

**Princeton University**



**Office of Information Technology**

*Access 2007*

**Report Design**

Organizing Report Data.....	3
Adding and Removing Fields.....	3
Using Report Sections.....	7
Changing Section Properties.....	9
Grouping and Sorting in a Report.....	9
Changing Group Properties.....	13
Using Calculated Controls in a Report.....	15
Formatting Reports.....	16
Formatting Gridlines.....	16
Modifying the Font.....	17
Adding Logos.....	17
Changing the Layout.....	18
Using AutoFormat.....	19
Common Report Tasks.....	22
Adding a Photo.....	22
Adjusting Page Properties.....	23
Adding Headers and Footers.....	25
Adding Page Numbers.....	26
Using the Label Wizard.....	26

## Organizing Report Data

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As you proceed with your exploration of Access, there will likely come a time where you would like to present your data in a formal way. The query functionality provided by Access lets you extract the data you need, but is only capable of displaying data in Datasheet view. It might be functional, but not necessarily practical for your intended audience. Therefore, you can use a report to display data retrieved from a query.

Reports are also used as a formal way to display the data contained in a table.

### *Adding and Removing Fields*

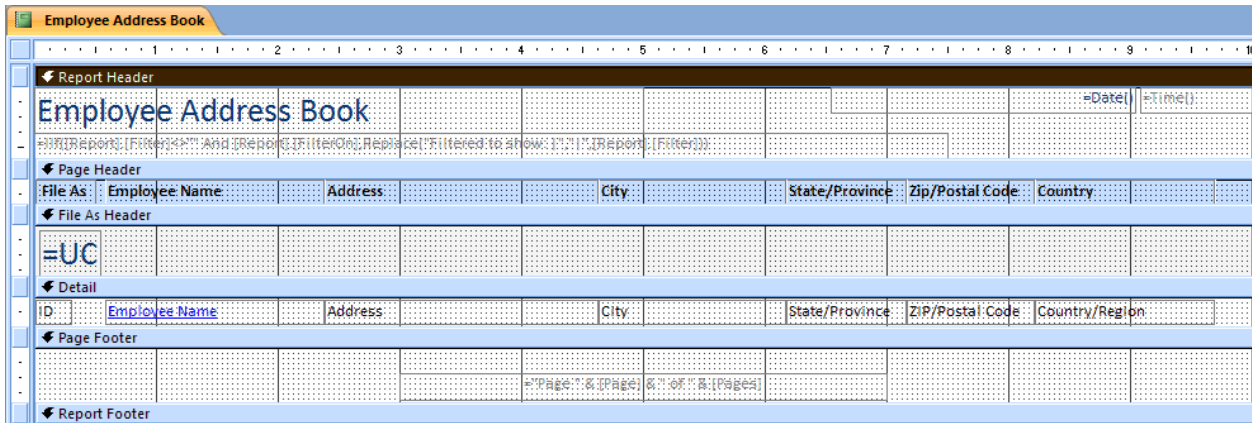
Creating reports using Access is very similar to creating forms. If you used the report Wizard, Access prompted you to select fields from different tables or queries in your database. If you first opened a table or query and clicked the Report command (in the Create ribbon), Access automatically generated a report for you containing all objects found in the parent object.

No matter which method you used to create a report, you can use Layout and Design view to modify the report. Let's take a look at the Employee Address Book report:

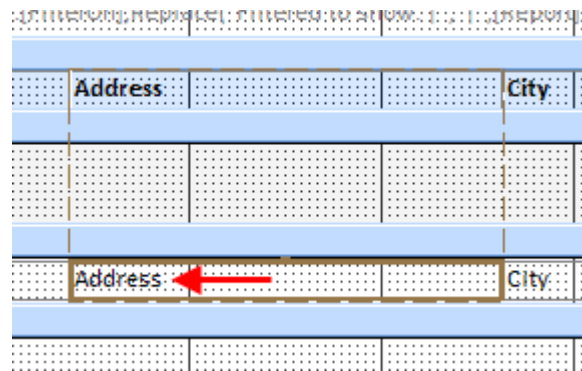


File As	Employee Name	Address	City	State/Province	Zip/Postal Code	Country
<b>C</b>						
	<a href="#">Andrew Cencini</a>	123 Any Street	Any City	WA	99999	USA
<b>F</b>						
	<a href="#">Nancy Freehafer</a>	123 Any Street	Any City	WA	99999	USA

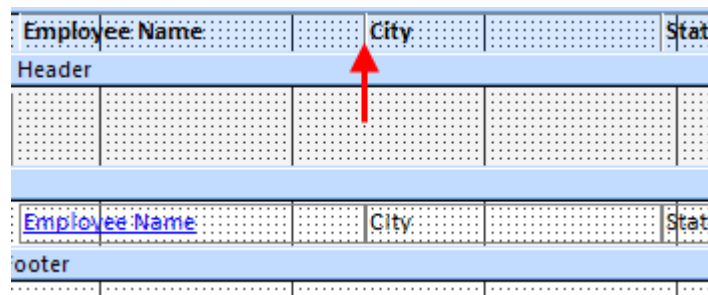
Now let's look at the same report in Design view:



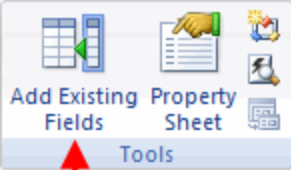
The data contained in this report is in the Detail section. It contains fields from the Employees table that are useful to the application of the report. Now imagine you want to exchange the Address field for the E-mail Address field. While in Design view, click the Address field in the Detail section:



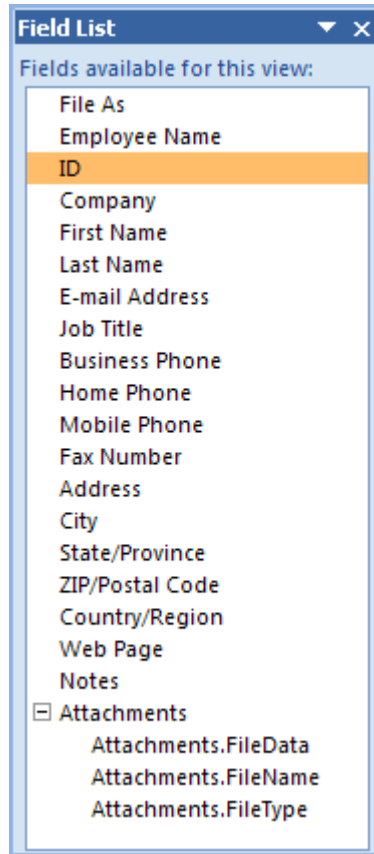
The Address field is the actual field that is selected, but notice how the Address field label is also highlighted to show the two are linked together. To remove the field, press Delete on your keyboard. The rest of the fields all shift to the left to fill in the hole left from the Address field:



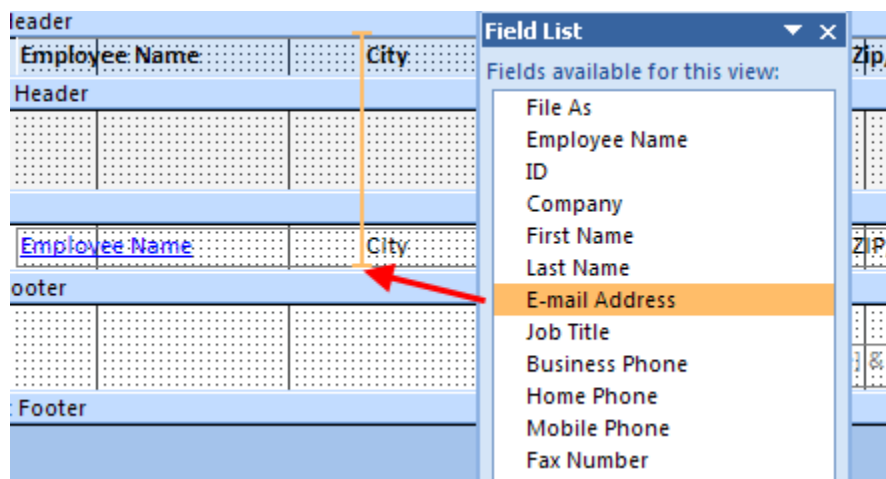
Now let's add the E-mail Address field. Click the Add Existing Fields command in the Tools section of the Report Tools - Design ribbon:



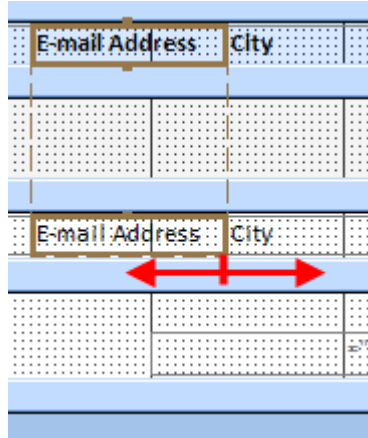
This will open the Field List pane. It contains all of the available fields from the object(s) that was used to create the report; in this case, the Employees table:



To add the E-mail Address field, simply click and drag the E-mail Address field from the Field List pane to the section of the report where you want to add the field. In this case, add the field between the Employee Name and City field. Access shows a vertical orange line in between the fields to indicate that if you release the mouse button, this is where the field will be placed:

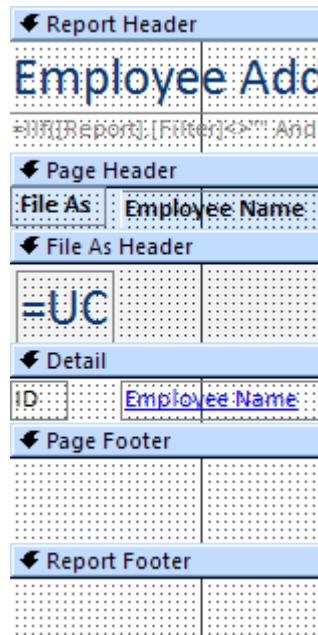


Once the field has been placed, you can drag the size of the field larger or smaller to accommodate the data contained inside. Place your mouse on the brown border of the E-mail Address field and drag to the left or right:



### Using Report Sections

A report has three standard sections: Page Header, Detail, and Page Footer. Reports, like forms, can also have Report Headers and Report Footers. Let's examine the Employees Address Book report from the previous section of this lesson. This report, when viewed in Design view, contains all of these sections, as well as an additional section which we will explore later in this lesson:

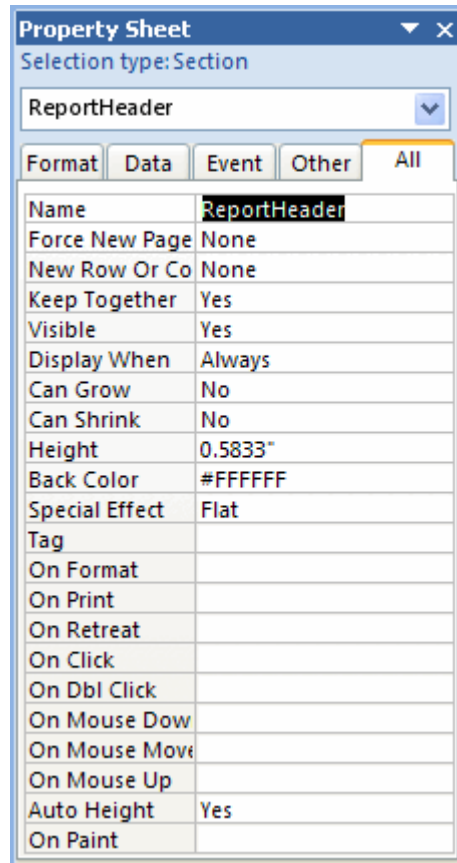


<b>Report Header</b>	Objects in this section will be visible at the very beginning of a report. You can use this like a title page.
<b>Page Header</b>	Objects that will appear at the top of every page, and under the Report Footer of the first page. In this example, the field names constitutes the Page Header
<b>Detail</b>	Objects that appear in the body of the report. This is usually where the bulk of the information from your table/report will be visible.
<b>Page Footer</b>	Objects that will appear at the bottom of every page. In the above example, the page numbers appear at the bottom.
<b>Report Footer</b>	Objects that appear at the very bottom of the report. You may wish to put copyright notification or a special thanks page at the end of your report by using the Report Footer section.

You might have noticed another section in the above example, the File As Header. This is not a standard header, but rather a customized level of grouping. In this example, this report is used to group all employees by the first letter of their last name. We will explore categorization and grouping later in this lesson.

### ***Changing Section Properties***

As you have likely realized by now, just about everything in Access can be modified in some way. Report sections are no exception. Click any section title (the blue bar spanning the report) to select it and then click the Property Sheet command:

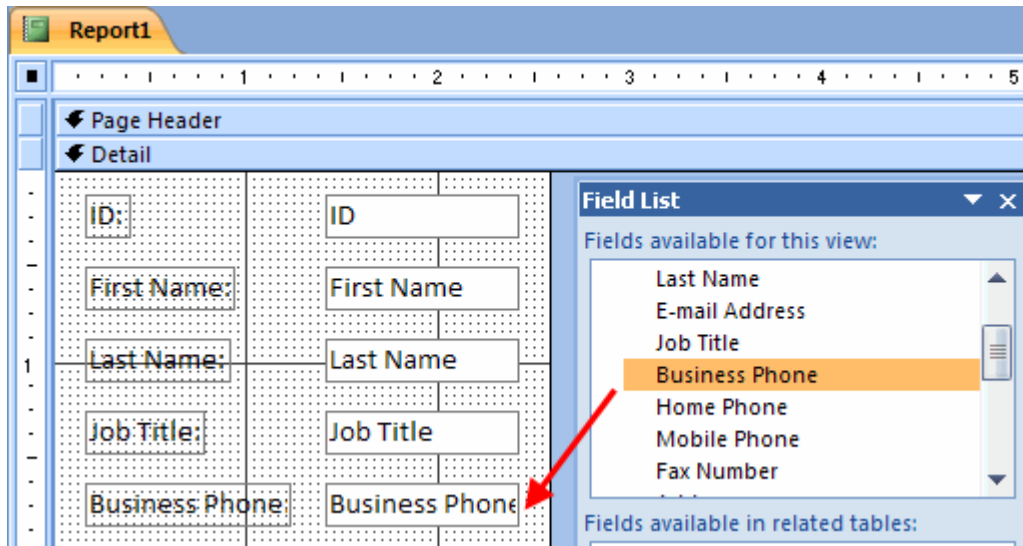


By nature, reports are primarily used to display data only. Therefore, there aren't as many properties to modify compared to other objects in Access. The properties of a report section are enough to modify the look and feel or allow the section to shrink or grow to accommodate its contents.

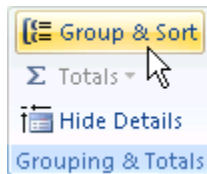
### ***Grouping and Sorting in a Report***

The Employees Address Book report contained an extra header that grouped all employees together in alphabetical order. The alphabetical listing also made a different header. We will now explore how to group certain records contained in a report together and explore how to make a customized report header later in this manual.

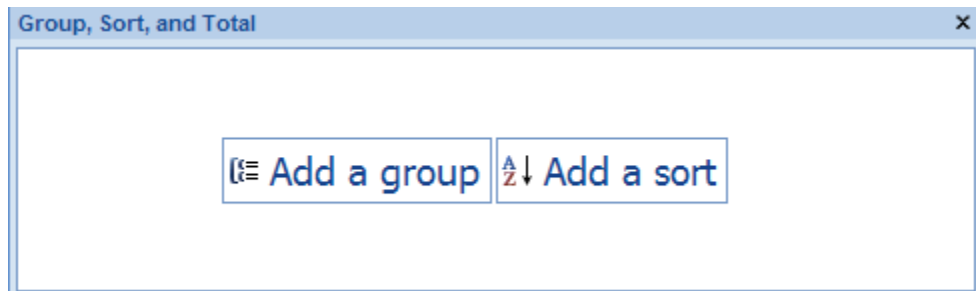
Consider the following simple report:



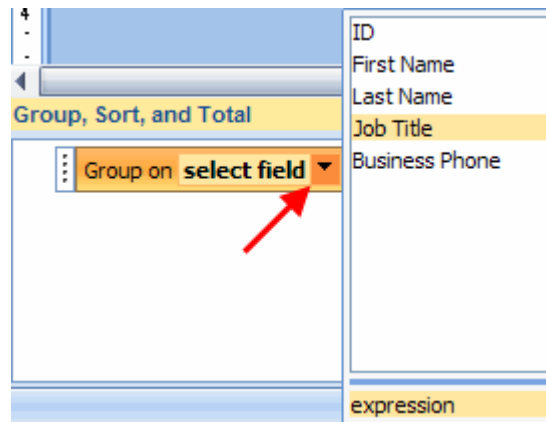
This report contains a listing of all customers in the Northwind sample database. Let's categorize the people in this report based on their job title. First, click the Group and Sort in the Grouping and Totals section of the Report Tools - Design ribbon:



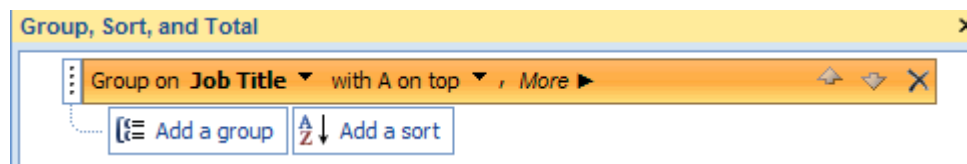
At the bottom of Design view, you will see the following Group, Sort, and Total section:



Click the Add a group button. Click the pull-down arrow beside Group on: and select the field you wish to use as the grouping control; Job Title in our example:



Once you have selected the field you want to use to group with, more options will appear to modify, including if you wish to sort alphabetically:



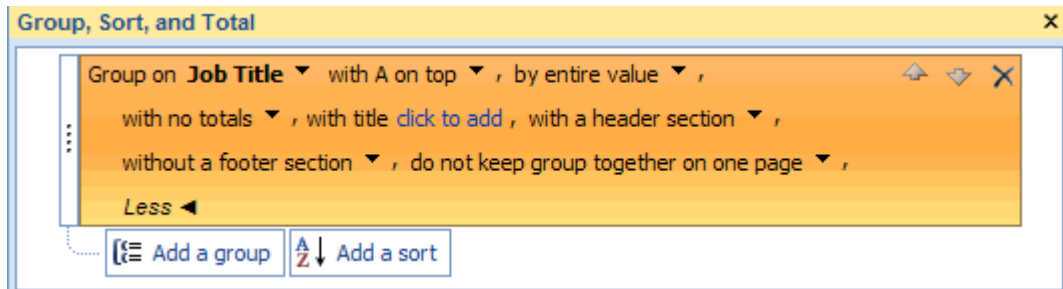
Now that the grouping is applied, switch back to Report view.

You will notice the records in the report have grouped themselves according to the Job Title of each customer:

Report1	
ID:	8
First Name:	Elizabeth
Last Name:	Andersen
Job Title:	Purchasing Rep ←
Business Phone:	(123)456-7890
ID:	13
First Name:	Andre
Last Name:	Ludick
Job Title:	Purchasing Rep ←
Business Phone:	(123)456-7890
ID:	16
First Name:	Daniel
Last Name:	Goldschmidt
Job Title:	Purchasing Rep ←
Business Phone:	(123)456-7890

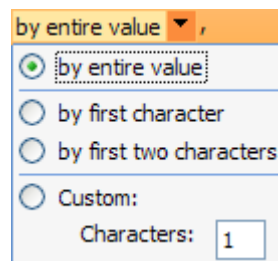
## Changing Group Properties

Click the More command on a group or sort in the Group, Sort, and Total section to see extra commands pertaining to the operation:

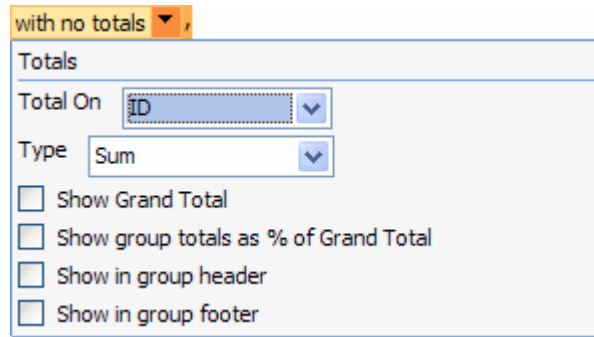


From left to right, the default options (and how they can be changed) are:

- Group On**                    The particular field that is being grouped.
- With A on Top**            Choose either ascending or descending order.
- By Entire Value**         You can choose to group or sort according to a certain number of characters. Use this to apply a custom search level.



- With No Totals**         If your table contains numeric data, you can apply totals. Choose the field contained in your report from the Total On combo box and the type of total (sum, count, min, max, avg). Results can be displayed as a fraction of a grand total and shown in the group header and/or footer.



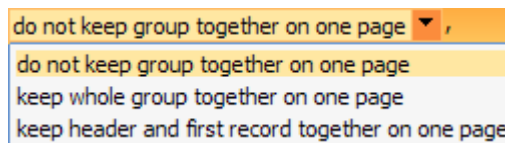
**Report Footer** Objects that appear at the very bottom of the report. You may wish to put copyright notification or a special thanks page at the end of your report by using the Report Footer section.

**With Title** Give the group or sort a name.

**With a Header Section** Add or remove a Header section to your report.

**Without a Footer Section** Add or remove a Footer section to your report.

**Do not Keep Group Together on One Page** This command forces Access to display grouped data together as one piece. For example, in some situations it may be very inconvenient to have to flip back and forth between two pages to see the entire group. These commands help prevent that from happening.



**Less** Collapses the commands down to a smaller group to save space.

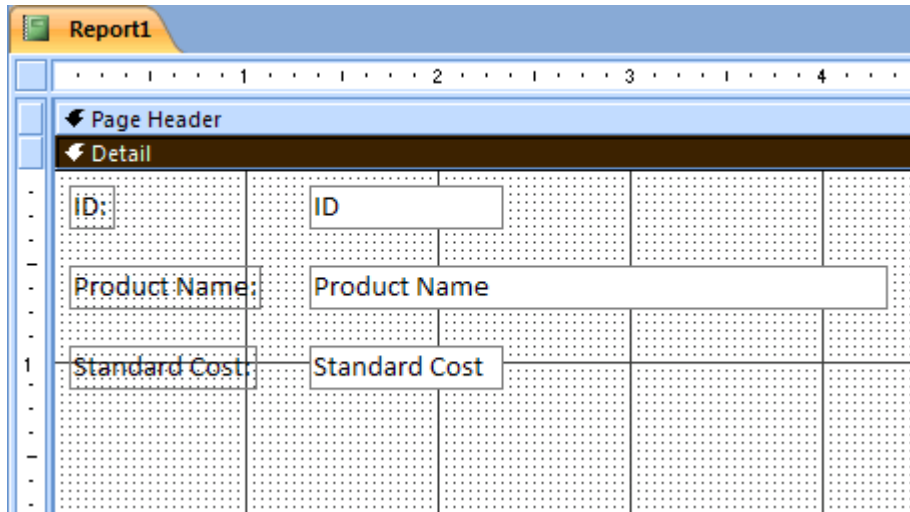
If your situation requires it, you can apply more than one grouping or sort order to your report. Simply click the “Add a group” or “Add a sort” buttons at the bottom of the Group, Sort, and Total section.

As you add more grouping and sort orders, you can adjust the order of each command applied to your report. Select a command, then click the up and down arrows on the right-hand side of the Group, Sort, and Total section. Or, click the X button to remove a selected group or sort command.

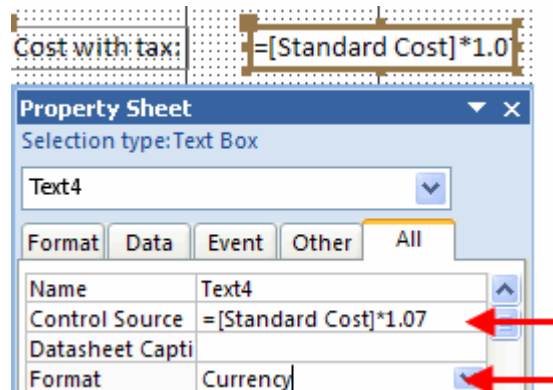



### Using Calculated Controls in a Report

Reports, like forms, can contain calculated controls. You will primarily use calculated controls to find subtotals and totals, though they can contain logical operations as well. Consider the following report about the products carried by Northwind Traders:



The Standard Cost is the cost paid by a retail customer. If you would like to see what the price would be with a 7% sales tax, you can use a calculated control to find the result. Create a new text box using the Report Tools - Design ribbon. Use the Property Sheet to modify the Control Source of the control:



Most of the calculated controls you will create in a report will be fairly simply arithmetic expressions. Should you need to create more complex expressions, use the Expression Builder by clicking  in the Control Source field. The one thing to remember when creating calculated controls is to make sure each control is given a meaningful name. You can modify the name of the control in the Other tab of the object properties.

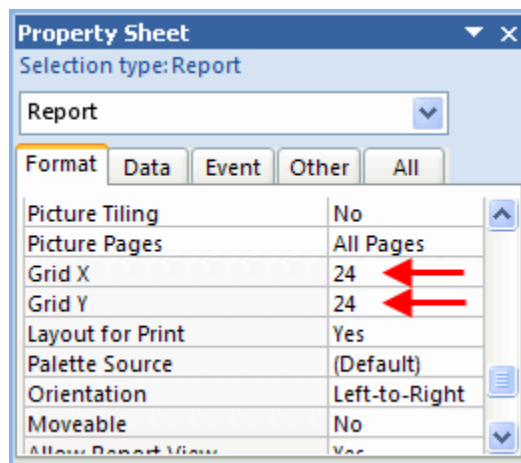
## Formatting Reports

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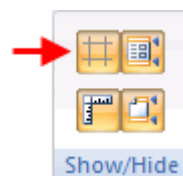
We have seen that building reports and forms is a pretty easy job with a little planning and care. Once you have decided what information you would like in the report and have added the elements, you can begin the task of making your report look nice.

### *Formatting Gridlines*

Gridlines are adjustable in reports by the same means as in forms. Double-click the report selector button in the upper-left hand of the report to open the Report Properties. The Format tab contains the Grid X and Grid Y properties:

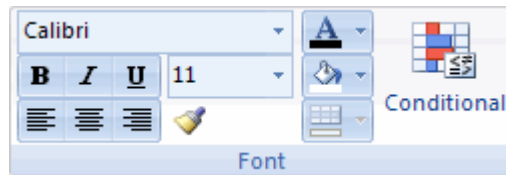


Enter a number from 1 to 64 to divide each square inch of the report into that many increments. If you would rather work without the gridlines, click the Gridlines command in the Show/Hide section of the Report Tools - Arrange ribbon:



### ***Modifying the Font***

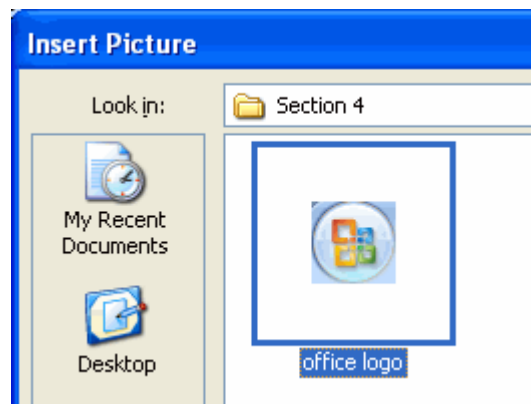
Modification of a font in a report is as simple as highlighting the control or object you want to format and then using the Font section of the Report Tools - Design or Home ribbon:



If you don't like the style of a control, simply change the control back to what it was or use the Undo Command (Ctrl + Z on your keyboard). Remember that you can use the Format Painter to change the look of many objects with a single click.

### ***Adding Logos***

While in Design or Layout view, use the Logo command in the Controls section to apply a logo to the top of your form. Access will prompt you to locate the image you want to use as a logo:



Any logo you apply will be placed in the Report Header by default. You can use the Label command to make a title to go alongside the logo if you wish:



## ***Changing the Layout***

Now that you have all elements you want in your report and looking the way you want, you can fine-tune the layout to meet your requirements. By using the gridlines and a good resolution, you can adjust the layout of components down to the nearest 64<sup>th</sup> of an inch. Once you have everything looking the way you like, you can adjust many background attributes of a report using the Property Sheet function.

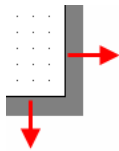
However you decide to style your report is up to you; after all, it is your report! But consider the following tips as you build your report:

### **Adjust the Grid Size**

This is more of a matter of preference, yet it is good to have even horizontal and vertical grid resolution. 8x8 is a good size to use because the rulers along the top and left side of the Design view window are divided in 1/8" portions. However, if you have an application requiring a grid 7x33, Access lets you pick whatever resolution works for you. You can also change the resolution at any time without moving the controls already in place.

### **Adjust the Canvas Size**

Maximizing the report Design view window will give you the best working experience when layout is concerned.



You can make any report section, such as a header or footer, as big as you like. Simply move your mouse to the section header, then click and drag up or down to increase or decrease the size. Move your mouse to the edge of the canvas to drag left or right, using the horizontal ruler as a guide.

### **Snap to Grid**

Snap to Grid is a feature already built into Access' Design view. It automatically aligns the upper-left corner of any control to the closest point on the grid.

Once a control is in place, click the large brown box in the upper left-hand corner of the control to move the control itself, or any of the smaller boxes on the other sides and corners to adjust the height and/or width of a control.

Lastly, Snap to Grid makes it very easy to align controls using the arrow keys on your keyboard. Each keystroke in any direction moves the control one unit of measurement defined by your grid size.

### **Group Selection and Moving**

At any point, you can select a number of controls and move them as a whole unit. Click in an empty space of the canvas to deselect any objects that might be selected. Click and drag a box around the objects, and then

click and drag the objects as a group. This technique is useful if you have already constructed some controls based on one grid resolution and then change to another grid resolution. Instead of moving each control again, select all of them at once and move them together.

### **Try, Try Again!**

If you make a formatting error that causes a large disruption in the layout of your controls, don't panic; you can undo the action and restore the controls to their previous state.

Press Ctrl + Z to undo a command. Access saves the last 20 commands, so if you made a mistake several clicks ago, you will likely be able to back out of your problem and try again.

### **Save Frequently**

Often when designing things, we get a bit too wrapped up in what we were doing and forget to save our changes. If the power should go out or if your computer becomes unresponsive, you will lose any changes since the last save or AutoSave.

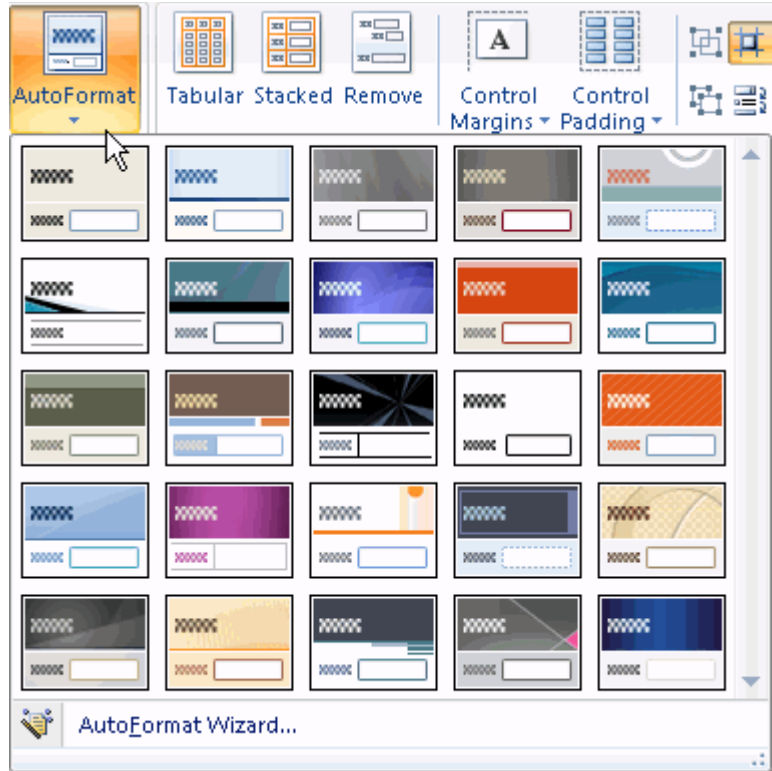
Remember that you can either backup the database before you perform a lot of operations or save a copy of a particular database object before you start working. Should you get in over your head, you can always pull out the backup and try again.

## ***Using AutoFormat***

Some people have a real knack for style and design, but often the look of a report becomes a low priority next to getting the actual report constructed. Fortunately, Access features an AutoFormat command that will format your report in one of two ways

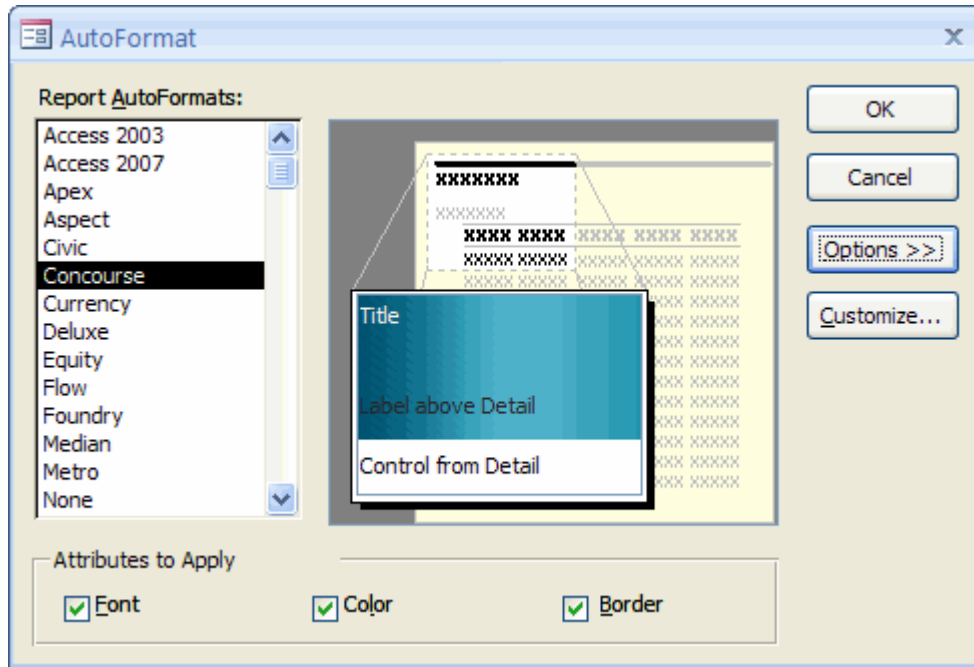
If you have chosen to build your report using the Wizard, you will be prompted to pick a style from one of the pre-formatted styles built into Access. Each level of header and footer as well as the style of each control stays consistent throughout.

If you have built your report manually, you can apply any of the pre-made formatting styles by clicking the AutoFormat command in the Report Tools - Arrange ribbon.

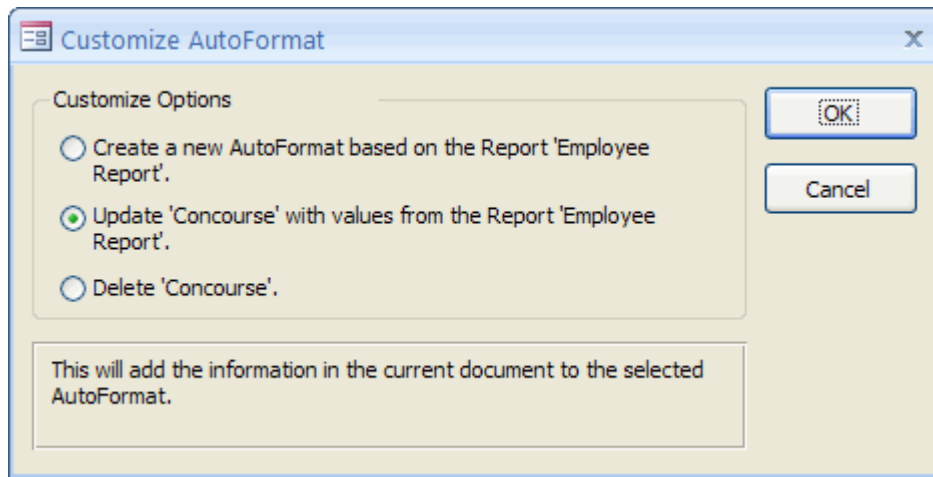


Select a theme from the pull-down menu. In addition to selecting a format, you can modify certain elements of an existing theme. From the AutoFormat pull-down menu, click AutoFormat Wizard.

Then, click the Options button to decide which elements to modify:



Then, click the Customize button to modify elements of the theme:



Choose an option and click OK, then adjust the elements as you see fit.

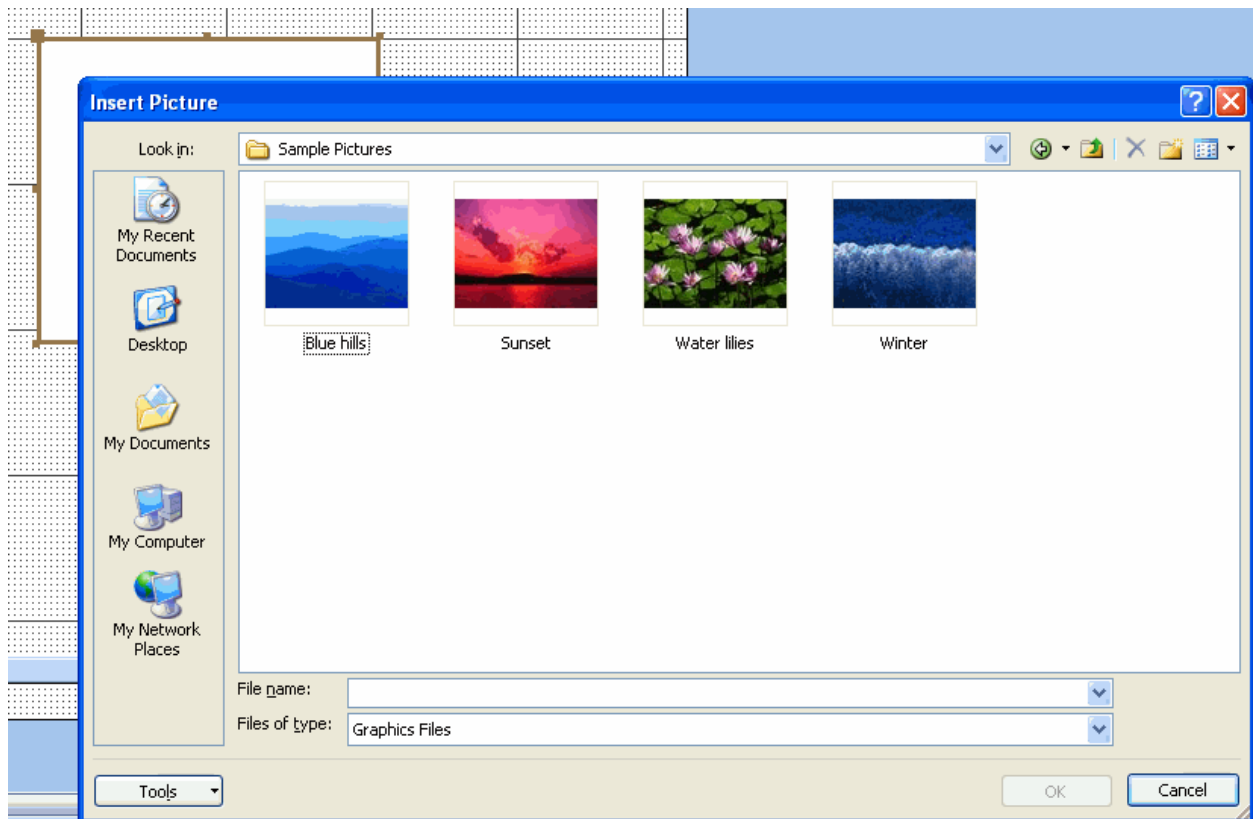
## Common Report Tasks

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As all the pieces of your report begin to come together, you can apply the formatting and ensure that the report gives you the information you need to know. Then your report will be ready to publish and print as handouts or catalogues. In the final lesson of this section, we will discuss how to give a report some extra flair to effectively present your product or data.

### *Adding a Photo*

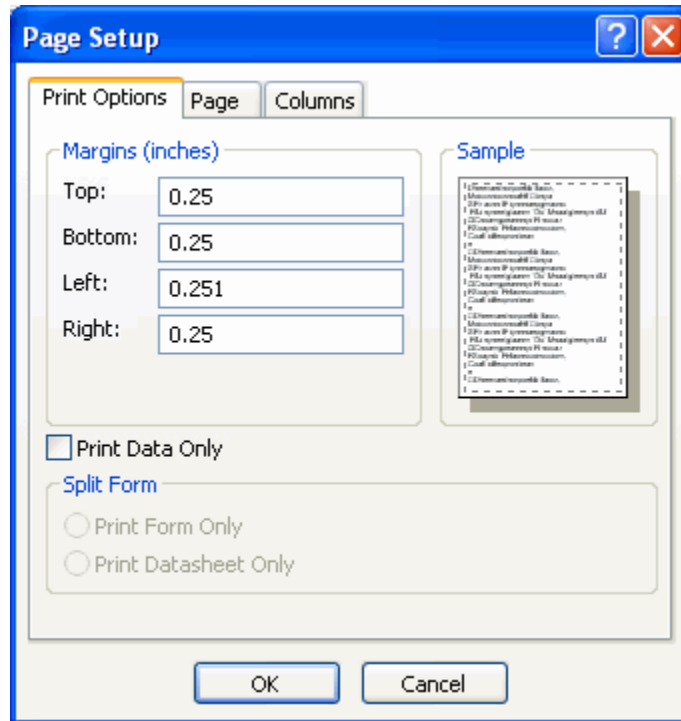
Adding a photo to a report is just like adding any other control to a report. To add a photo, click the Image command in the Report Tools - Design ribbon and then click and drag somewhere in the appropriate section you want the photo to appear:



Navigate your computer to find the picture file you want to insert into the report, and then click OK. The image will be inserted as a best fit into the area you specified.

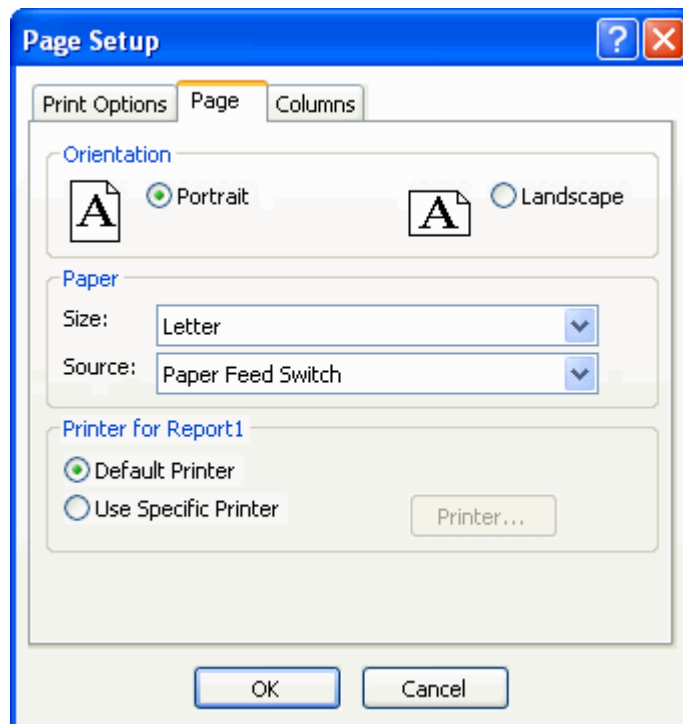
### ***Adjusting Page Properties***

Access 2007 features a number of page formatting options. Click the Report Tools - Page Setup tab to see the most common commands available for use. You can also click the Page Setup button to see extra commands:



**Print Options Tab** Adjust the size of the margins for your page. If you would prefer to print only the data and not any logos or pictures, click the Print Data Only check box.

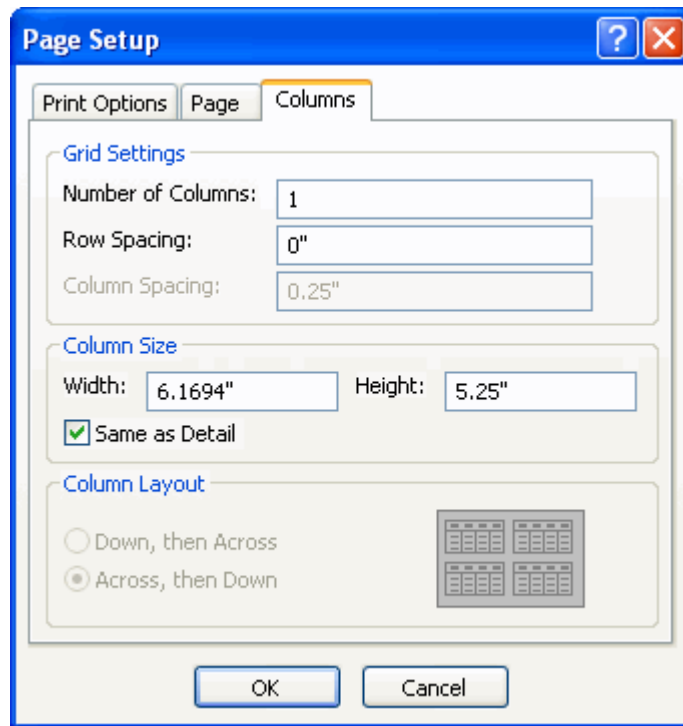
**Page Tab** The Page Tab allows you to adjust the page orientation (portrait or landscape) as well as the size of paper you can print with using your current printer.



**Columns Tab** The Columns tab is used if you want to print two or more pages of a report on one piece of paper. The number of columns, row spacing, and column spacing fields allow you to specify the dimensions between the multiple pages on your report.

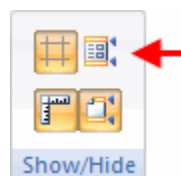
The column size fields specify how large you would like each page of the report to be on the printed page. You can also check the Same as Detail checkbox to make the printed size the same as the current dimensions of the Detail section.

Lastly, you can choose how the layout of the report pages will be ordered by choosing one of the radio buttons. (The Column Layout control group is only active when you have two or more columns.)



### ***Adding Headers and Footers***

If you build a report from scratch in Access, you won't see the Report Header or Footer right away. Click the Report Header/Footer command in the Show/Hide section of the Report Tools - Arrange ribbon:



Report Headers and Footers appear at the very beginning and end of the report, respectively. Report Headers can be used as title pages and footers can be used as acknowledgements or contact information that will be shown at the very end of the report.

If you don't need a certain report section, click and drag the bottom of the canvas or the top of another section up to the top of the above section. For example, if you want a report footer but no header, click and drag the Page Header up to meet the bottom of the Report Header. You

will still see the blue bar that spans the width of the report, but that section of the report will be empty.

### ***Adding Page Numbers***

If you have experimented with the Northwind sample database, you have likely noticed that some reports have page numbers at the bottom in the Page Footer. The page numbers are a type of calculated control; they are a text box with a formula in the Control Source property:

="Page " & [Page] & " of " & [Pages]

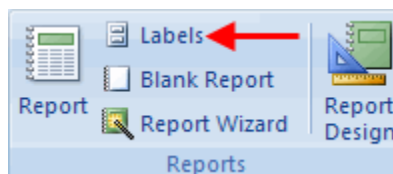
The text in between the quotations is shown on the page, and the combination of ampersands and [Page] references are values used by Access to denote the page numbers of the report.

You can add page numbers in any section of the report you like. You can also apply font style and color changes as you would to any other control.

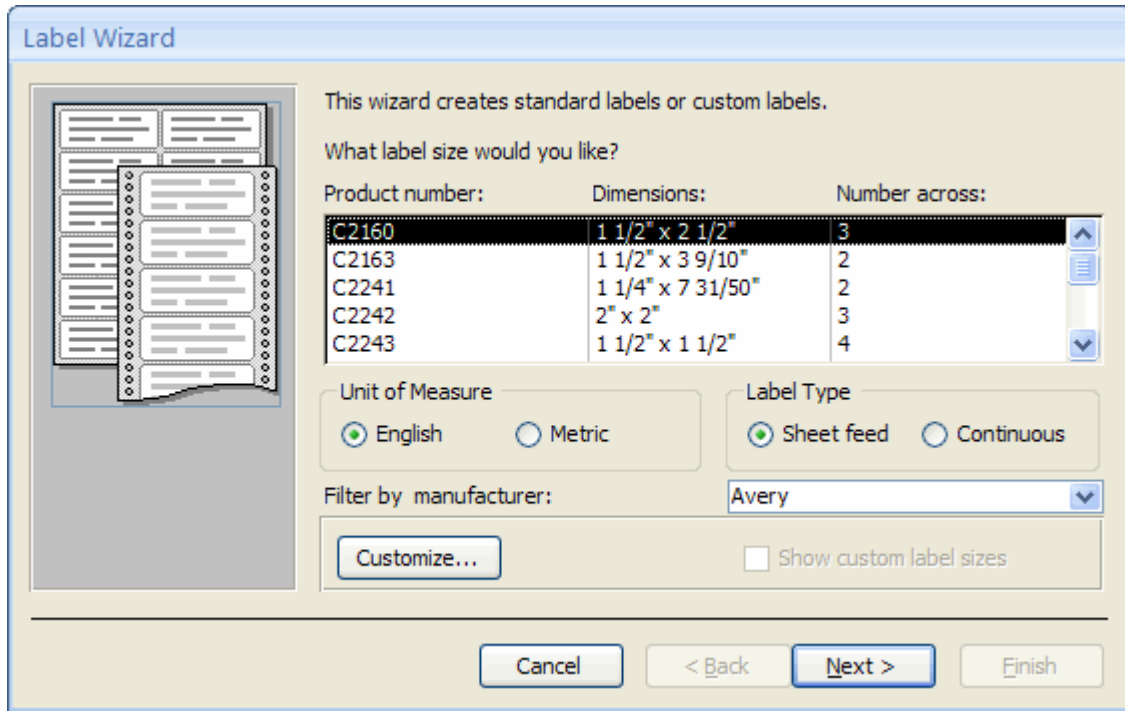
### ***Using the Label Wizard***

One of the nice things about databases on computer is that they allow you quick access to a lot of data in a hurry. If you were the marketing manager of Northwind and wanted to send a catalogue out to all of your customers, it would take you hours to type or copy and paste the addresses into a word processing document for printing onto labels or envelopes.

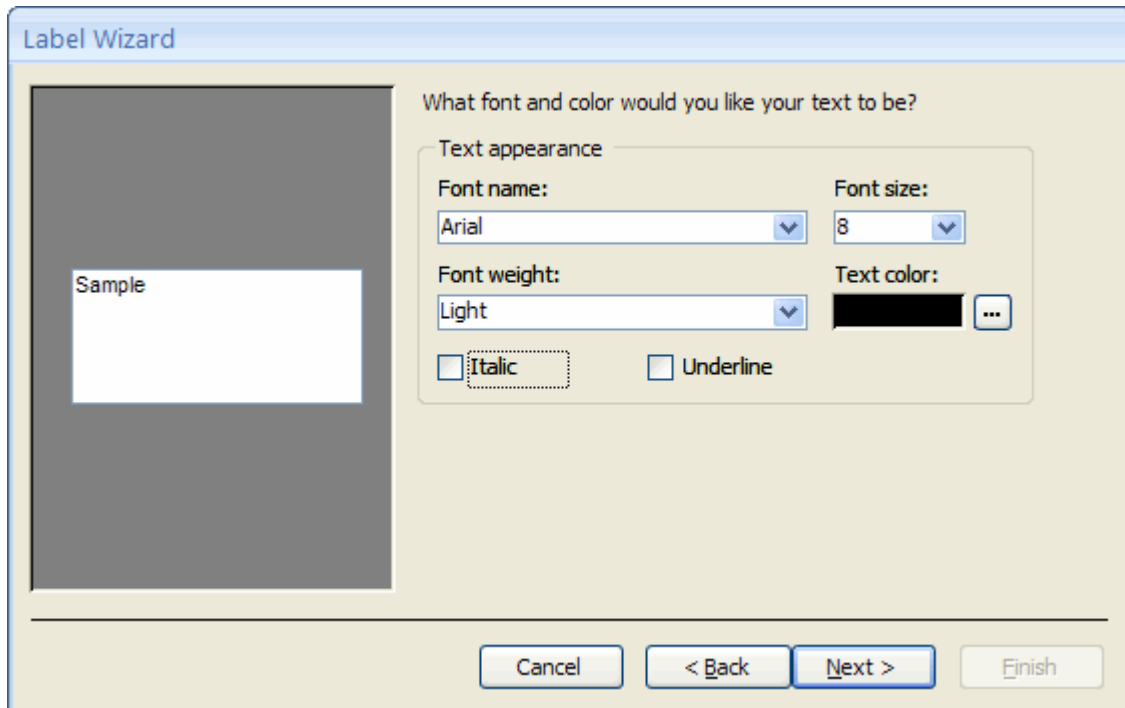
Fortunately, you don't have to do any of that should you need to create a mailing list. Access has a handy Label Wizard built right in! Select a query or table in the Navigation Pane you want to use as the source data for your labels. Click the Labels command in the Reports section of the Create ribbon:



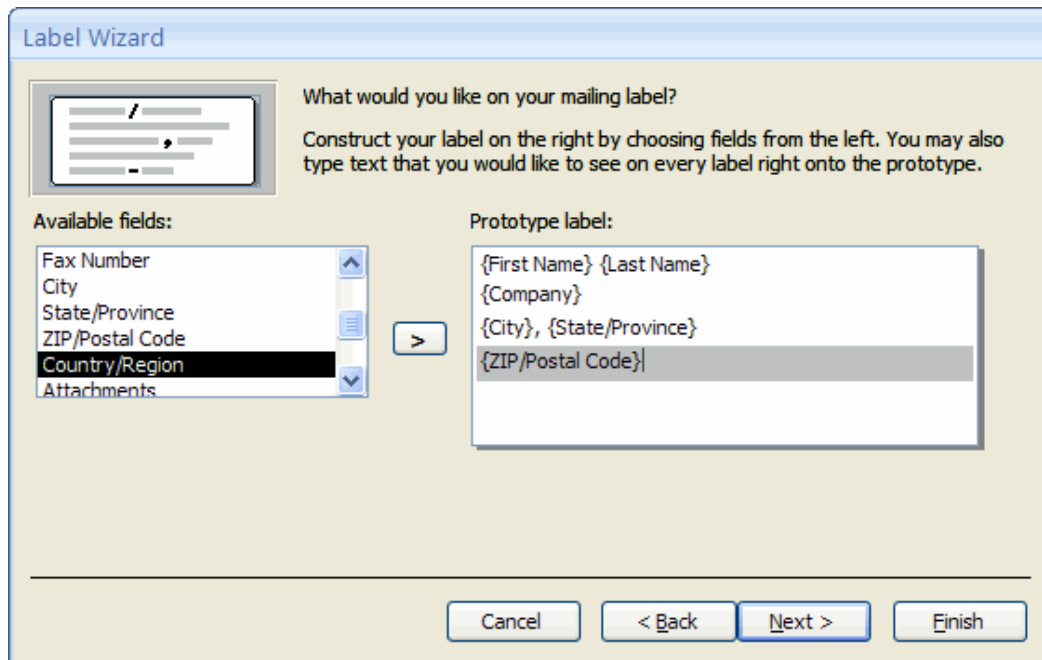
The first step of the Label Wizard asks you what sort of labels you want to use:



There are a wide number of manufacturers, shapes, and sizes to suit your needs. You can also enter custom dimensions by clicking the Customize button. The next step of the Wizard asks you to design the text that the Wizard will use to create the labels:

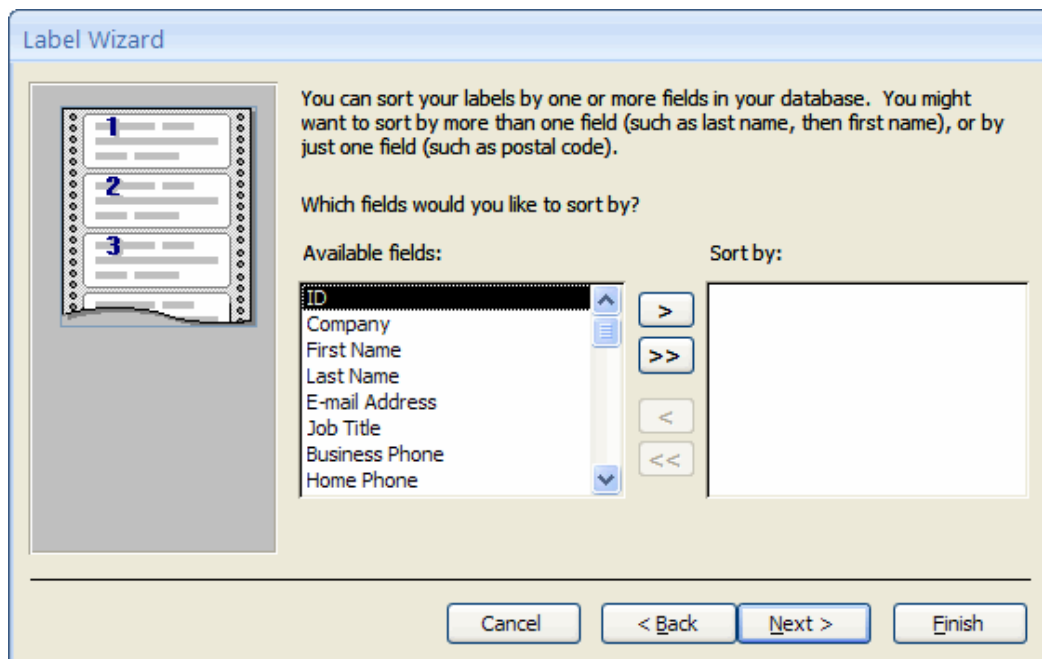


The next stage of the Wizard has you construct the label on the screen:

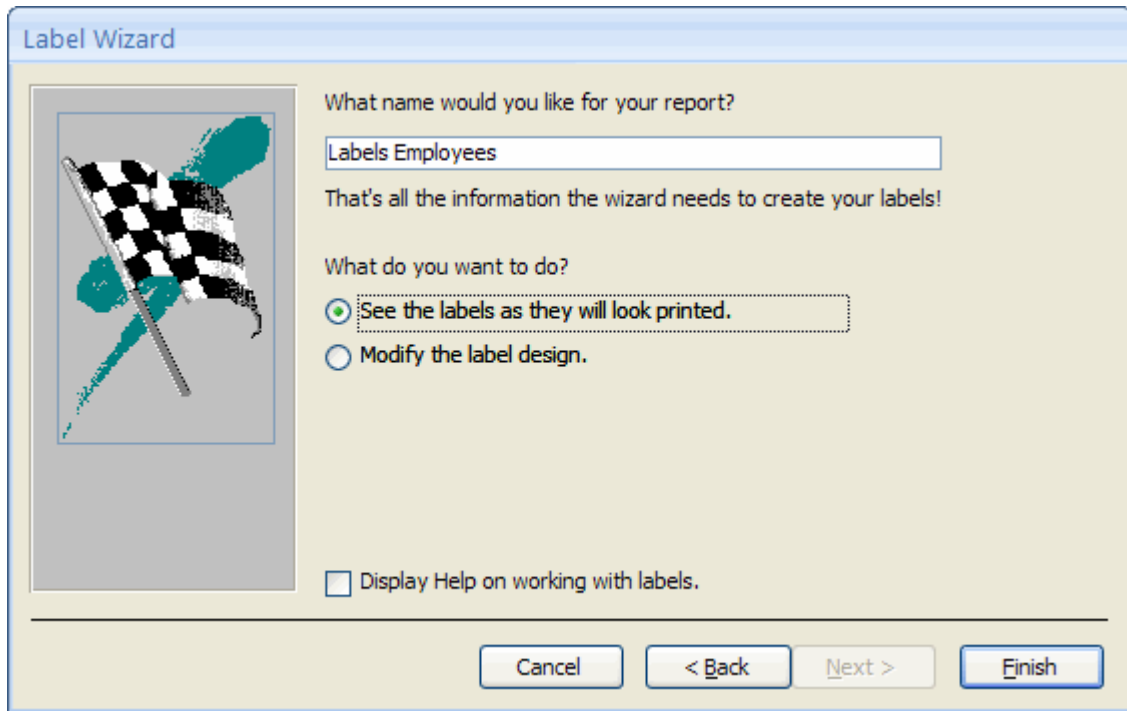


To build the label, click the one of the available fields and click the (>) button to transfer the field to the label. The currently active row is highlighted in grey. Click anywhere inside the prototype label diagram to make that row of text become active. At any point, you can also type any special characters you like, such as spaces, colons, or commas.

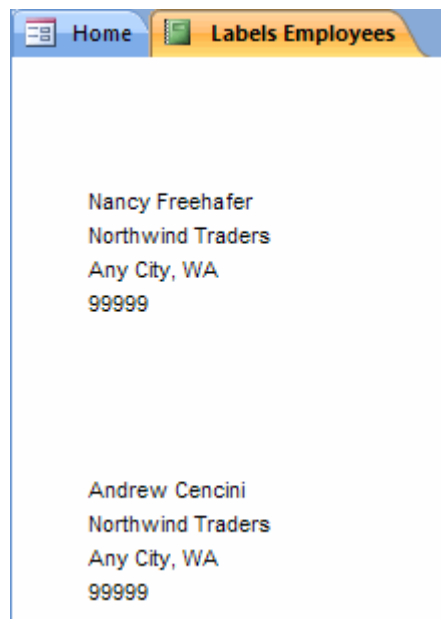
The next step of the Wizard allows you to sort the label order based on a sorting filter.



The final stage of the Wizard lets you name the labels as a group. By default, Access will name them Labels <Tablename>:



If you click Finish, the labels will open in Report view and are ready to be printed:



The Label Wizard is fairly thorough so you will rarely modify labels. However, using the label Design view lets you add other graphical elements to labels such as logos or dividing lines.

Expression Builder.....	15
Format Painter .....	17
Label Wizard.....	26, 27, 29
Reports	
Adding fields .....	4
Adding logos.....	17
And gridlines .....	16
Arrange ribbon .....	16, 19, 25
AutoFormat.....	19
Calculated controls in .....	15
Design ribbon .....	4, 10, 15, 17, 22
Field list .....	6
Grouping and sorting data .....	10, 13
Headers and footers .....	25
Inserting photo.....	22
Layout tips.....	18
Page numbers .....	26
Page Setup ribbon.....	23
Removing fields.....	4
Section Properties.....	9
Sections .....	7
Ribbons	
Create.....	3, 26
Home.....	17