

# ***PivotTables and PivotCharts***

## ***Course Description***

A PivotTable is a unique type of table which can dynamically display data unlike an ordinary spread sheet. The data in a PivotTable can “pivot” from row to column and switch back again in a few easy clicks of the mouse. This is where the name PivotTable comes from.

A PivotChart is created based on a PivotTable and is a graphical representation. The axes on the PivotChart can switch places like the rows and columns of a PivotTable.

- Objectives***
- **Create a PivotTable**
  - **PivotTable Layout Options**
  - **Formatting a PivotTable**
  - **PivotTable Styles**
  - **Using Filter and Sort**
  - **PivotTable Controls**
  - **Summarizing Data**
  - **Group Items**
  - **Link to a PivotTable**
  - **Bring in data from an Outside Source**
  - **Create a PivotChart**

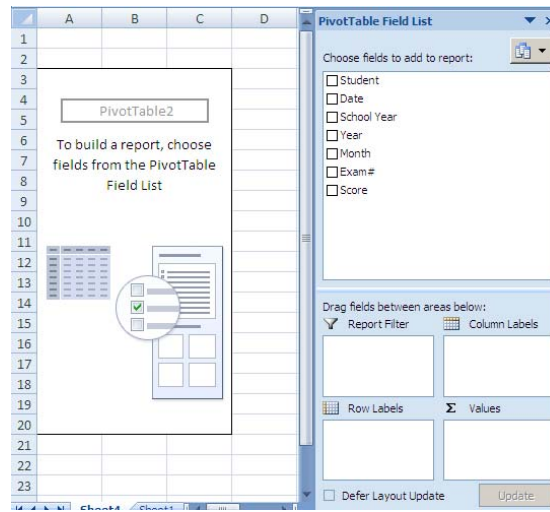
## Create a PivotTable

Before creating a PivotTable or PivotChart, make sure the data is in a well organized list. The columns should contain labels with only one specific type of data in each column. Make sure there are no blank rows and no summary information or formulas in the list.

### Create a PivotTable

1. Open the data which will be displayed in the PivotTable.
  2. Click a cell within the data.
  3. Choose the **Insert** tab.
  4. Click the **PivotTable** button in the Tables group.
  5. Verify the data source is correct in the Table/Range field.
  6. Make sure **New Worksheet** is chosen.
  7. Click **OK**.
  8. Drag the fields to the correct location.
- When a PivotTable is created, put it into a new worksheet so that the data and the PivotTable do not collide.
  - After a PivotTable is created, it can be renamed using the Options contextual tab and typing a new name in the PivotTable Name box.
  - If the data is already in a table format before creating the PivotTable, any future updates to the table of data will be reflected in the PivotTable.
  - Also note if the data is in a table format, a PivotTable can be created by clicking the Design tab from the Table Tools context tab and choosing Summarize with PivotTable from the Tools group.
  - When adding data to the table, make sure to use the Refresh button to refresh the PivotTable.

As a PivotTable is being created, it may look a little intimidating. Don't panic, it is not as hard as it looks. Think of the Row Labels as the rows and the Column Labels as the columns of the PivotTable. The Values area holds the pieces of data which will be summarized and the Report Filter area is used to filter out specific information.



- Click a check box next to a field name to have it show on the PivotTable. Excel 2007 automatically assigns it to an area.
- When dragging a field to an area, a blue positioning line will appear to show where to drop the field.
- Fields can be placed within the Report Filter, Column Labels, Row Labels, or Values area.
- Depending on what fields are put where, determines how the data is displayed in the PivotTable.
- Data remains the same information only the perspective changes when it is pivoted.
- If the PivotTable Field List task pane is not displayed, click in any of the cells of the PivotTable and it will pop up.
- Another way to redisplay the PivotTable Field List task pane is to click on the Options tab from the PivotTable Tools context tab and click PivotTable Field List from the Show/Hide group.

# PivotTable Layout Options

There are three layout types to choose from after a PivotTable is created. The first layout is the Compact Layout and it is used to minimize the amount of space needed to display the PivotTable. The second is the Outline Layout and it is reminiscent of the classic PivotTable style in versions prior to Office 2007. The last layout is the Tabular Layout which displays a traditional table format.

## Change Layout of PivotTable

1. Click the **Design** tab from the PivotTable Tools context tab.
2. Choose **Report Layout** from the Layout group.
3. Select the type of layout.

### Compact

Row Labels	Sum of Score
Austin Taylor	649
06-07	333
07-08	316
Donna Taylor	660
06-07	330
07-08	330
Rod Taylor	650
06-07	331
07-08	319
<b>Grand Total</b>	<b>1959</b>

### Outline

Student	School Year	Sum of Score
Austin Taylor		649
	06-07	333
	07-08	316
Donna Taylor		660
	06-07	330
	07-08	330
Rod Taylor		650
	06-07	331
	07-08	319
<b>Grand Total</b>		<b>1959</b>

### Tabular

Student	School Year	Sum of Score
Austin Taylor	06-07	333
	07-08	316
<b>Austin Taylor Total</b>		<b>649</b>
Donna Taylor	06-07	330
	07-08	330
<b>Donna Taylor Total</b>		<b>660</b>
Rod Taylor	06-07	331
	07-08	319
<b>Rod Taylor Total</b>		<b>650</b>
<b>Grand Total</b>		<b>1959</b>

## **Formatting a PivotTable and PivotTable Styles**

Like other tables you have worked with, you can apply various formats and styles to a PivotTable. Formats can range anywhere from changing the font style to applying conditional formats.

Conditional Formatting is applied to data based on what the range is of the data in the selected cells. Based on the data varying colors or icons are displayed in the cells.

### **Apply a Number Format**

1. Select the cell(s) in the PivotTable.
2. Click the **Home** tab.
3. Click the dialog box launcher from the Number group.
4. Select the format to use.
5. Click **OK**.

### **Apply a Conditional Format**

1. Select the cell(s) in the PivotTable.
2. Click the **Home** tab.
3. Choose **Conditional Formatting** from the Styles group.
4. Use the desired conditional format.

### **PivotTable Style Options group**

1. Select the cell(s) in the PivotTable.
2. Click the **Design** tab.
3. Check the boxes next to the options in the PivotTable Style Options group which apply.
  - Row Headers
  - Column Headers
  - Banded Rows
  - Banded Columns

### **Change the PivotTable Style**

1. Select the cell(s) in the PivotTable.
2. Click the **Design** tab.
3. Choose a style from the PivotTable Styles group.

## Using Filter and Sort

Another feature of a PivotTable is the ability to manipulate the data to show the information exactly the way it needs to be presented. Using the filter or sort options are a couple of ways to do this.

### Using the Filter or Sort option

1. Click the field's header in the PivotTable Field List task pane.
2. Click the down arrow that appears.
3. Choose the Sorting or Filtering options.

#### Sort Options

- Sort A to Z
- Sort Z to A
- More Sort Options

#### Filter Options

- Label Filters
- Values Filters
- Select All

4. Click **OK**.

### Using the Report Filter Area

1. From the PivotTable Field List task pane, drag a field to the Report Filter area.
  - A new area is added above the body of the PivotTable.
2. Click the down arrow next to the area which was added to the PivotTable.
  - Click the check box next to Select Multiple Items to enable the ability to choose more than one item from the list.
3. Select the item(s).
4. Click **OK**.

## Group Items

As a PivotTable is created, Excel 2007 automatically groups the various pieces together based on field selection and placement. If items need to be grouped further with totals, it takes only a few easy steps to accomplish the task at hand.

### Group Items

1. Select the items to group.
2. Click the **Options** tab from the PivotTable Tools context tab.
3. Choose **Group Selection** from the Group group.

### Group Items on Date or Time Range

1. Select the items to group.
2. Click the **Options** tab from the PivotTable Tools context tab.
3. Choose **Group Field** from the Group group.
4. Choose the **By** options using the ctrl key to select more than one.

## PivotTable Controls

When a PivotTable has many levels to its outline, a minus sign or a plus sign will appear next to the row or column fields. Click the minus sign to hide the detail of that particular piece of the PivotTable. Click the plus sign to show the detail of that particular piece of the PivotTable.

### Hiding Outline Controls

1. Select a cell in the PivotTable.
2. Click the **Options** tab under PivotTable Tools.
3. Choose the **+/- Buttons** in the Show/Hide group.

### Hiding Row Labels and Column Labels

1. Select a cell in the PivotTable.
2. Click the **Options** tab under PivotTable Tools.
3. Click **Field Headers** in the Show/Hide group.
  - Removing these also removes the associated filter controls.

## Summarizing Data

When a field is chosen and it is numeric in nature, then Excel 2007 assumes it needs to be calculated in some way. This assumption is not always correct or the wrong function is used. Keep in mind that nothing is set in stone so changes can be made.

### Change Summary of Data

1. Click the down arrow by the value field.
2. Choose **Value Field Settings**.
3. Select a calculation to summarize by.
4. Select a calculation from the Show values as tab.
5. Click **OK**.

*Summary Data can also be changed by right-clicking on a cell in a PivotTable and choosing Summarize Data By.*

- A grand total will automatically be given for each calculated row or column, by clicking the Grand Totals button from the Layout group under the Design tab, you can choose which grand totals will be displayed.
- To use a second or subsequent function with a field that's already in the values area of your PivotTable, drag another copy of the field from the PivotTable Field List window into the Values box. Make sure to change the summary option.
- The name of a values field can be changed by clicking the down arrow, choosing Value Field Settings and typing a name in the Custom Name box.
- A calculated field is a new field created from calculations performed on existing fields.

### Create a calculated field

1. Select a cell in the PivotTable.
2. Click the **Options** tab under the PivotTable Tools context tab.
3. Choose **Formulas** in the Tools group.
4. Select **Calculated Field**.
5. Type a name for the field in the Name box.
6. Type a Formula in the Formula box.
7. Click **Add**.
8. Click **OK**.

### Display List of calculated Fields

1. Click the **Options** tab from the PivotTable Tools context tab.
2. From the Tools group choose **Formulas**.
3. Select **List Formulas**.

### How to Display Empty or Error Cells

1. Right-click any cell in the PivotTable.
2. Click **PivotTable Options**.
3. Choose the **Layout & Format** tab.
4. Select the **For empty cells show** or **For error values show** check box.
5. Type the text or value in the text box which will be displayed in the cell.



## Linking to a PivotTable

Equations can be created to reference data in a PivotTable.

**=GETPIVOTDATA**

### Create a link to a cell in the PivotTable

1. Click the cell where the result will go.
2. Type an = sign.
3. Click the cell in the PivotTable with the data you want linked.

## Create a PivotChart

A PivotChart is a graphical representation of a PivotTable and can be created from a PivotTable or from a list of data. When a PivotChart is created from a list of data, the system automatically produces a PivotTable first and then creates the PivotChart.

### Create a PivotChart from a PivotTable

1. Select a cell in the PivotTable.
2. Click the **Options** tab from the PivotTables Tools context tab.
3. Click the **PivotChart** button from the Tools group.
4. Select a chart type.
5. Click **OK**.

### Create a PivotChart from a List of Data

1. Select a cell in the data.
2. Click the **Insert** tab.
3. Click the down arrow under the PivotTable button.
4. Select **PivotChart**.
5. Make sure the table/range is correct.
6. Choose **New Worksheet**.
7. Click **OK**.
8. Place fields.

## ***Notes***