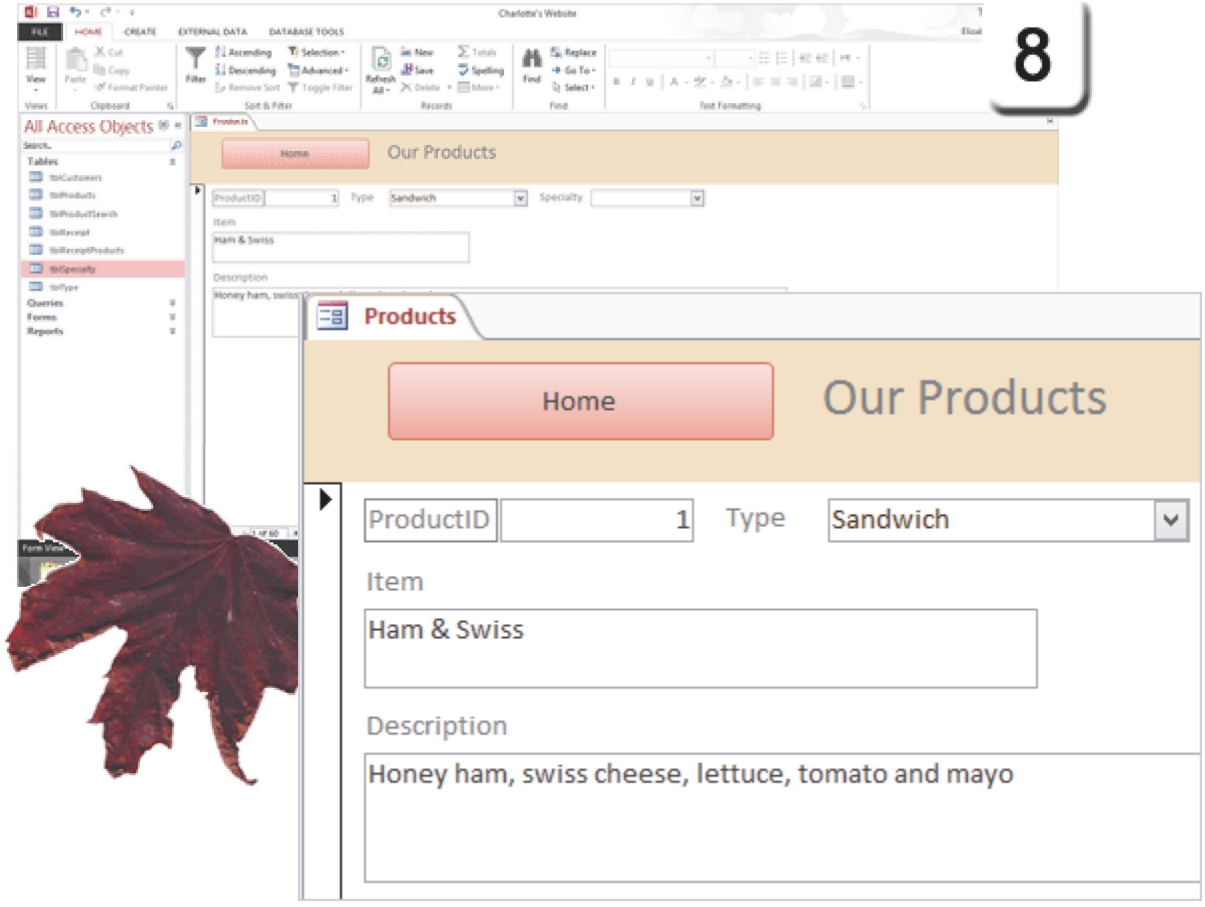
Many Forms use Combo Boxes to look up information in one Table and save it in another. In this database, the Product Form has two Combo Boxes: Type and Specialty.

8. Try it: Open the Product Form
Go to the **Switchboard.**
Click on **Products**.

What Do You See? The Products Form will open in a new Tab. The Title at the top of the Form says Our Products, so it looks like we are in the right place. There is a Home button that will close this Form and return to the Switchboard. At the bottom of this Form are the Record selectors. There are 60 Records.

Keep going...

Switchboard->Products



Use the Combo Boxes

9. Try it: Add a New Record
Go to **Home->Records->New.**
A new, blank Record will open.

Enter the following in the Products Form:
Type: Sandwich
Specialty: Gluten Free
Item: Salmon Dill Tea Sandwiches
Description: Fresh salmon with dill and parsley on Gluten Free white bread.

Where Have You Seen This Before?
The Combo Boxes show the same data that we just reviewed in the Tables.

Click **Home**. The Products Form will Save your Record, Close the Form and return to the Switchboard Form.

Home again, Home again. Jiggety jig!

Home ->Records->New

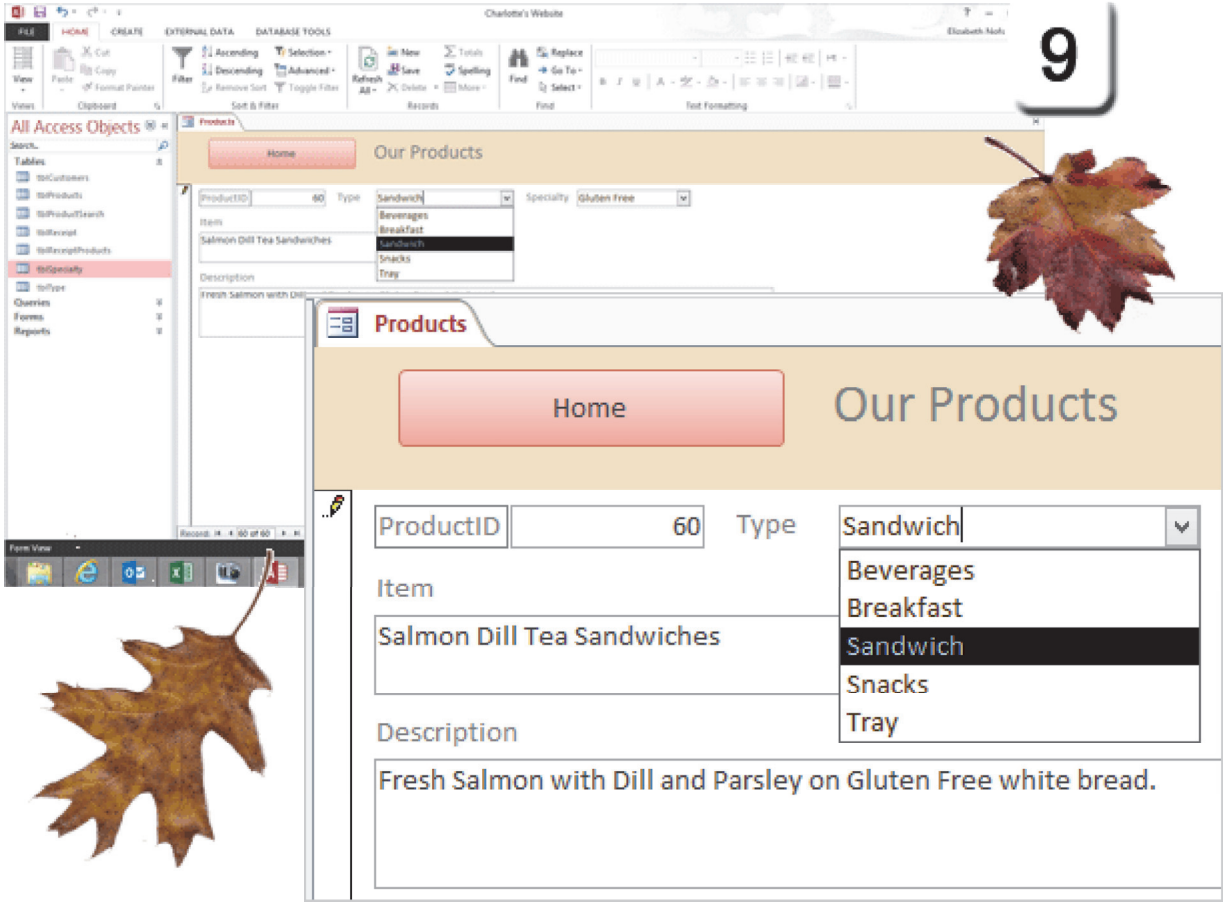


Table Relationships

The goal of any business is to have many customers return many times to buy many things. The Database has to represent a **many-to-many relationship** and summarize that data in Reports.

In Access, a Table is used to:
Add data to another Table.
Filter Data in another Table.
Select Specific Data based on your criteria.

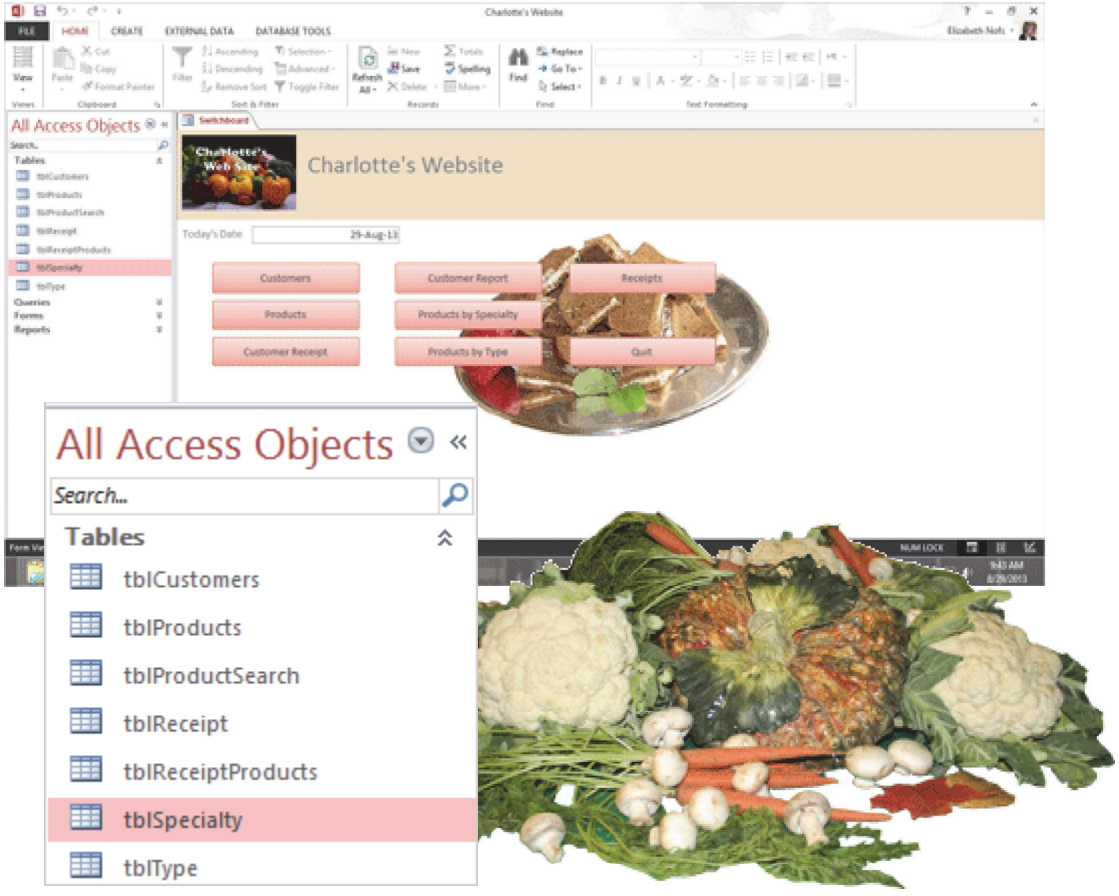
Separate Tables: A Normalized Database
By definition, **Normalizing** a database defines the Tables and how the Tables are related.

The Rules are Simple:
Minimize duplicate data entry
Protect data integrity

The purpose is to prevent repeating groups or redundant data. Data should be entered once: not here, here and here. Data should also match the collection. So tblProducts has product information only: No customers.

This is just an artist's sketch of Tables. There is a lot more in our course on Microsoft Access.
Click on **Quit** Microsoft Access and return to Excel.

Switchboard->Quit



Take One

Back in Microsoft Excel

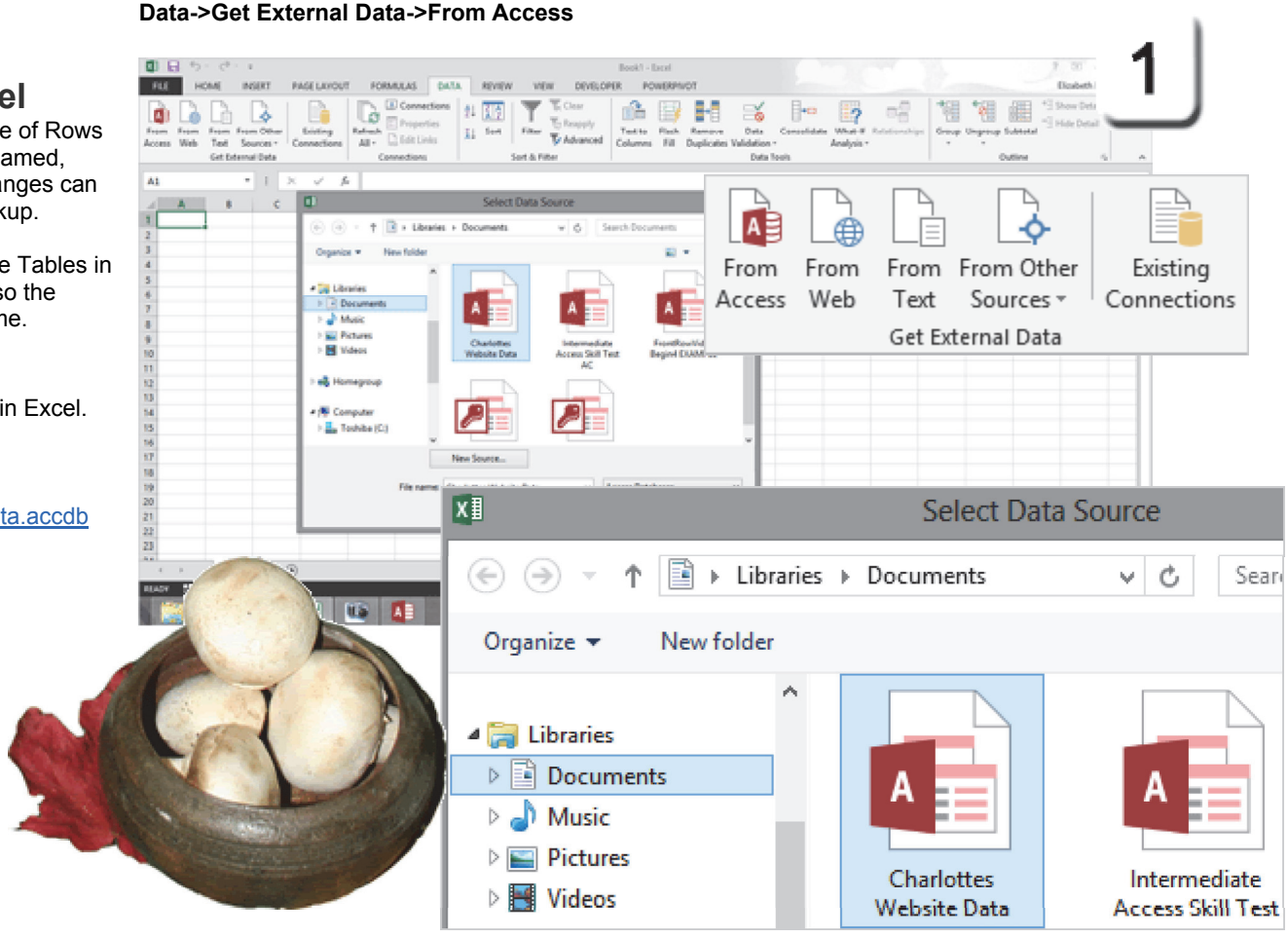
In Excel, a Table is a Defined Range of Rows and Columns. The Tables can be Named, Sorted and Filtered. The Named Ranges can be used in Formulas, such as vLookup.

Microsoft Excel can also analyze the Tables in a database. The Tables are linked so the information is live, viewed in real-time.

1. Try This: Get External Data
There is a blank spreadsheet open in Excel.
Go to **Data->Get External Data**.
Click on **From Access**.
Browse to the Documents folder.
Select a file: Charlottes Website Data.accdb
Click **Open**.

Keep going...

Data->Get External Data->From Access



Exam 77-428 Microsoft Excel 2013 EXPERT
1. Manage and Share Workbooks
1.1 Manage Multiple Workbooks: Link to External Data

Take One

Get External Data: Tables

2. What Do You See? You will be prompted to select a Record Source. The list includes Tables and Queries. The Queries in this database all have "SQ" in their names to differentiate them from the Tables. The Tables are at the bottom of the list.

Do This, First: Enable the Selection
Click on **Enable selection of multiple tables.** There should be check boxes to the left of the Queries and Tables.

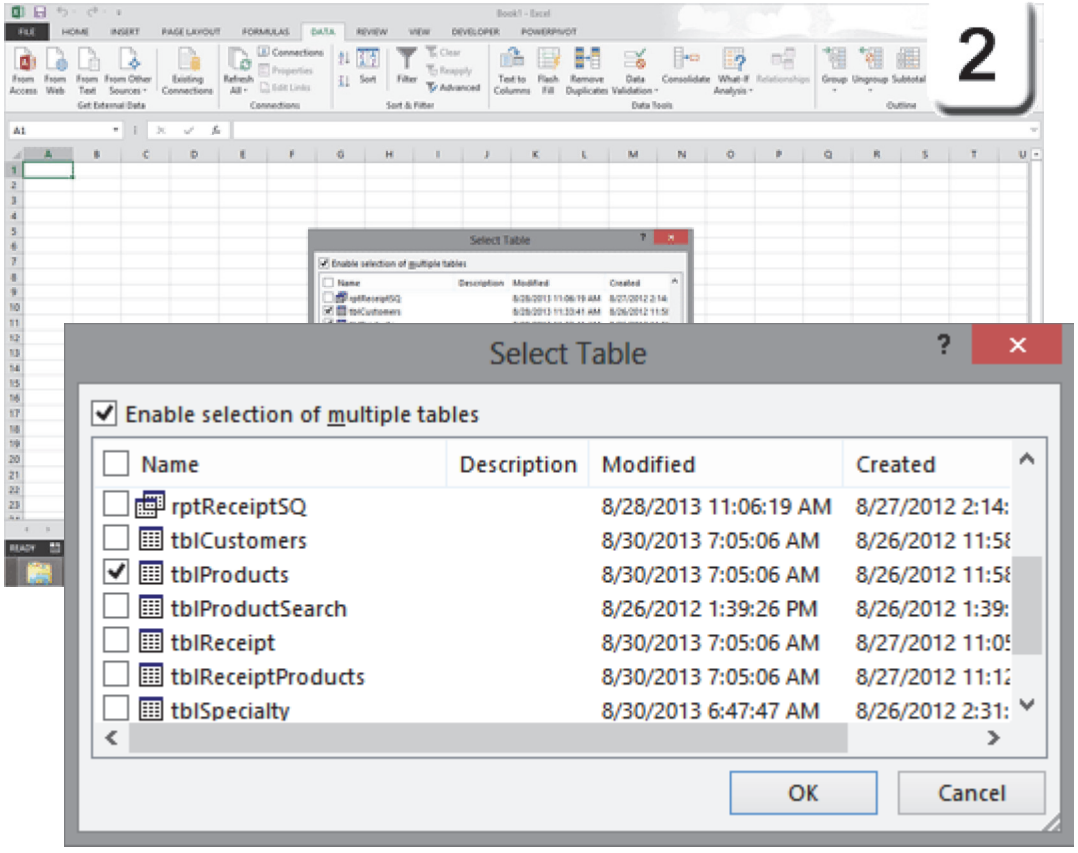
OK Try This: Get Multiple Tables
Select a Table: tblProducts.
Click **OK**.

Keep going, please...





Data ->Get External Data->From Access



Take One

Get External Data: Link

There are several options when you **Import Data**.
You can choose from the following:
Table
PivotTable Report
PivotChart
Only Create Connection

Where do you want to put the data?
Existing worksheet
New worksheet

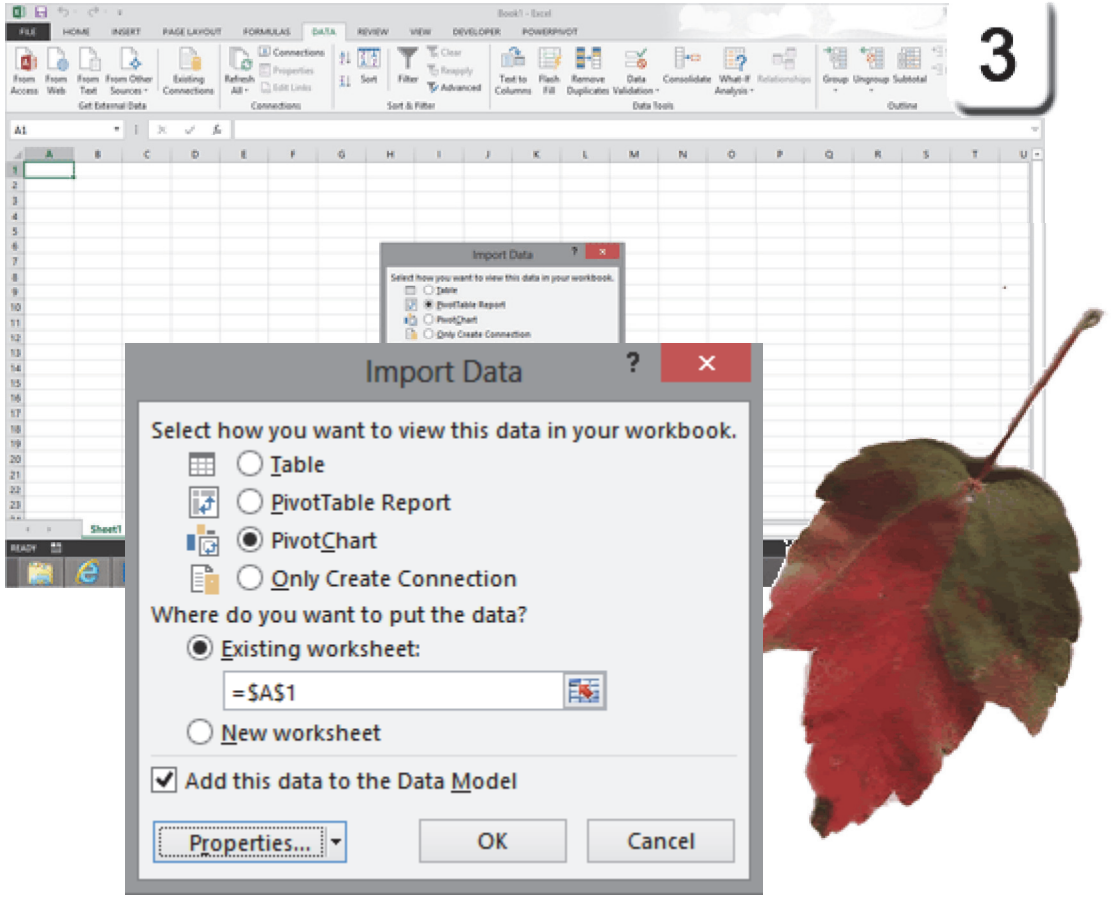
What Else Do You See? This data can be added to a PowerPivot Data Model when you import it.

3. Try it: Import Data
Select **PivotChart.**
Select **Existing worksheet.**
Check: **Add this data to the Data Model**.
Click **OK.**

Keep going...

Very Important! Look at the Properties:
If you select multiple Tables Microsoft Excel will **Import the relationships between tables.**

Get External Data->From Access->Import Data



Take One

Hello, PivotChart

4. Try it: Review the PivotChart Tools
Microsoft Excel should be decorated with PivotChart Tools:
Analyze
Design
Format

You should also see the **PowerPivot** Ribbon that was enabled earlier in this lesson. So far, so good. We got tools.

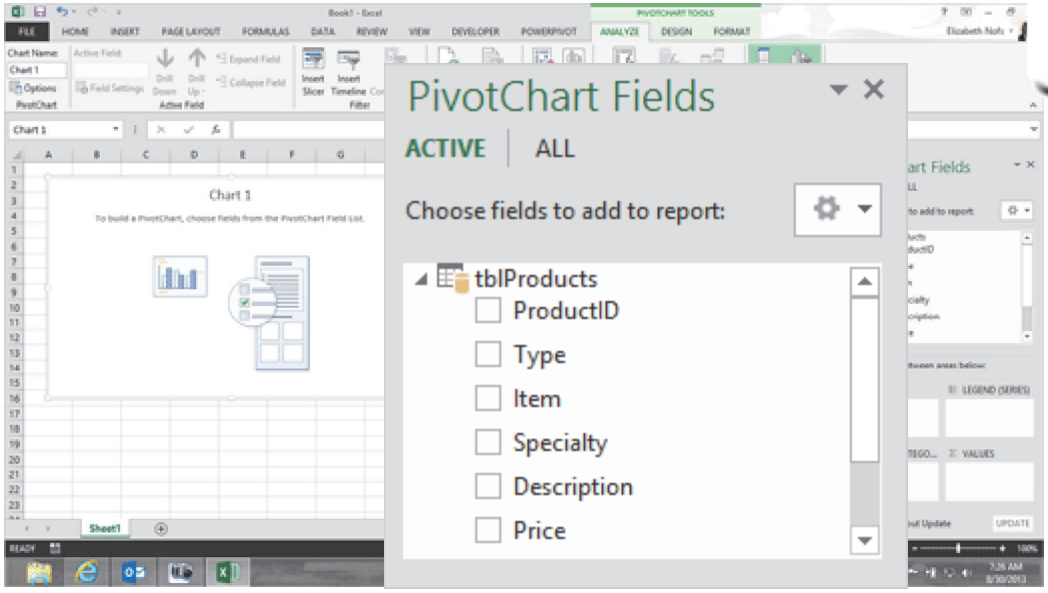
And Do This: Review the PivotChart Fields
Please confirm that the **Field Lis**t is on.
The Field List has one Table: tblProducts.

This Table has eight Fields:
ProductID
Type
Item
Specialty
Description
Price
Discontinued
Reason

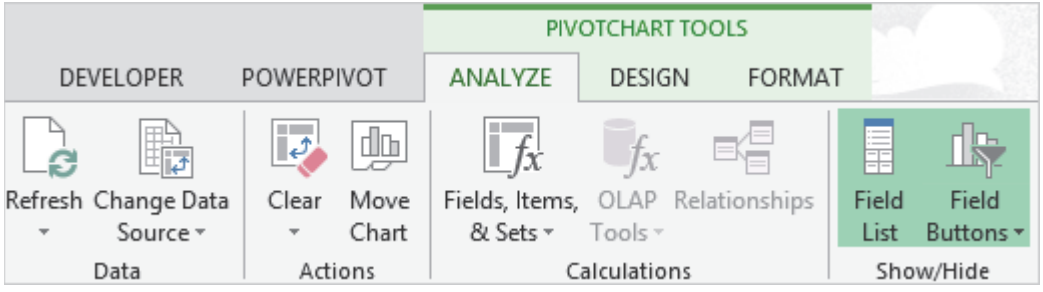
Keep going...

PivotChart Tools->Analyze-> Show/Hide-> Field List

4







Edit the PivotChart

5. Try it: Edit the PivotChart
Go to the **PivotChart Fields**.
Drag a Field to the **Axis** (Category): Type.
Drag a Field to the **Value**: Item.

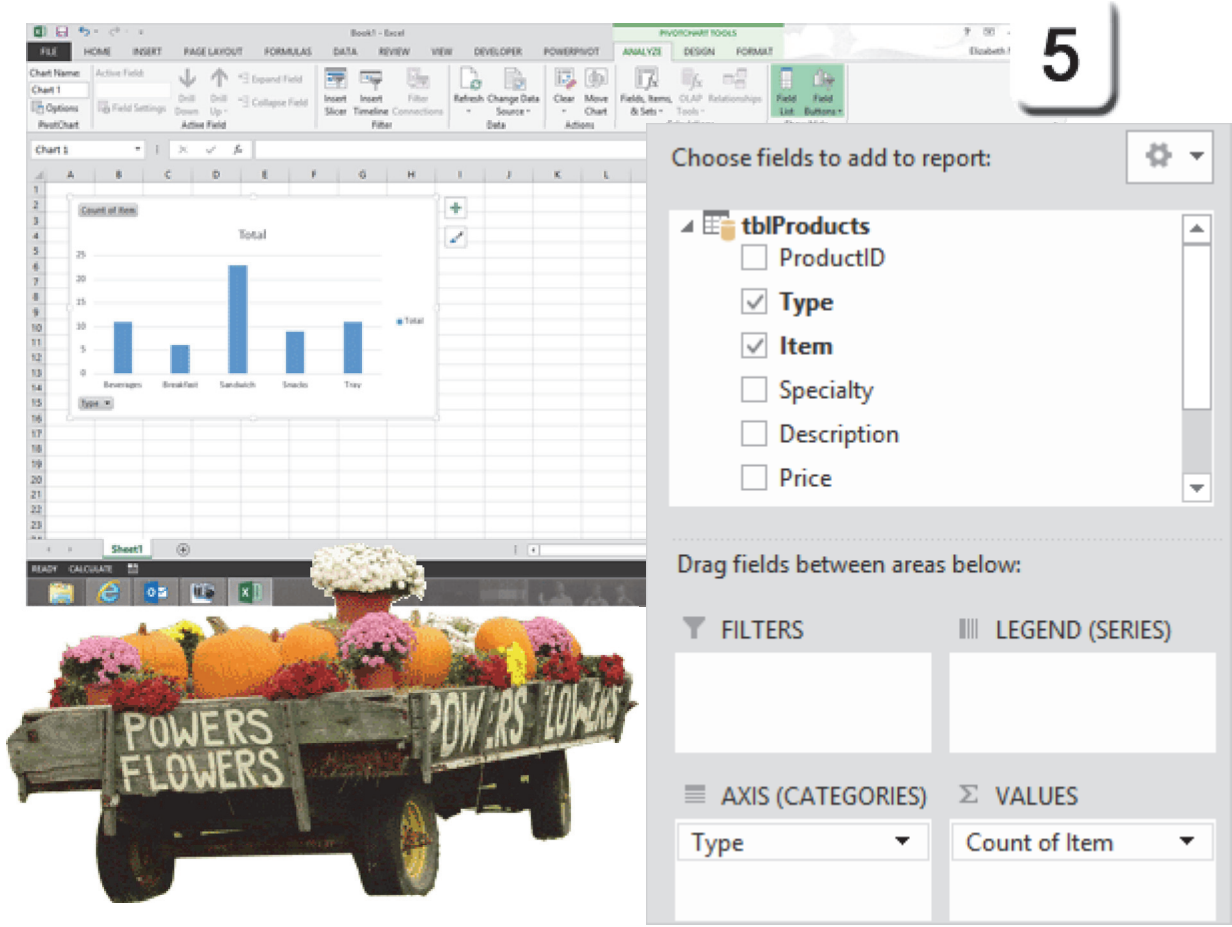
What Do You See? When you drag a Field to the Values, the default function is Count. So Item became Count of Item.

What Do Else You See? The PivotChart displays the number of Products for each Type: Beverage, Breakfast, Sandwich, etc.

OK, We've done PivotCharts.
Now, let's look at PowerPivots!

The Computer Mama Sez: PivotCharts always look so blank when you begin.

PivotChart Tools->Analyze-> Show/Hide-> Field List



Exam 77-428 Microsoft Excel 2013 EXPERT
4. Create Advanced Charts and Tables
4.3 Create and Manage Pivot Charts: Create New PivotCharts

Take One

Introducing PowerPivot

PowerPivot is a more sophisticated approach to PivotTables and PivotCharts.

A PowerPivot works with a **Data Model**. The Data Model can have more than one **Perspective**, or View, of the data.

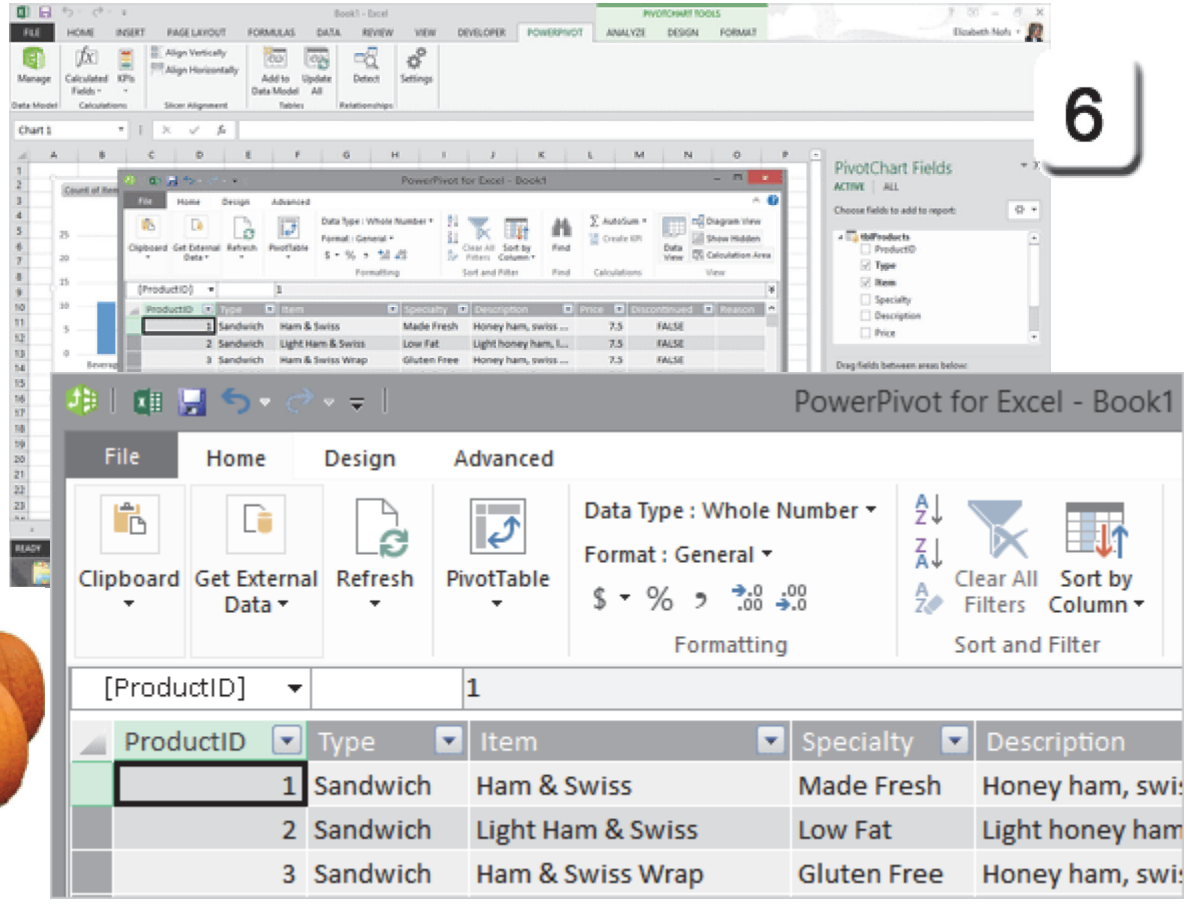
6. Start Here: Create a PowerPivot
Go to **PowerPivot->Data Model->Manage.**

What Do You See? A PowerPivot should open in a new window. The data, tblProducts, will be formatted as a PivotTable.

Keep going...



PowerPivot ->Data Model-> Manage



Exam 77-427 Microsoft Excel 2013
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Use PowerPivot

Format the Data

Say you needed to send this PivotChart to the office in Boston as well as to the one in Paris. **PowerPivot** lets you format the information for different audiences.

The following pages will edit the PowerPivot for "Boston," United States. Then we'll create a different **Perspective** for "Paris, " France.

7. Try This: Format the Currency
Select a Field: Price.
Go to **Home->Formatting->Currency.**
Select a Format: $ English (United States).

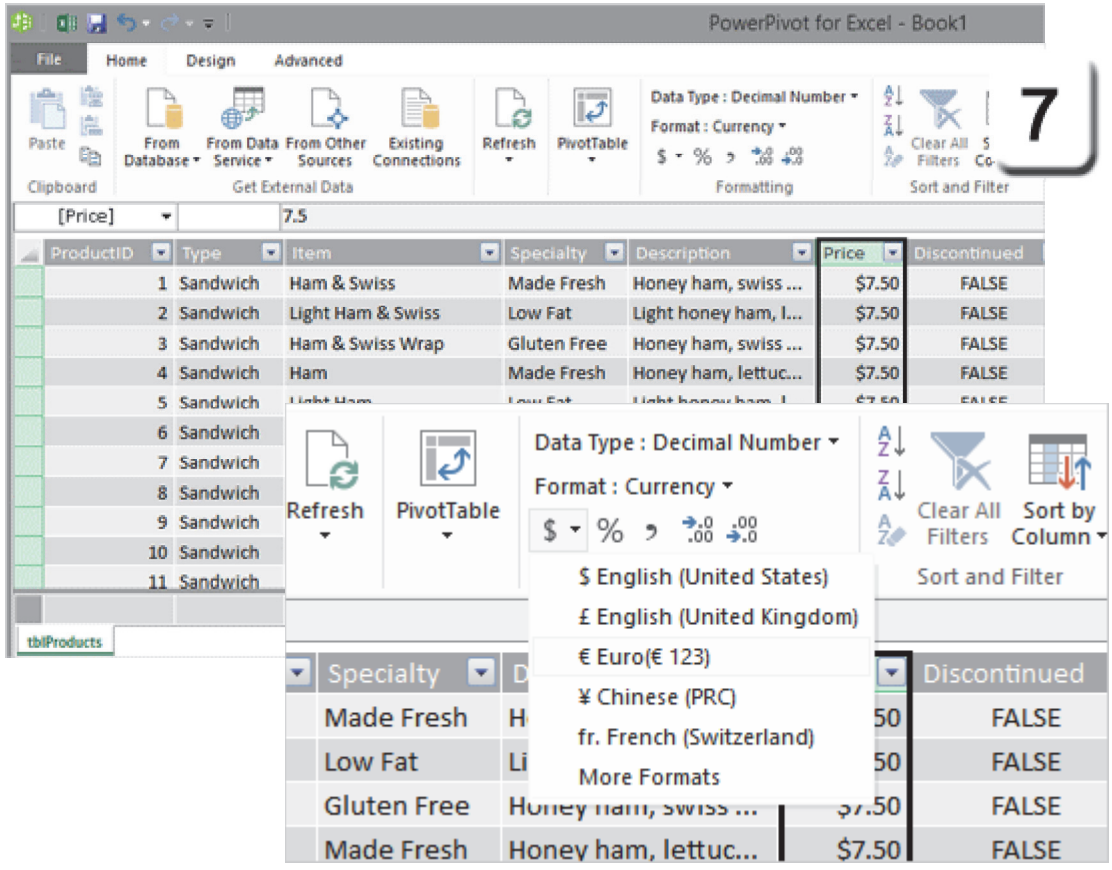
What Do You See? There are several Currency **Symbols.** For example, there are two different Symbols for English, depending on the monetary system. Paris, France, uses the Euro not the French Franc (fr) circulated in Switzerland.

(Go figure). Keep going...

IImportant to Note: The Field Values are defined as a Data Type. The Types include Text, Number, Integer, (whole number), Date/Time and others.

The **Data Type** for this Field is Decimal Number.

Home ->Formatting-> Currency



Exam 77-420 Microsoft Excel 2013
2. Apply Custom Formats and Layouts
2.4 Prepare a Workbook for Internationalization and Accessibility: Use International Symbols

Take One

Filter the Data

Some database Records go waaaay back in time to the beginning of a company or a project. The old data may be used to create year-over-year comparisons and other historical reports. Sometime, the focus is much more narrow.

PowerPivots have **Filters** as well. Here are the steps to Filter the discontinued Items.

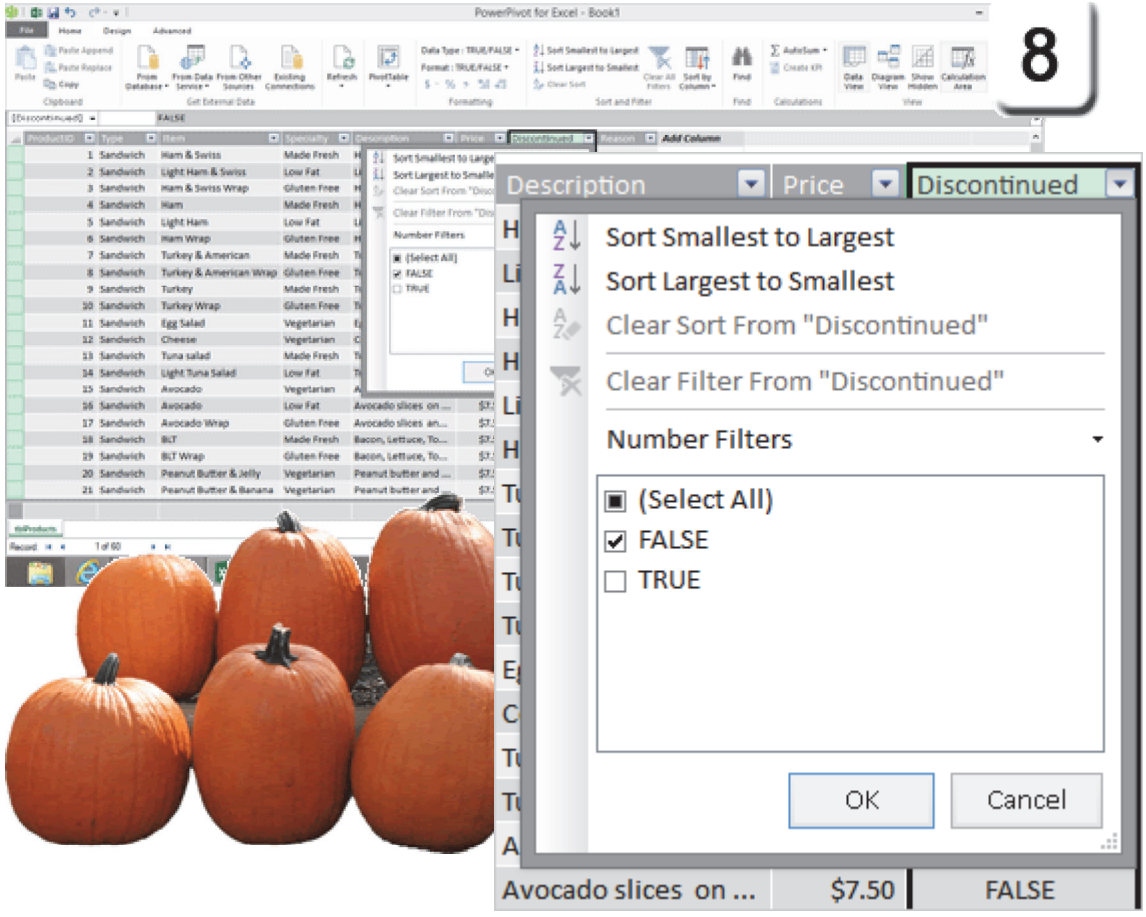
8. Try This: Apply a Filter to a Field
Select a Field: Discontinued.
Go to **Home->Sort and Filter.**
Select a Filter: False. (True is not selected).
Click **OK**.

The Table, tblProducts, has been filtered to show only the current Items-no discontinued ones.

Keep going...

IImportant to Note: The **Data Type** for this Field is TRUE/FALSE.

Home ->Sort and Filter



Take One

Create a PivotTable

9. Try This: Find the PivotTable Formatting
Go to **Home->Formatting->PivotTable.**

What Did You see? The options include:
PivotTable
PivotChart
Chart and Table (Horizontal)
Chart and Table (Vertical)
Two Charts (Horizontal)
Two Charts (Vertical)
Four Charts
Flattened PivotTable

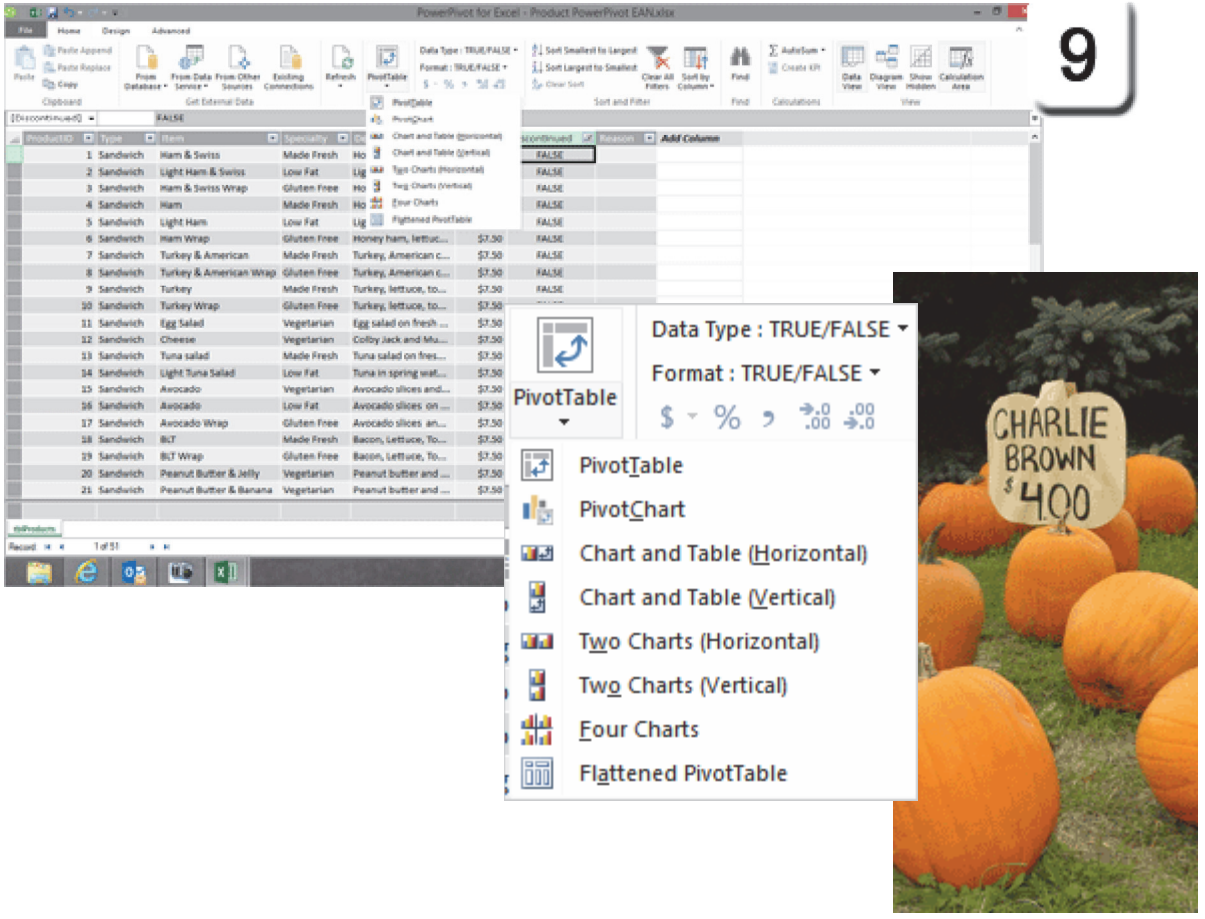
And Try This: Format the PowerTable
Select: PivotChart.
At the prompt select a **New Worksheet**.
Click **OK**.

What Do You See? A new PivotChart will be created in Excel. It will be blank.

We will edit the Fields in a minute.

Keeep going...

Home ->Formatting-> PivotTable



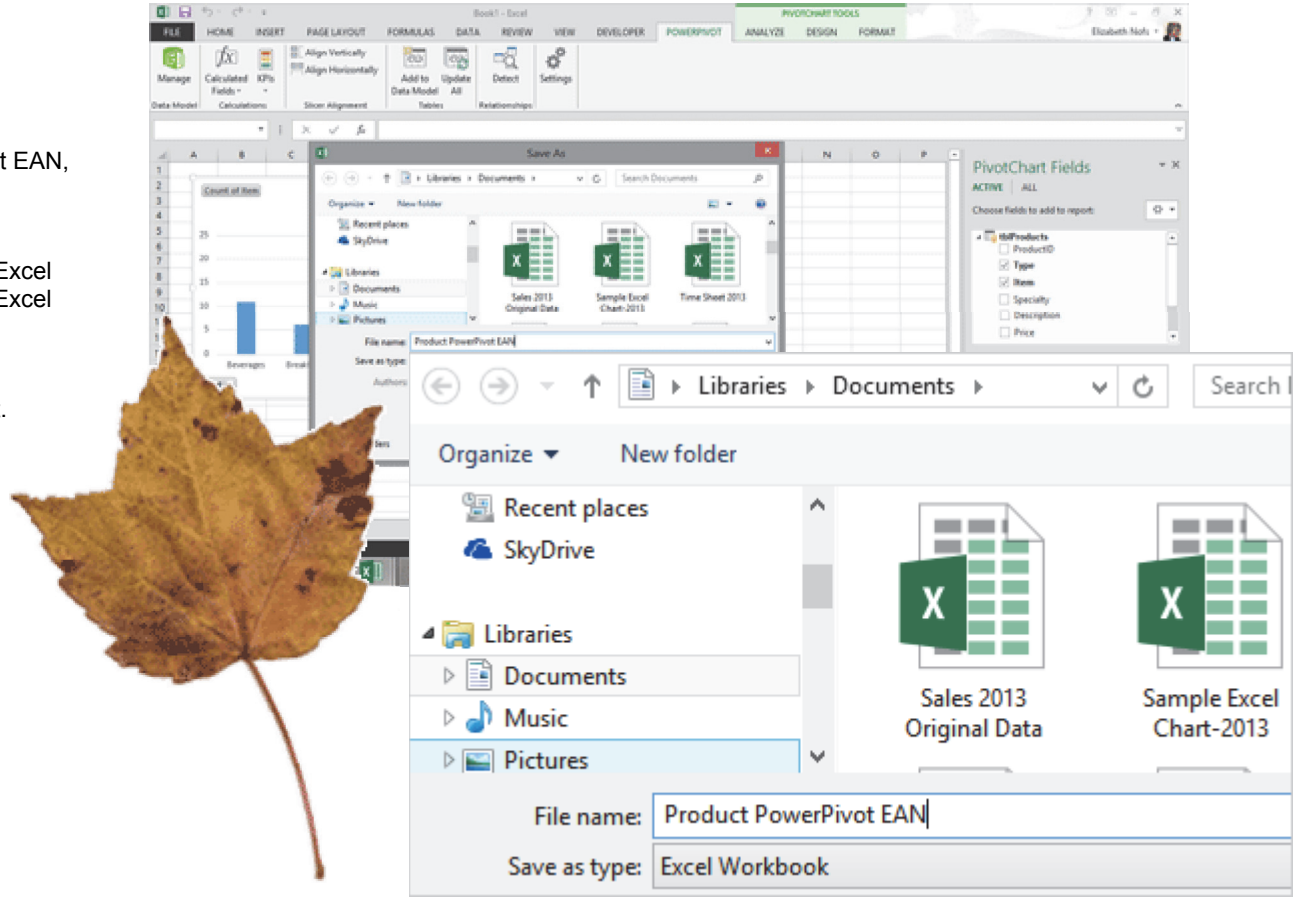
Finish and Save

Do This, Now: Save the PowerPivot
Go to **File->Save.**
Browse to the Documents Folder.
Enter a File Name: Product PowerPivot EAN, where EAN are your initials
Click **Save**.

What Did You See? The File Type is Excel Workbook. A PowerPivot is part of an Excel file. It is not a separate file.

We've got data.
We've got a PivotTable and PivotChart.
Now, let's get some **Perspective**.

File ->Save



Take One

Modify the PivotChart

Earlier we created a PivotChart with tblProducts.
Let's do the same steps here, format the Chart then work with the PowerPivot options.

Try it: Edit the PivotChart Fields
Go to the **PivotChart Fields**.
Drag a Field to the **Axis** (Category): Type.
Drag a Field to the **Value**: Item.

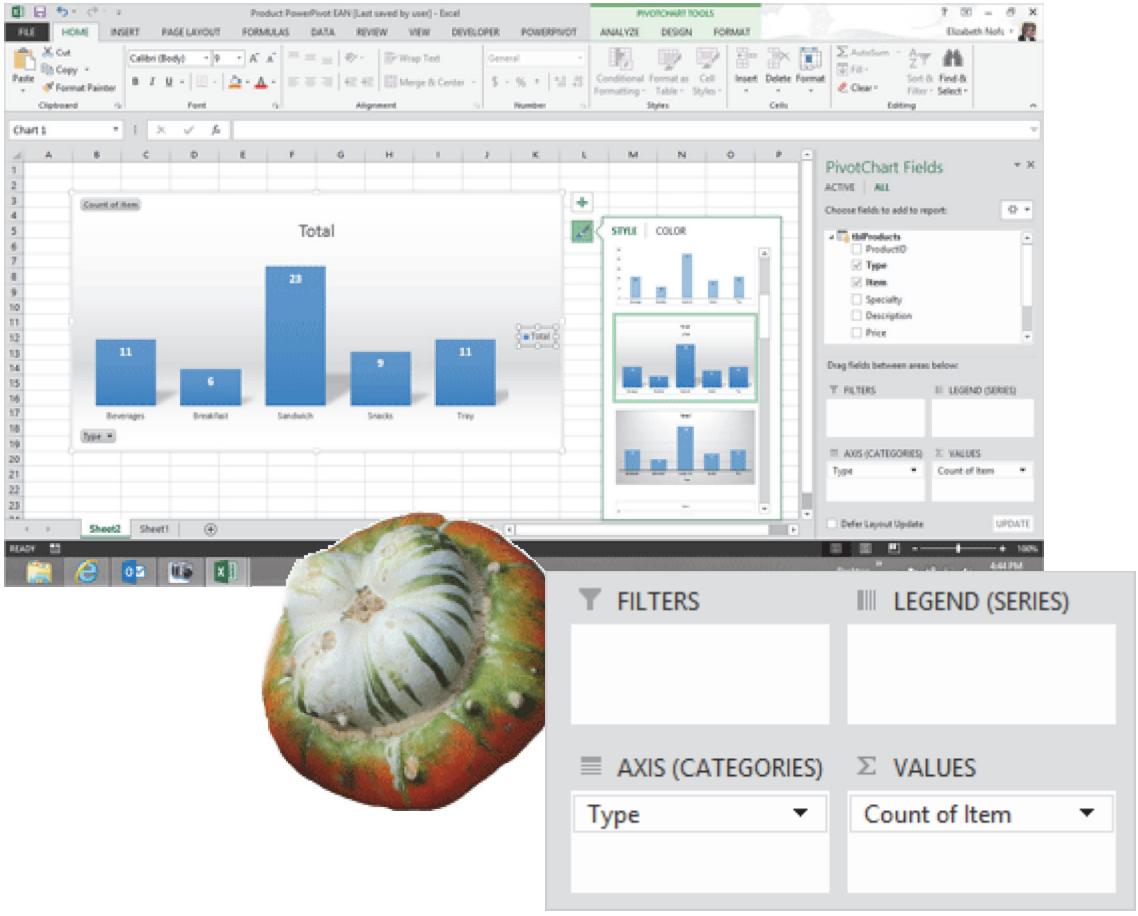
And Try This: Format the PivotChart
Click on the PivotChart to select it.
The Chart Elements and Charts Styles should be available to the right of the Chart.

Go to **Chart Styles-> Style**.
Select a **Style**: Style 4.

And Try This: Rename the Sheet Tab
Double-click the sheet Tab.
Type a name: PivotChart2.

That will do.

Charts Styles->Style



Take One

Import More Tables

Some Tables are dynamic: The data updates daily, perhaps minute by minute. Other Tables are static: the data doesn't change. For example, there are twelve months in a year. That won't be changed for a while.

You can import Tables into Excel and add them to a PowerPivot Data Model. The two Tables we will import are tblType and tblSpecialty. The data in these Tables is static. It will not be updated very often, if at all.

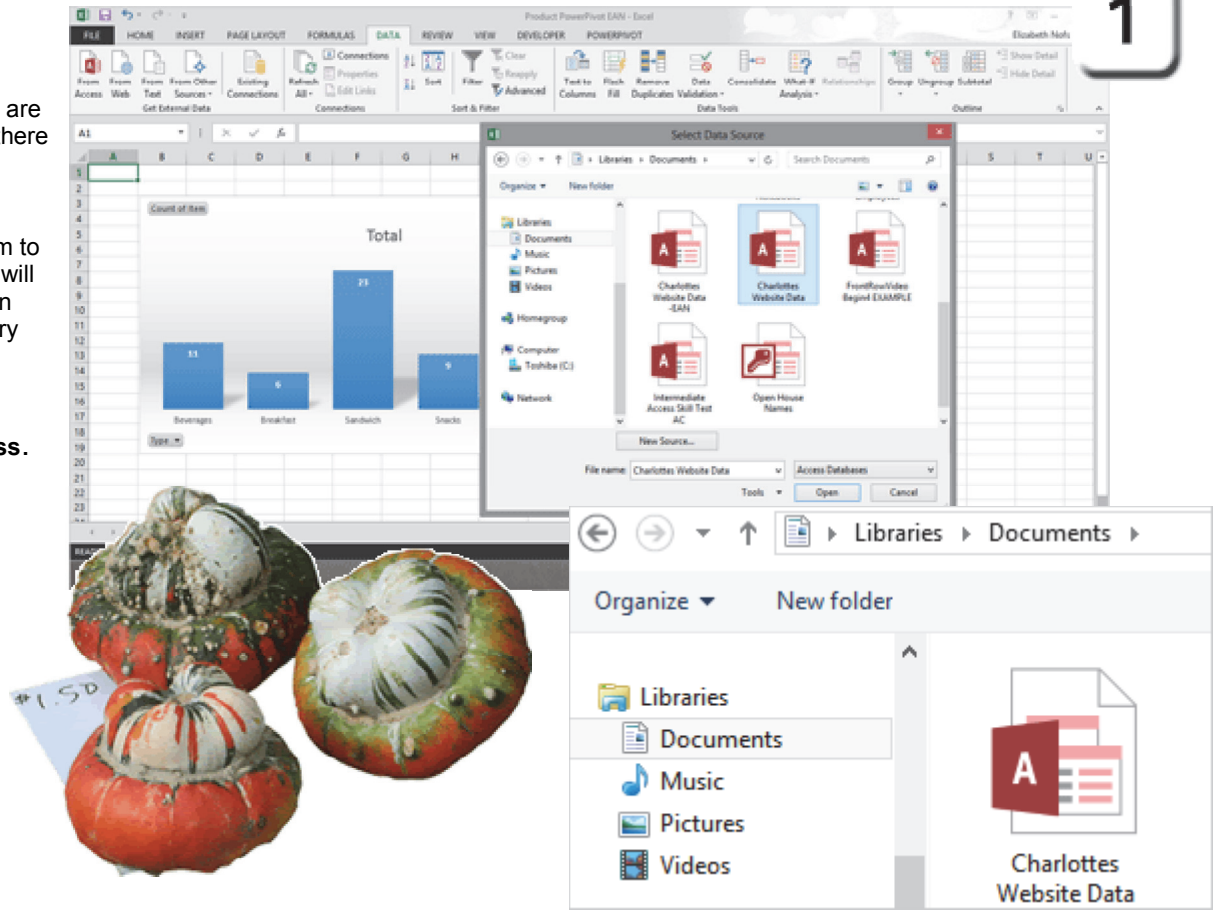
1. Try This: Import Tables into Excel

Go to **Data->Get External Data->From Access.**
Go to **Data->Get External Data**.
Click on **From Access**.
Browse to the Documents folder.
Select a file: Charlottes Website Data.accdb
Click **Open**.

Okaaaaay, keep going...

Data->Get External Data->From Access

1



Take One

Data->Get External Data->From Access

2

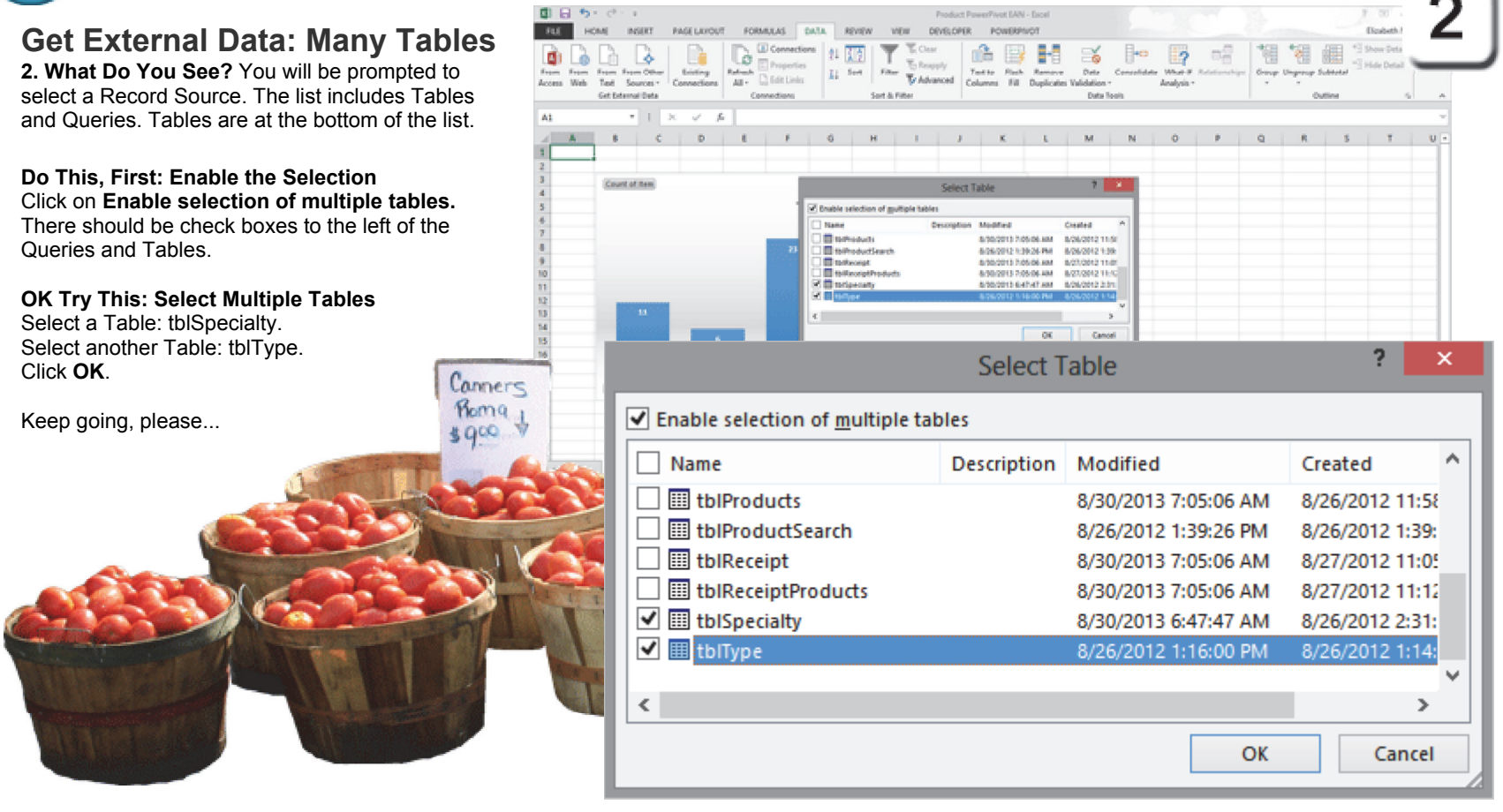
Get External Data: Many Tables

2. What Do You See? You will be prompted to select a Record Source. The list includes Tables and Queries. Tables are at the bottom of the list.

Do This, First: Enable the Selection
Click on **Enable selection of multiple tables.** There should be check boxes to the left of the Queries and Tables.

OK Try This: Select Multiple Tables
Select a Table: tblSpecialty.
Select another Table: tblType.
Click **OK**.

Keep going, please...



Get External Data: Import Tables

What Do You See, Now? You can choose:
Table
PivotTable Report
PivotChart
Only Create Connection

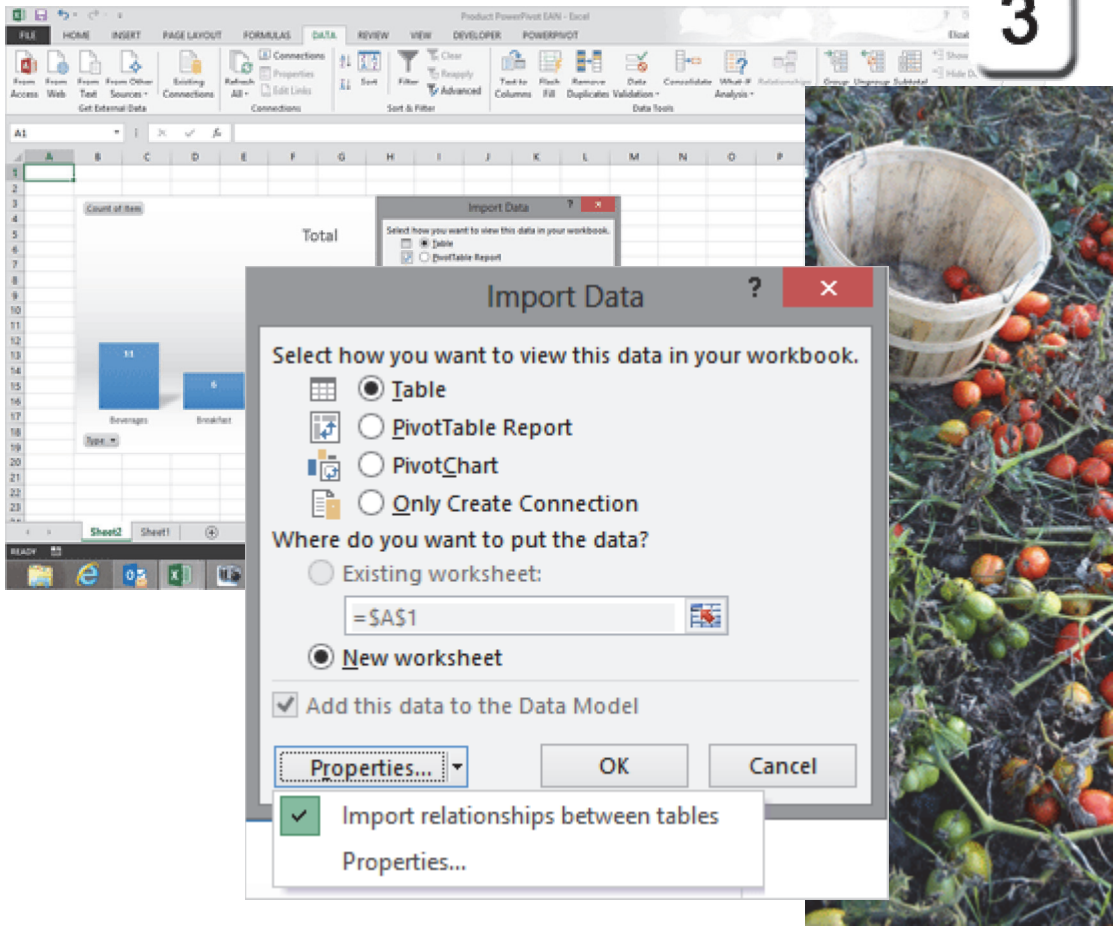
This time, we will import the data from Access into Excel as Tables. The two Tables will be added to a PowerPivot Data Model when it is imported.

3. Try it: Import Data
Select **Table.**
Select **New worksheet.**
Confirm: **Add this data to the Data Model** (default).
Click **OK.**

Keep going...

Very Important! Look again at the Properties:
If you select multiple Tables Microsoft Excel will **Import the relationships between tables.**

Data->Get External Data->From Access



Hello, Little Tables?

So, where did tblSpecialty and tblType end up? There should be two new spreadsheets. They may be Sheet2 or Sheet3.

The imported data is formatted as a Table. Each Column has a Filter.

4. Do This: Rename Two Sheet Tabs
Double-click the Tab for the Specialty Table. Rename the sheet: Specialty.

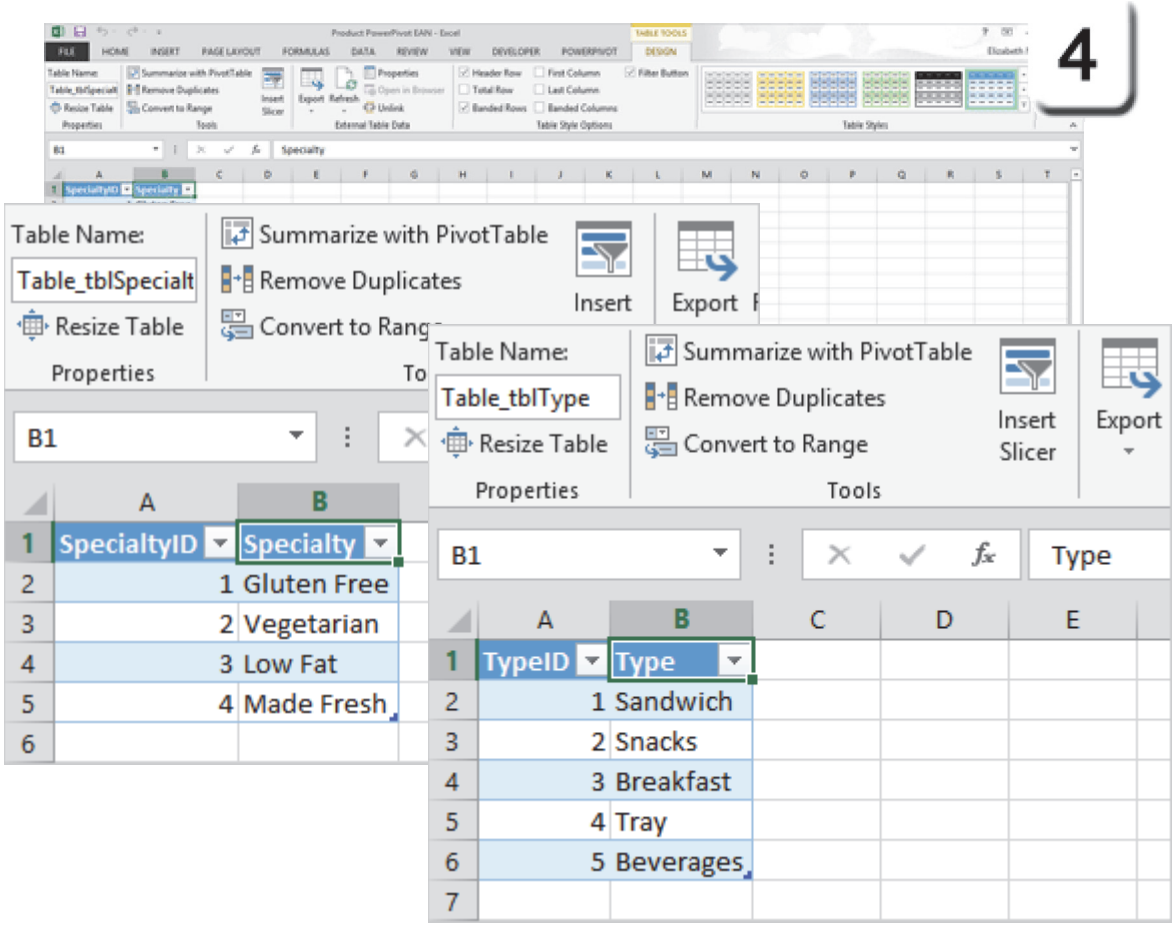
Double-click the Tab for the Type Table. Rename the sheet: Type.

Everybody remember where we parked.

Keep going...

Look at the Table Properties: The Specialty Table was named Table_tblSpecialty when it was imported. The Type Table was named Table_tblType.

Data->Get External Data->From Access



Exam 77-420 Microsoft Excel 2013
1. Create and Manage Worksheets and Workbooks
1.1 Create Worksheets and Workbooks: Add Worksheets to Existing Workbooks

Take One

PivotChart: See All Tables

5. Try This: Find the New Tables
Go to the PivotChart2 spreadsheet.
Select the PivotChart.
The PivotChart Tools should be available.
The Field List should be visible.

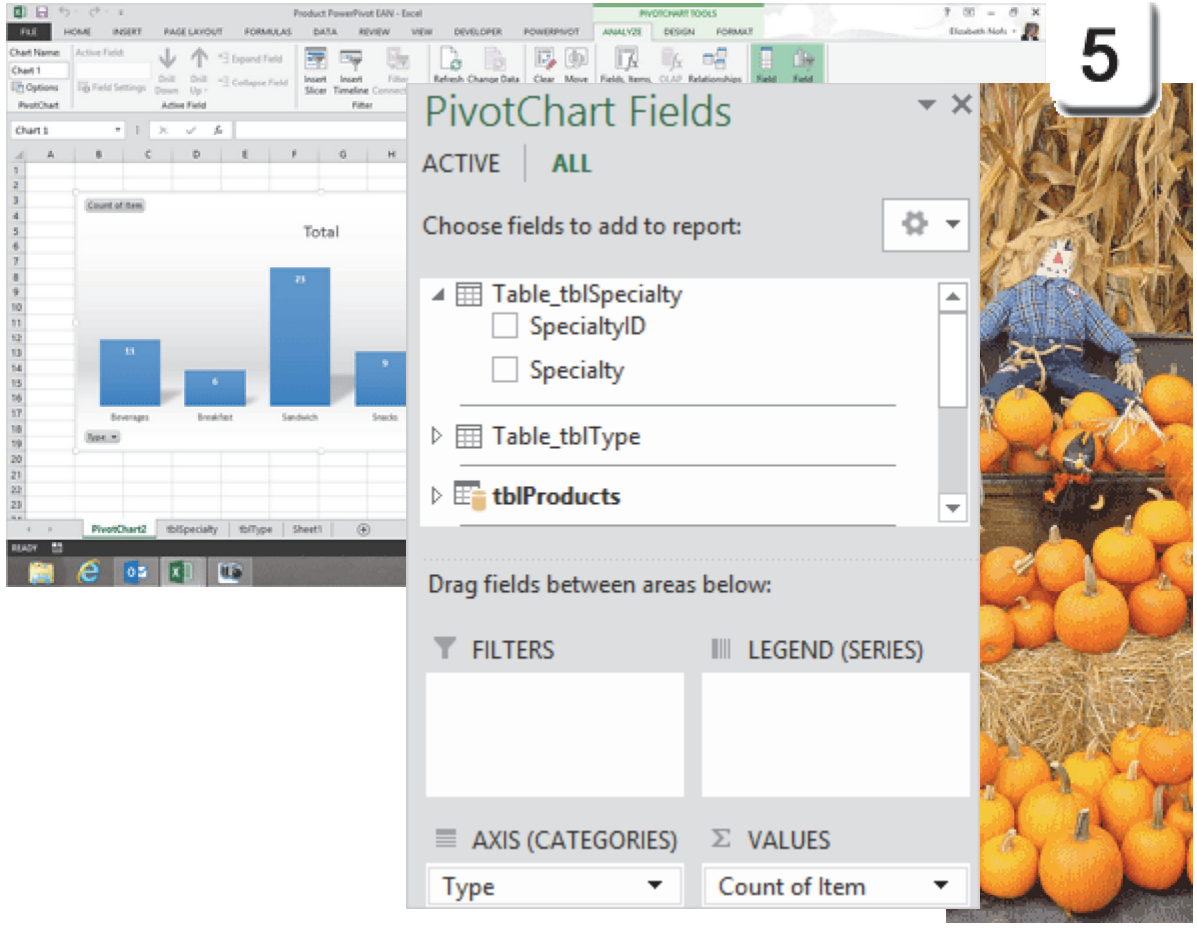
What Do You See? The Field List shows the **Active** Tables by default. Click on **All**.

There are two new Tables:
Table_tblSpecialty
Table_tblType

What Else Do You See? The Table that is linked to a database, tblProducts, has a different symbol than the two Tables which were imported into this Excel spreadsheet.

Keep going...

PivotChart Tools->Analyze->Show/Hide-> Fleld List



Take One

Define the Table Relationships

Table Relationships: Two Tables can be **related**, or **joined**, if there is at least one Field in both Tables that matches. When two Tables have a matching Field you can look up the answer in one Table and save it to another.

In Microsoft Access, a Combo Box looks up the answers in a Table. We played with the Products Form earlier at the beginning of this lesson.

Tables can be related, or joined, in Microsoft Excel as well. The Relationships may be inherited from the database when the Tables are linked or imported. The Relationships can also be defined.

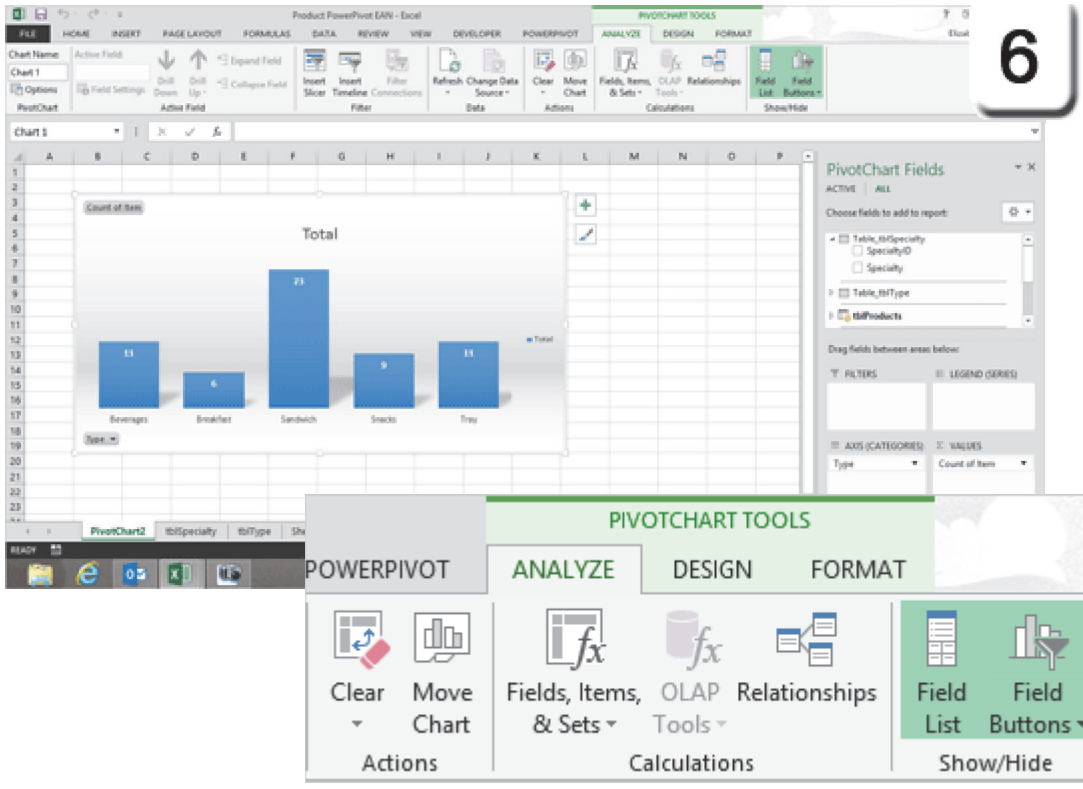
Here are the steps to manage Table Relationships.

Start Here: The PivotChart on the PivotChart2 spreadsheet is still selected.
The PivotChart Tools are available.

6. Try This: Define the Table Relations
Go to **PivotChart Tools->Analyze->Calculations.**
Click on **Relationships**.

Keep going...

PivotChart Tools->Analyze->Calculations-> Relationships



Create a Relationship

What Do You See? The **Manage Relationships** window will open, but it will be blank.
Click on **New**.

A Join window will prompt you to choose two Tables that you would like to Join.

tblProducts lists all of the tasty items in the Access database. This Table also has two Fields that look up data from other Tables:
Table_tblType.
Table_tblSpecialty

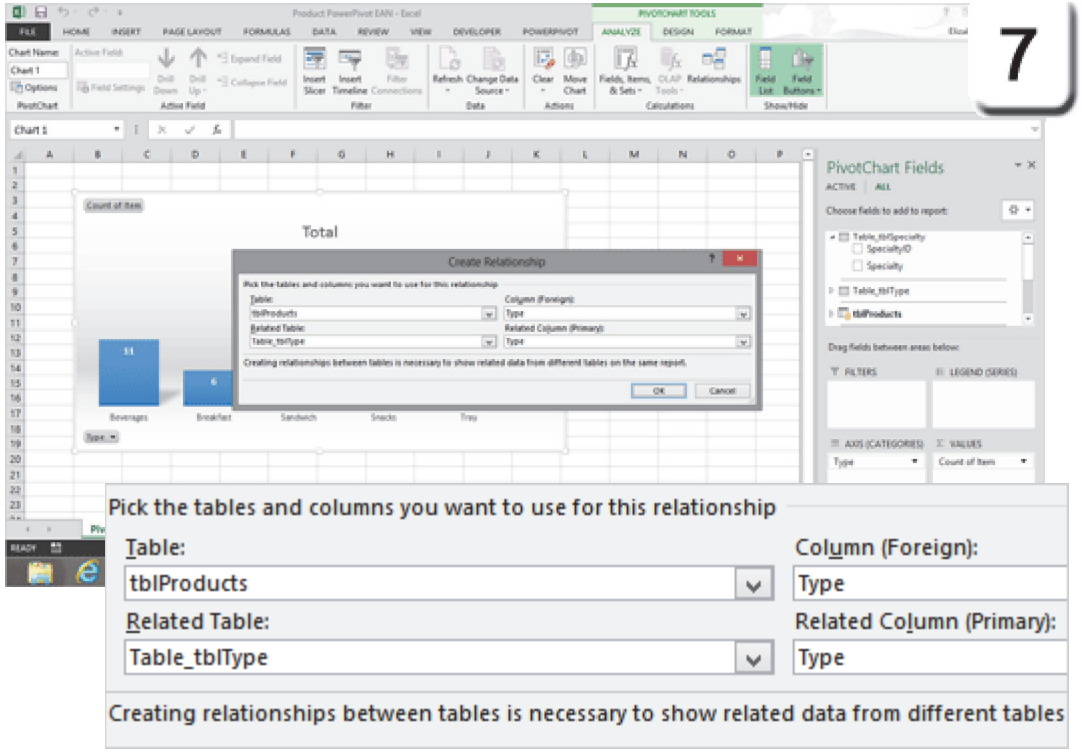
The Fields Match, Match, Match. They are the same kind of data (text, not numbers.)

7. Do This: Create a New Relationship
Select a **Table:** tblProducts.
Select a **Column:** Type.
Select a **Related Table:** Table_tblType.
Select a **Related Column:** Type.

Click **OK**. You will return to Manage Relationships.

Keep going...

PivotChart Tools->Analyze->Calculations-> Relationships->New



Take One

Make Another Relationship

8. Do This: Make Another Relationship
Manage Relationships is still open.
Click on **New**.

Enter the following when prompted.
Select a **Table:** tblProducts.
Select a **Column:** Specialty.
Select a **Related Table:** Table_tblSpecialty.
Select a **Related Column:** Specialty.
Click **OK**.

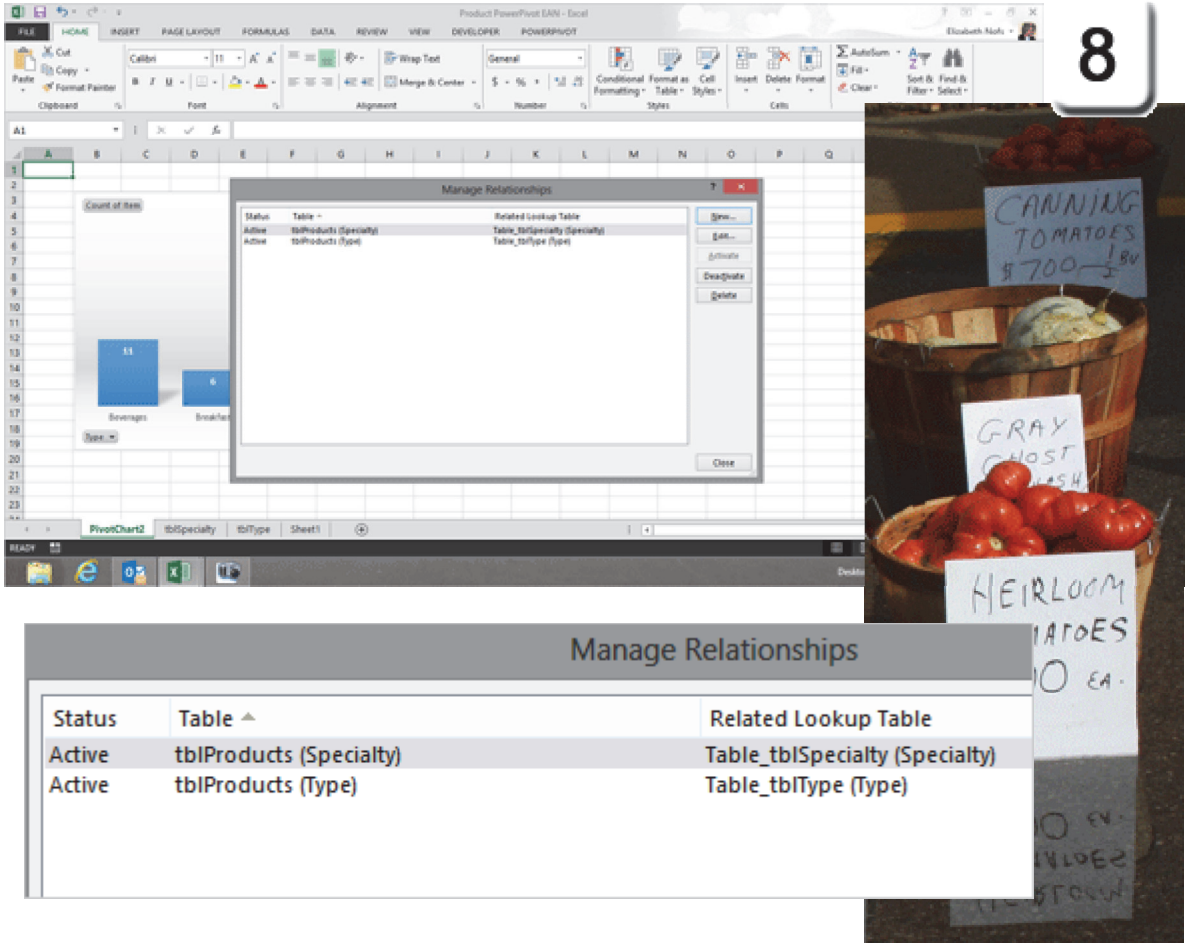
What Do You See? You will return to the Manage Relationships options.
There are two Relationships. tblProducts is related to two Lookup Tables.

The **Management Relationships** options include Edit, Activate, Deactivate and Delete.

Click **Close** to return to the PivotChart.

The next couple of pages look at managing these Relationships.

PivotChart Tools->Analyze->Calculations-> Relationships



Take One

Manage Relationships in the PowerPivot Data Model

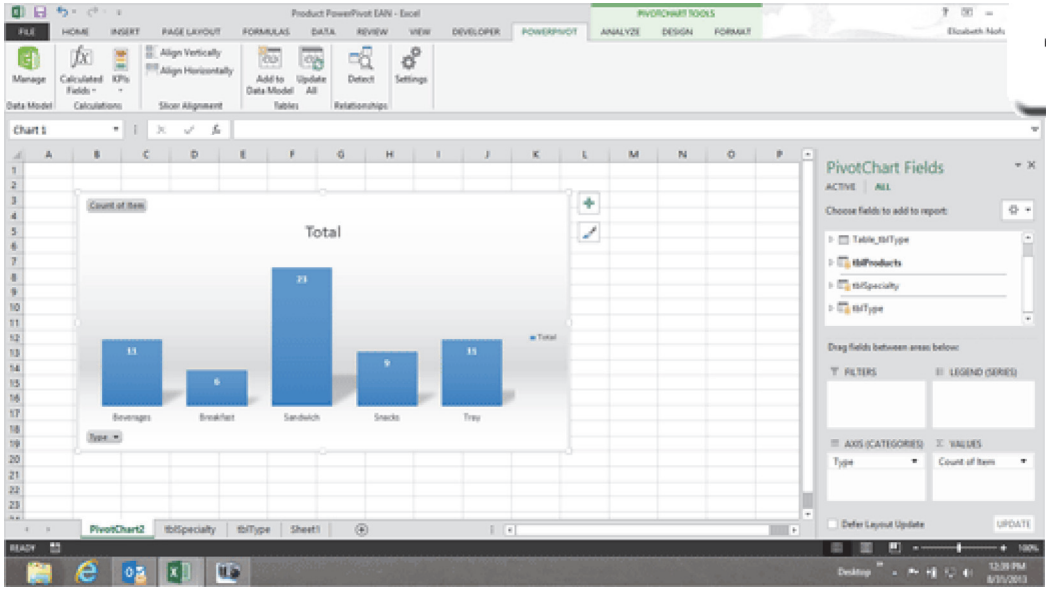
The Relationships, or Joins can be managed in the PowerPivot Data Model. The Data Model has two different Views of the Fields that join these Tables: **Data View** and **Diagram View**.

1. Try This: Open the Data Model
The PivotChart is still selected.
Go to **PowerPivot->Data Model** .
Click on **Manage**.

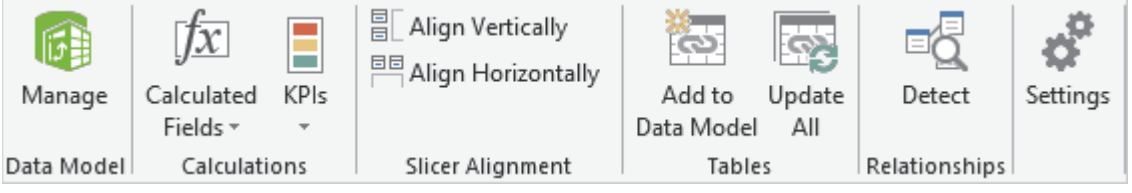
Keep going...



PowerPivot ->Data Model->Manage



1



PowerPivot: Data View

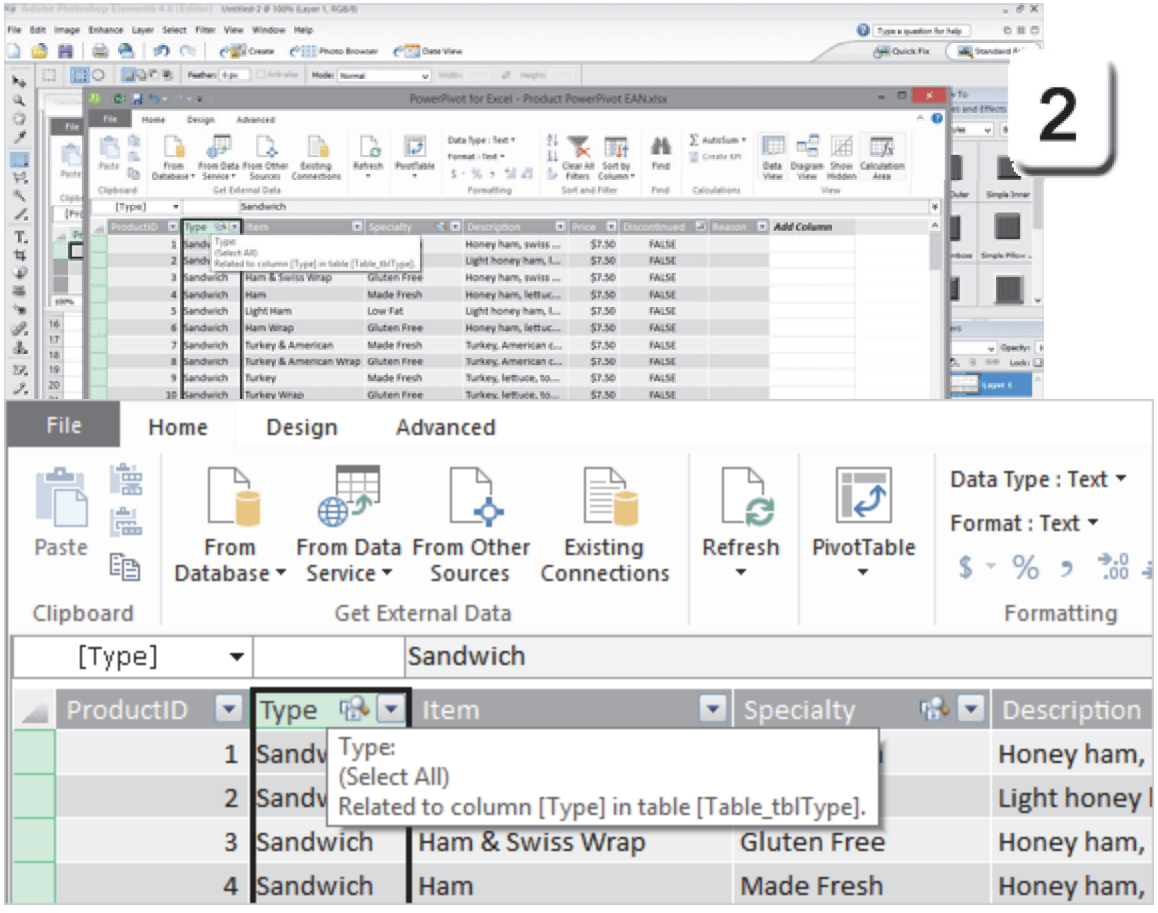
2. What Do You See? The PowerPivot opens with a PivotTable. This PivotTable shows the data in a linked Access Table, tblProducts. The data is an **Existing Connection** that can be **Refreshed**.

The Field Names at the top of the Table have Filters. Two of the Fields, Type and Specialty, are related (joined) to tblProducts.

What Else Do You See? The default view is **Data View.** This is the View we used earlier in this lesson. There is another View that displays the Table Relationships graphically. It is similar to the view of Relationships in Microsoft Access.

Keep going...

Home ->View->Data View



PowerPivot: Diagram View

3. Try it: Display the Diagram View
Go to **Home ->View->Diagram View.**

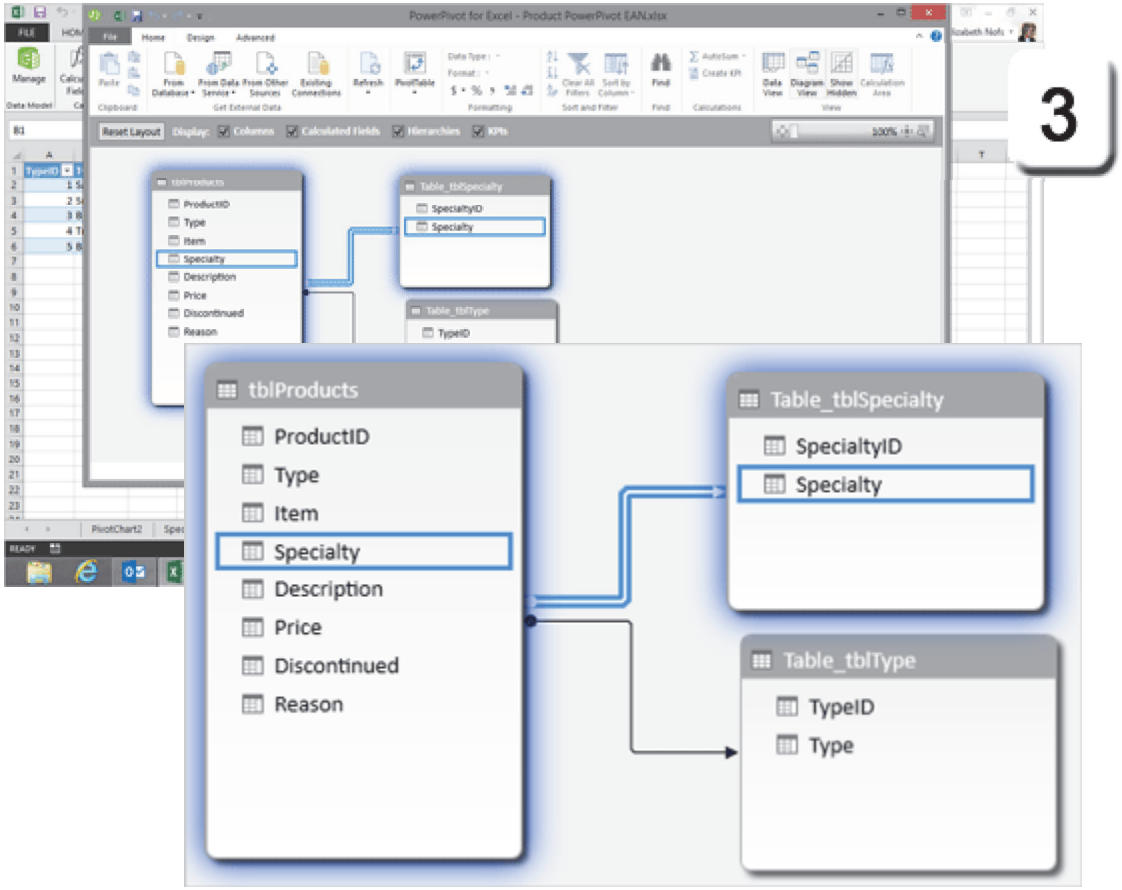
The **Data Diagram** has three Tables:
tblProducts (a Table linked to Access).
Table_tblSpecialty (a Table imported into Excel).
Table_tblType (a Table imported into Excel).

What Do You See? The Tables are Joined by matching Fields. The Joins are represented by a line from one Table to another. If you click on a Join, the matching Fields will be outlined.

What Else Do You See? These Joins have an arrow. The arrow means that this is a One-to-Many Relationship. There are many different Specialties in Table_tblSpecialty. Each Item in tblProducts has only one Specialty.

Keep going...

Home ->View->Diagram View



Take One

Advanced Diagram View

4. Try This: Find the Calculated Field
Go to **Advanced Ribbon.**
Click on **Show Implicit Calculated Fields.**

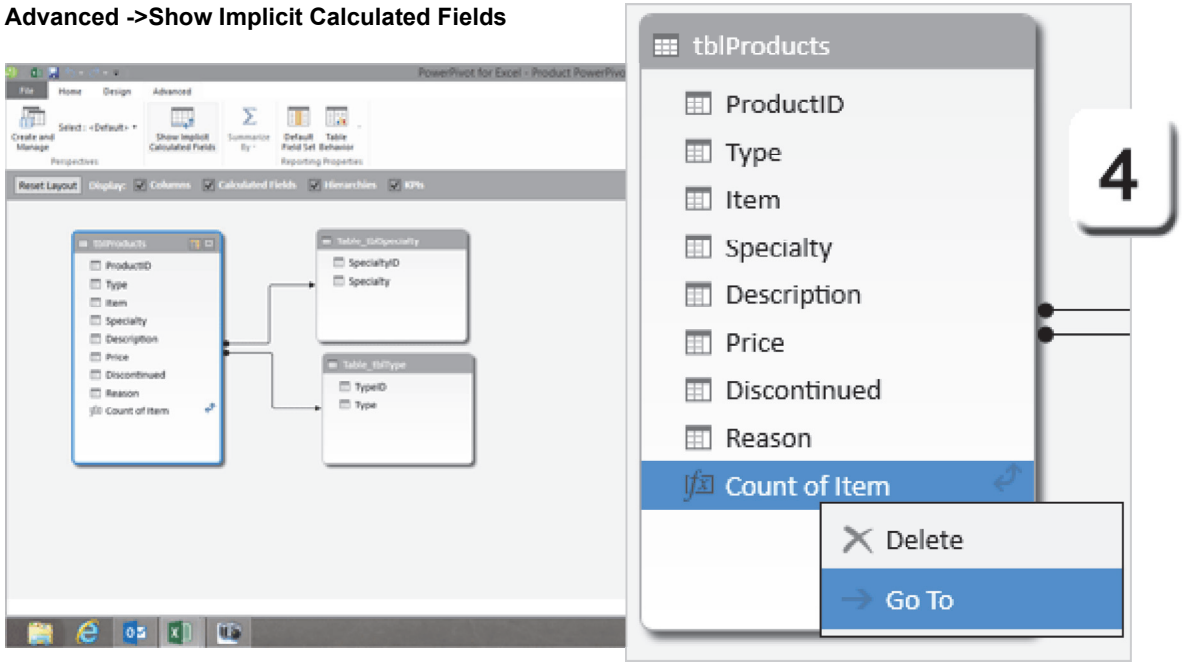
What Do You See? Please look at the bottom of tblProducts. You should see a **Calculated Field:** Count of Item.

Now, Try This: Go to the Calculated Field
Right-click the Field: Count of Item.
Click on **Go To.**

You will return to the **Data View**.
Count of Item should be selected.
There are 51 items in this Table.

So far so good. Now we are ready to create a couple of **Perspectives**!

Advanced ->Show Implicit Calculated Fields



Where Have You Seen This Before? The **Calculated Field:** Count of Item is the Value in the PivotTable Field List.

	56	Tray	Donuts and Cookies	Made Fresh
	57	Tray	Chips	Gluten Free
	58	Tray	Chips & Salsa	Gluten Free
			Count of Item: 51	

Take One

PowerPivot: Perspectives

A spreadsheet may be used in different departments or even different countries. You can create custom Views, or Perspectives. Perspectives can include any combination of Tables and Fields.

Important! PowerPivot Perspectives must be saved to a SharePoint 2013 server with Excel Services. Perspectives can only be used as a data source when the Excel file is saved to a server. Students who are not connected to a SharePoint 2013 server may not be able to complete all of the steps. That is OK.

1. Try This: Create a Perspective
The PowerPivot window is still open.
Go to **Advanced ->Perspective**.
Click on **Create and Manage**.

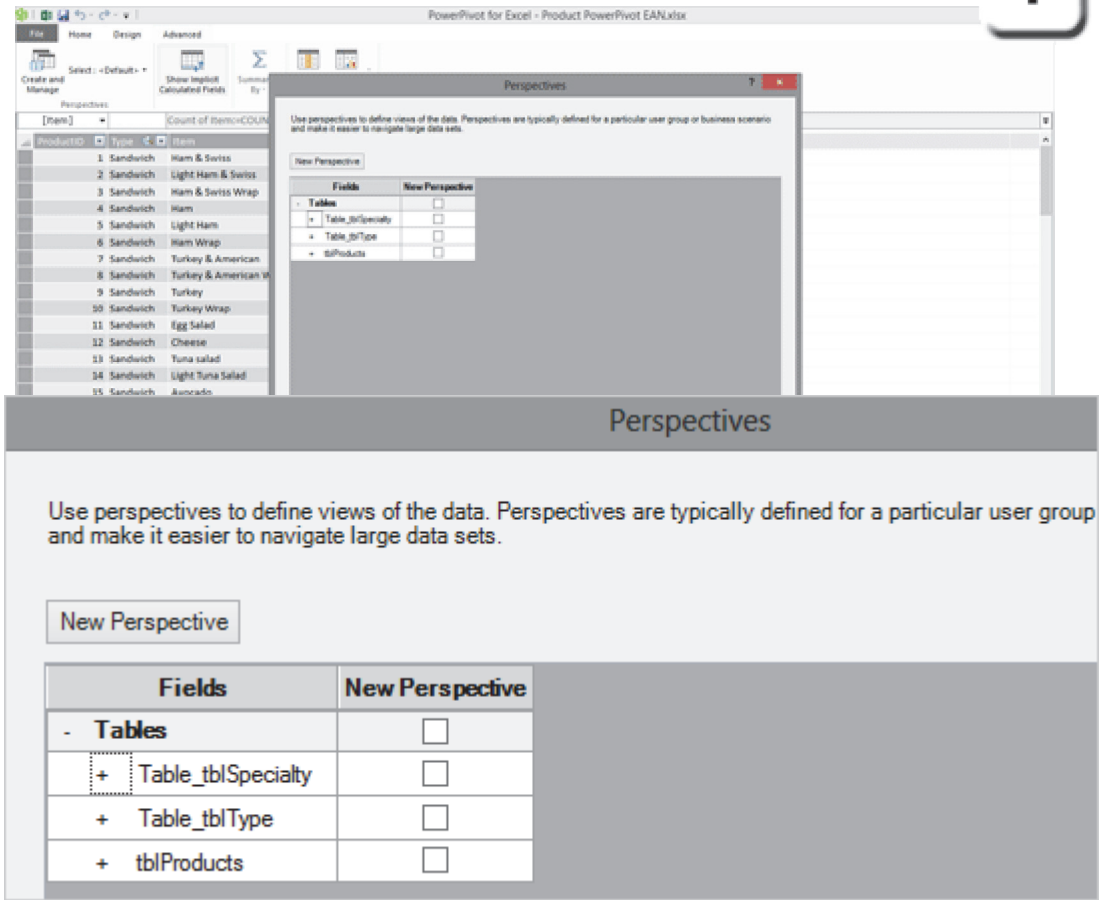
The **Perspectives** will open. There are three Tables in our Data Model. The Fields are in the first column.

Click on the **New Perspective** button above the Fields. The New Perspective will become the second column. This Perspective is empty: It has no check boxes. It has not been named, yet.

Keep going...

Advanced ->Perspective-> Create and Manage

1



Take One

Advanced ->Perspective-> Create and Manage

2

Create the Perspectives

2. Try it: Rename the Perspective
Run your mouse over the label in Column 2: New Perspective. The options are **Delete**, **Rename** and **Copy and Paste into a New Perspective**.

Go to **Rename**.
Type a Perspective Name: Boston.
Select all of the Fields in the Boston Perspective.

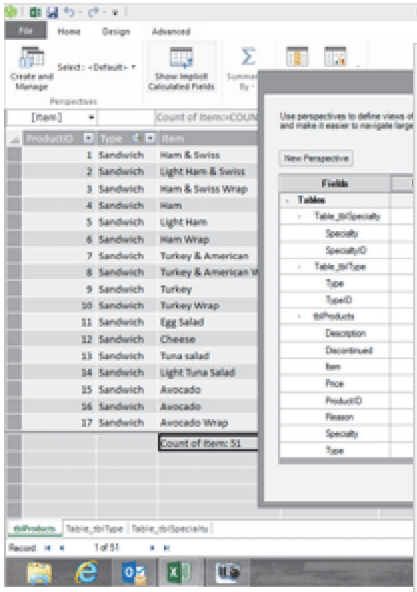
Try This, Too: Copy the Perspective
Run your mouse over the label in Column 2.
Click on **Copy and Paste into a New Perspective**.

Try This, Too: Rename the Copied Perspective
Go to Column 3, New Perspective.
Click on **Rename**.
Type a Perspective Name: Paris.
Select all of the Fields in the Paris Perspective.

Click **OK**.

Keep going...

Memo to Self: You need to check at least ONE Field or the PivotTable Field List will be empty.



New Perspective

Fields	Boston	Paris
- Tables	☑	☑
- Table_tblSpecialty	☑	☑
Specialty	☑	☑
SpecialtyID	☑	☑
- Table_tblType	☑	☑
Type	☑	☑
TypeID	☑	☑
- tblProducts	☑	☑
Description	☑	☑
Discontinued	☑	☑
Item	☑	☑
Price	☑	☑
ProductID	☑	☑
Reason	☑	☑
Specialty	☑	☑
Type	☑	☑

Exam 77-427 Microsoft Excel 2013 Expert
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Use PowerPivot Perspectives

Take One

Edit the Perspectives

There are two Perspectives in this Excel file. You can view and edit each one.

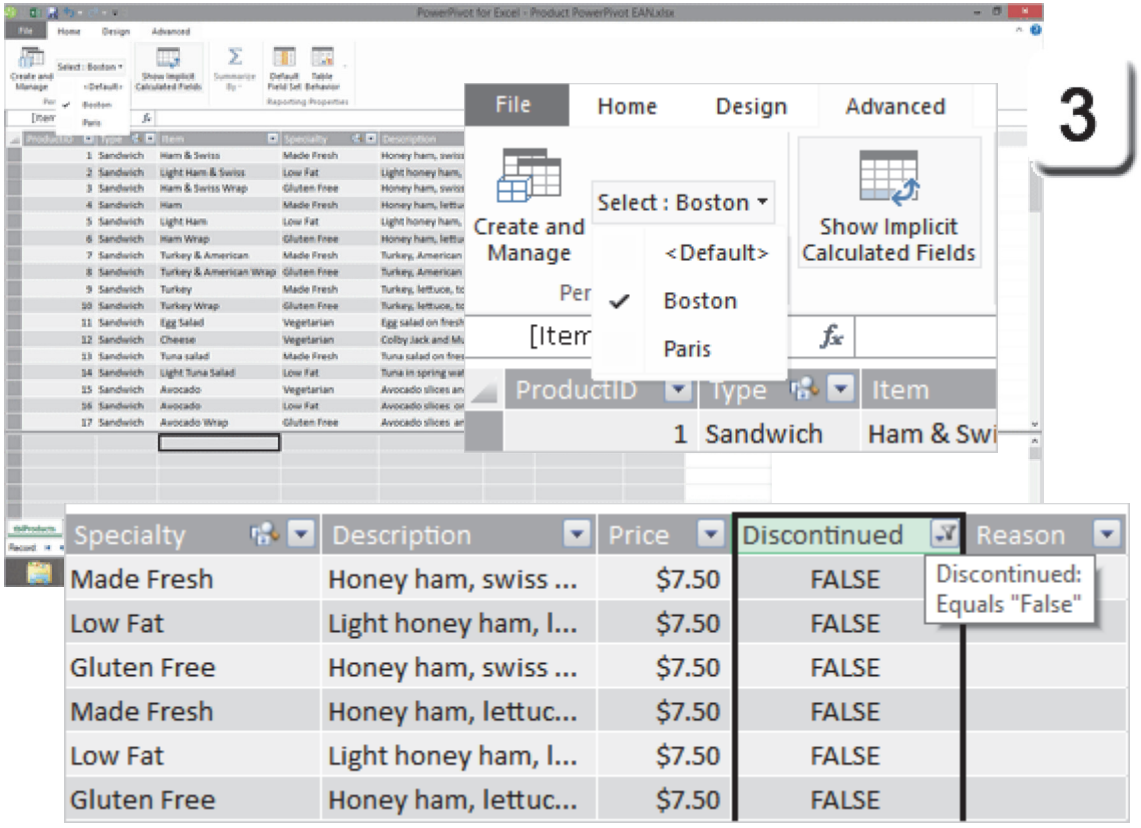
3. Try This: Select a Perspective
The PowerPivot window is still open.
Go to **Advanced ->Perspective->Select**.
Click on **Boston**.

What Did You See? The data in tblProducts has been formatted and filtered for the "Boston" view.

Earlier in this lesson, we formatted the Price as Currency (dollars). There is also a Filter on the Discontinued Field. This Table does not show the ones that were discontinued (TRUE).

Keep going...

Advanced ->Perspective-> Select



Take One

Make a Custom Perspective

4. Try This: Select Another Perspective
The PowerPivot window is still open.
Go to **Advanced ->Perspective->Select**.
Click on **Paris**.

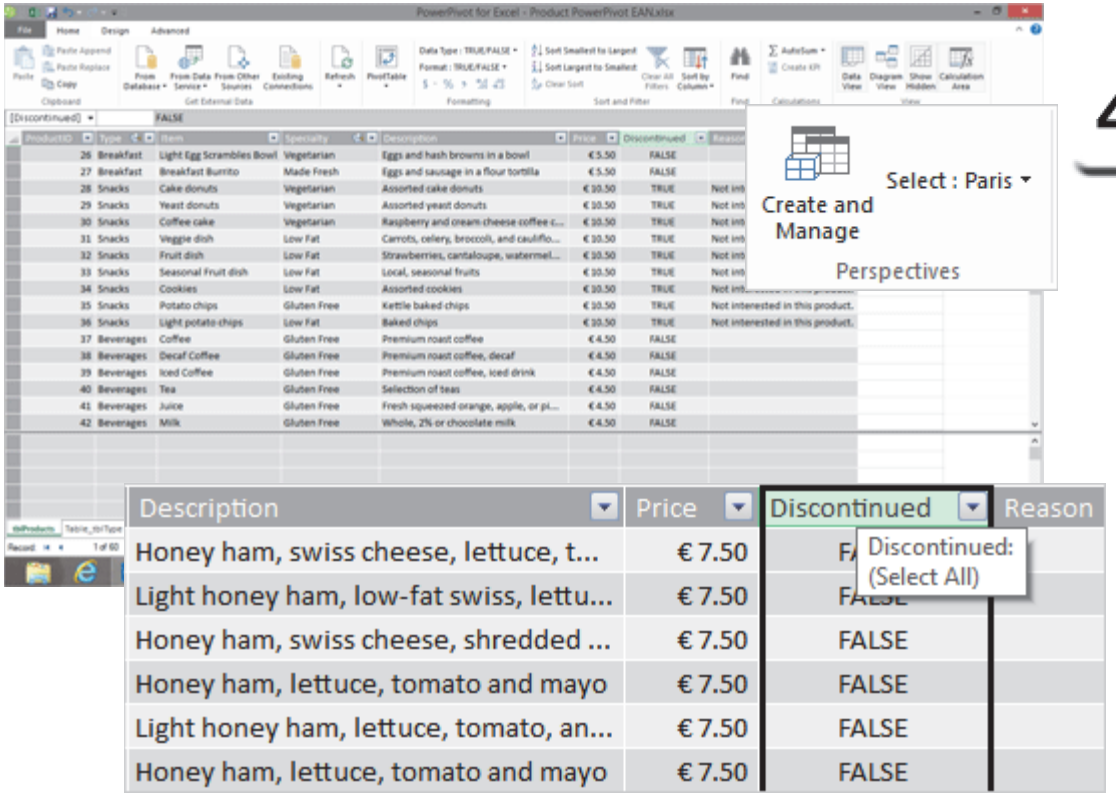
What Do You See? The data in tblProducts has been formatted and filtered for "Paris" view. It is a COPY of the Boston view so we need to select a different currency and edit the Filters.

OK, Do This: Format the Currency
Select a Field: Price.
Go to **Home->Formatting->Accounting.**
Select a Format: Euro.
And Do This: Edit the Field Filters
Select a Field: Discontinued.
Go to **Home->Sort and Filter->Select All.**
Click **OK**.

The Table, tblProducts, has been filtered to show all of the Items-including the discontinued ones.

Keep going...

Advanced ->Perspective-> Select



4

Take One

Power View Reports

So far, we have created two PivotChart. The first PivotChart looks up the data in a linked Access Table: tblProducts. The second PivotChart uses a Data Model that includes tblProducts and two imported Tables, tblSpecialty and tblType.

A **Power View Report** is based on the PowerPivot Perspectives. There will be one PivotChart for Boston and another for Paris.

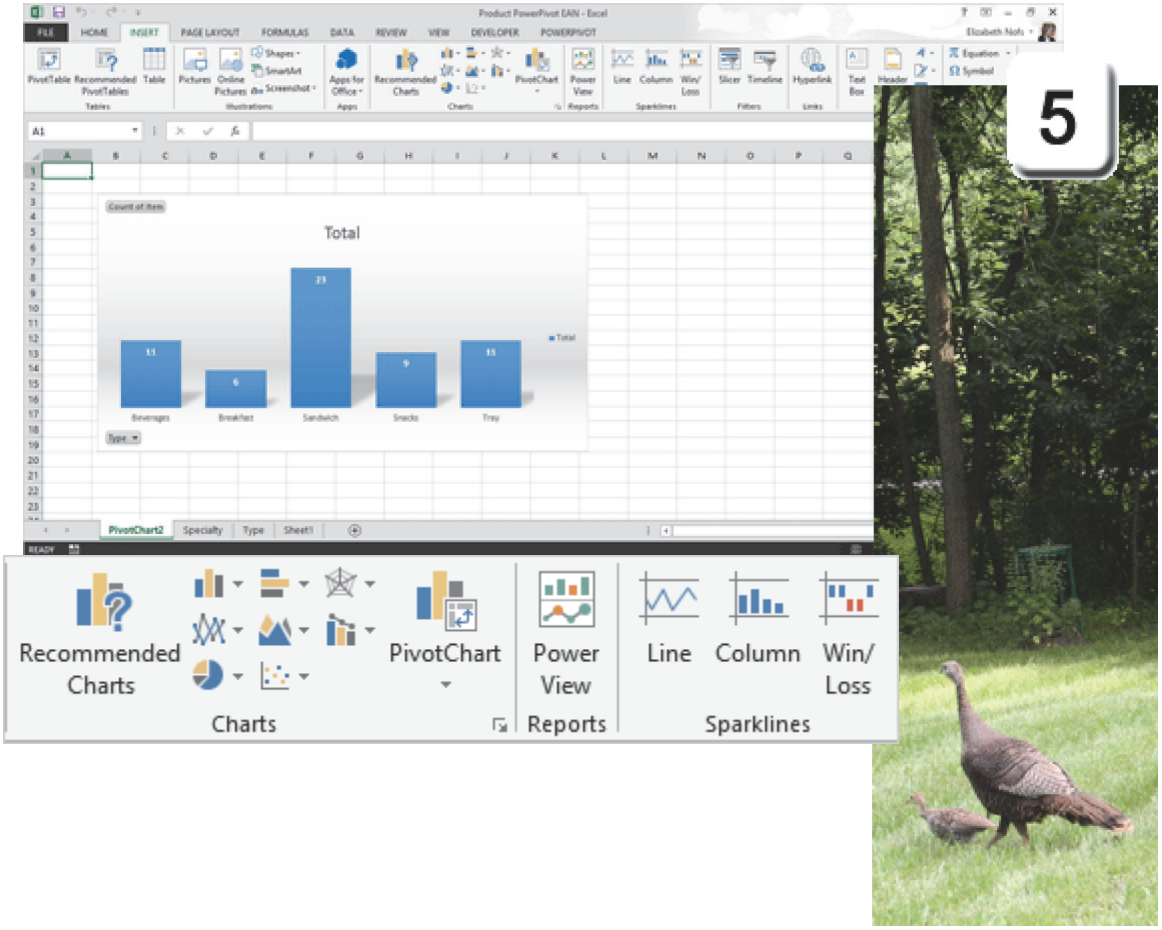
5. Before You Begin: Change the Perspective
The PowerPivot window is still open.
Go to **Advanced ->Perspective->Select**.
Click on **Boston**.

Now, Do This: Save the Perspectives
Go to **File->Save**.
You will will return to the PivotCharts in Excel.

OK, Do This: Create a Power View Report
Go to **Insert ->Reports-> Power View.**
Keep going...

Memo to Self: The first time you select Power View you will be prompted to enable the Power View add-in. You may also be prompted to install the Silverlight web ad.

Insert ->Reports-> Power View



Take One

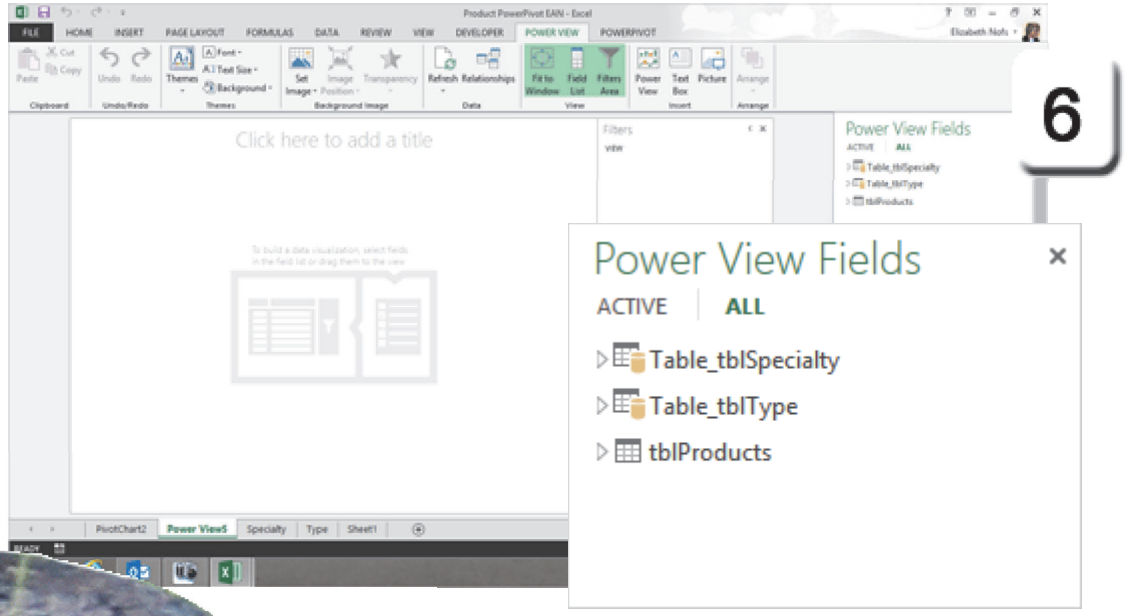
Hello, Power View Report

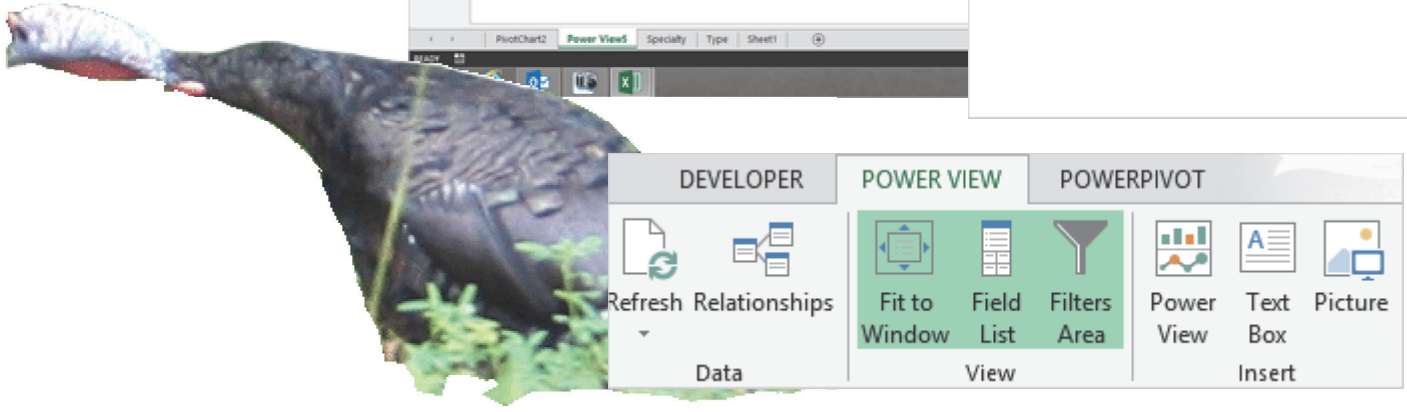
6. What Do You See? The Power View is similar to a PivotTable. It begins with a blank diagram. There should be a Field List on the right side.

The Power View Ribbon has the following groups.
Clipboard
Undo/Redo
Themes
Background Image
Data
View
Insert
Arrange

Keep going...

Power View-> View->Field List





6

Select the Power View Fields

7. Try it: Select the Power View Fields

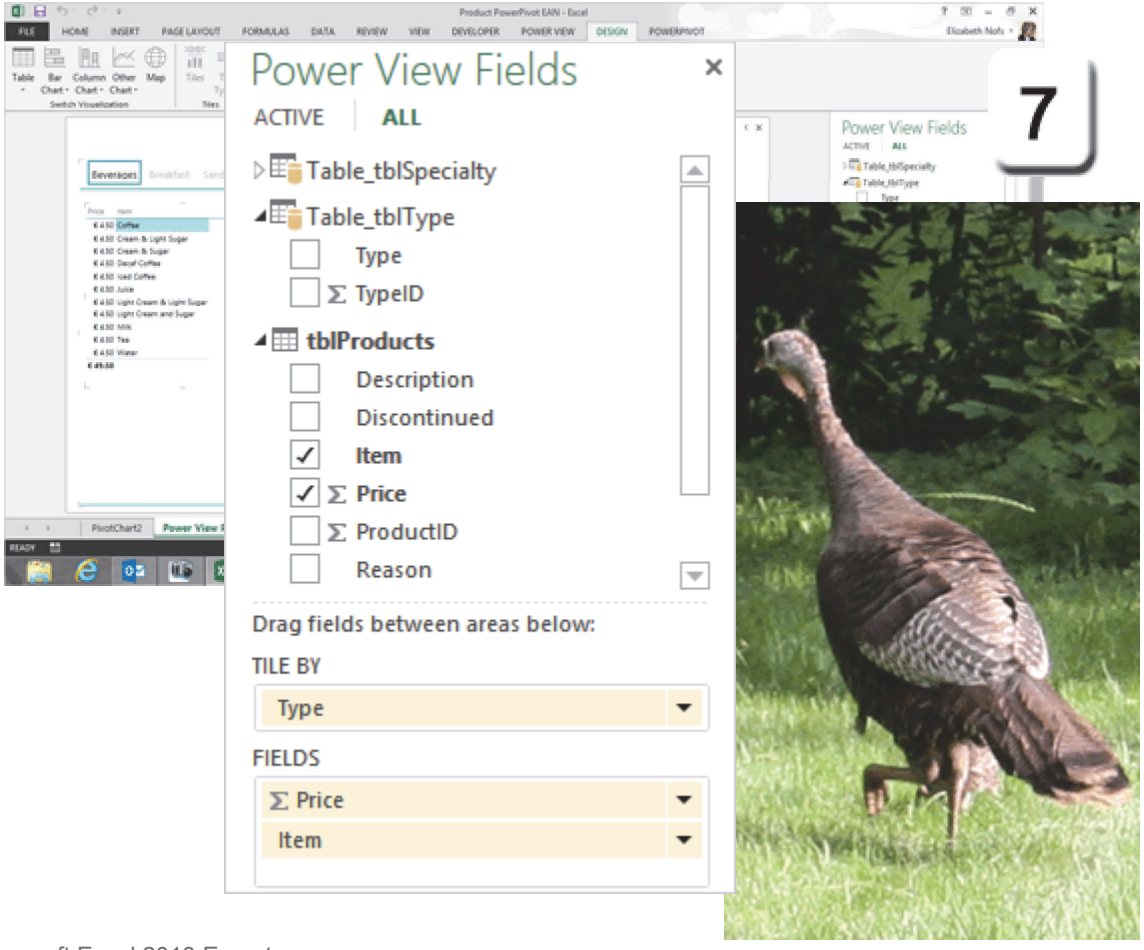
Drag the Power View Fields to the following areas:

Add to FIELDS:
Choose Price from tblProducts.
Choose Item from tblProducts.

Add to TITLE BY:
Choose Type from Table_tblType.
Made You Look: The Price Field has a formula: SUM. The SUM function works because this is money. The ProductID also has a formula: COUNT. The COUNT function is appropriate because ProductID is an Integer, a whole number.

Keep going...

Power View-> View->Field List



Use the Report Titles

Placing a Field in the TITLE created a dynamic Power View. You gotta try this!

8. Try it: Select the Power View Titles
Click on a Title: Beverages.
The Titles Filtered the data to show Beverages.

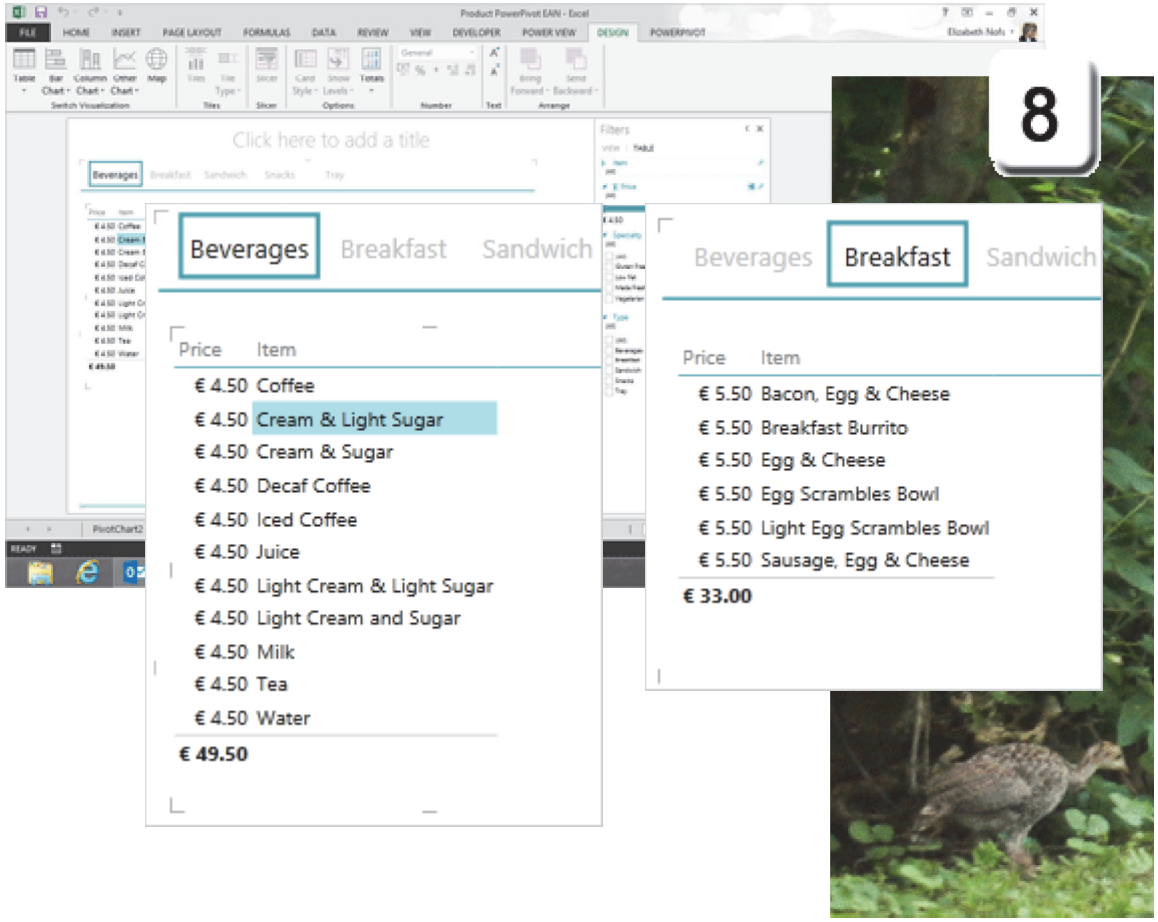
Click on a Different Title: Breakfast.
Now, the PivotTable shows only Breakfast Items.

What Else Do You See? This Power View is based on the Data Model we created in PowerPivot. This is the Perspective for Paris. The prices are formatted for Euros, not Dollars.

OK, Please Do This: Rename the Sheet
Double-click the Tab.
Type: Power View Paris.

Keep going...

Power View-> View->Field List



Exam 77-427 Microsoft Excel 2013 Expert
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Use PowerPivot Perspectives (Power Pivot Reports)

Take One

Change the Data Model

Information is dynamic. What happens if you change the Data Model? Will the Power View update? What about the other PivotChart?

Here is a simple test that you can do, with or without a Share Point Server.

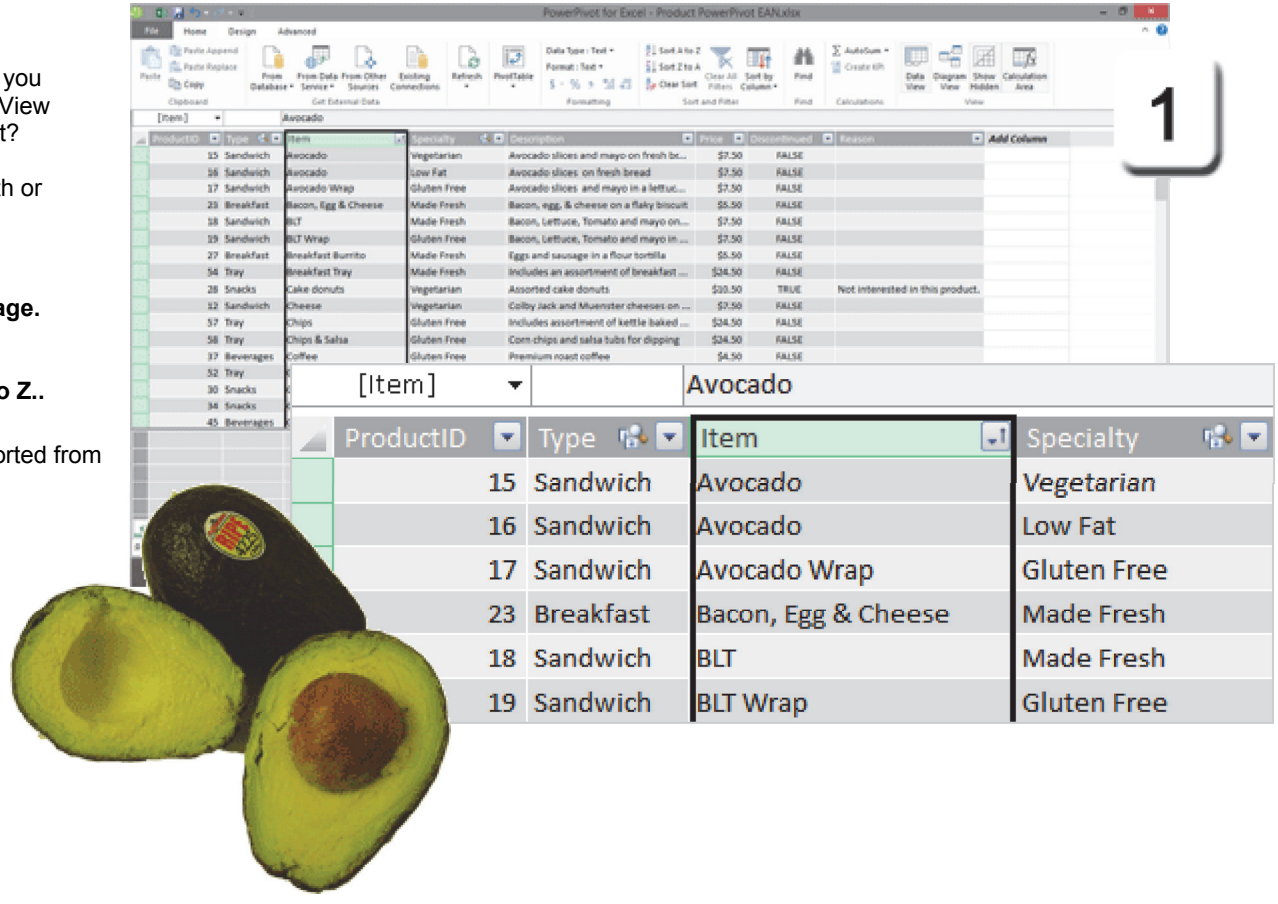
1. Try it: Edit the Data Model
Go to **PowerPivot ->Data Model->Manage.**
The PowerPivot window will open.
Select a Field: Item.
Go to **Home->Sort and Filter->Sort A to Z..**

What Do You See? The Items will be Sorted from Avocado to Yeast Donuts (A-Z).

Go to **File->Save**.
You should return to the Power View.

Sooooo then, what?

PowerPivot ->Data Model-> Manage



Exam 77-427 Microsoft Excel 2013 Expert
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Use PowerPivot Perspectives (Power Pivot Reports)

Take One

PowerPivot ->Data Model-> Manage

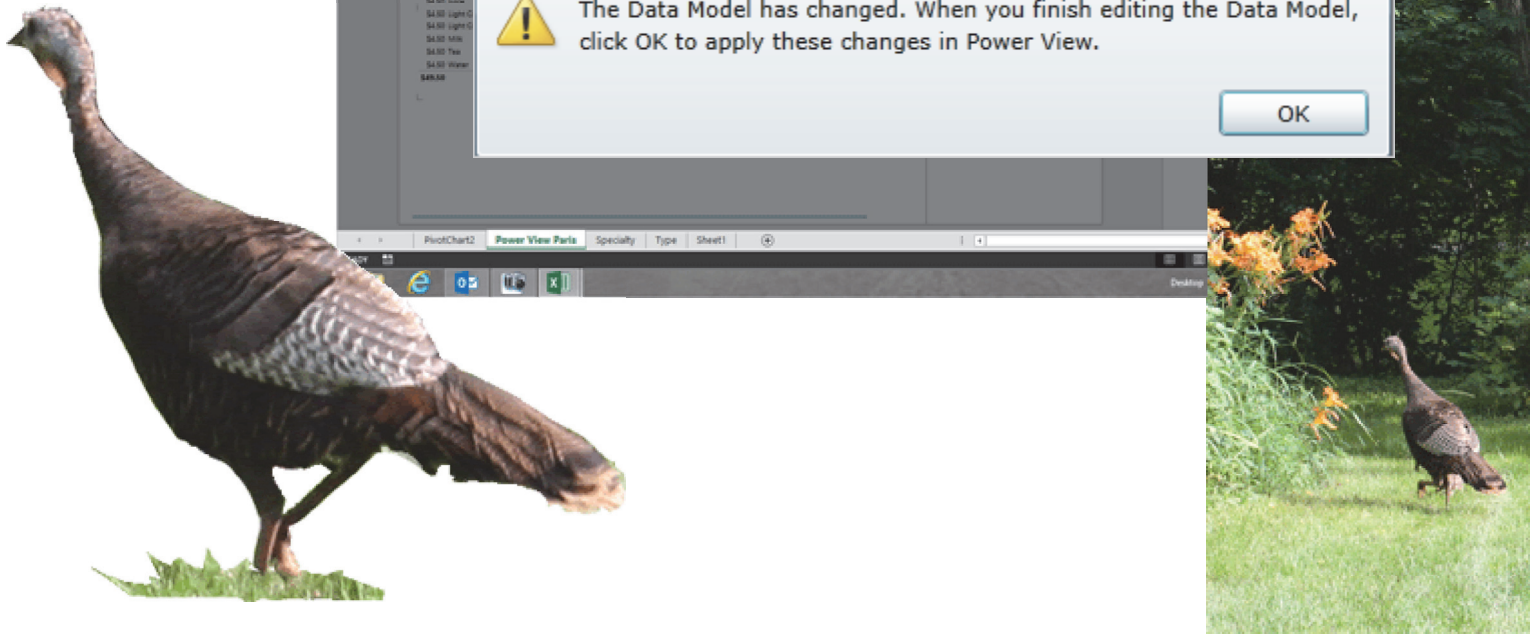
Update the Power View

2. Try it: Update the Power View

When you return to the Power View you will be notified that the Data Model has changed.

When you are ready, click OK to apply the changes to the Power View.

That will work.



Exam 77-427 Microsoft Excel 2013 Expert
4. Create Advanced Charts and Tables
4.2 Create and Manage PivotTables: Use PowerPivot Perspectives (Power Pivot Reports)

Summary

In many businesses the information is in a database. Excel can look up that data and analyze it with PivotTables, PivotCharts and other tools.

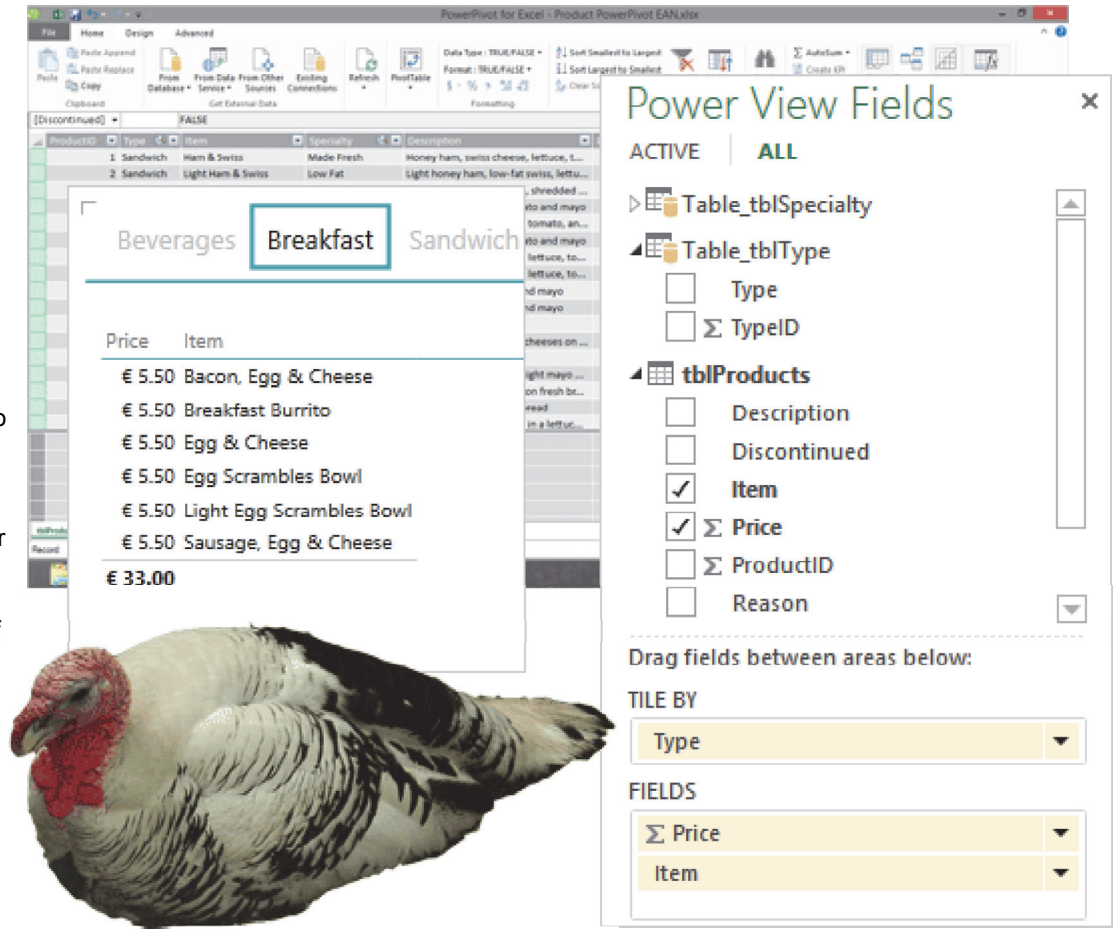
This lesson began by working with External Data. We linked to a Table in Microsoft Access. We also imported two Tables into Excel and added them to a Data Model. The data was displayed as a PivotChart.

PowerPivot and **Power View** are new features in Microsoft Excel. The PowerPivot includes the option to create Relationships.

Perspectives is one of the best options in Power View. The data can be displayed as different Views for different users.

You done good. You can get a whole row of cookies if you wish.





Practice Activities

Lesson 8: Introduction to PowerPivot

Before You Begin: Download the sample database: Charlottes Website Data.accdb

Try This: Do the following steps

1. Open a new, blank spreadsheet in Microsoft Excel**.**
2. Use the Excel Backstage Options to enable the PowerPivot Add-in.
3. In Microsoft Excel, use the Data Tools to Get External Data.
   Browse to the folder where the sample database is saved.
   Select a Data Source: Charlottes Website Data.accdb.
   Select a Table: tblProducts.
   Choose how to import the data: PivotChart.
4. Edit the PivotChart Fields
   Axis:(Category): Type.
   Values: Count of Item.
5. Format the PivotChart
   Select a Chart Style.
   Select a Chart Color.
6. Filter the PivotChart
   Add a Filter in the Field List: Discontinued.
   Filter the PivotChart. Show only the items which are not Discontinued (FALSE)
7. Edit the Chart Title: Charlotte's Current Items.
8. Save this Worksheet: YOUR NAME My Advanced PivotChart Practice.



Test Yourself

1. Which of the following is true about PowerPivot?
(Select all correct answers)
a. PowerPivot is part of Microsoft Excel 2013.
b. The PowerPivot is an Add-in that must be enabled.
c. After you enable PowerPivot it will be available every time you begin Microsoft Excel.
Tip: Advanced Excel, page 282, 283

2. In Microsoft Excel, you can Get External Data from which of the following sources?
(Select all correct answers)
a. Microsoft Access
b. From the Web
c. From Text
Tip: Advanced Excel, 293

3. When you Import Data into Excel you can choose several options. Which ones are available?
(Select all correct answers)
a. PivotChart
b. Table
c. PivotTable Report
Tip: Advanced Excel, page 295

4. A PowerPivot uses a Data Model.
a. True
b. False
Tip: Advanced Excel, page 298

5. If the Data Model has been updated, Power View will notify the user that the Data Model has changed. Users can apply the changes.
a. True
b. False
Tip: Advanced Excel, page 325



Stick a fork in it! This course is done.

Advanced Excel Skill Test

Before You Begin: Open a new, blank Spreadsheet in Excel 2013. Please do the following steps:

1.Create a new spreadsheet for Computers Are Us.
Add the following labels:
A1=Date
B1=Product
C1=Price
D1=Quantity
E1=Total

Add the following data:
A2=January 5, 2006;
A3=January 6, 2006
B2=Budgie,
B3=Budgie,
C2=$350,
C3=$350
D2=10,
D3=5
Format Column C for currency

2. Select E2 and calculate the Total of the Price times the Quantity.
3. Select Row 2, copy it, and paste it to Rows 3 through 13.

4. Insert two new Rows above Row 1. Add the following labels:
A1=Start
A2=Increment

Add the following data:
B1=10
B2=2

5. Create a formula in Cell D4: =B1.

6. Create a formula in Cell D5 that adds the first day's quantity to the increment in Cell B2. Select Cell D5 and create an Absolute cell reference. Autofill the formula to all of the rows that have dates.

7. Rename the spreadsheet to "Budgie." Make a copy of the Budgie spreadsheet and name it Expert.

Change the Product in cell B4 to Expert. Autofill it down to B6 (Change all of the Budgies to Expert)
Change the Price in cell C4 to $450.00. Autofill it down to C6
Change the Start in B1=5
Change in Increment in B2=3

Keep going...Page 2

Advanced Excel Skill Test, continued

8. Make a copy of the Budgie spreadsheet and name it Summary.
Delete Columns C and D
Change the Product in Cell B4=All Computers

Create an equation in Cell C4 that adds the Total from the Budgie spreadsheet and the Total from the Expert Spreadsheet.

9. Start a new spreadsheet in this workbook.
Create the following labels:
Enter the Labels
In Cell A1 type: Present Value
In Cell A2 type: Interest
In Cell A3 type: Months
In Cell A4 type: Payment

In Cell B1=$20,000
Cell B2=4%
Cell B3=48

10. Select Cell B4 and use the Function Wizard (fX) to calculate the Payment using the PMT function. Remember, the Rate (Cell B2) is divided by 12 to get a monthly payment.

11. Select Cell B4 and Goal seek to get the payment under $400 by changing the number of payments in Cell B3. Remember the payment in the Goal Seek is a NEGATIVE number.

12. Create a Best Case and a Worst Case scenario for the car payment.
The Best Case changes the Present Value to $20,000 and the number of payments to 48.
The Worst Case changes the Present Value to $16,000 and the number of payments to 60.

13. Create a new spreadsheet in this workbook.
Add the Label: Sales Rep, Total Sold, Sales Goals and Bonus.
Add the names of three Sales reps
Add the amount they sold: $1,000, $2,500, and $4,600.

14. Create a Lookup table with two columns: Sales Goals and Bonus.
The Sales Goals is formatted in currency.
The Bonus is formatted in percent.
The Sales Goals are $500, $1,000, $2,500, and $4,000.
The Bonuses are 5%, 10%, 15% and 20% of the Total Sold.

15. Calculate each Sales Rep's Bonus.

16. Save the file as Your Name Excel Advanced Bonus.
Please submit the Advanced Excel Skill Test to your instructor.

Advanced Microsoft Excel 2013: Glossary

Microsoft Office Specialist (MOS): The Advanced Guide to Microsoft Excel 2013

AutoFill— function that fills data, usually in a series such as predefined increments or months *pg.169*

Banded rows— alternating color or shading of rows to make reading easier *pg.22*

Combo box—a drop-down list of options created using the form controls *pg.187*

Comment—little notes added to a spreadsheet in Excel that are indicated by a mark in the corner of the cell and out of sight until selected *pg.215*

Conditional formatting—the color or icon displayed depends on whether the cell values match certain criteria *pg.30*

Data validation—tool that compares the user input for match with predefined settings and supplies alerts for incorrect input. Also can be used to create drop-down lists *pg.171*

Digital signature—digital coding that is intended to validate the integrity of a filea single command that represents a set or sequence of commandsa single command that represents a set or sequence of commands *pg.233*



Document Inspector—allows user to review the document for personal or sensitive information before sharing*pg.226*

Drop down list—a list of options that opens when clicked, usually opening down. In Excel, it is created using data validation *pg.175*

Goal Seek— a what-if analysis tool that allows a user to find the input value necessary to achieve a desired result *pg.68*

Grand total—a total for all subgroups and subtotals *pg.106*

Headers—material separate from the document contents that appears at the top of the page *pg.14*

Macros— a single command that represents a set or sequence of commands *pg.247*

Object— any item other than text used in a file, such as a shape, picture, Clip Art, etc *pg.139*

Pivot Chart—chart created from the reconfigured data summarized in a Pivot Chart*pg.123*

Pivot Table—a tool that allows for summary and analysis of large data sets by reconfiguring (ie, pivoting) the data, often used for summary reports *pg.87*

Quick Access Toolbar—customizable toolbar at the top of Microsoft Word *pg.220*

Range— a group of cells *pg.21*

Slicers—filters for Pivot Table data *pg.147*

Styles— collection of preset formatting to be applied to text or objects *pg.24*

Subtotal—a total for a given section or category that is later included in a Grand Total *pg.56*

Table properties—includes name, range, and other information about the table *pg.41*

Title bar—the bar at the top of a program that includes the program name and, if applicable, the current file name *pg.13*

Track Changes— when enabled, marks all additions, deletions, and formatting made to the text. Also allows reversion to original text *pg.211*

Trust Center—contains privacy and security settings for that Microsoft Office program *pg.274*

What If Scenario—a prediction tool that uses the data in the spreadsheet without making permanent changes to the original data *pg.71*

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