Snippet®
Computer Training
Personalized ♦ Convenient ♦ Time-Saving

2016

Computer Training

Access

Level 1

Learn

Snippet® Training

www.*SnippetTraining*.com

(408) 750-4542

© PCM Courseware, LLC.
6960 N. Ardara Ave., Glendale, WI 53209
Phone: 800-605-4985
http://www.pcmcourseware.com

COPYRIGHT NOTICE AND LICENSE AGREEMENT

© PCM Courseware, LLC. 2016

ALL RIGHTS RESERVED. This material is copyrighted and all rights are reserved by PCM Courseware, LLC. When you purchase this product, you are entitled unlimited use of purchased product in perpetuity.

This product may be used by instructors only at a single site unless licenses were purchased for more than one site. However, instructors at a site may teach using the courseware at several locations; that is to say, instructors based out of a licensed physical location may travel and teach using the courseware at others locations. The number of sites eligible for use of the course materials will equal the number of site licenses purchased. You may copy and distribute the manual files, lesson files and lab files only within the confines of the specific site(s) of the license agreement. You may not under any circumstances, distribute, rent, sell or lease the manual, its documentation, the training files, or any copies thereof, to third parties. If the purchaser has more than one physical training location and wishes to use the courseware at these locations (branches in different cities, for example), then a licensed must be purchased for each additional location that contains instructors.

Courseware may be customized and modified as the purchaser sees fit as long as the copyright information is clearly displayed within all documents. The purchaser may add their own name and logo to the printed manuals as long as the copyright information is present on all printed versions of the courseware.

This courseware license may not be transferred, assigned, given, rented, leased or resold to any third party in any form.

Only printed copies of the courseware may be made available to students. Under no circumstances may the source Microsoft Word courseware files be made available on a network or the Internet that is accessible by the general public.

It is the responsibility of the Purchaser to print out copies of the courseware. PCM Courseware, LLC will in no way be held responsible for inadequate printing facilities at the Purchaser's site, resulting in the inability to print out the courseware. In such cases that the original source courseware files or training files are corrupted, PCM Courseware, LLC will replace any corrupted training files.

Passwords necessary to access the courseware or download courseware from the PCM Courseware, LLC Web site must not be disclosed to any third party in any form.

The purchaser may not make available any courseware to those who have not attended a training class at the purchaser's licensed site. **Under no circumstances may printed or electronic copies of our courseware be resold.** If purchaser wishes to recoup their costs for copying the manuals, they may increase the price of the course to include manual copying costs. However, students may not be individually charged for the printed manuals. Manuals may not be placed for sale in any public location such as a bookstore or any other retail establishment.
Passwords necessary to access the courseware or download courseware from the PCM Courseware, LLC Web site must not be disclosed to any third party in any form.

INTRODUCTION

Any student who has attended a training class in which PCM Courseware training materials were used may keep one copy of the printed training manual and any accompanying exercise and lab files for personal use only.

PCM Courseware, LLC. reserves the right to revise this manual and its files and make changes from time to time in their content without notice.

This license entitles the purchaser of the Entire Courseware Library to receive any new courseware or any updates to existing courseware produced within one (1) year of the purchase date via the PCM Courseware, LLC Web site. PCM Courseware, LLC will not be held responsible for an inadequate Internet Connection at the purchaser's location resulting in an inability of download any new courseware.

The purchaser's remedy for problems or inconveniences encountered from the use of the training manual or its related training files shall be limited to the refund of the price paid for this courseware. PCM Courseware, LLC. shall not be liable to the purchaser or any other person with respect to any liability, loss or damage caused, directly or indirectly, by use of this courseware or the related training files. Please inform PCM Courseware, LLC of any errors or omissions in any of the courseware materials.

While every genuine effort has been made to ensure the accuracy of the material, PCM Courseware, LLC. makes no warranty, express or implied, with respect to the correctness, reliability and freedom from error of the manual or the related training files. Data used in this manual and its training files are fictitious. Any reference to actual persons or companies is entirely coincidental.

Table of Contents

TABLE OF CONTENTS **4**

ACCESS 2016 LEVEL 1 – INTRODUCTION **6**

COURSE REQUIREMENTS 6
COMPONENTS OF THE MANUAL 7
TRAINING FILES 8
WHAT'S NEW IN ACCESS 2016? 9

LESSON 1 - ACCESS BASICS **10**

1.1 UNDERSTANDING DATABASES 11
1.2 USING DATABASE TEMPLATES 13
1.3 OPEN AN EXISTING DATABASE 17
1.4 THE ACCESS ENVIRONMENT 20
1.5 A LOOK AT TABLES 24
1.6 A LOOK AT FORMS 28
1.7 A LOOK AT QUERIES 31
1.8 A LOOK AT REPORTS 33
1.9 CREATING A BLANK DATABASE 35
1.10 SETTING ACCESS OPTIONS 38
1.11 USING HELP 41
1.12 USING TELL ME TO OBTAIN HELP 44
LESSON SUMMARY – ACCESS BASICS 47
LESSON 1 QUIZ 48
LAB 1 – ON YOUR OWN 50

LESSON 2 - WORKING WITH TABLES **51**

2.1 CREATING A TABLE USING APPLICATION PARTS 52
2.2 ENTERING DATA INTO A TABLE 56
2.3 ADDING NEW FIELDS TO A TABLE 58
2.4 CREATING A TABLE FROM SCRATCH 62
2.5 SETTING A PRIMARY KEY 67
2.6 CHANGING COLUMN WIDTH AND ROW HEIGHT 69
2.7 REARRANGING FIELDS 71
2.8 INSERTING AND DELETING FIELDS 73
2.9 CHANGING FIELD PROPERTIES 76
2.10 DESIGNING IN DATASHEET VIEW 81
LESSON SUMMARY – WORKING WITH TABLES 84
LESSON 2 QUIZ 85
LAB 2 – ON YOUR OWN 87

LESSON 3 - WORKING WITH DATA **88**

3.1 EDITING DATA 89
3.2 FORMATTING TABLE DATA 92
3.3 IMPORTING EXCEL DATA INTO AN EXISTING TABLE 95
3.4 IMPORTING A TEXT FILE INTO A NEW TABLE 99
3.5 SELECTING AND DELETING RECORDS 105
3.6 SORTING RECORDS 107
3.7 FINDING AND REPLACING DATA 109
3.8 FILTERING DATA BY SELECTION 112

3.9 Filtering Data by Form 114
3.10 Using Common Filters 116
3.11 Hiding/Unhiding Columns 119
3.12 Freezing Columns 121
3.13 Rearranging Columns 123
3.14 Displaying Column Totals in a Datasheet 125
Lesson Summary – Working with Data 127
Lesson 3 Quiz 128
Lab 3 – On your own 130

Lesson 4 - Working With Queries 131

4.1 Working in Query Design View 132
4.2 Creating a Query in Design View 135
4.3 Adding Fields to a Query 137
4.4 Removing Fields from a Query 141
4.5 Saving a Query 143
4.6 Running a Query 145
4.7 Adding Criteria to a Query 147
4.8 Specifying Multiple Criteria 149
4.9 Sorting Data in a Query 152
4.10 Moving Columns in a Query 154
4.11 Using the Query Wizard 157
Lesson Summary – Creating Queries 161
Lesson 4 Quiz 162
Lab 4 – On your own 164

Lesson 5 - Creating Forms 165

5.1 Using the Form Wizard 166
5.2 Entering Data into a Form 171
5.3 A Look at Design View 173
5.4 Adding a Field to a Form 177
5.5 Changing Control Properties 181
5.6 Using Layout View 184
5.7 Finding Records in a Form 187
Lesson Summary – Creating Forms 189
Lesson 5 Quiz 190
Lab 5 – On your own 192

Lesson 6 - Creating Reports 193

6.1 Creating a Basic Report 194
6.2 Applying a Theme to a Report 198
6.3 Using the Report Wizard 200
6.4 Report View and Layout View 204
6.5 A Look at Design View 208
6.6 Modifying Report Setup 211
6.7 Printing Reports 214
6.8 Using the Label Wizard 217
Lesson Summary – Creating Reports 222
Lesson 6 Quiz 223
Lab 6 – On your own 225

Class Project – Employee Database 227

Index 228

Access 2016 Level 1 – Introduction

Welcome to PCM Courseware! PCM Courseware is a distinctive, flexible system for an instructor-led environment that facilitates learning via auditory, visual and hands-on experiences by each student. The manual is broken down into several lessons with each lesson subdivided into several sections. Each section covers a particular skill or concept related to the main lesson topic. In each section you will find:

1. A brief introduction to the section topic.
2. Step-by-step "how to" instructions.
3. A hands-on "Let's Try It" exercise which students perform with the instructor.
4. An independent "On Your Own" activity at the end of each lesson to identify any problem areas and to ensure that learning has taken place.
5. A chapter summary at the end of the lesson, reviewing major concepts and topics discussed in the chapter.
6. Chapter quiz to ensure that learning has taken place.

Rather than having to sift through blocks of paragraphs of written text, the introductions are brief and easy to understand, illustrated with diagrams, lists, tables and screen shots to aid in comprehension and retention. The step-by-step format of the manual enables for quick scanning by the instructor during teaching time and the ability to pull out the main points quickly without having to filter the desired information from chucks of text.

Course Requirements

It is assumed that the student has a fundamental understanding of the Windows operating system and how to maneuver with a mouse. Basic concepts such as opening, saving and closing files are included in the beginning chapters.

A full installation of Microsoft Access 2016 should be available on each desktop, with a fresh installation strongly encouraged.

Components of the Manual

The Access 2016 manual consists of the following components:

A Table of Contents	To allow the students to quickly find desired concepts
Introduction	Discussion of manual components, course requirements, courseware philosophy and training lab set.
Lessons	The lessons are the manual chapters, each of which is composed of several sections relating to the lesson topic or skill.
Sections	Each section begins with a brief introduction to the section topic and is followed by step-by-step instructions on how the student is to accomplish a particular task. The students then perform the task with the instructor in a "*Let's Do It!*" exercise. Each step in the **Let's Do It** exercise provides the How (step-by-step) and Why (the reason for performing the step) of each phase necessary to accomplish the task.
Lesson Summary	The sections concepts are summarized in sequential order in the Lesson Summary section, allowing for quick review.
Labs	Each section concludes with an independent "**On Your Own"** exercise called a Lab. The Lab gives the opportunity for the student to practice what he/she has learned and to discover any problem areas with the topic in the section. Each lab covers the skills taught in that particular lesson (chapter).
Chapter Summary	Each section concludes with a "**Chapter Summary**" which briefly reviews all of the topics discussed in the section.
Chapter Quiz	Each section concludes with an independent "**Chapter Quiz**" to test the level of learning that has taken place. The quiz is in multiple choice and short answer format and can be done in class together or as an end of chapter test.
Class Project	The course concludes with an independent "**Class Project**" to test the level of learning that has taken place. In this project, the student utilizes skills learned throughout the class.
Index	Allows students to quickly find desired concepts.

Training Files

Each PCM Courseware course comes with a set of Lesson Files and Lab Files designed to employ real-world situations and examples. The Lesson Files are designed to be used in the *Let's Do It* exercises that the students perform with the instructor. The Lab Files are to be used for the *On Your Own* exercises at the end of each Lesson. Both the lesson files and lab files should be stored in the folder named: **Lesson Files** on each student's desktop.

What's New in Access 2016?

What's New	Description of Feature
Tell Me	Enter words and phrases related to what you want to do next into the Tell me box and quickly get to features you want to use or actions you want to perform.
Themes	There are two new Access themes: Colorful and White.
Export Linked Data to Excel	From the Linked Table Manager dialog box, you can now export a list of all data sources and their types to Excel.
Templates	The following templates have been redesigned and improved: Asset tracking, Contacts, Event management, Students, or Task Management.
Show Table Dialog	The default height of the Show Table dialog has been increased in order to more easily see more table and query names in your database.

Lesson 1

Lesson 1 - Access Basics

Lesson Topics:

1.1 Understanding Databases

1.2 Using Database Templates

1.3 Opening an Existing Database

1.4 The Access Environment

1.5 A Look at Tables

1.6 A Look at Forms

1.7 A Look at Queries

1.8 A Look at Reports

1.9 Creating a Blank Database

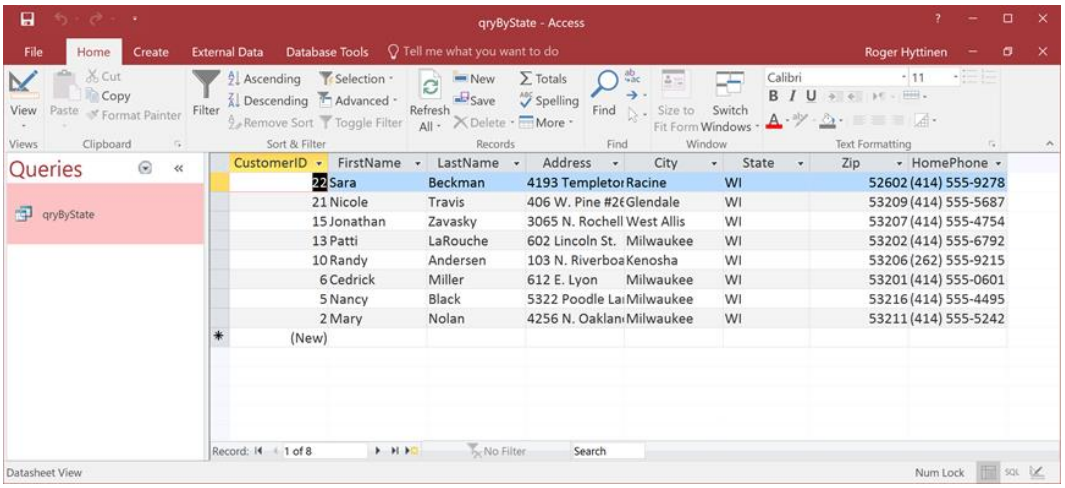
1.10 Setting Access Options

1.11 Using Help

1.12 Using Tell Me

1.1 Understanding Databases

In this lesson, you will learn about databases.



Databases are the core of many business and organization operations. They permit centralized access to information in an efficient and consistent manner and reduce inaccuracies of manual record keeping. A database can be thought of as an information repository pertaining to a specific topic that allows you to manage, store, retrieve and analyze information. An example of a database might be a list of names and addresses of customers or a database of order records.

Information in a database is stored in tables, which are the building blocks of a database. A table consists of rows (all of the information pertaining to one item) for each record and columns for each field.

Microsoft Access is a **relational database management system (RDBMS)**, the most commonly used type of database system in the world today. A relational database:

- Stores data in tables, which consist of columns and rows
- Enables you to retrieve subsets of data from tables
- Allows you to connect tables together for the purpose of retrieving related data stored in different tables

Database Design

The core of good database design is **planning**. Before actually creating a database, you should have a good idea of the kind of data your database will contain and how that data

should be broken down. It is recommended to plan out your database on paper before beginning the creation process.

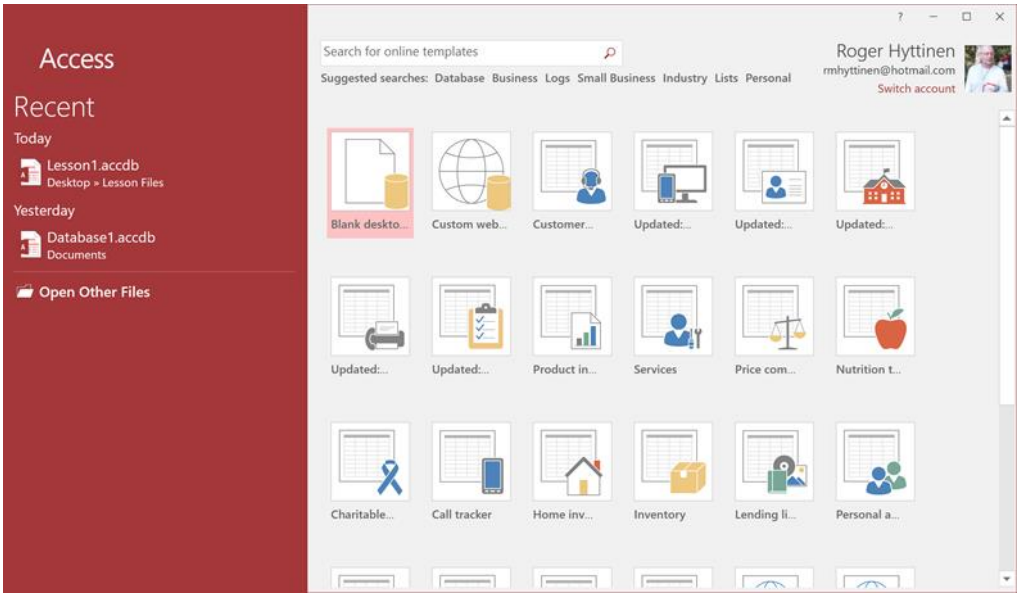
When creating databases, there are rules that most designers follow which help them create consistent, efficient, well thought-out databases. This set of rules is called **normalization**, which dictates that your database tables will eliminate inconsistencies and maximize efficiency. The goal of normalization is to reduce data to its simplest structure with minimum redundancy and maximum data integrity. Some of the important goals of normalization are:

- All fields should be broken down so that data cannot be divided further. For example, the **Name** field should be broken down to three separate fields: last name, middle name, and first name.
- Each table must have one unique key field called a **primary key**. That is to say, there must be one field that identifies a record and does not allow duplicates. An example of this would be a social security number or customer number. You will learn more about primary keys in a later lesson.
- All fields must directly refer to the primary key. For instance, in a customer table, you would only include information related to that customer, such as name, address, etc. You would not include a field called "Product name" in a customer table.
- A field cannot contain more than one value.

Thus, a normalized database stores each piece of information in its own table, all fields are broken down to their lowest possible level and each piece of information can be referred to by its primary key.

1.2 Using Database Templates

This lesson will guide you through the process of creating a database using database templates.



Access 2016 displays the **Backstage View** window upon launching, which contains a wide range of templates – or fully-featured databases that you can use to get started. These will either be included with Access or can be downloaded from Microsoft's Web site. Some of the available templates that you can use include:

- Asset Tracking
- Contacts
- Education
- Event Management
- Finance
- Inventory
- Task Management
- Non-profit
- Nutrition Tracking
- Personal
- Project Management
- Sales & Marketing
- Students
- Time & Billing

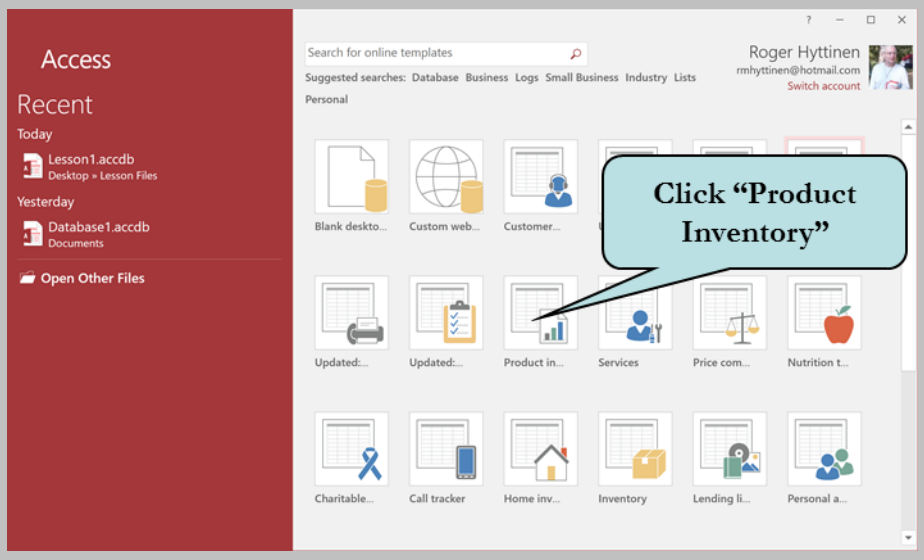
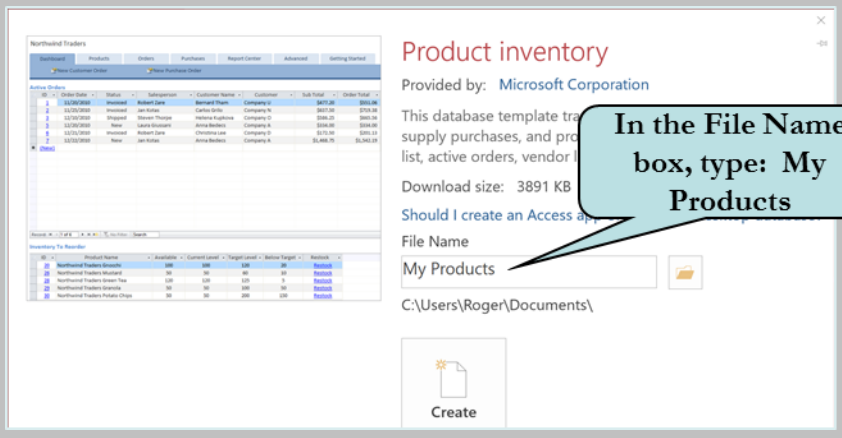
To use a template, click the desired template category on top of the window in the right pane. A selection of template styles for the template category will appear in the center pane with additional related categories displaying in the right pane Category. When you click on any of the templates in the center pane, it will display in its own window, prompting you for a File name and the location where you wish to save your file. Many of the database templates are used for creating databases on the Web. As some students may not have Web access, we will be only working with local database files.

To Create a Database based upon a Template

1. Open the Microsoft Access application. The Welcome screen, which contains a list of sample templates, will display automatically.
2. Click the template you want. A preview of the template is displayed in a new window.
3. To change the database name, type in the new name in the **File Name** box in the right pane.
4. To specify a location where the database is to be saved, click the **file folder** icon and then navigate to the folder where you wish to store the database file.
5. Click the **Create** button.
6. To view additional templates from **Microsoft Office Online**, click in the Search box and type in a keyword for the template you wish to find. Press Enter to execute the search.
7. To return back to the main templates screen, click the **Left Pointing Arrow** icon on top of your screen.

Let's Try It!

What	Why
1. If using Windows 8, click the Access 2013 icon on the Start Screen.	Launches the Microsoft Access Program and displays the Welcome screen.
2. If using Windows 10, Windows 7 or earlier, click the **Start** button on the lower left side of your screen. Then, select **All Programs (or All Apps is using Windows 10) > Access 2016** from the Start Menu.	Displays the Start Menu and then launches the Microsoft Access Program and displays the Welcome screen.
3. In the center pane, click **Product Inventory** as shown below.	Selects the template we wish to use and displays template details in its own window.

What	Why
	
4. In the **File Name** box in the right pane type: **My Contact Manager** as shown below.	Specifies a name for the database.
	
5. Click the **Folder icon** to the right of the File Name box as shown below.	Displays the File New Database dialog box which allows us to browse to the location where we wish to save our database.

What		Why
6.	Click the **Desktop** button on the left side of your screen.	Displays the contents of the Desktop folder.
7.	Double-click the **Lesson Files** folder in the right pane.	Opens the Lesson Files folder and displays the files in that folder. This is the folder where we wish to store our database. If you want to change the name of your database from here, enter the desired name in the File Name box.
8.	Click **OK**.	Closes the File New Database dialog box.
9.	Click the **Create** icon.	Creates a new database based on the template we selected and displays the table in Datasheet view.
10.	Click **Explore the Template with Sample Data**. Click the Close button on the window.	Populates the database with sample data.

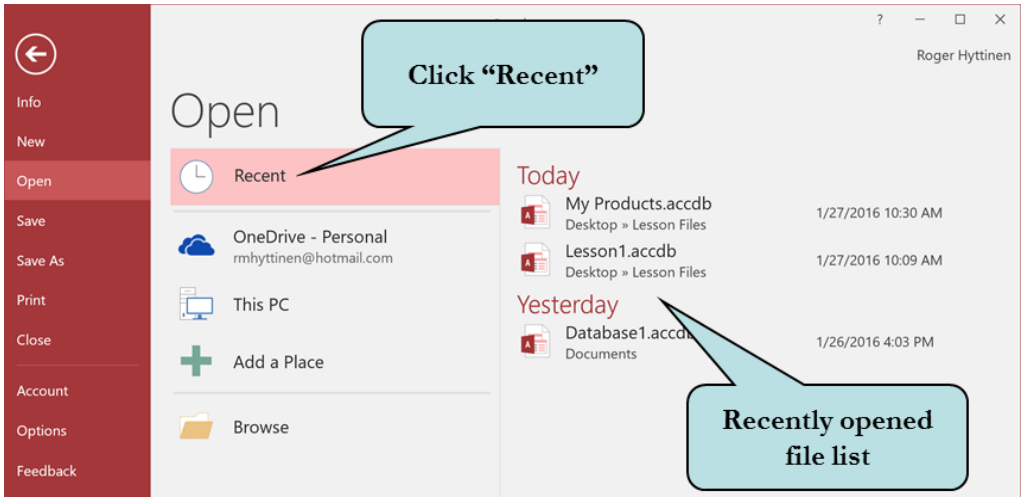
1.3 Open an Existing Database

In this lesson, we will open an existing Access Database.

In older versions of Access (pre-Access 2010, the command to open database files was located under the Microsoft Office button. In Access 2016, file commands are located under the **File tab** on the Ribbon. This view is referred to as Backstage View.

From Backstage View, you can perform many file commands such as opening, closing, saving and printing database files. To open an existing database, click the **File** tab and then click **Open** to display the Open dialog box. From there, navigate to the folder that contains that database you wish to open. If you have recently opened a database, it may be listed under the **Recent** pane. Click Recent in the center pane and then click the database name in the Recent Documents list to quickly open it.

If you already have a database file open when you exectue the Open command, the database file you have open is automatically closed when the new database file is opened. Thus, you are allowed to have only one database file open per Access session.



You can also display the **Open** dialog box by pressing the **Ctrl + O** keystroke combination. This command will bypass Backstage View and directly display the Open dialog box.

If there are macros in your database, you may receive a security message warning you of potential dangerous code. You can modify Macro warning messages from the Trust Center (click the File tab on the Ribbon, click Options, click Trust Center, click Trust Center settings and then click Macro Settings). The Macro Settings area allows you to decide which macros to disable. You can also turn off all Message Bar warnings by choosing Message Bar rather than Macro Settings in the left pane.

To Open an Existing Access Database from within an Open Access Database

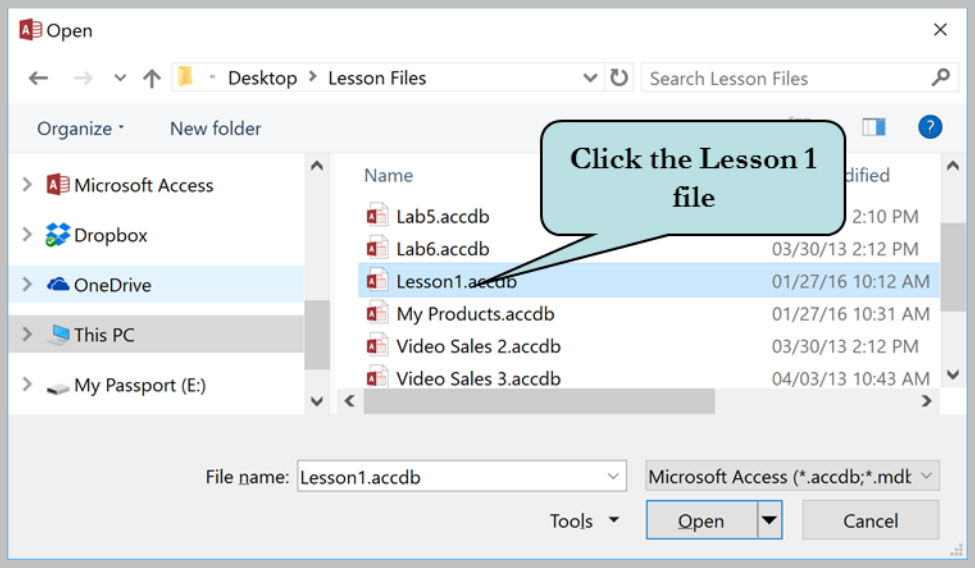
1. Click the **File tab** on the top left of your screen (or press Ctrl + O to bypass Backstage view).
2. Click the **Open** icon in the left pane.
3. Navigate to the folder that contains the database that you wish to open.
4. Select the desired file.
5. Click **Open**.

To Open an Existing Access Database when Starting Microsoft Access

1. Open the Access application.
2. From the Welcome Screen, click **Open Other Files** in the left pane.
3. In the center pane, click the location where your database is stored (SkyDrive, Computer, etc.).
4. Click the **Browse** button in the right pane.
5. Navigate to the location where the database file is stored.
6. Select the desired file.
7. Click **Open**.

Let's Try It!

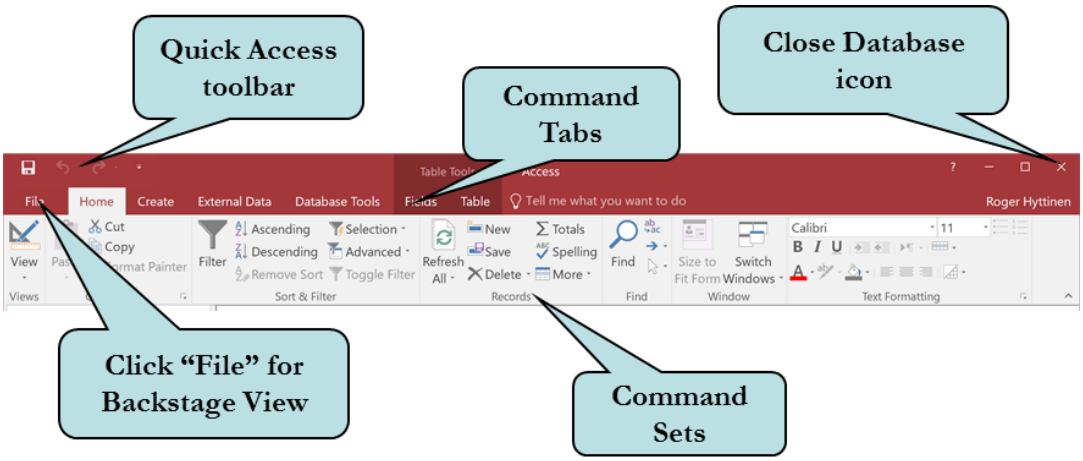
What	Why
1. Click the **File tab** on the top left of your screen.	Displays Backstage View.
2. Click **Open** in the left pane.	Displays the Open dialog box.

What	Why
3. Click the **Browse** icon in the center pane.	Displays the Open dialog box.
4. Click **Desktop** on the left side of your screen.	Opens the Desktop folder.
5. Double-click the **Lesson Files** folder.	Opens the Lesson Files folder and displays the files in that folder.
6. Click the **Lesson1** file as shown below.	Selects the database file we wish to open.
	
7. Click the **Open** button.	Closes the database that we have open and opens the Lesson1 database.

1.4 The Access Environment

In this lesson, we will look at the various components of the Database Window.

If you have worked with older versions of Access prior to 2007, you will immediately notice that the user interface has been completely redesigned. The menu and toolbar system of pre-2007 Access versions are replaced by the **Ribbon**. The Ribbon is designed to help you quickly find the commands you need in order to complete a task. On the Ribbon, the menu bar has been replaced by **Command Tabs** that relate to the tasks you wish to accomplish. The default Command Tabs in Access are: **File, Home, Create, External Data,** and **Database Tools**. Additional contextual tabs will appear and will vary depending on the Access object that is active.



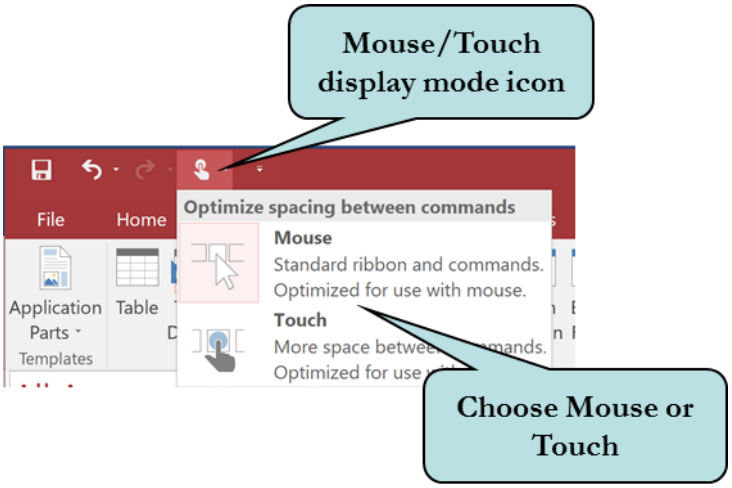
Different command icons, called **Command Sets** appear under each Command Tab. The commands that appear depend on the Command Tab that is selected. Each command set is grouped by its function. For example, the Templates, Tables, Queries, Forms, Reports and Macro & Code are all Command Sets for the Create tab in Access. **Contextual Commands** only appear when a specific object is selected. This helps in keeping the screen uncluttered.

Under the File tab on the Ribbon is what Microsoft refers to as **Backstage view**. This view allows for quick access to permissions, meta-data, and common document management tasks such as opening, closing, printing and saving files. If you have worked at all with Windows 8, you may notice that Backstage view is similar to many screens in Window 8.

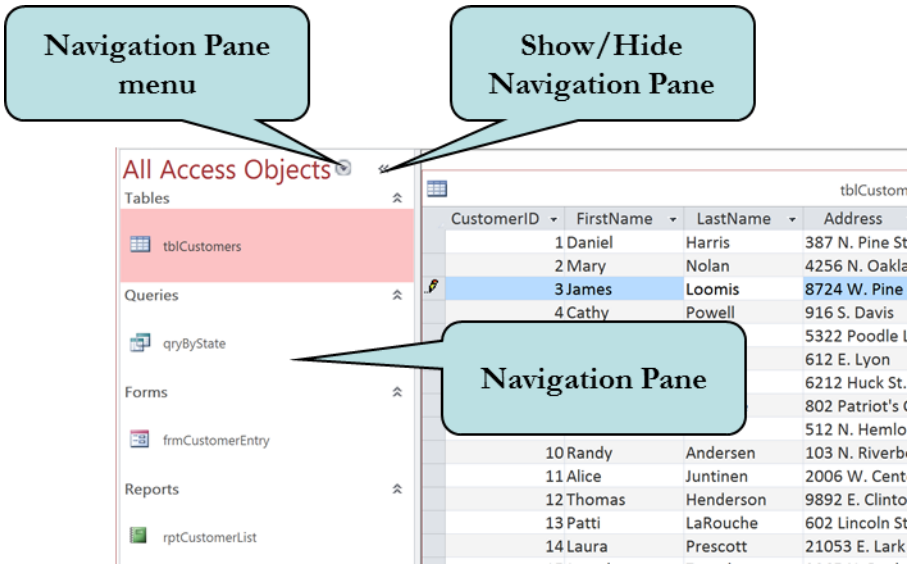
To the right of the **Access** button (from where you access basic window options), is the **Quick Access Toolbar**. This toolbar contains by default the Save, Undo, Redo and Touch/Mouse commands. In addition, clicking the drop-down arrow to the right allows

you to customize the Quick Access Toolbar and to add other tools that you use regularly. You can choose from the list which tools to display on the Quick Access Toolbar or select **More Commands** to add commands that are not in the list.

If you are using Access on a touch device such as a tablet or smartphone, the handy **Touch display mode** makes it easier to view your data. This view displays extra space between commands making it easier to select via touch. Click the rightmost drop-down arrow on the Quick Access toolbar and choose Touch/Mouse Mode from the menu to add the icon to the toolbar. To display your Access databases in Touch mode, click the Touch/Mouse mode icon on the Quick Access toolbar and choose Touch from the menu. To switch back to standard mode, click the Touch/Mouse mode icon again and choose Mouse from the menu.



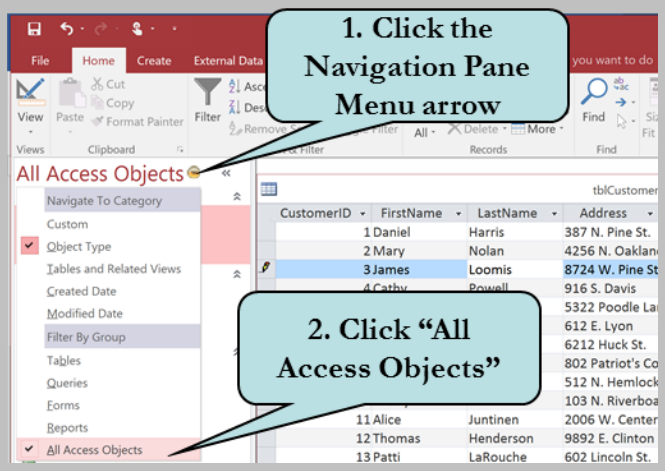
On the left side of your screen is the **Navigation Pane**. This replaces the Database Window in older versions of Access. Like the Database Window, you can use the Navigation Pane to work with the various objects in your database (tables, forms, reports, etc.). Whenever you open a database, all of the objects in your database appear in the Navigation Pane. You can work on the design of your objects, enter data or run a report or query directly from the Navigation Pane.



We will be working in detail with the various Access screens and database objects in subsequent lessons.

Let's Try It!

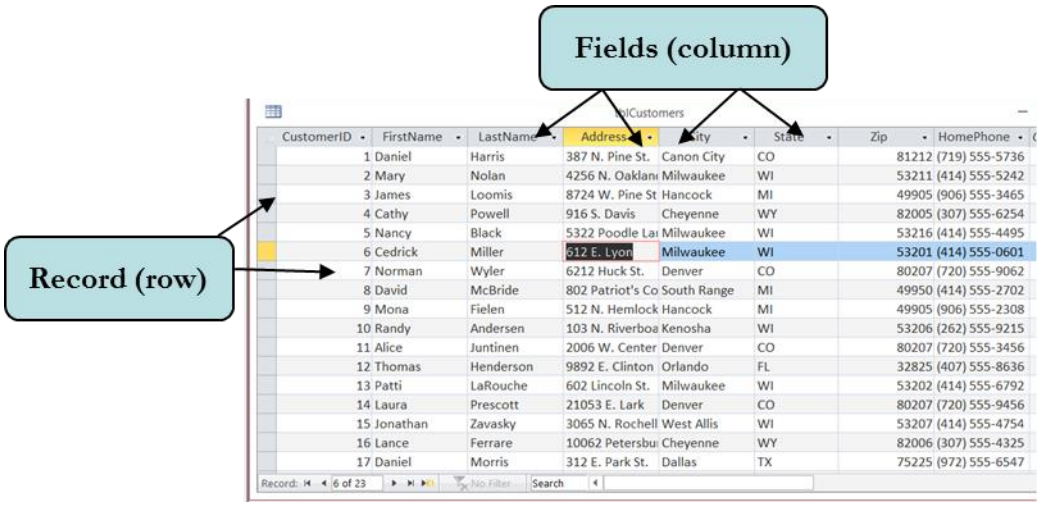
What		Why
1.	Click the **Create tab** on top of your screen and observe the screen.	Displays the command sets for the Create command tab.
2.	Click the **Database Tools tab** on top of your screen.	Displays the command sets for the Database Tools command tab.
3.	Click the **Home tab** on top of your screen.	Returns us back to the Home tab.
4.	Click the Navigation Pane Menu arrow and select **All Access Objects** as shown below.	Displays all Access Objects in the Navigation Pane.

What	Why
	
5. Click the Navigation Pane Menu arrow again and choose **Tables**.	Only displays Table objects in the Navigation Pane.

1.5 A Look at Tables

In this lesson, we will take a brief tour of the table object.

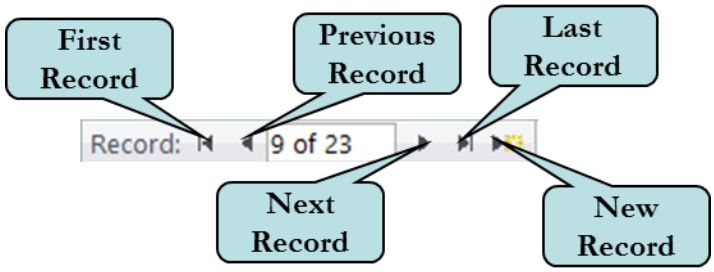
Tables are the building blocks of your database as this is where all of your data is stored. Tables are made up of columns and rows. Each column consists of a single field, such as First Name, Last Name, or Order Date. Each row consists of a single record which is comprised of all the fields in the row.



A database can contain more than one table and in fact, most do. Each table should store different types of related information, such as a customer table that contains customer information and an orders table that contains order information.

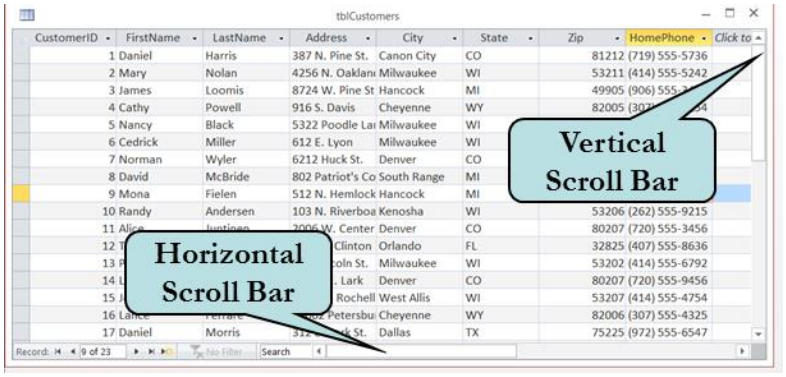
To Open a Table

1. Click the **Navigation Pane** drop-down arrow and select **Tables.**
2. **Double-click** the table you wish to open
   Or
   Right-click on the table you wish to open and select **Open** from the contextual menu.
3. To navigate records, click on the desired record navigation button on the navigation bar.



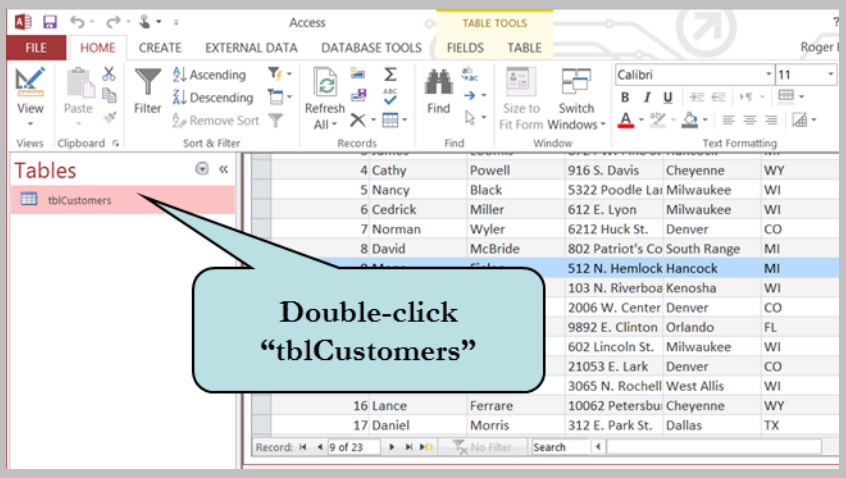
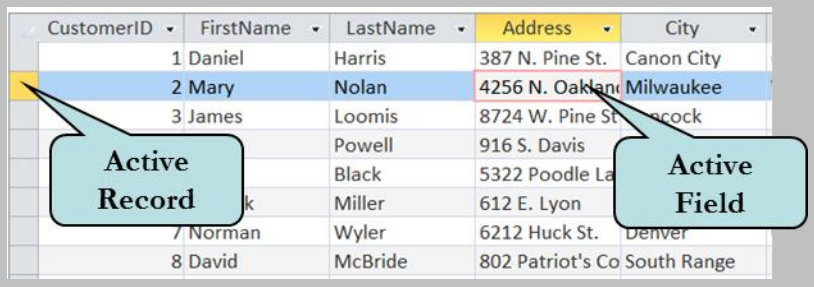
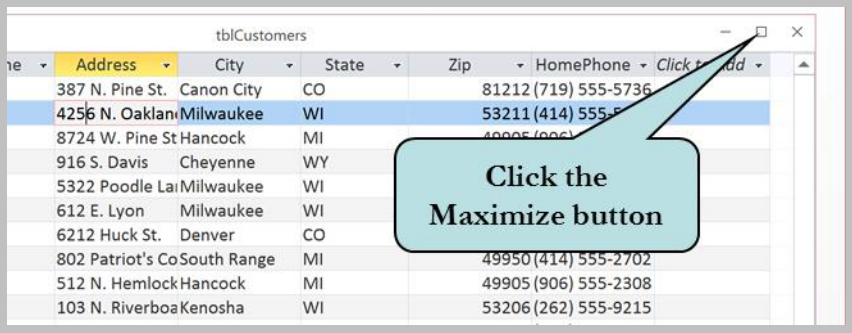
Record Navigation Bar

4. Click and drag the **vertical scroll bar** to move up and down in a table.
5. Click and drag the **horizontal scroll bar** to move left and right in a table.

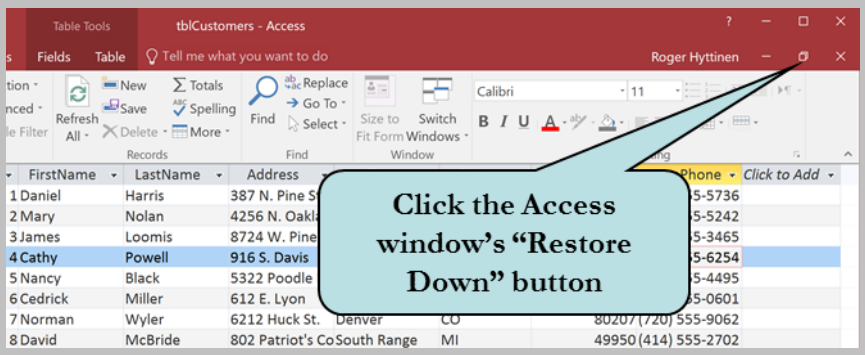


Let's Try It!

What	Why
1. Double-click **tblCustomers** in the Navigation Pane as shown below.	Opens tblCustomers in datasheet view in the Navigation Pane. Datasheet view is the mode where you can view, enter, update or delete data.

What	Why
	
2. Click the **Next Record** button on the record navigation bar.	Moves to the next record. The active record and the active field are color coded.
	
3. Click on the Access window's **Maximize** button as shown below.	Maximizes the window to fill the screen.
	

What	Why
4. Click the Access window's **Restore down** button as shown below.	Reduces the size of the window so that it does not fill the entire screen.



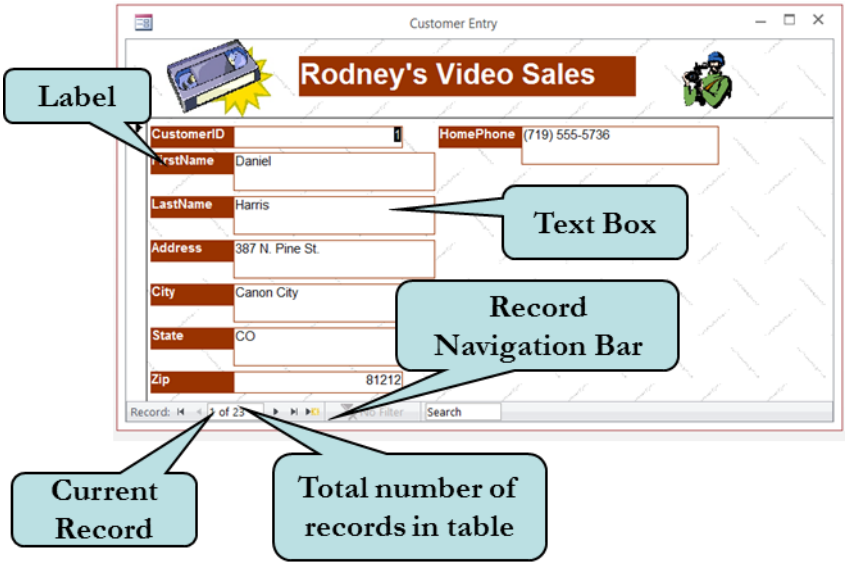
5.	Click the **Last Record** button on the record navigation bar.	Moves to the last record in the table.
6.	Click the **Previous Record** button on the record navigation bar.	Moves to the previous record in the table.
7.	Click the **New Record** button on the record navigation bar.	Inserts a new record and moves to the first field of the new record.
8.	Click and drag the **vertical scroll bar** downwards.	Scrolls through the records in the table.
9.	Click the table window's **close button** (the lower "x").	Closes the table object.

1.6 A Look at Forms

In this lesson, we will take a brief tour of the Form object.

Although you can enter, edit and review information in tables, many find using **Forms** to be much more user-friendly because its format is more familiar. The form you use can be an on-screen representation of a paper form which makes data entry for the end user more intuitive.

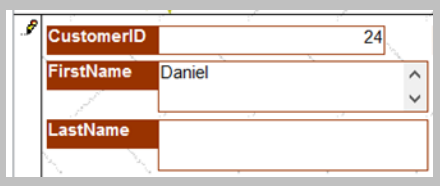
Forms contain labels and text boxes. Labels are informational — they tell you what to type in the text boxes. Data entered into text boxes is added directly to the table upon which the form is based. Forms can also include other objects such checkboxes, list boxes, combo boxes, and radio buttons to make data entry even easier.



To Open a Form

1. Click the **Navigation Pane** drop-down arrow and select **Forms**.
2. **Double-click** the form you wish to open.
   Or
   Right-click on the form you wish to open and select **Open** from the contextual menu.
3. To navigate records, click on the desired record navigation button on the navigation bar.

Let's Try It!

What		Why
1.	Click the drop-down arrow on the **Navigation Bar** and select **Forms** from the menu.	Displays all form objects.
2.	Right-click the **frmCustomerEntry** form and then click the **Open** from the contextual menu.	Opens frmCustomerEntry in form view, which is the mode where you can view, enter, update or delete data.
3.	Click the **Next Record** button on the record navigation bar.	Moves to the next record. The current record number and the total number of records in the table are displayed in the record navigation bar.
4.	Using the Next Record button, move **to record 5**.	Moves to record 5.
5.	Click the **Last Record** button on the record navigation bar.	Moves to the last record in the table.
6.	Click the **Previous Record** button on the record navigation bar.	Moves to the previous record in the table.
7.	Click the **New Record** button on the record navigation bar.	Inserts a new record and moves to the first field of the new record.
8.	Click in the **First Name** text box and type: **Daniel** as shown.	Moves to the First Name field and then enters "Daniel" for the first name. 
9.	Press the **Tab key** and then type: **Siegler** in the **Last Name** field.	Enters the last name for the customer.

What	Why
10. Type in the rest of the information as shown on the below. Remember to press **Tab** to move from one field to the next. **Address**: 423 W. Longview **City**: Indianapolis **State**: IN **Zip**: 42626 **Home Phone**: 555-222-3555	Enters the rest of the information for the record.
11. Click the form's **close button**.	Closes the form.

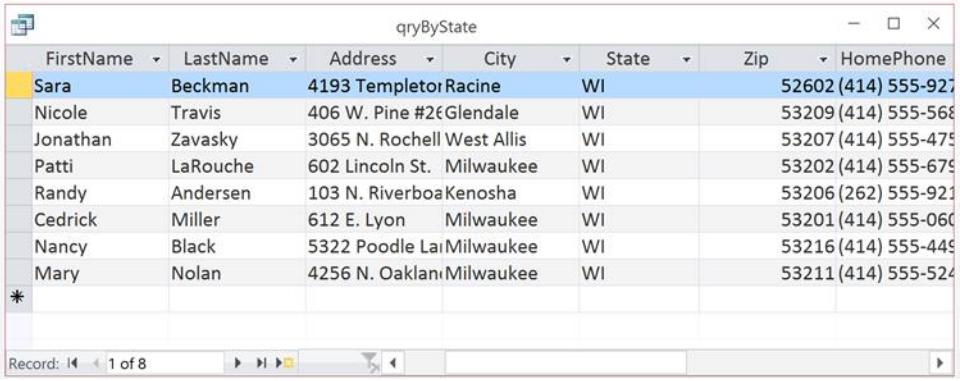
Note: When entering data into a table or form, you do not need to save your data manually – Access automatically saves your data when you move to a different record or when you close the table or form.

1.7 A Look at Queries

In this lesson, we will take a brief tour of the query object.

Queries are questions that you ask about your data. For example, you might want to ask: How many customers in Colorado spent more than $200 last year? To receive an answer to this question, you would use a **query**. Queries allow you to find all records that meet specific **criteria**. Criteria are simply restrictions on the information to be retrieved.

When the query is run, the results look exactly like the data in a table; that is to say, it is in datasheet format, laid out in rows and columns. In addition to retrieving data, you can also enter data directly into the datasheet. Any data that is changed or added in the query datasheet is also changed or added in the underlying table.



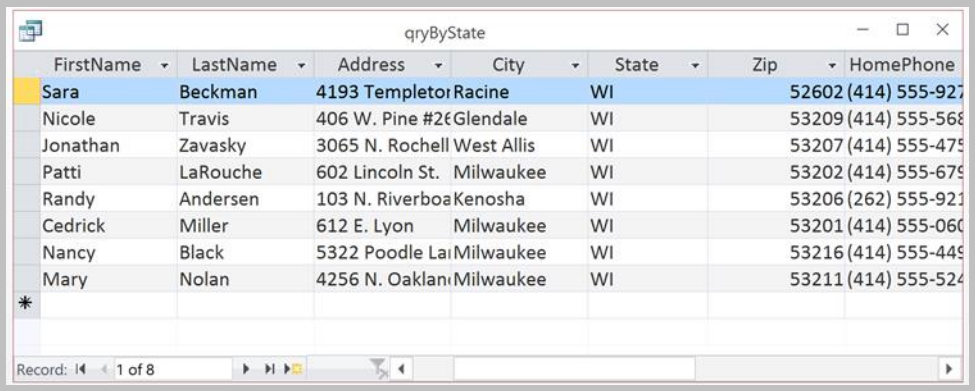
Query Results

To Open a Query

1. Click the **Navigation Pane** drop-down arrow and select **Queries**.
2. **Double-click** the query you wish to open
   Or
   Right-click on the query you wish to open and select **Open** from the contextual menu.
3. To navigate records, click on the desired record navigation button on the navigation bar.

Let's Try It!

What	Why
1. Click the drop-down arrow on the **Navigation Bar** and select **Queries** from the menu.	Displays all Query objects.
2. **Double-click** the **qryByState** query in the Navigation pane.	Opens the qryByState query in datasheet view. Notice the results only include customers from the state of Wisconsin.



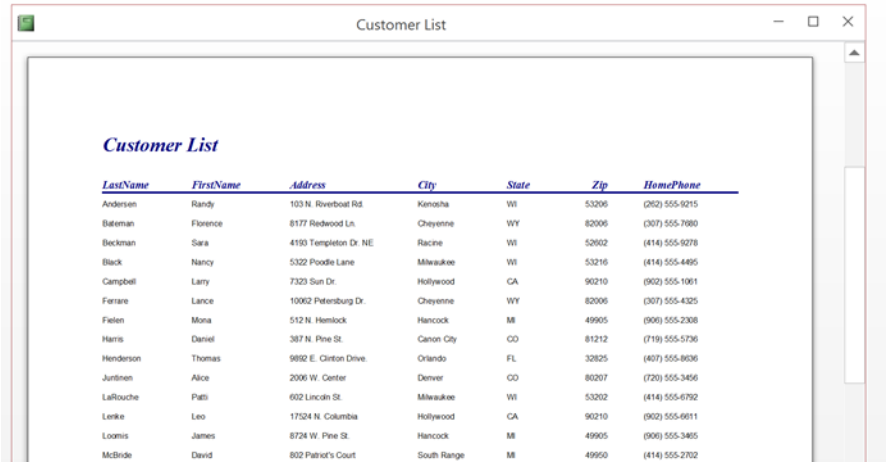
3. Click the **Next Record** button on the record navigation bar.	Moves to the next record. The active record is represented by a black right arrow to the left of the row.
4. Click the query's **Close button**.	Closes the query object.

1.8 A Look at Reports

In this lesson, we will take a brief tour of the Report object.

Although you can print data from your tables, forms or queries, you have greater control of the presentation of your information by using **reports**. Reports allow you to display summary information such as subtotals, totals, and percentages for groups of records and to organize your data in a polished, professional presentation. You can even add calculations to your reports for more complex data analysis.

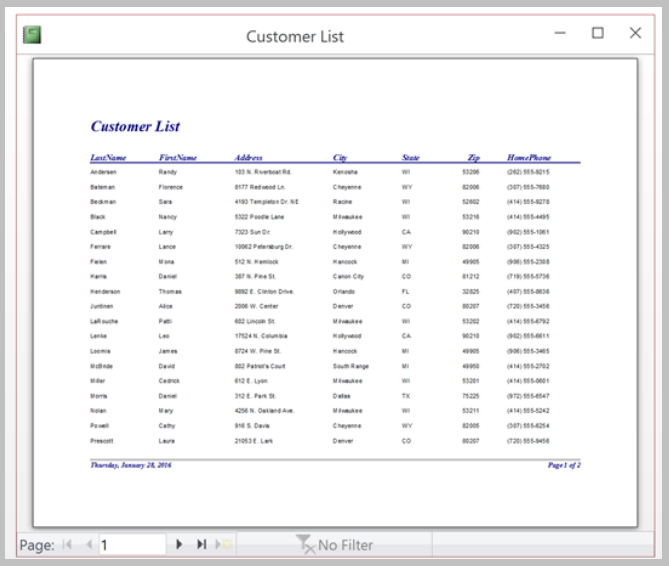
Unlike the other objects we have seen so far, you cannot modify the data in a report. Reports are for displaying and printing data only.



To Open a Report

1. Click the **Navigation Pane** drop-down arrow and select **Reports**.
2. **Double-click** the report you wish to open
   Or
   Right-click on the report you wish to open and select **Open** from the contextual menu.
3. To navigate records, click on the desired record navigation button on the navigation bar.

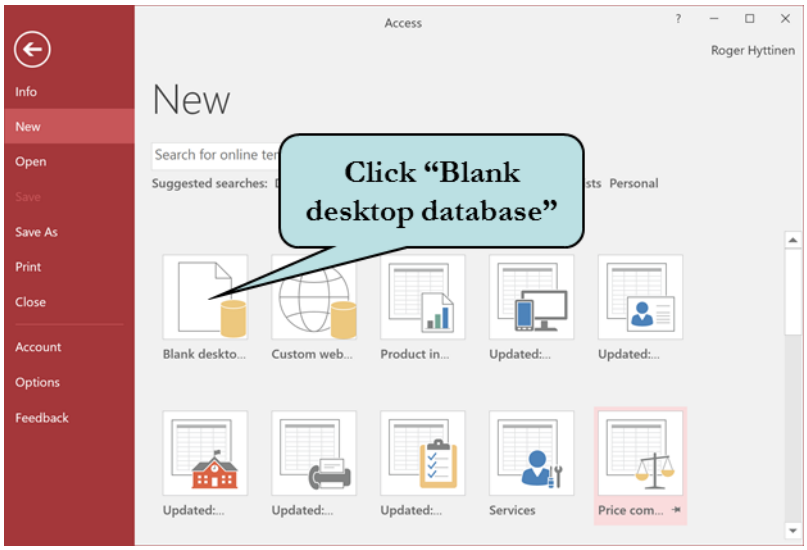
Let's Try It!

What	Why
1. Click the drop-down arrow on the **Navigation Bar** and select **Reports** from the menu.	Displays all Report objects.
2. **Double-click** the **rptCustomerList** report in the Navigation pane.	Displays the rptCustomerList report in Print Preview mode.
	
3. Click the **Next Page** button on the record navigation bar.	Moves to the next page of the report.
4. Move your pointer over the report and then click with your left mouse button.	Enlarges the selected area allowing you to view a specific portion of the report.
5. Move your pointer over the report and click with your left mouse button.	Returns to full page view.
6. Click the report's **close button**.	Closes the report object.

1.9 Creating a Blank Database

In this lesson, we will create a blank database.

If you decide not to use any of the database templates, you can create a blank database by clicking **Blank Database** in **Backstage View**. Once your database is created, you will then need to create all of your tables, queries, forms and reports.



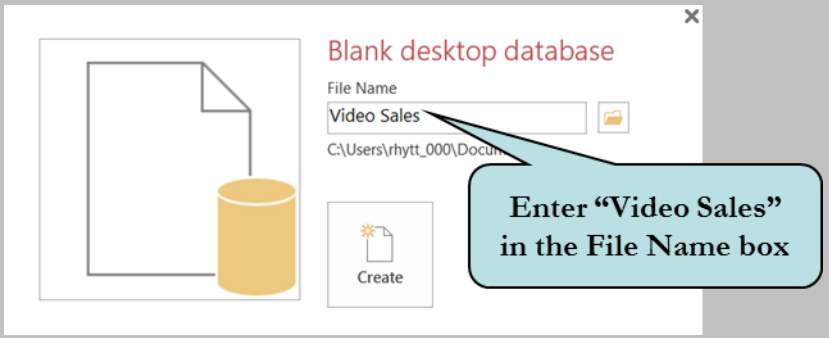
To Create a Blank Database

1. Click the **File tab** and then click **New** from the menu.
2. Click **Blank Desktop Database** in the center pane.
3. To specify a name for your database, type the new name in the **File Name** box in the right pane.
4. To specify a location where the database is to be saved, click the **file folder icon** in the right pane and then navigate to the folder where you wish to store your database file.
5. Click **Create**.

Let's Try It!

What	Why
1. Click the **File tab** and then click **New** from the menu.	Displays the New pane of Backstage View.
2. In the **Center** Pane, click on **Blank desktop database** as shown below.	Specifies that we will create a new blank database.

3. In the **File name** text box, type: **Video Sales** as shown below.	Enters a name for the database.



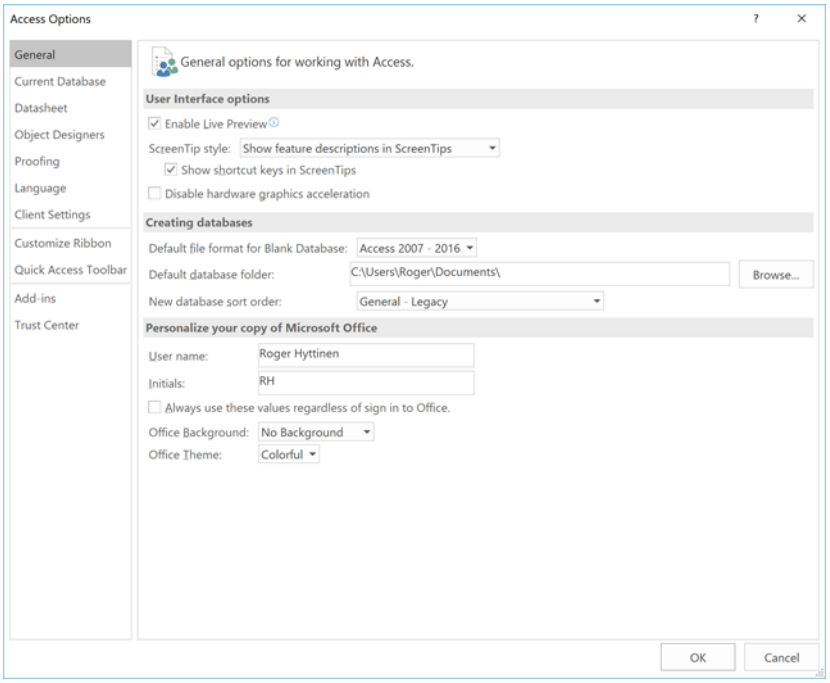
4. Click the **Folder icon** to the right of the File Name box.	Displays the File New Database dialog box which allows us to browse to the location where we wish to save our database.
5. Click the **Desktop** button on the left side of your screen.	Opens the Desktop folder.

What	Why
6. Double-click the **Lesson Files** folder.	Opens the Lesson Files folder and displays the files in that folder. This is the folder where we wish to store our blank database. If you want to specify the name of your database from here, enter the desired name in the File Name box.
7. Click **OK**.	Closes the File New Database dialog box.
8. Click **Create**.	Creates a blank database. A blank new table displays in Datasheet view.

1.10 Setting Access Options

In this lesson, we will work with Access Options.

In older versions of Access, you could set preferences for specific program settings from the Options dialog box. The Options command has been moved to the **Options** icon located under the File tab. From the Access Options dialog box, you can specify such options as the default database format and database folder, choose to open Navigation Pane items with a single-click instead of a double-click, have multiple opened objects appear in tabbed windows rather than overalpping windows, and much, much more. You may wish to spend some time browsing through the Access Options dialog box and set any preferences that may help you work with less effort.

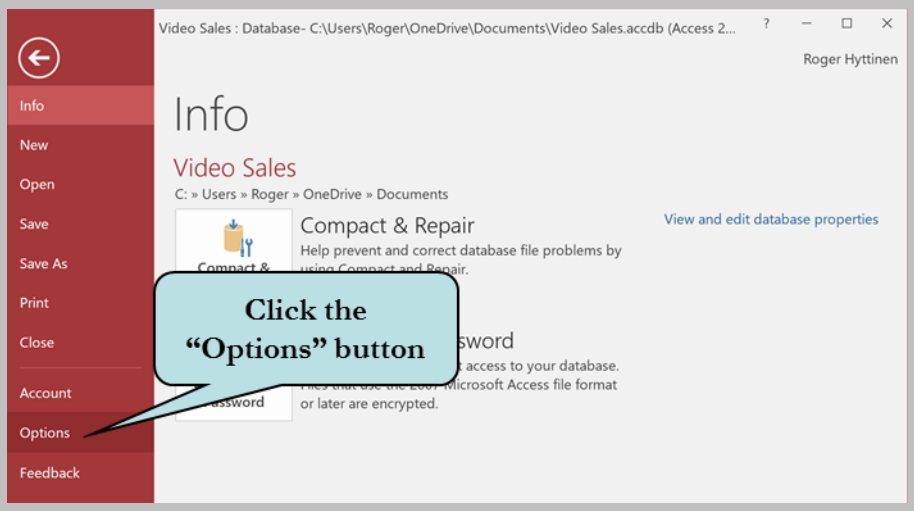


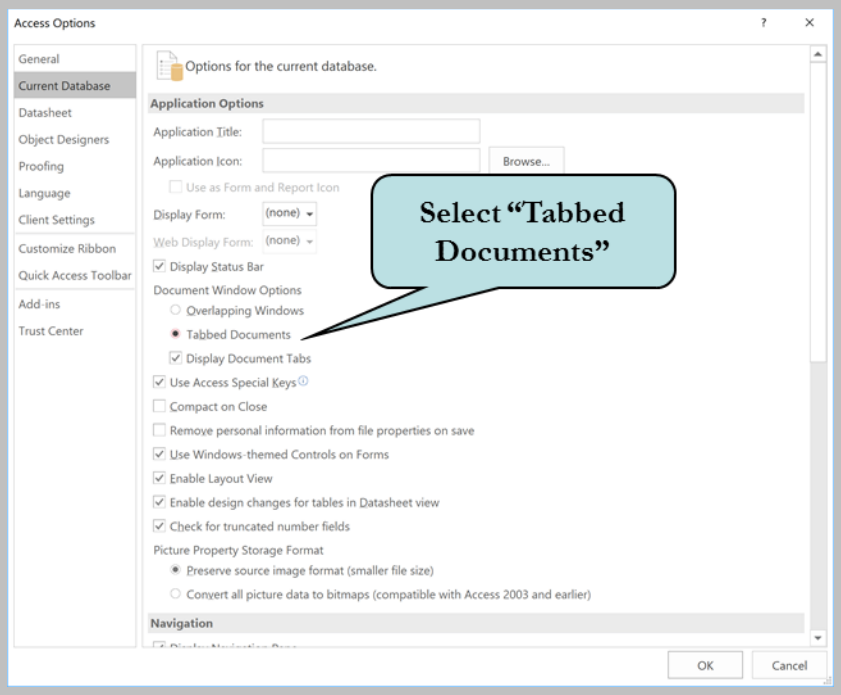
Access Options dialog box

To Set Access Options

1. Click the **File tab** and then click **Options** in the left pane to display the Access Options dialog box.
2. Click the desired option category in the left pane.
3. Set any options in the right pane.
4. Click **OK**.

Let's Try It!

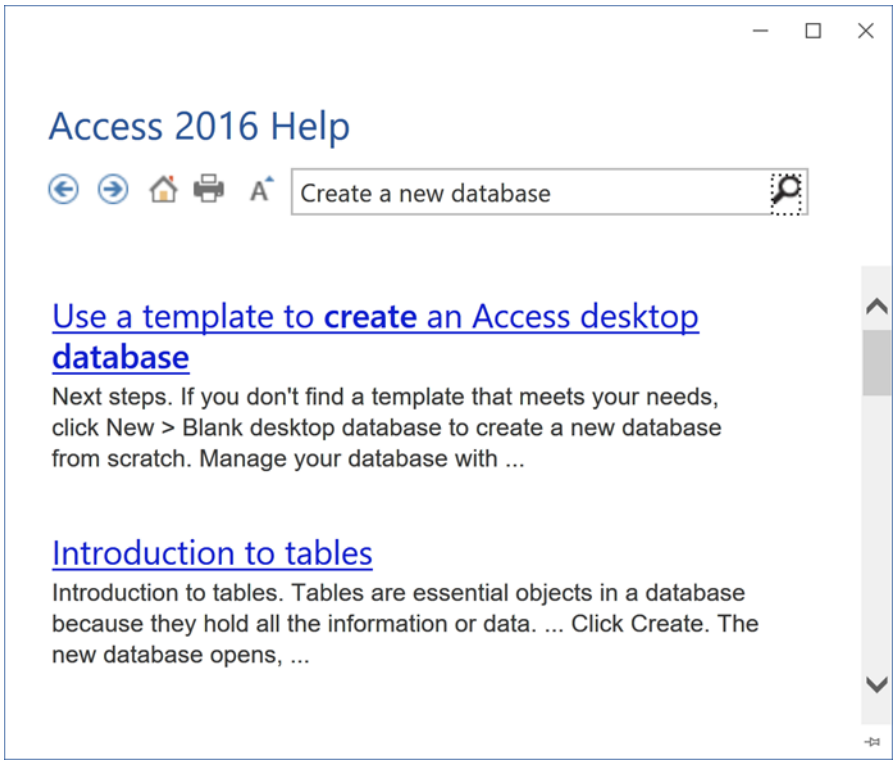
What	Why
1. Click the **File tab**.	Displays the File Options menu.
2. Click the **Options** button as shown below.	Displays the Access Options dialog box.
	
3. Click the **Current Database** category in the left pane.	Displays available Access options for the Current Database category.
4. Scroll down until you see Document Window Options and then click the **Tabbed Documents** radio button as shown below.	This option displays multiple opened objects (tables, queries, forms, and reports) in a tabbed window instead of overlapping windows.

What	Why
	
5. Click **OK**.	Closes the Access Options dialog box and applies our changes.
6. Click **OK**.	Closes the message box that tells us that we must close and reopen the database for our changes to take effect.

1.11 Using Help

In this lesson, you will learn how to use the Help system.

The **Help system** is designed to provide **assistance** to users whether you are online or offline and bring all available resources to you as quickly as possible. To access the Help system, press **F1** or click the **Help icon** on the upper right-hand corner of the Access window.



The Help system toolbar includes the familiar Back and Forward commands. The **Application Home** tool brings you to the Access starting point, where you can browse through information related to the Microsoft Access application. If you wish to increase or decrease the text size in the Help window, click the **Use Large Text Size** button. Another nice feature on the Help toolbar is the **Keep on Top** tool (the pushpin icon on the lower-right corner of the window), which allows you to keep the current Help page open while you work.

To Use the Help System

1. Click the **Microsoft Access Help** button on the upper right-hand corner of the Access Window

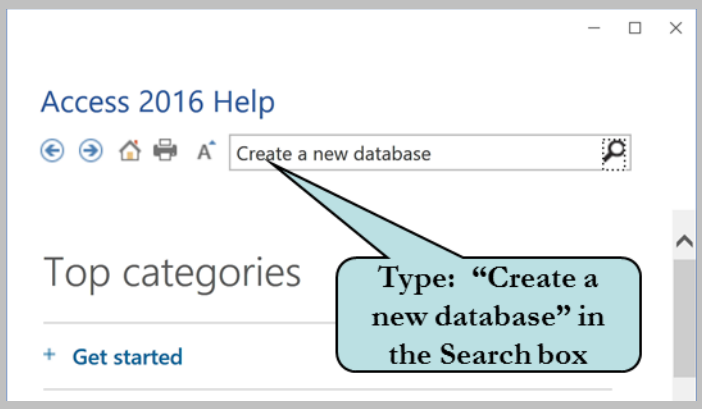
Or
Press **F1**

2. Enter the keyword(s) for which you want to search in the **Search** box.
3. Click the **Search** button
   Or
   Press the **Enter** key.
4. Click the **link** for the help topic you wish to view in the **Search Results pane.**

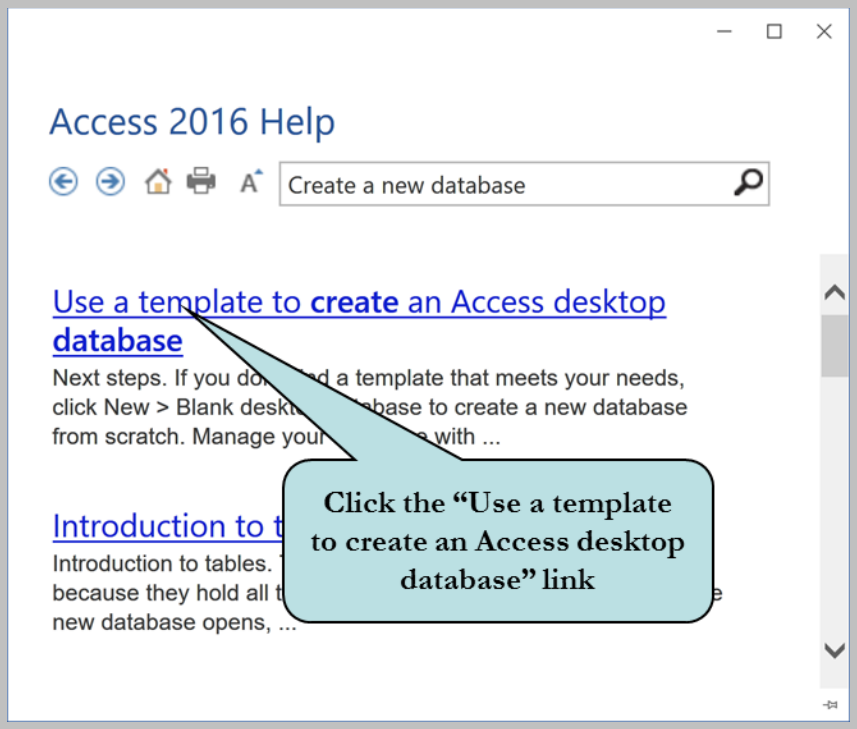
Let's Try It!

What	Why
1. Click the **Microsoft Access Help icon** on the upper right-hand corner of the screen as shown below.	Displays the Access Help System window.

2. In the **Search box**, type: **Create a new database** as shown below.	Enter the keywords for which we want to search.



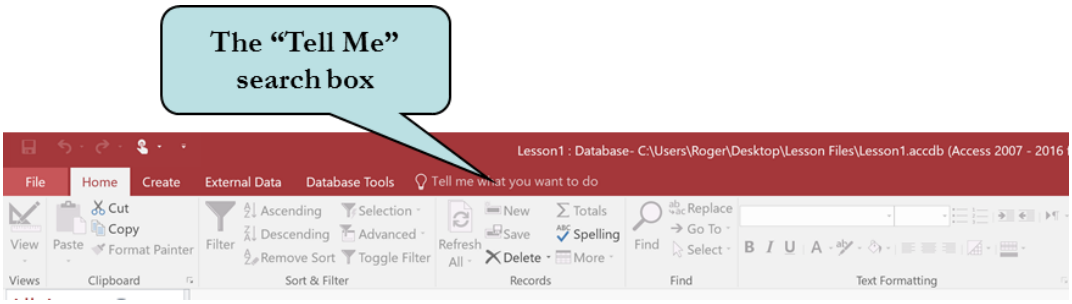
3. Press **Enter**.	Executes the search. The results are displayed in the Search Results pane.

What	Why
4. Click the **Use a template to create an Access desktop database** link in the Search Results pane as shown below.	Displays the help topic for that link.
	
5. Click the Access Help **Close button** on the upper right-hand corner of the screen.	Closes the Help System window.

1.12 Using Tell Me to Obtain Help

In this lesson, you will learn how to use the Tell Me help system.

Tell Me is a new feature in Access 2016 designed to provide assistance and get you up and running as quickly as possible. On the Ribbon is a text box that contains the text **Tell me what you want to do**. You can enter in keywords and phrases related to what tasks you want to accomplish to display the actions you're looking for. As you type each letter, Excel immediately begins suggesting relevant commands. This comes in especially handy if you know that there's a command for what you want to do but aren't quite sure where it's located.



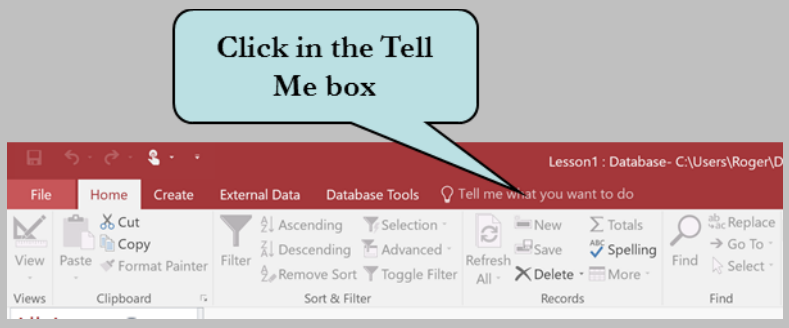
Don't worry if you don't know the exact wording for a command or action – Excel uses natural language for the search, similar to what you might use for a Bing or Google search for example. If you need additional help, there's a help link on the bottom of the Tell Me window or you can type the word: **Help** in the search box to bring up the familiar Help Screen window.

To Use the Tell Me Box to Obtain Help

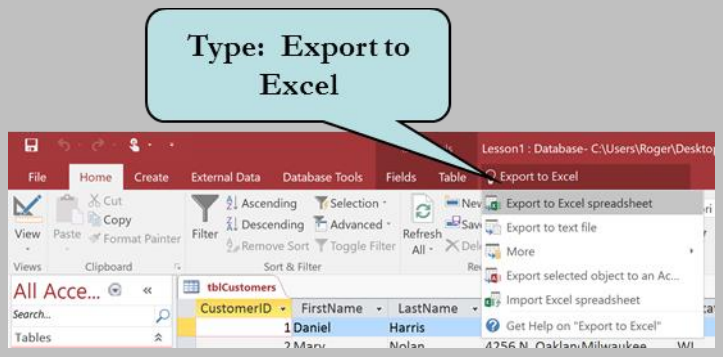
1. Click in the **Tell Me** box on the Access Ribbon.
   Or
   Press the **Alt + Q** keystroke combination.
2. Type your search term.
3. Click the item in the results list to execute the command.
4. To obtain additional help for your search term, click the **Get Help on [search term]** in the list.

Let's Try It!

What	Why
1. Click the drop-down arrow on the **Navigation Bar** and select **Tables** from the menu.	Shows only table objects.
2. **Double-click** the **tblCustomers** table in the Navigation pane.	Opens tblCustomers in datasheet view.
3. Click in the **Tell Me** box as shown below.	Sets the insertion point in the Tell Me search box.



4. In the **Search box**, type: **Export to Excel** as shown below.	As you type, commands and actions relevant to your search term appear below the Tell Me box.



5. Click: **Export to Excel spreadsheet** from the list as shown below.	Executes the command and displays the Export window.

What	Why
6. Click the **Browse** button.	Displays the file manager. We will work more with exporting Access objects in a later lesson.
7. Click **Desktop** in the left pane.	Selects the location where we want to export our spreadsheet.
8. Click **Save** and then click **OK**.	Exports our data.
9. Click **Close**.	Closes the Export window.
10. Click the **File** tab on the Ribbon and then click **Close**.	Closes the database and displays a blank Access screen.
11. Click the **Close** button on the upper-right corner of your screen.	Exits the Access application.

Lesson Summary – Access Basics

- In this lesson, you learned about databases, database design and relational database management systems. You also learned that Tables are the building blocks of a database – the object where our data is stored.

- Next, you learned how to create a database from a database template – a predesigned Access database. You learned that templates are available from the New pane or Welcome pane of the Backstage View window which displays when Access launches.

- Then, you learned how to open an existing database by clicking on the File tab, clicking the Open icon and then navigating to the folder where the database is located.

- Then, you examined the different components of the Access screen, including the Command Tabs and Command Sets.

- Then, you learned the components of Tables. You learned about records (rows) and fields (columns). You also learned how to navigate records in a table.

- Then, you worked with Forms. You learned that forms provide a user interface for entering data into a table and are made up of labels and text boxes, as well as other objects such as checkboxes, graphics, list boxes, combo boxes, etc. You also learned how to navigate records in a form.

- Then, you worked with Queries. You learned that queries are questions that you ask about your data and that when run, the results look like the datasheet view of a table.

- Then, you worked with Reports. You learned that reports are used for printing and displaying data in your tables.

- Then, you learned how to create a new blank database from the New pane in Backstage View.

- Then, you worked with Access Options, which allow you to modify various application settings. To set Access Options, click the File tab and then click the Options button.

- Then, you worked with the Microsoft Access Help System to provide you assistance while working.

- Lastly, you worked with the new Tell Me feature to obtain assistance while working. You learned that you can access the Tell Me feature by clicking the Tell Me box on top of your screen or by pressing Alt + Q.

© 2016 PCM Courseware

Lesson 1 Quiz

1. Access is:
   A. A spreadsheet application
   B. A Word Processor
   C. A graphics design application
   D. A database application

2. Where is information stored in an Access database?
   A. In queries
   B. In tables
   C. In forms
   D. In reports

3. What is the name for the set of database rules designed to eliminate inconsistencies and maximize efficiency?
   A. Relational database standards
   B. Normalization
   C. Primary Key Rules
   D. Access Database Design Standards (ADDS)

4. After launching Access, which screen is displayed first?
   A. The Database Wizard
   B. The Navigation Pane
   C. The Welcome pane of Backstage View
   D. The Microsoft Office File Menu

5. From what screen can you create a database based on a template?

6. To open an existing database, you (select all that apply):
   A. Select File and then click Open from the menu.
   B. Select "Open Database" from the Navigation Pane menu.
   C. Click the File tab and then click Open from the menu.
   D. Press the Ctrl + O keystroke combination.

7. The Menu bar in older versions of Access has been replaced by the:
   A. Command Tabs
   B. Backstage View
   C. Dialog Launcher Menu
   D. The File tab

8. Tables consist of:
   A. Records and Fields
   B. Cells and Fields
   C. Columns and Command Sets
   D. Rows and Views

9. Forms are used to ask a question about your data.
   A. True
   B. False

10. What is the difference between a label and a text box?
   A. Data entered into labels is added to the table whereas text boxes are informational.
   B. Labels are colors added to text boxes whereas text boxes are for information purposes only.
   C. Data entered into text boxes is added to the table whereas labels are informational.
   D. There is no difference between the two.

11. Which database object allows you to find records that meet specific criteria?
   A. Tables
   B. Forms
   C. Queries
   D. Reports

12. Which database object does NOT allow you to add or modify data?

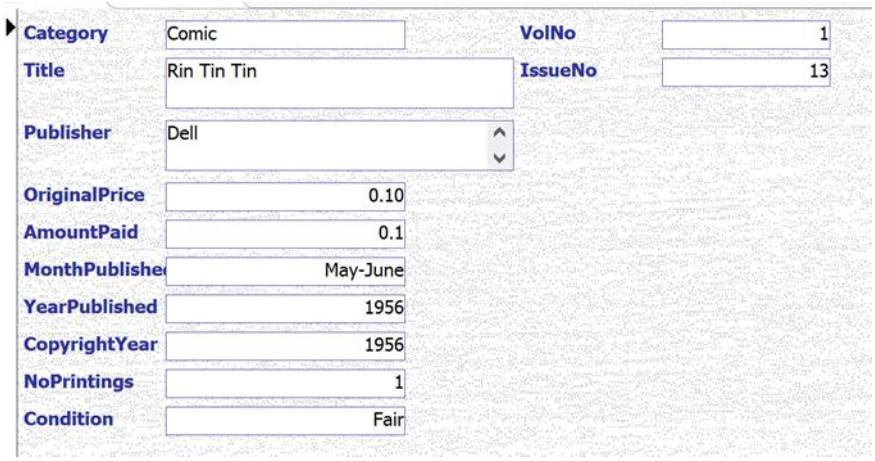
13. To display Access Options, you:
   A. Select Tools and then click Access Options from the Quick Start Menu.
   B. Select Tools and then click Options from the menu.
   C. Click the File tab, click Tools and then click Options from Backstage View.
   D. Click the File tab and then click Options from the File Options menu.

14. What are two ways that you can access the Microsoft Access Help System?

© 2016 PCM Courseware

LAB 1 – ON YOUR OWN

1. Open Microsoft Access.
2. Open the **Lab1** database in the Lesson Files Folder (Hint: Click the "Open Other Files" link).
3. Open the **tblComics** table. How many records are in the table?
4. Click the Next Record button until you are on the 6th record.
5. Go to the last record in the table.
6. Close tblComics.
7. Open qryDracula. How many records are in the query? Close the query.
8. Open **frmComics**. Enter in the following new record:



9. Close the form.
10. Create a new blank desktop database with the file name **My Database.** Save the database in the Lesson Files folder.
11. Click the File tab and then click Close.

Lesson 2

Lesson 2 - Working with Tables

Lesson Topics:

2.1 Creating a Table using Application Parts

2.2 Entering Data into a Table

2.3 Adding New Fields to a Table

2.4 Creating a Table from Scratch

2.5 Setting a Primary Key

2.6 Changing Column Width and Row Height

2.7 Rearranging Fields

2.8 Inserting and Deleting Fields

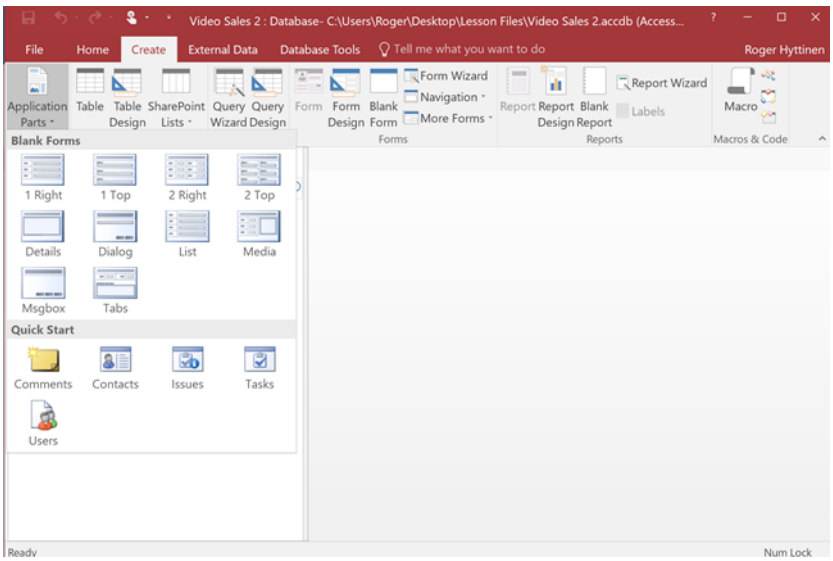
2.9 Changing Field Properties

2.10 Designing in Datasheet View

© 2013 PCM Courseware, LLC

2.1 Creating a Table using Application Parts

In this lesson, you will learn how to create a new table using Application Parts.



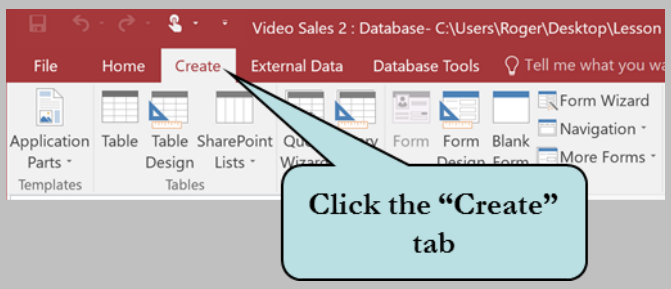
Application Parts allow you to build your database using pre-designed components. Introduced in Access 2010, Application Parts contain several pre-built tables that are commonly used in databases to get you started: Contacts, Issues, Tasks and Users.

If the tables you need to create are different than the available pre-designed tables, you may want to consider simply creating your table from scratch and save the time you would spend changing field names and data types. You may also wish to explore the collection of professionally designed database templates, which contain a usable set of data tables.

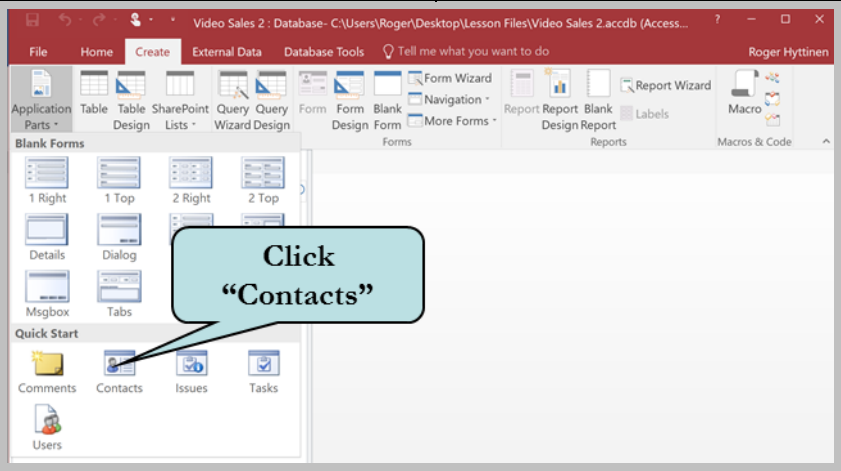
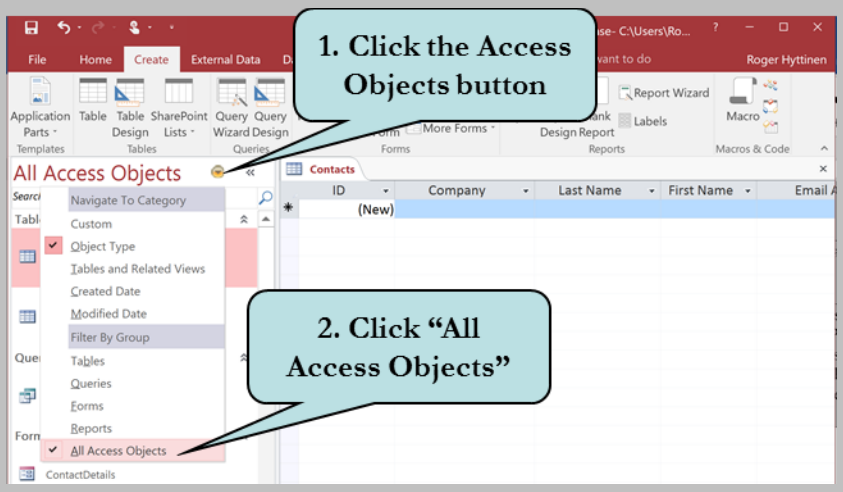
To Create a Table using Application Parts

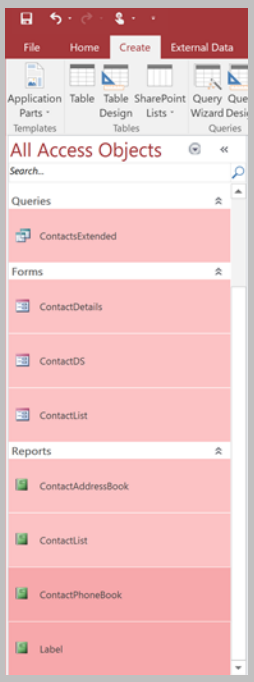
1. Click the **Create** tab on the Ribbon.
2. Click the **Application Parts** button on the **Templates** group on the Ribbon to display a list of available Application Parts.
3. Click on the Application Part in the list that you wish to use. Database items (tables, forms, reports, queries) associated with the application part will then be created.

Let's Try It!

What		Why
1.	With Access open, click the **File tab**.	Displays the **File Options** menu.
2.	Click **Open**.	Displays the **Open** dialog box.
3.	Click the **Browse** icon in the right pane.	Displays the Open window.
4.	Click **Desktop** on the left side of your screen.	Opens the Desktop folder.
5.	Double-click the **Lesson Files** folder on the right side of your screen.	Opens the Lesson Files folder and displays the files in that folder.
6.	Select the **Video Sales 2** file and then click **Open**.	Opens the Video Sales 2 database.
7.	Click the **Create** tab on the Ribbon as shown below.	Displays commands related to creating objects in Access.
		
8.	Click the **Application Parts** icon on the Templates group of the Ribbon.	Displays a list of available Application Parts.
9.	Click on **Contacts** in the Application Parts list as shown below.	Creates a new table using the Contacts template and opens it in Datasheet view.

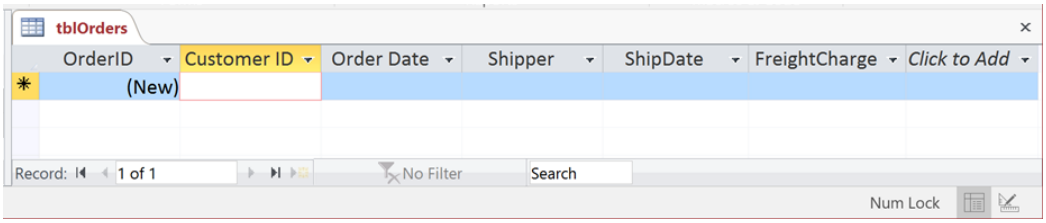
© 2013 PCM Courseware, LLC

What	Why
	
10. Click **Cancel** when asked if you wish to create a relationship.	Closes the relationship dialog box.
11. Double-click the **Contacts** table in the Navigation pane.	Opens the new table that we just created.
12. Click the Access Objects button in the navigation pane as shown below and select "All Access Objects"	Displays all Access Objects. Notice that the Application Part also created associated queries, forms and reports. As we do not need them, we will delete them from the database.
	

What	Why
13. Under the Queries area, click the object named **ContactsExtended**, hold down the **Shift key** on your keyboard and then click **Label** under the Reports category in the Navigation pane so that all of the query, form and report objects are selected as shown.	Selects all of the objects between ContactsExtended and Label. 
14. Press the **Delete** key on your keyboard. Click **Yes** to confirm the deletion.	Deletes the selected objects.
15. Click the **Close** button on the **table** window.	Closes the table.

2.2 Entering Data into a Table

In this lesson, you will learn how to enter table data.



To enter data into a new table, click in the first field into which you wish to begin entering data and then type your information. Pressing the **Tab** key will move you to the next field. Note that you cannot enter data into an **AutoNumber** field.

To enter data into a table with existing data, click the **New Record** button on the Record Navigation Bar and then type your information into the new row.

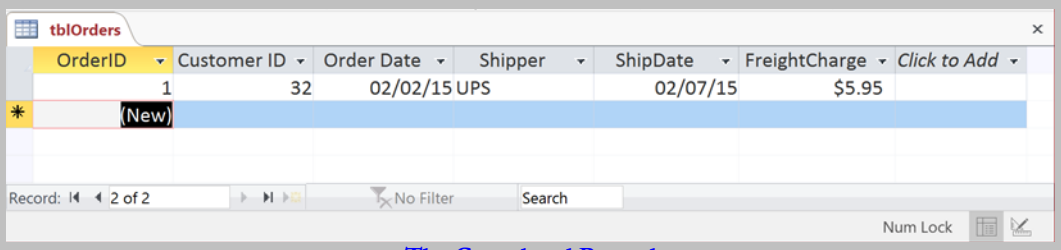
To Enter Data into a Table

1. Open the table in **Datasheet view**.
2. Click the **New Record** button on the Record Navigation Bar to insert a new record.
3. Click in the first blank field and begin typing.

Let's Try It!

What	Why
1. Select **tblOrders** in the Navigation Pane and then press **Enter**.	Opens tblOrders in Datasheet view. You can also double-click a table to open it in Datasheet view.
2. Click in the **Customer ID** field and then type: **32**	Enters the CustomerID number.
3. Press **Tab**.	Moves to the next column.

What	Why
4. Type: **02/02/15** in the Order Date field and then press **Tab**.	Enters the Order Date and then moves to the next column.
5. Type: **UPS** in the Shipper field and then press **Tab**.	Enters the Shipper and then moves to the next field.
6. Type: **02/07/2015** in the Ship Date field and then press **Tab**.	Enter the Ship Date and then moves to the next field.
7. Type: **5.95** and then press **Tab**.	Enters the Freight Charge and then moves to a new record. Note that you do not have to "save" your data – when you move off the row, the data is automatically saved.



The Completed Record

2.3 Adding New Fields to a Table

In this lesson, you will learn how to add new fields to a table.

When you need to add new fields to your table, delete existing fields, or modify the formatting properties of your table, you will often want to work in **Design view**. In fact, as you become more comfortable working with Access, you may find yourself creating the majority of your tables in Design view, rather than using database templates. Using Design view allows you to add fields, select a data type and enter a description for your fields. Design View contains many powerful features and allows for maximum flexibility.

In Design view, each field contains three properties:

- **Field Name** – the name of your field
- **Data Type** – allows you to specify what type of data can be entered into the field
- **Description**– allows you to add optional notes to describe the field in more detail

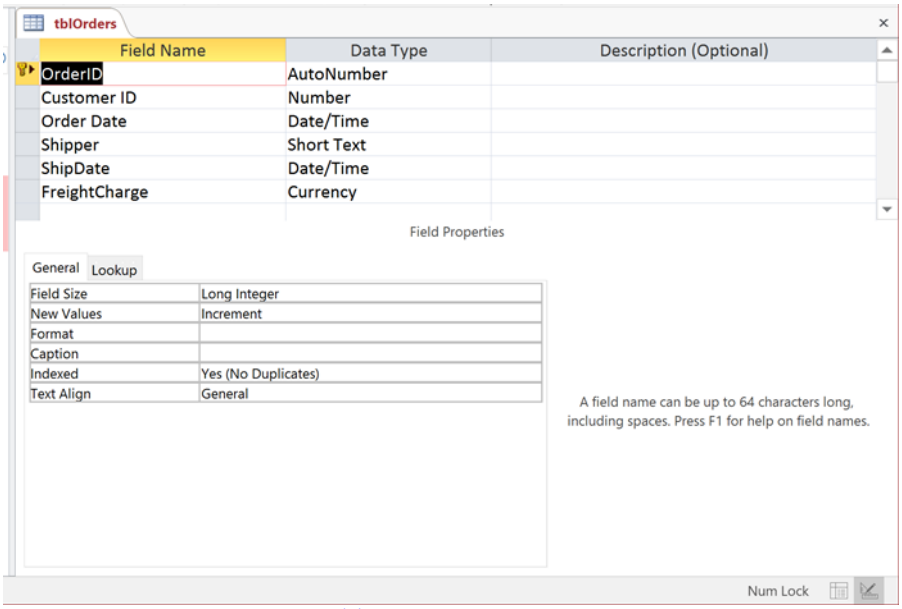


Table Design View

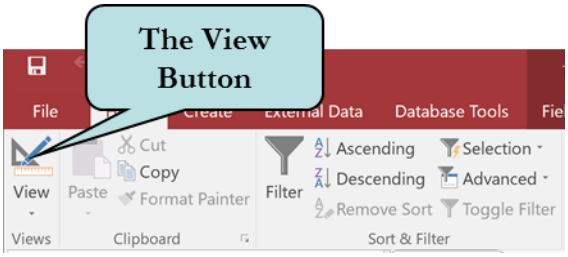
You also have the ability to add new fields while in Datasheet view. To add a new field in Datasheet view, click on the **column heading** that reads ***Click to Add*** and chose the data type of the field from the list. Then, type in the name for the field.

Rather than choosing a data type, you can also simply click in the first blank cell under the Click to Add heading and begin entering data in the new field. When you enter data in the new column, Access 2016 uses the information you type to

recognize the appropriate data type. For instance, if you type: 5/17/2015, Access should recognize it as a date and set the data type for the field to Date/Time. If Access is unable to guess the data type, the default data type is set to Short Text.

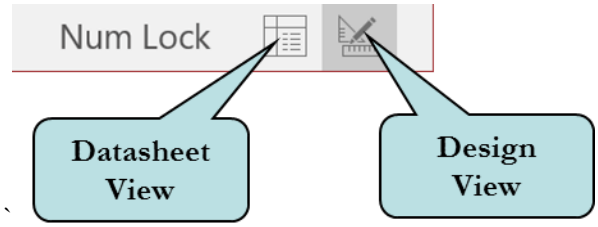
To Switch to Design View

1. From the **Home** tab, select **Tables** in the **Navigation Pane** to display database tables.
2. Double-click the table to open it in Datasheet view.
3. Click the **View command button** on the Ribbon to toggle between Design View and Datasheet View.



Or

1. **Right-click** on the table and choose **Design View** from the contextual menu.
   Or
   Click the **Design View** button on the lower right-hand corner of your screen



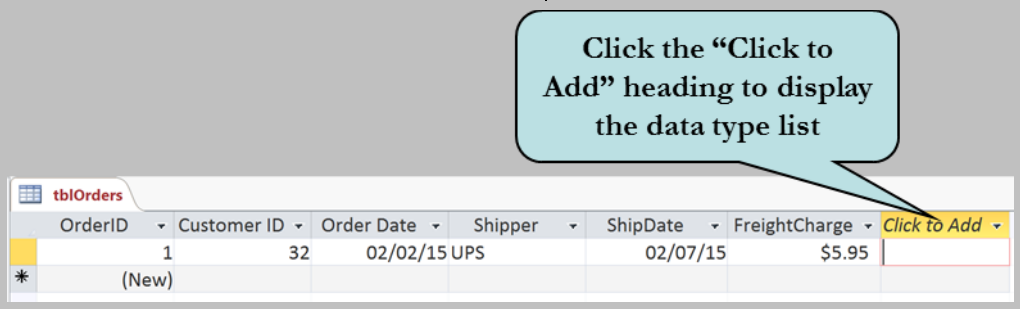
To Add a New Field from Datasheet View

1. Display **Table objects** in the **Navigation Pane**.
2. Double-click the table to open it in Datasheet view.
3. Click on the **column heading** that reads ***Click to Add*** and then choose the data type for the field from the list.
4. Type in the name for your new field and then press Enter.

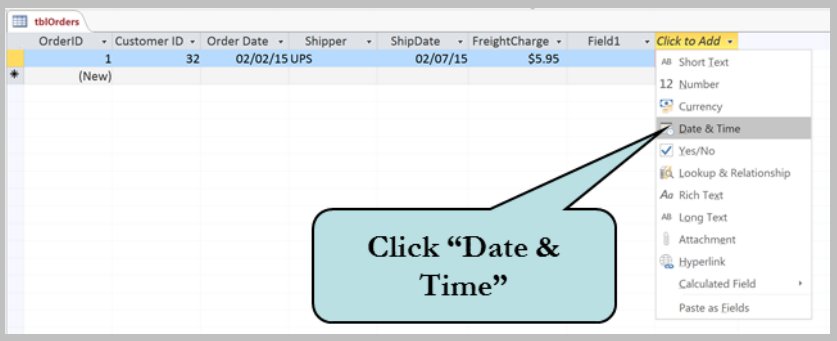
© 2013 PCM Courseware, LLC

Let's Try It!

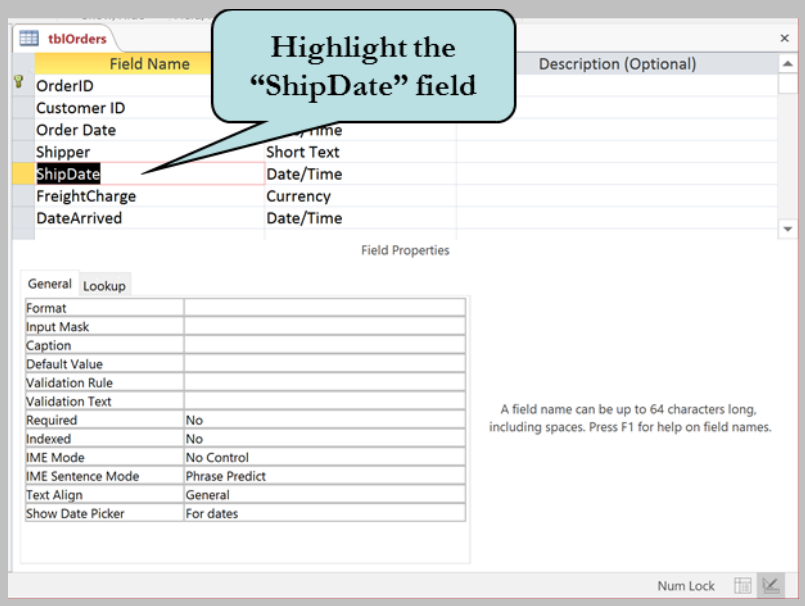
What	Why
1. Click on the column heading that reads **Click to Add** as shown below.	Displays a list of available data types.



2. Click **Date & Time** from the list as shown below.	Sets the data type to Date & Time and then highlights the title of the fields so that you can provide it a meaningful field name.



3. Type: **DateArrived** and press **Enter**.	Creates the field and then moves the end of the table, allowing you to create another new field.
4. Click the **Design View button** on the lower right-hand corner of the Access screen.	Switches to Design view.
5. Highlight the **ShipDate** field as shown below.	Selects the ShipDate field. We are going to change the field name of this field.

What	Why
	
6. Type: **DateShipped**	Renames the ShipDate field to DateShipped.
7. Click the **Save** button on the **Quick Access toolbar**.	Saves the design changes to the table. Though you do not need to save changes to your data, you do need to save your design changes.
8. Click the table's **close button**.	Closes the table.

2.4 Creating a Table from Scratch

In this lesson, we will create a new table in Design view.

As you work more with Access, you will most likely want to create your tables from scratch rather than using templates. Creating your tables from scratch allows you maximum flexibility.

When adding fields to a table, you'll need to specify a field name and a **data type**. Data types tell Access what type of data to expect in that field. For example, you would be unable to calculate two numbers if their data type was set to Text. Thus, it's important to have a general understanding of data types.

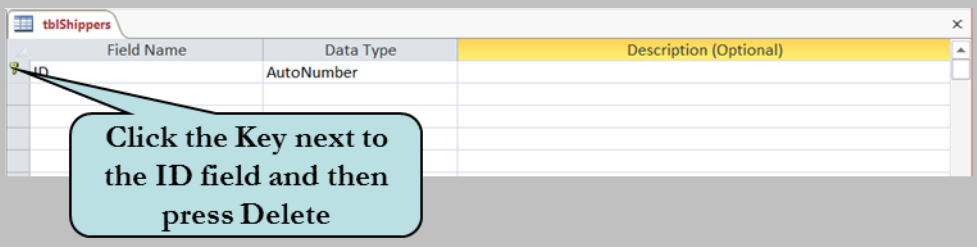
Data Type	Description
Short Text	Stores text and/or numbers. Set for any field that will not be used for calculation. Entries can be up to 255 characters.
Long Text	Allows you to store up to 1 gigabyte of data in a field in desktop databases.
Number	Stores numbers that will be used in calculations. For numbers beginning with 0 (such as employee numbers for instance), use the text data type as the 0 will be dropped if data type is set for number.
Date/Time	Used for date and/or times.
Currency	Stores numbers with a fixed number of decimal places and a currency symbol.
AutoNumber	Sequentially numbers the records. AutoNumber is generally used for primary key fields for which unique values are required.
Yes/No	A Boolean value that represents a yes/no or true/false value.
OLE Object	Used for objects created in other applications such as Excel spreadsheets, graphics, and sound files.
Hyperlink	Used for clickable links to files on your computer or to Web sites on the Internet.
Attachment	Allows you to attach images, spreadsheet files, documents, and other supported files to records in your database. More flexible than OLE fields.
Calculated	Allows you to store a calculated value in a field.
Lookup Wizard	Used to create a field that allows you to select a value from a list or from a field in another table or query.

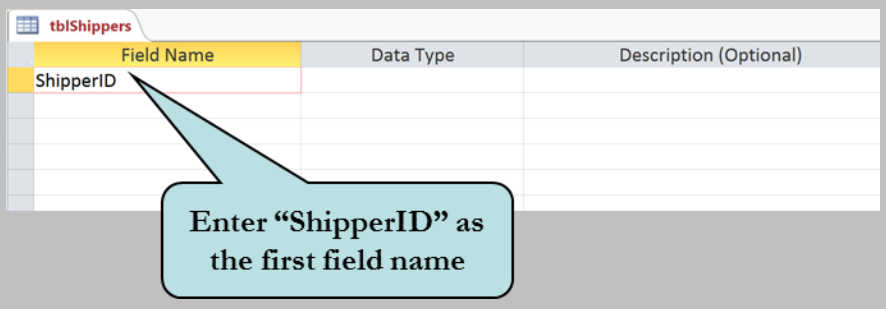
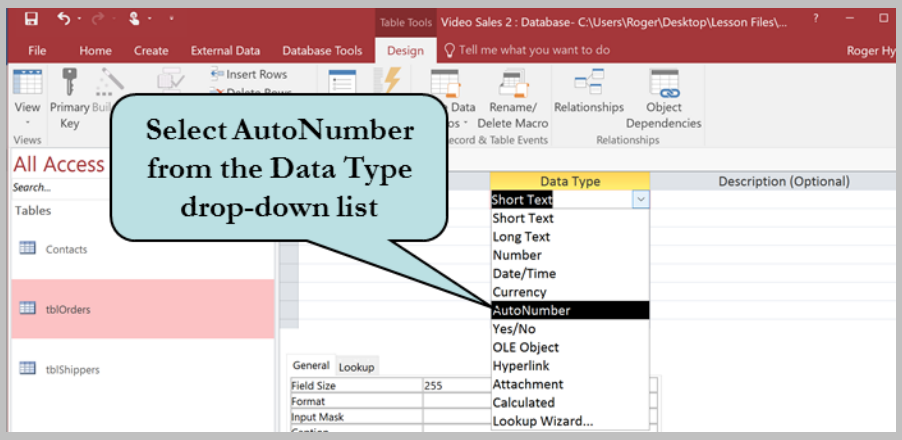
To Create a Table from Scratch

1. Click the **Create** command tab on the Ribbon.
2. Click the **Table** command icon.
3. Click the **View** button to switch to Design view.
4. Enter a Field Name and Data Type for each field.
5. Type in a description for each field if desired.

© 2013 PCM Courseware, LLC

Let's Try It!

What	Why
1. Click the **Create** command tab on the Ribbon.	Displays commands related to the creation of database objects.
2. Click **Table** command icon on the Tables group of the Ribbon.	Creates a new table and opens it in Datasheet view.
3. Click the **Home tab** on the Ribbon.	Switches to Home commands and tools.
4. Click the **View** command icon on the Ribbon.	Switches to Design view.
5. Type: **tblShippers** in the Table Name box.	Before we can switch to Design view, we must first provide a name our new table.
6. Click **OK**.	Saves the table and switches to Design view. Notice that Access automatically created our first field for us – the ID field.
7. Click on the **key** next to the ID field as shown below and then press the **Delete** key. Click **Yes** when asked if you want to delete the field.	Deletes the default field that Access provided. We are going to create our own ID field.
	
8. Click in the first blank **Field Name** box and type: **ShipperID** as shown below.	Enters a name for the first field.

What	Why
	
9. Press **Tab**.	Moves our cursor to the Data Type Column. A default value of "Short Text" is displayed for the data type. As the Shipper ID field will be used for a primary key field, we will want to change the data type to an AutoNumber field.
10. Click on the **Data Type** arrow and then select **AutoNumber** from the list, as shown below.	Sets the data type for the ShipperID field to AutoNumber.
	
11. Press **Tab** to jump to the **Description** field and then type: **This is the Shipper ID**	Enters a description for the first field.
12. Press **Tab**.	Moves to the next blank Field Name box.

© 2013 PCM Courseware, LLC

What	Why
13. Type: **ShipperName**	Enters the field name for the next field.
14. Press **Tab**.	We will accept the default Short Text data type.
15. Press **Tab** and then type: **This is the Shipper Name**.	Enters a description for the second field.
16. Press **Tab** and then type: **ShipperPhone**.	Moves to the next blank Field Name box and enters "ShipperPhone" as the next field name.
17. Press **Tab twice.**	Accepts the default Short Text data type and moves to the description field. As a telephone number contains non-numerical characters such as dashes and parenthesis, we must set the data type as short text, and not number.
18. Type: **This is the Shipper Phone Number**.	Enters a description for the third field.
19. Click the **Save** icon on the Quick Access Toolbar.	Saves our changes.

A Note about Naming Conventions

Most database developers use some sort of naming conventions to help them organize and quickly identify the database objects in their database. A popular naming convention uses the object type, in lowercase letters, as the first 3 letters of the object name. For example, a Customer's table would be named: ***tblCustomers,*** a customer's form would be named ***frmCustomers,*** a customer's query would be name **qryCustomers** and a Customer's report would be named ***rptCustomers***.

Naming conventions are optional. However, it is considered good database programming practice to use some sort of naming convention for your objects.

2.5 Setting a Primary Key

In this lesson, you will learn about Primary Keys.

When working with a relational database such as Microsoft Access, you will often need to **link** two or more tables to bring related information together. In order to do this, each table needs to include a field that uniquely identifies each record in the table. This means that the data in that field may not be duplicated in any other of the table records. This unique identifier field is called a **Primary Key**.

A primary key is typically a number, such as an order number, customer number, invoice number or social security number. The most important consideration when adding a primary key to a table is that it must be unique. Some additional rules to keep in mind when setting a primary key field:

- The primary key field can never be blank (or null)
- The primary key field can never be duplicated
- The primary key field should be as short as possible
- The primary key should describe the entity

Another purpose of the primary key is that it **indexes** the information in the record. Indexing helps Access find information quickly, especially when you have a large amount of data.

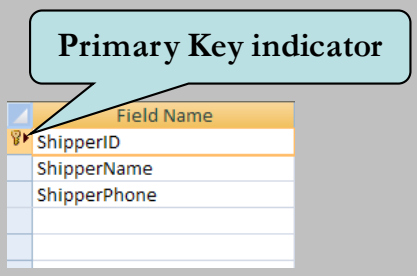
Designating an **AutoNumber** as the primary key for a table is often the easiest way to create a unique identifier. If you neglect to set a primary key, Microsoft Access will ask if you want it to create a primary key for you. If you answer yes, Access will create an AutoNumber primary key. As we saw in a previous lesson, Access automatically creates an ID field with a primary key for all new tables.

To Add a Primary Key field to a table

1. Click in the **Field Name** box of the field you wish to set as a primary key field.
2. Click the **Primary Key** icon on the Ribbon.
   Or
   Right-click and then select **Primary Key** from the pop-up menu.

© 2013 PCM Courseware, LLC

Let's Try It!

What	Why
1. Click in the **Field name** box (the gray box to the left of the field name) for **ShipperID**	Selects the field that we want to set as a primary key field. You can also simply click anywhere in the file name box to select the field.
2. Click the **Primary Key** command icon on the contextual Design tab of the Ribbon.	Sets the ShipperID field as a key field. The key symbol to the left of the ShippperID field informs us that this field is set as a primary key field. 
3. Click the **Save** button on the Quick Access Toolbar.	Saves our changes.

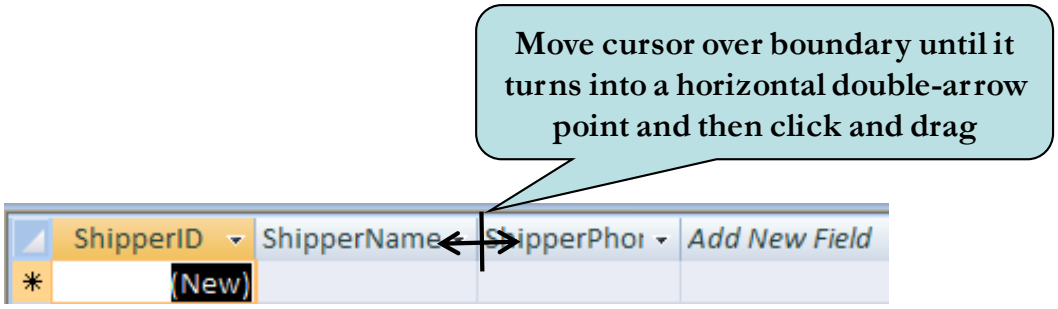
2.6 Changing Column Width and Row Height

In this lesson, you will learn how to change the width of columns and the height of rows in a table.

After creating your tables, you may discover that your columns are not wide enough to accommodate your data. Luckily, you can effortlessly change the width of your table columns. If you have worked with Microsoft Excel or other similar spreadsheet applications, you may already be familiar with the process of changing column width as it works the same way in an Access table. The process for changing the height of rows is the same as changing the width of columns.

To Change the Width of a Column or the Height of a Row

1. Move your mouse pointer over the **boundary** of the right side of the **column heading** until the mouse pointer changes into a black cross with a horizontal double arrow pointer. To change a **row height**, drag the boundary of the bottom side of the row heading until the mouse pointer changes into a black cross with a vertical double arrow pointer.
2. Click and hold down the left mouse button, and then **drag** until the column is the desired width or the row is the desired height.

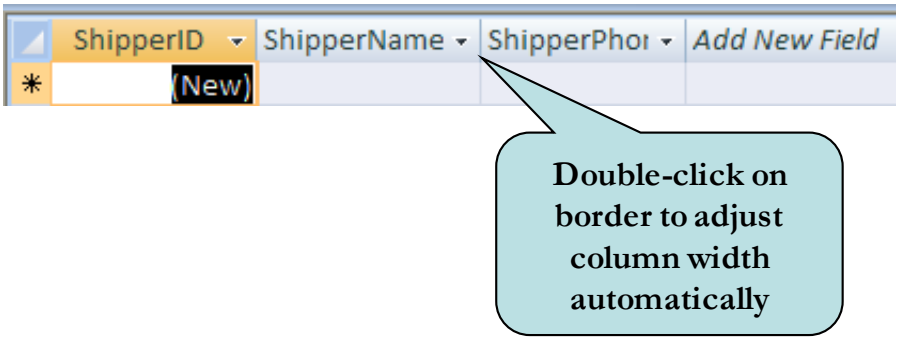


AutoFit

You can also use the **AutoFit** feature. This allows you to automatically change the width of a column to accommodate the widest entry.

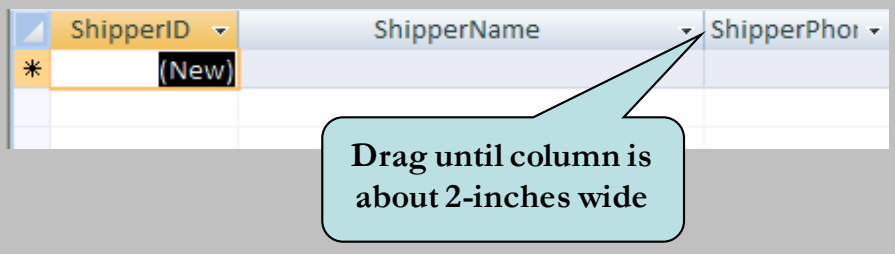
To Change the Size of a Column using AutoFit:

1. Double-click on the **right border** of the column heading. The column width will adjust to accommodate the largest entry in that column.



Let's Try It!

What	Why
1. Click the **View** command icon on the Ribbon.	Switches to Datasheet view.
2. Move your mouse pointer over the border between **ShipperName** and **ShipperPhone** until the pointer transforms into a black cross with a horizontal double arrow pointer.	Enters drag mode.
3. Click and drag to the right until the column is about **2 inches wide** as shown below.	Increases the width of the ShipperName column to about 2 inches.



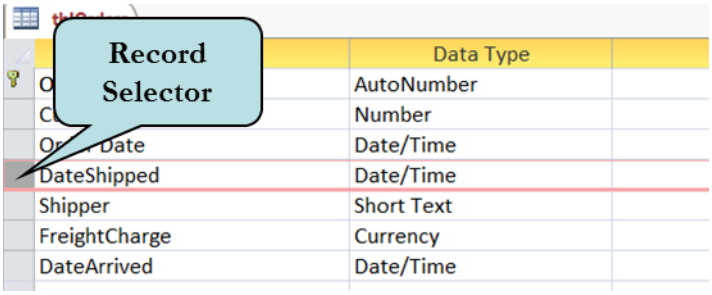
2.7 Rearranging Fields

In this lesson, you will learn how to change the position of fields.

After creating your tables, you may decide that some of the fields are not in the order that you would like. To move a field from one location to another, use the click-and-drag method. That is to say, click the record selector for the field you wish to move, and then drag it to the new location. As you drag, a dark line appears, indicating the location of the field should you release the mouse button.

To Rearrange Fields in a Table

1. Open the table in **Design view**.
2. Click the record selector to the left of the field you wish to move to select the record.

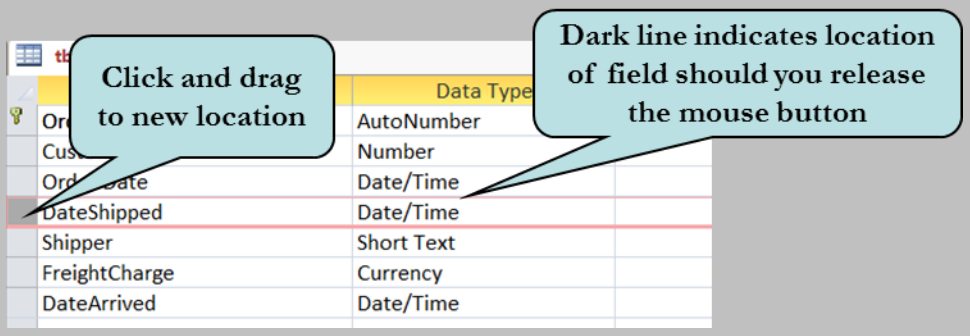


3. Click on the selected record and then drag the field to its new location (as you drag, a dark line appears, indicating the location of the field).

Let's Try It!

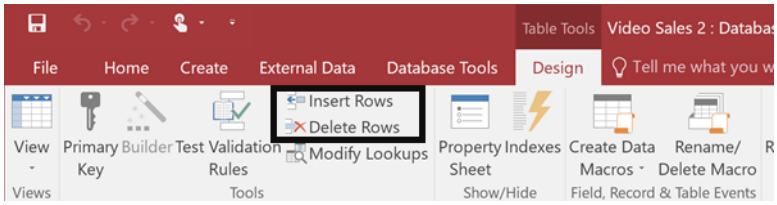
What	Why
1. Click the **Close Button** for tblShippers. **Save** any changes.	Closes the tlbShippers table.
2. **Right-click** on **tblOrders** and then choose **Design View** from the contextual menu.	Opens tblOrders in Design view.
3. Click the record selector to the left of the **DateShipped** field.	Selects the DateShipped field.

© 2013 PCM Courseware, LLC

What	Why
4. Move your mouse pointer over the record selector for DateShipped, and then **click and drag** upwards until the DateShipped field is after the OrderDate field as shown below.	Repositions the DateShipped field after the OrderDate field
	
5. **Release** the mouse button.	Completes the move process.
6. Click the **Save** button.	Saves the design changes.

2.8 Inserting and Deleting Fields

In this lesson, you will insert new fields into and delete existing fields from a table.



You can insert new fields anywhere in your table in Design view by selecting the field above which you wish to insert a new field and then clicking the **Insert Rows** command button on the **Ribbon**. You can also right-click the row above which you want to insert a new row and select Insert Rows from the contextual menu.

To delete a field, select the field and then press the **Delete** key or click the **Delete Rows** command button on the Ribbon. But keep in mind that when you delete a field, all the data in the field is deleted along with it!

To Insert a New Field in a Table

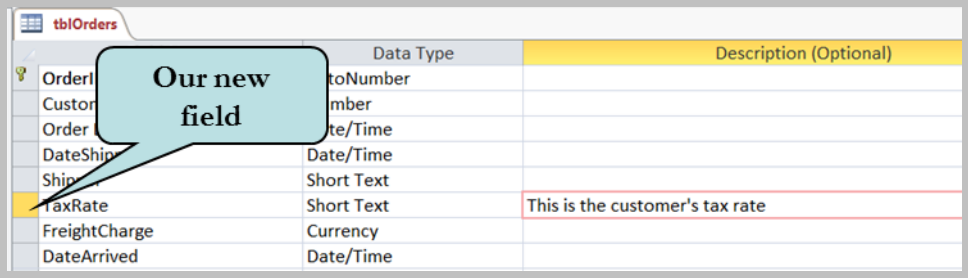
1. Display the table in **Design view**.
2. Click in the **Field Name box** of the field above which you wish to insert a new field.
3. Click the **Insert Rows** command button on the Ribbon
   Or
   Right-click on the field above which you want to insert a new row and select **Insert Rows** from the contextual menu.

To Delete a Field from a Table

1. Display the table in **Design view**.
2. Click **the record selector** of the field you wish to delete.
3. Click the **Delete Rows** command button on the Ribbon
   Or
   Press the **Delete** key.
4. Click **Yes** if asked if you want to permanently delete the selected field along with its data.

© 2013 PCM Courseware, LLC

Let's Try It!

What		Why
1.	Click the record selector to the left of the **FreightCharge** field.	Selects the Freight Charge field. We wish to insert a new field above this field.
2.	Click the **Insert Rows** command button on the Ribbon.	Inserts a new field above the Freight Charge field.
3.	Click in the **Field Name** box of the new field and then type: **TaxRate**	Enters a name for our new field.
4.	Press **Tab**.	Moves to the Data Type column. We will accept the default value for the moment.
5.	Press **Tab** again then type: **This is the customer's tax rate** as shown below.	Enters a description for the new field.
		
6.	Click the **Save** button.	Saves the design changes.
7.	Click the table's **Close** button.	Closes tblOrders.
8.	Select **tblShippers**, right-click and then choose **Design View** from the menu.	Opens tblShippers in Design view.
9.	Click the record selector to the left of **ShipperPhone**.	Selects the ShipperPhone field.

What	Why
10. Press the **Delete** key.	Deletes the selected record. As there is not yet any data in our table, Access does not ask us if we want to permanently delete the selected field along with its data.
11. Click the **Save** button.	Saves our design changes.

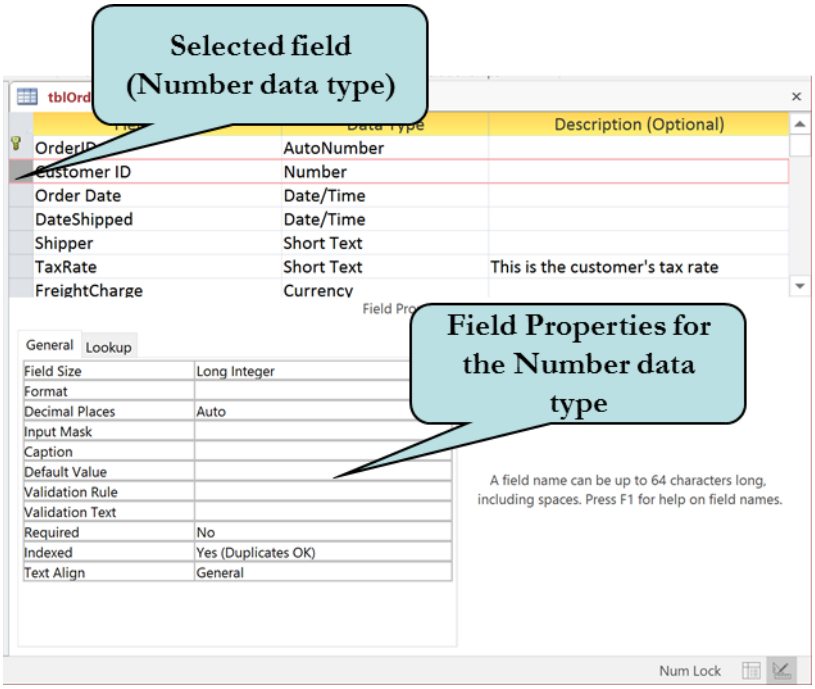
© 2013 PCM Courseware, LLC

2.9 Changing Field Properties

In this lesson, you will work with the Field Properties of a field.

While data types tell Access what type of data the field will hold, **field properties** govern how the data is displayed or stored. Each data type has its own set of field properties. For example, you can set the field size of the text data type to only allow 3 digits whereas the field size of the number data type is dependent on the size and type of number you choose (integer, long integer, single, double, decimal, etc.).

In this lesson, we will look at a couple of the more common field properties. The table on the next page summarizes some of the field properties that are most frequently modified.



To Modify Field Properties

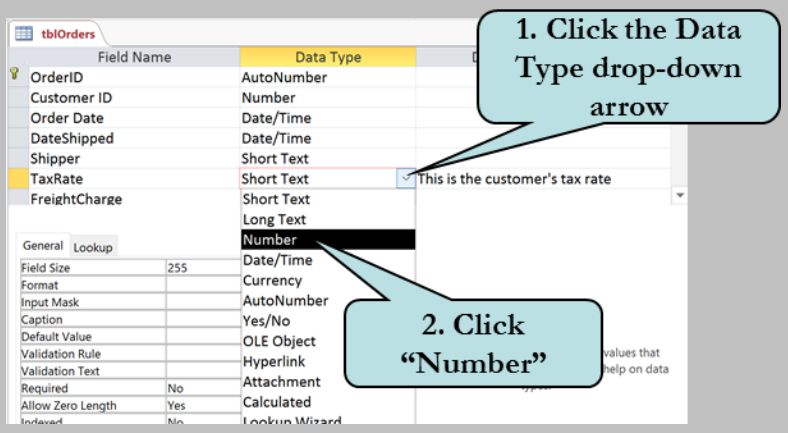
1. Display the table in **Design view**.
2. Click in the field name box of the field whose field properties you wish to change.
3. Click the General pane in the field properties window.
4. Make any desired changes.

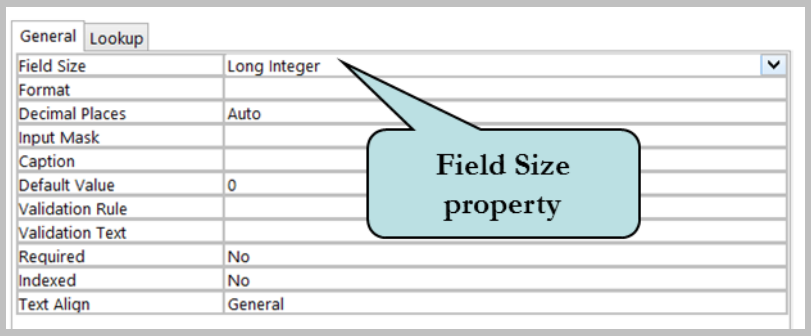
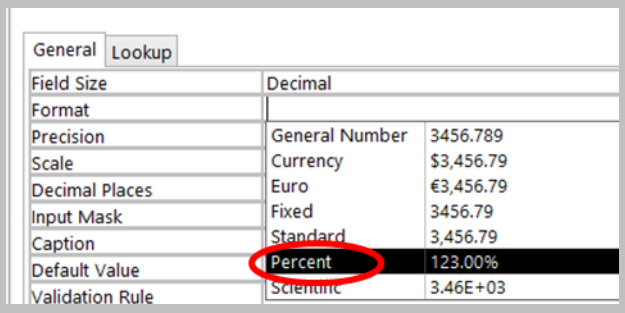
Common Field Properties

Field Property	Description
Field Size	Tells Access the maximum number of characters that can be stored in the field. For text, this is a number up to 255 characters. For numbers, this is a number type (long integer, double, decimal, integer, etc.)
Input Mask	A string of characters on the screen representing how data is to be entered by the user.
Format	How data entered is to be displayed. You can use a pre-defined format or use a custom format.
Decimal Places	The number of decimal places that will be displayed.
Caption	The text (or label) that should appear next to the text box control on a form. If no caption is entered, Access uses the field name.
Default Value	The value that Access automatically enters in the field for new records.
Validation Rule	An expression that controls the value that can be entered into a field.
Validation Text	The message the user receives when the validation rule is violated.
Required	A yes/no property that specifies whether a user must enter a value in the field.
Allow Zero Length	Specifies whether a string containing no characters (a zero-length string) is permissible. You enter a zero-length string by typing two quotation marks with no spaces between them (“”).
Indexed	Specifies whether you want to Access to create a data index for the field that can speed up searches and sorts.

© 2013 PCM Courseware, LLC

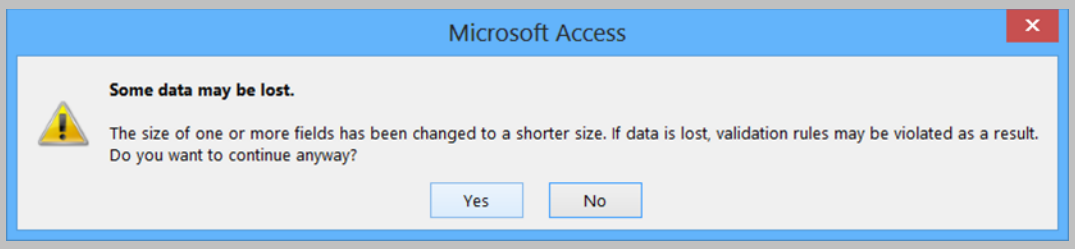
Let's Try It!

What	Why
1. Click the **Close** button for tblShippers.	Closes the tblShippers table.
2. Right-click **tblOrders** and then choose **Design View** button from the contextual menu.	Displays tblOrders in Design view.
3. Click in the **Data Type** box for the **TaxRate** field.	Selects the TaxRate field and displays the drop-down data type arrow.
4. Click the drop-down arrow in the data type box and select **Number** as shown.	Changes the data type for the TaxRate field to number.
	
5. Under the **Field Properties** area on the bottom of the window, click in the **Field Size** box as shown below.	Selects the Field Size property for the TaxRate field.

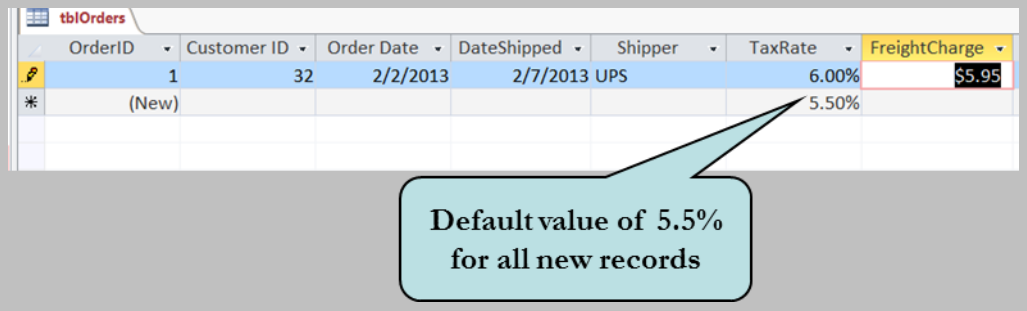
What	Why
	
6. Click the Field Size arrow and then select **Decimal**.	Selects decimal as the number field size (a decimal field size will reserve 12 bytes of space).
7. Click in the box next to **Format**.	Selects the Format property for TaxRate.
8. Click the drop-down arrow and then select **Percent** from the list as shown below.	Sets Percent as the number format.
	
9. Double-click in the **Scale** field and then type: **3**.	Sets the maximum number of places to the right of the decimal to 3.
10. Double-click in the **Default Value** box and then type: **.055**	Enters a default value of .055 or 5.5%
11. Click in the **Field Name** box for the **Shipper** field.	Selects the Shipper field and then displays the field properties for a text field.

© 2013 PCM Courseware, LLC

What	Why
12. Under the **Field Properties** area, double-click in the **Field Size** box and then type: **25**.	Sets the maximum field size to 25 characters.
13. Click the **View** button on the Ribbon. Click **Yes** when asked if you want to save the table. Click **Yes** when the "Data may be lost" information box appears as shown below.	Saves the design changes and switches to datasheet view. Whenever you change the field size of a field to a smaller field size, the "Data may be lost" box will appear. If we had a Shipper name in our table that was more than 25 characters, the data would be truncated to match our new field size.



14. Click in the **Tax Rate** field for the first record and type: **.06**. Press **Tab**.	Enters the tax rate for the first record. Notice that a tax rate of 5.5% is automatically inserted for new records.



2.10 Designing in Datasheet View

In this lesson, you will work with some of the new Design options in Datasheet View.

If you have worked with older versions of Access, you have no doubt done all of your design work in Design View. However, with the new user interface redesign, including many easy access Datasheet view design tools, you may find yourself doing much of your design work in Datasheet view.

When you need to add new fields to your table, you can do so directly from Datasheet view using the contextual Fields tab under Table Tools on the Ribbon. From the **Fields Ribbon**, you can add fields, select a data type (specify what kind of information can be entered), enter a description for your fields and much more.

The contextual Fields tab

To quickly add a field to a table, click in the field at the location where you wish to insert a new field (the new field will be inserted to the right of the active field) and then click the field type you wish to add under the **Add & Delete** area of the Ribbon. For instance, you would choose Text for a customer name field or Currency for the price of an item.

In addition to inserting fields, you can specify Data Type and Data Format, delete and rename existing fields, set the Unique and Is Required property for fields and insert Quick Starts (pre-created sets of fields allowing you to speed up the table design process). With these features right at your fingertips, you can spend less time switching back and forth from Design view to Datasheet view.

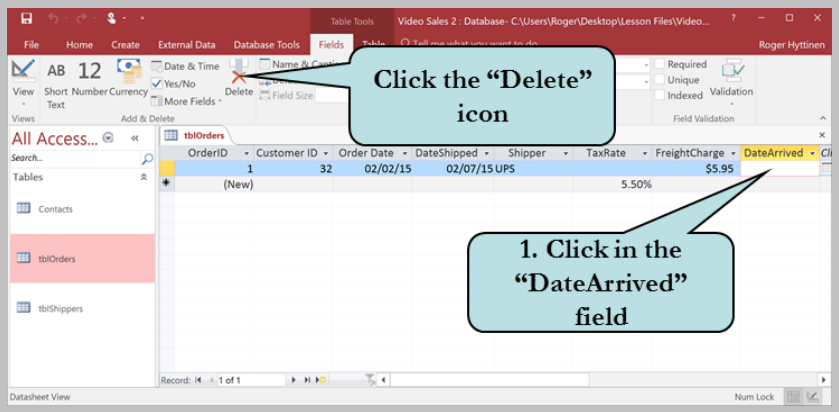
To Design from Datasheet View

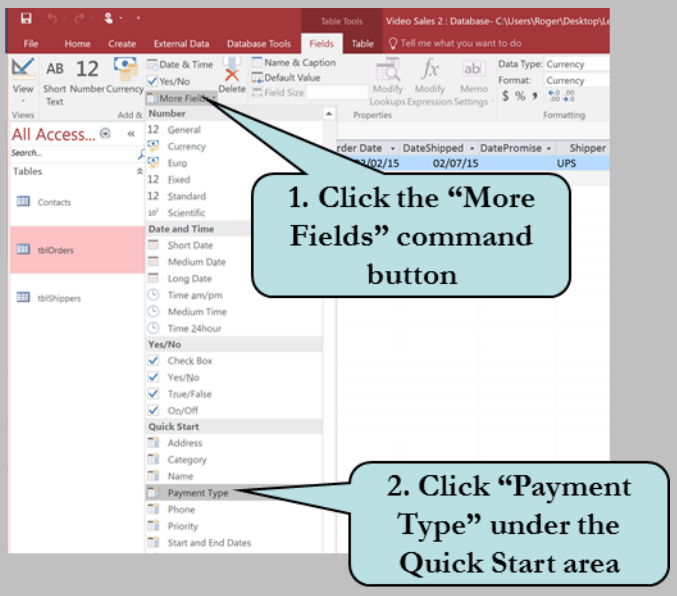
1. Display the table in **Datasheet view** from the Navigation Pane.
2. Click the contextual **Fields tab** on the Ribbon (under the contextual Tables Tools tab set).
3. To change the Data Type of a field, select the field, click the Data Type drop-down arrow on the Formatting group of the Ribbon, and choose the desired new Data Type. Chose any desired formatting from the **Format** drop-down list.
4. To **insert a new field** within your table, select the row to the right of which you want to insert a new row and click the command button for the desired Data Type under the **Add & Delete** group.

© 2013 PCM Courseware, LLC

5. To add fields with additional data types, click the **More Fields** button and choose the desired data type from the list.
6. To **delete a field**, click anywhere in the field column you want to delete and click the **Delete** button on the Add & Delete group of the Ribbon.
7. To **rename** a field, click anywhere in the field column you want to rename, click the **Name & Caption** button on the Properties group of the Ribbon and type in the new name. If desired, enter a caption and description for the field as well.
8. To insert a **Quick Start** (a pre-created set of fields), click the **More Fields** button and then choose the Quick Start set you wish to insert under the Quick Start area.

Let's Try It!

What	Why
1. Click the **Fields** tab on the Ribbon (under Table Tools).	Displays the contextual Fields Ribbon..
2. Click in the **DateArrived** column and click the **Delete** command button on the Ribbon. Click **Yes** when asked if you want to delete the field.	Deletes the DateArrived field from the database.
	
3. Click in the **DateShipped** column and click the **Date & Time** command button on the Add & Delete group on the Ribbon.	Inserts a new field to the right of the DateShipped column.

What	Why
4. Type: **DatePromised**. Press **Enter** when finished.	Provides a name for our new field and confirms the entry.
5. Click in the **FreightCharge** field.	Selects the FreightCharge field.
6. Click the **More Fields** command button on the Ribbon and choose **PaymentType** from the Quick Start area as shown below.	Inserts the Payment Type field to the left of the Freight Charge field.
	
7. Click the **More Fields** command button on the Ribbon and choose **Long Text** from the Basic Types area.	Add a new Long Text data type field to the table.
8. Type **Notes** and then press Enter.	Names the new field "Notes".
9. Click the **File tab** button on the Ribbon and click **Close** from the File Options menu. Click **Yes** if asked to save the table layout.	Saves the changes to our table and closes the database.

© 2013 PCM Courseware, LLC

Lesson Summary – Working with Tables

- In this lesson, you learned how to create tables using Application Parts. Application Parts allow you to build your database using pre-designed components.
- Next, you learned how to enter data into a table in Datasheet view.
- Then, you learned how to enter fields in a table both in Datasheet view and in Design view. You learned how to switch views by clicking on the View button on the Ribbon.
- Then, you learned how to create a table from scratch by clicking the Table command button under the Create tab. You also learned about the different data types that you can set for fields. You also learned how to name your database objects according to naming conventions.
- Then, you learned about primary keys and how to designate a field with a primary key by clicking on the Primary Key icon on the Ribbon.
- Then, you learned how to change the column width and row height of tables by clicking and dragging. You also learned how to automatically adjust the width of a column to accommodate the widest entry by double-clicking on the right border of the column heading.
- Then, you learned how to rearrange fields in Design view by clicking on the record selector and dragging the field to its new location.
- Then, you learned how to insert and delete rows from a table by clicking on the Insert Rows or Delete Rows command button on the Ribbon.
- Then, you learned about field properties and how to set them for your fields in Design view. You also learned about some of the common field properties that are used in databases.
- Lastly, you learned about the Datasheet design tools available under the contextual Fields tab of the Ribbon. You learned how to insert and delete fields, add new fields based on field templates and rename fields while in Datasheet view.

Lesson 2 Quiz

1. Which is not a pre-built table type available under Application Parts?
   A. Assets
   B. Tasks
   C. Contacts
   D. Issues

2. Under what Command Tab is the Application Parts command button located?
   A. Database Tools
   B. Tables
   C. Create
   D. Templates

3. In what table view do you enter data?
   A. Data View
   B. Design View
   C. Data Entry View
   D. Datasheet View

4. In Design view, what are the three properties that each field contains?
   A. Field Name, Data Type and Description
   B. Field Name, Format and Data Type
   C. Field Name, Field Size and Format
   D. Field Format, Data Type and Default Value

5. You can only set the data type for a field in Design view.
   A. True
   B. False

6. How can you add a new field to a table (Select all that apply)?
   A. Click the Insert Field button under the Tables tab in Datasheet view.
   B. Enter data in the Click to Add column in Datasheet View.
   C. Enter a field name and data type in the first blank column in Design View.
   D. Click the desired field type button under the Fields tab in Datasheet View.

7. What is the unique identifier that specifies that data in that field may not be duplicated in any other of the table records called?

© 2013 PCM Courseware, LLC

8. How can you automatically change the width of a column to accommodate the widest entry in that column?
   A. Click the Accommodate button on the Ribbon.
   B. Double-click inside any of the cells in the column you want to expand.
   C. Right-click in the column you want to expand and choose AutoFit from the contextual menu.
   D. Double-click on the right border of the column heading you want to expand.

9. How can you display the available Quick Start fields?
   A. Click the More Fields button on the Ribbon under the Fields tab and scroll down to the Quick Start area.
   B. Click the Quick Start button on the Ribbon under the Datasheet tab.
   C. Click the Insert button on the Ribbon under the Datasheet tab and then click the Quick Start button.
   D. Click the Templates button on the Ribbon under the Tables tab and then scroll down to the Quick Start area.

10. From Design view, how can you rearrange fields in your table?

11. You cannot enter data in a field that is set to AutoNumber.
   A. True
   B. False

12. Which of the following in NOT a field property?
   A. Text
   B. Format
   C. Primary Key
   D. Default Value

LAB 2 – ON YOUR OWN

1. Create a blank new database. Name the file **Lab2** and save it in the Lesson Files folder.

2. Create a new table in Design view named **tblContacts**. Add the following fields to your table:

Field Name	Data Type
ContactID	AutoNumber
FirstName	Short Text
LastName	Short Text
Address	Short Text
City	Short Text
State	Short Text
Zip	Short Text
FirstContactDate	Date/Time
Active	Yes/No

3. Ensure that the **ContactID** field is set as a Primary Key Field.

4. In Design view, set the field size of the **State** field to only allow 2 characters.

5. Insert a new field named **Phone** above the address field. Set the Data Type to Short Text.

6. Switch to Datasheet view. Using Quick Start, add the **Status** field to your table. Position the Status field so that it is the last field in your table.

7. Switch to Design View and set the default value of the State field to: **IL**

8. In Datasheet view, enter your own address information into the table. Use today's date as the contact date. Using the drop-down arrow, set the Status to "Waiting".

9. Close the tblContacts table.

10. Close the database and exit Microsoft Access.

© 2013 PCM Courseware, LLC

Lesson 3

Lesson 3 - Working with Data

Lesson Topics:

3.1 Editing Data
3.2 Formatting Table Data
3.3 Importing Excel Data into an Existing Table
3.4 Importing a Text File into a New Table
3.5 Selecting and Deleting Records
3.6 Sorting Records
3.7 Finding and Replacing Data
3.8 Filtering Data by Selection
3.9 Filtering Data by Form
3.10 Using Common Filters
3.11 Hiding/Unhiding Columns
3.12 Freezing Columns
3.13 Rearranging Columns
3.14 Displaying Column Totals in a Datasheet

3.1 Editing Data

In this lesson, you will learn how to edit existing data in a table

In the last lesson, you learned how to enter data into a table. Once your data is entered, you can modify it at any time by clicking in the field whose data you wish to change and then typing in your desired changes. When tabbing to a field, all of the data in the field is automatically highlighted so you do not even need to delete the data first - typing your changes will automatically overwrite the existing data.

To Edit Data in a Table

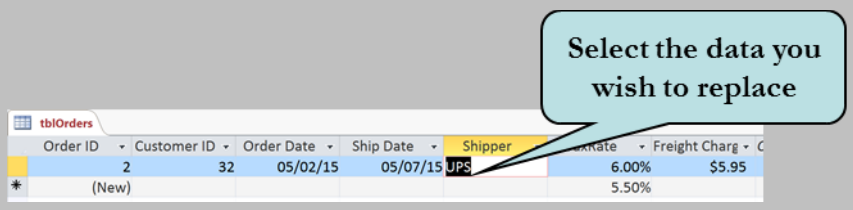
1. Display **Tables** in the **Navigation Pane**.
2. Open the table in **Datasheet View** by double-clicking the table name.
3. Click in the field that contains the data to be changed.
4. Make your changes.

Let's Try It!

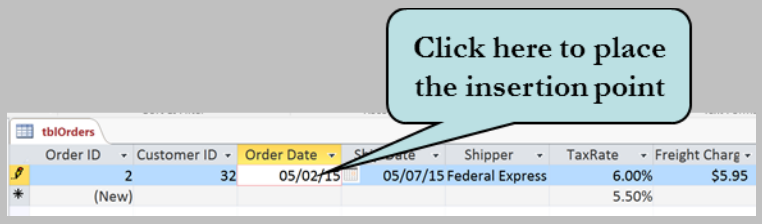
What	Why
1. Open Microsoft Access.	Opens the Microsoft Access application.
2. Click the **Open Other Files** link in the left pane in Backstage View.	Displays the Open pane.
3. Click the **Browse** button.	Displays the Open window.
4. Click **Desktop** on the left side of your screen.	Opens the Desktop folder.
5. Double-click the **Lesson Files** folder.	Opens the Lesson Files folder and displays the files in that folder.
6. Select the **Video Sales 3** file and then click **Open**.	Opens the Video Sales 3 database.

©2016 PCM Courseware, LLC

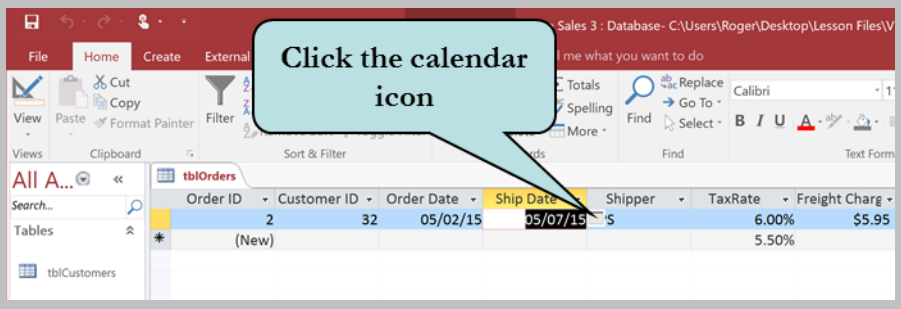
What	Why
7. If necessary, click the **Navigation Pane** drop-down arrow and select **Tables** from the list.	Displays table objects.
8. Double-click **tblOrders**.	Opens tblOrders in Datasheet view.
9. In the **Shipper** field, select **UPS** as shown below.	Selects the data we wish to replace.



10. Type: **Federal Express**	Overwrites the selected data with "Federal Express."
11. In the Order Date field, click after the **2** in 5/2 as shown below.	Places the insertion point where we wish to make a change.



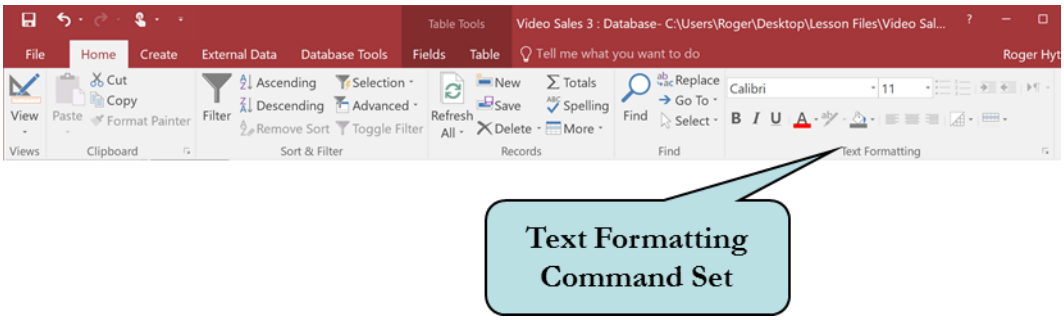
12. Press the **Backspace** key and then type: **1**	Changes the date from 5/2/2015 to 5/1/2015.
13. Press **Tab**.	Notice the calendar button that appears when you enter a date field. This feature allows you to select your date from a calendar.

What	Why
14. Click the **Calendar icon** that appears next to the Ship Date field as shown below.	Opens the calendar allowing you to choose a date from the calendar.
	
15. Click the **right-pointing blue arrow** on top of the calendar.	Moves to the next month.
16. Click on the **3** in the calendar.	Sets June 3rd as the Ship date.
17. Press **Enter**.	Confirms the entry.

3.2 Formatting Table Data

In this lesson, you will learn how to format data in a table.

If you are unhappy with the size or font of the text in your tables, you can change the **Formatting** of your table text. For instance, you can change the font size, font type, font or fill color and text alignment. To apply formatting to a table, click the desired Font command button in the **Text Formatting command set** under the Home tab.



Any formatting changes will be applied to the entire table. However, Access provides the ability to add **rich text formatting** to fields in your table that are set to the **Long Text** data type. For instance, you can apply bold formatting or change the text color of individual words. To enable rich text formatting in Long Text fields, you must switch to **Design view** and change the **Text Format Property** from Plain Text to **Rich Text**. Once you have changed the data type, the Rich Text command set is also enabled, allowing you to add additional formatting such as bullets and numbering, indenting and highlight color.

To Apply Formatting to Table Data

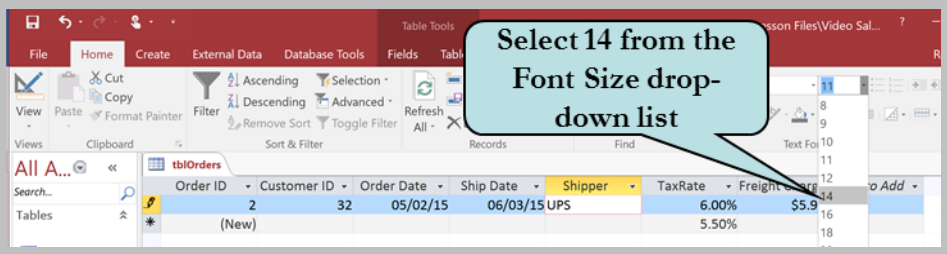
1. Open the table in Datasheet view.
2. Click the Home tab on the Ribbon.
3. Click the desired formatting command button in the **Text Formatting command set** on the Ribbon.

To Enable Rich Text Formatting

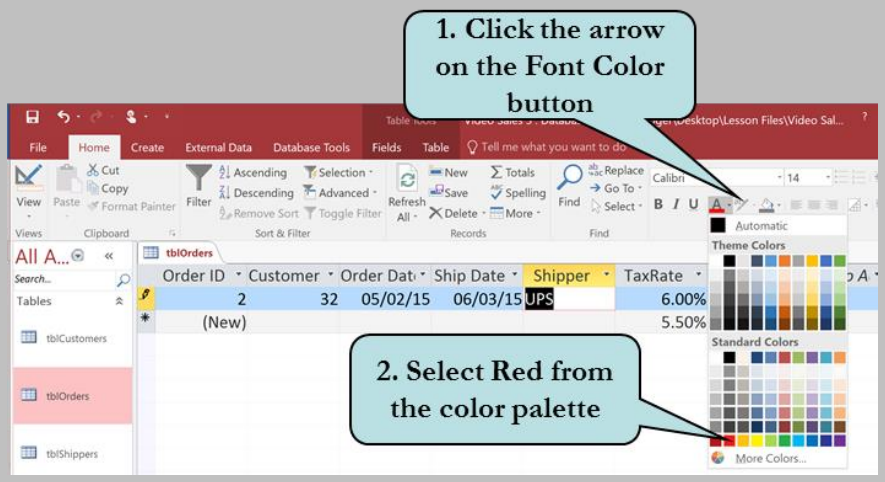
1. Open the table in Datasheet view or Design View.
2. Change the Data Type of the field to **Long Text**.
3. If in Datasheet view, switch to Design View.
4. Select the **Field Name** for the field you wish to modify.
5. In the **Field Properties** box, click in the **Text Format** property box and choose **Rich Text** from the drop-down list.

Let's Try It!

What	Why
1. Click the **Home** tab on the Ribbon.	Ensures that the Home tab is active.
2. Click the **Font Size** drop-down arrow and select **14** from the list as shown below.	Changes the Font Size of the entire table to 14.



3. Click the arrow on the **Font Color** button and select **Red** from the color palette as shown below.	Changes the font color of the entire table to Red.



4. Click the **Font Color** button arrow again and select **Automatic** from the color palette.	Changes the font color of the entire table back to black.

What	Why
5. Click the **Close** button on tblOrders. Click **No** when asked to save your changes.	Closes the table without saving our design changes.

3.3 Importing Excel Data into an Existing Table

In this lesson, you will learn how to import data from another application into Access.

An extremely powerful feature of Access is its ability to **import data** from other applications. For instance, you can bring in data from an Excel spreadsheet or even from a plain text file into a new or existing table. You can import data from a variety of formats such as:

- HTML
- Text Files (delimited or fixed-width)
- Outlook Folder
- Data Services
- XML
- ODBC Databases such as SQL and Oracle
- SharePoint List

In this lesson, we are going to learn how to import data from Microsoft Excel into Access.

To Import Data from Excel

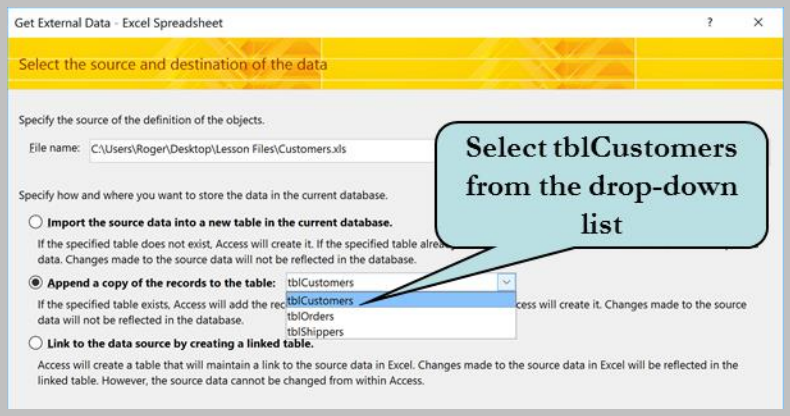
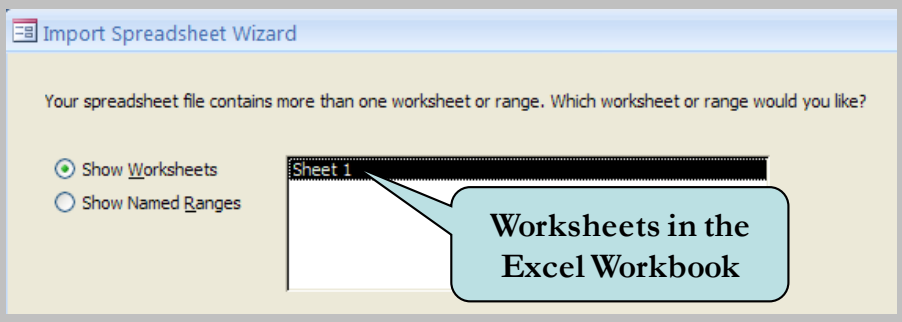
1. Click the **External Data** tab on the Ribbon.
2. Click the **Excel** command button on the Import & Link group of the Ribbon.
3. Click the **Browse** button and navigate to the folder that contains the file you wish to import. Select the file and click **Open**.
4. To import data to a new table, click the radio button next to **Import the source data into a new table in the current database**.
5. To import data into an existing table, click the radio button next to **Append a copy of the records to the table:** and choose the desired table from the drop-down list.

©2016 PCM Courseware, LLC

6. To link to the spreadsheet rather than importing it, click the radio button next to **Link to the data source by creating a linked table.**
7. Click **OK** to launch the Wizard.
8. Select the Worksheet you wish to import from the Show Worksheets window. Click **Next**.
9. If the first row of the worksheet contains column headings, click the **First Row Contains Column Headings** checkbox. Click **Next**.
10. Click **Finish**.

Let's Try It!

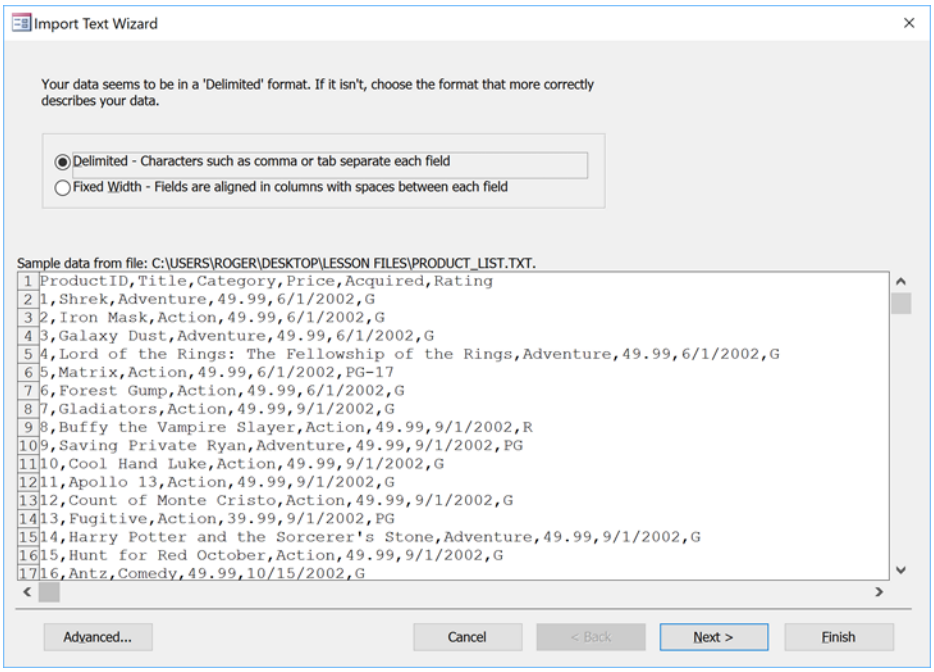
What	Why
1. Double-click **tblCustomers**.	Observe the table – it is empty.
2. Click the **Close** button for **tblCustomers**.	Closes tblCustomers.
3. Click the **External Data** tab on the Ribbon.	Displays commands for working with external data.
4. Click the **Excel** command button on the Import & Link group of the Ribbon.	Displays the Get External Data – Excel Spreadsheet dialog box.
5. Click the **Browse** button.	Displays the File Open dialog box from where we navigate to the file we wish to open.
6. Navigate to the **Lesson Files** folder (if necessary) and then select the **Customers** file.	Selects the Excel file we wish to import.
7. Click **Open**.	Closes the Get External Data – Excel Spreadsheet dialog box.
8. Click the radio button next to **Append a copy of the records to the table** and select **tblCustomers** from the drop-down list as shown below.	Selects the table into which we want to import the file.

What	Why
	
9. Click **OK**.	Launches the Import Spreadsheet Wizard.
10. Click **Next**.	As there is only one worksheet in our file (Sheet 1) we will accept the default and move to the next step of the wizard.
	
11. Ensure that the checkbox next to **First Row Contains Column Headings** is checked.	As the first row of the spreadsheet contains the headings or field names, we want to ensure that we check this box. Otherwise, the headings will be imported as regular data.
12. Click **Next**.	Moves to the next step of the wizard.
13. Click **Finish**.	Completes the import process and imports the data.

What	Why
14. Click **Close**.	If you repeatedly import the same file into Access, you can now save your import steps so that you can quickly execute the same import without using the Wizard.
15. Double-click the **tblCustomers** table.	Opens tblCustomers in Datasheet view. There should be 23 records.
16. Click the **Close** button for tblCustomers.	Closes tblCustomers.

3.4 Importing a Text File into a New Table

In this lesson, you will learn how to import data from a comma-delimited text file into a new Access table.



If you wish to import data into Access from an application that Access does not support, the easiest way to accomplish this might be to first export the data as a text file, and then import it into Access. Most applications support exporting data to **text files**.

There are two types of text files: **delimited** and **fixed-width**. In delimited text files, the fields are separated by a ***delimiter*** such as a comma or quotation marks. In a fixed width file, fields are separated by a tab stop of equal distance. The most common type of file is the comma delimited file.

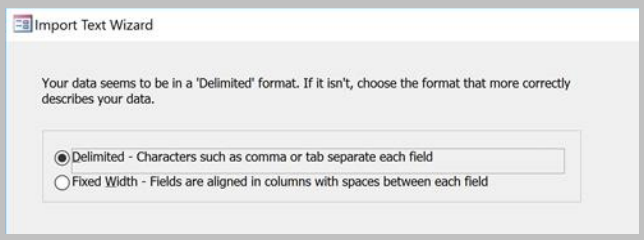
Before importing a text file, you may have to "clean it up" a bit first. For instance, if you are importing a comma delimted text file, there can be no commas within the data, as Access treats each comma as a new field.

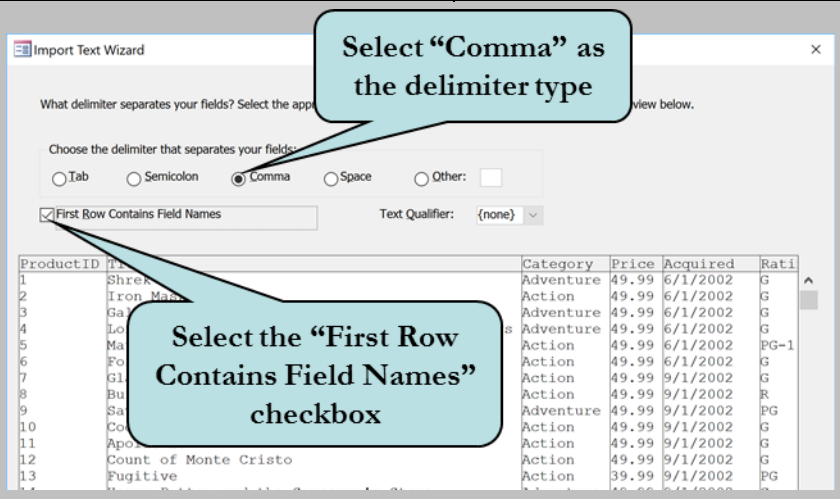
To Import A Text File

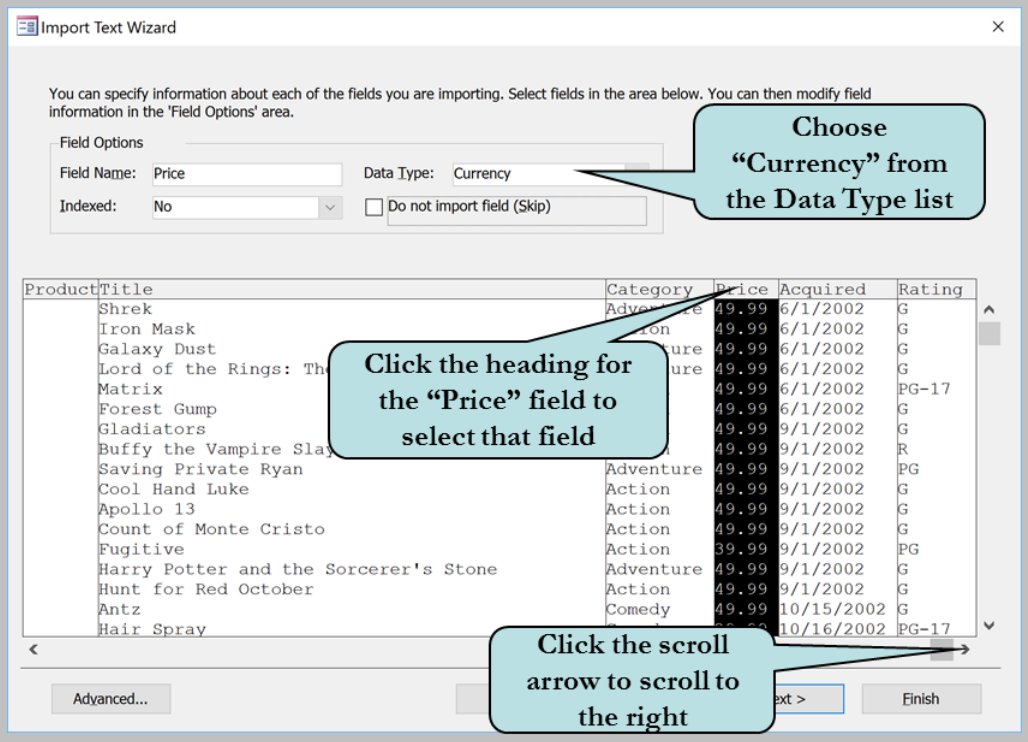
1. Click the **External Data** tab on the Ribbon.
2. Click the **Text File** command button in the Import & Link command set.
3. Click the **Browse** button and navigate to the folder that contains the file you wish to import. Select the file and click **Open**.
4. To import data to a new table, click the radio button next to **Import the source data into a new table in the current database**.
5. To import data into an existing table, click the radio button next to **Append a copy of the records to the table:** and choose the desired table from the drop-down list.
6. To link to the file rather than importing it, click the radio button next to **Link to the data source by creating a linked table.**
7. Click **OK** to launch the Wizard.
8. Select the type of text file – **delimited** or **fixed width**.
9. Click **Next**.
10. If importing a delimited file, select the type of **delimiter**.
11. If the first row of the text file contains field names, click the **First Row Contains Field Names** checkbox.
12. Click **Next**.
13. If importing to a new table, set additional information for each field (data type, indexed, etc.).
14. Click **Next**.
15. Choose the desired primary key option (add your own, let Access add key or no primary key)
16. Click **Finish**.

Let's Try It!

What	Why
1. Click the **External Data** tab on the Ribbon.	Displays commands for working with external data.
2. Click the **Text File** command button on the Import & Link command set.	Displays the Get External Data – Text File dialog box.
3. Click the **Browse** button.	Displays the File Open dialog box from where we navigate to the file we wish to open.

What	Why
4. Navigate to the **Lesson Files** folder (if necessary) and then select the **Product_List** file.	Selects the text file we wish to import.
5. Click **Open**.	Closes the File Open dialog box.
6. Click the radio button next to **Import the source data in a new table in the current database**.	This time, we are going to import our data into a new Access table.
7. Click **OK**.	Launches the Import Text Wizard.
8. Make sure that **Delimited** is selected as shown below and then click **Next**.	Selects delimited as the type of text file we are importing and then moves to the next step of the wizard.
	
9. Select Comma as the type of delimiter and then click the checkbox next to **First Row Contains Field Names** box as shown below.	Selects comma as the delimiter that separates the fields. As the first row of our text file contains field names (or column headings), we want to check the field names box.

What	Why
	
10. Click **Next**.	Moves to the next step of the wizard.
11. Scroll to the right until the **Price** field is visible.	Moves to the right until we can see the price field. We are going to change the data type for this field to Currency.
12. Click the word **Price** to select the column and then choose **Currency** from the **Data Type** drop-down list as shown below.	Changes the data type for the Price field to Currency.

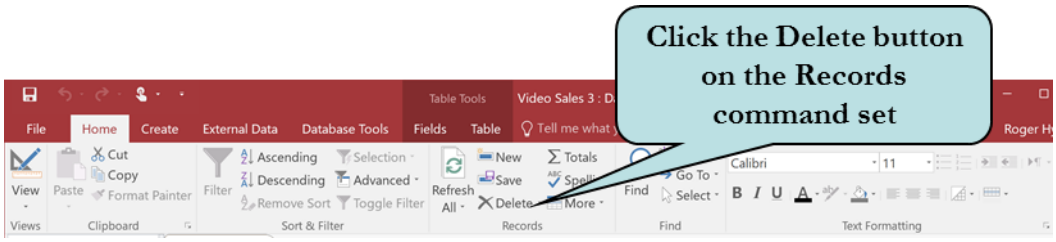
What	Why
	
13. Click **Next**.	Moves to the next step of the wizard.
14. Click the **Choose my own primary key** radio button and then click **ProductID** field from the drop-down list.	Sets the ProductID field as the primary key field in the table.
15. Click **Next**.	Moves to the next step of the wizard.
16. Type: **tblProducts** in the **Import to Table** box.	Specifies a name for our new table.
17. Click **Finish**.	Imports the data from the text file to a new table named tblProducts.
18. Click **Close**.	Closes the message box that informs us that our data was imported.

What	Why
19. Double-click the **tblProducts** table and observe the data.	Opens tblProducts in Datasheet view. There should be 128 records in the table.
20. Click the **Close** button for tblProducts.	Closes tblProducts.

3.5 Selecting and Deleting Records

In this lesson, you will learn how to select and delete records from your table.

Deleting records from a table is straight-forward — click on the row selector to select the record and then press the **Delete** key or right-click and select **Delete Record** from the contextual menu. You can select more than one record by clicking and dragging upwards or downwards over the records you wish to delete. Keep in mind though, that once you delete records, they are gone for good. There is no undo! The only way to get a deleted record back is to retype the information.

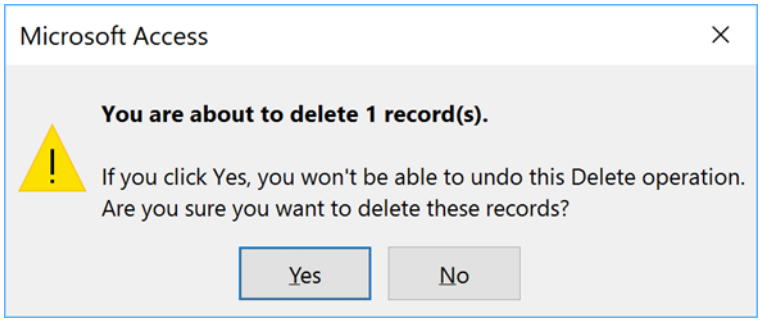


You can also delete records from the **Records** command set under the **Home** tab. Select the row selector and click the **Delete** button. Make sure that you click the Delete button under the Home tab and not the Datasheet tab as clicking the Delete button under the Datasheet tab will delete the entire field, not just an individual record.

To Select and Delete a Record

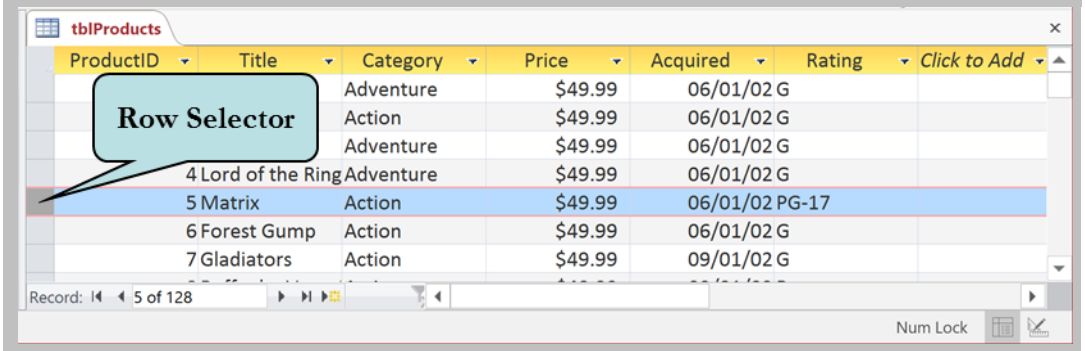
1. Open the table in Datasheet view.
2. Click the row selector of the record or records you wish to delete.
3. Press the **Delete** key on the Home tab of the Ribbon
   Or
   Right-click and select **Delete Record** from the contextual menu.
   Or
   Click the **Delete** button on the Records command set under the Home tab.
4. Click **Yes** when the message box appears, asking you if you are sure you want to delete the record(s).

©2016 PCM Courseware, LLC



Note: Clicking **No** will cancel the delete records action and the records will not be deleted from the table.

Let's Try It!

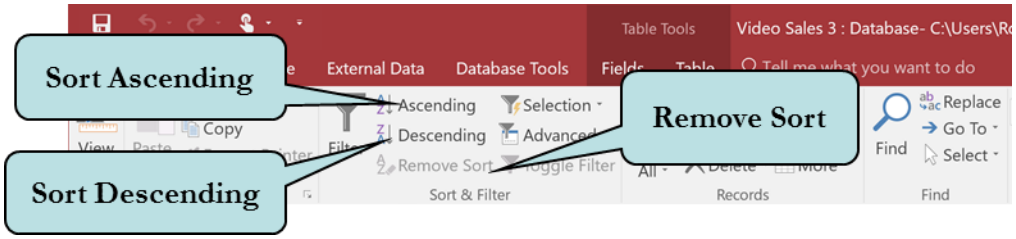
What	Why
1. Double-click **tblProducts**	Opens tblProducts in Datasheet view.
2. Click on the **Row Selector** for the **Matrix**, the 5th record in the table as shown below.	Select the record for the Matrix.
	
3. Press the **Delete** key.	Displays a message box warning you that you cannot undo the deletion and asking you if you really wish to delete the records.
4. Click **Yes**.	Closes the message box and deletes the selected record.

3.6 Sorting Records

In this lesson, you will learn how to sort records in a table.

Records are automatically sorted alphabetically or numerically by the primary key field if there is one designated. If there is no primary key set, then the records appear in the order in which they were entered. To change the order of the records, you can use **sorting**. Sorting allows you arrange the records in a table in alphabetical or numerical order. You can sort your records in either **ascending** (A-Z) or **descending** (Z-A) order.

The easiest way to sort records is to click anywhere in the column of the field you wish to sort and then click either the **Sort Ascending button** or the **Sort Descending button** on the **Home** Ribbon. You can also right-click on the column you wish to sort and choose Sort A to Z or Sort Z to A from the contextual menu. Another way to quickly sort records is to click on the drop-down arrow on the column heading and choose the desired sort order from the sort window.



To remove a sort and return to the original order of the records, click the **Remove Sort** button under the Home tab.

To Sort Records in a Table

1. Open the table in Datasheet View.
2. Click anywhere in the column of the field you wish to sort.
3. To sort multiple adjacent columns, select the first column, hold down your Shift key and select any other columns you wish to sort.
4. To sort records in ascending order, click the **Sort Ascending Button (A to Z)** under the Home tab.
   Or
   Right-click and choose **Sort A to Z** from the contextual menu.
5. To sort records in descending order, click the **Sort Descending Button (Z to A)** under the Home tab.
   Or
   Right-click and choose **Sort Z to A** from the contextual menu.
6. To return the table to its original sort order, click the **Remove Sort** button under the Home tab.

©2016 PCM Courseware, LLC

Let's Try It!

What	Why
1. Click the **Home** tab on the Ribbon.	Ensures that the Home tab is active.
2. Click anywhere in the **Title** column.	Selects the column we wish to sort.

3. Click the **Sort Ascending** button in the Sort & Filter command set under the Home tab.	Sorts the data in the Title field in ascending order.
4. Click the **Sort Descending** button in the Sort & Filter command set under the Home tab.	Sorts the data in the Title field in descending order.
5. Click the **Column Heading** for the **Category** field.	Selects the first column we wish to sort.
6. Hold down the **Shift key** and click the Column Heading for the **Price** field.	Selects both the Category and Price columns.
7. Click the **Sort Ascending** button on the Sort & Filter command set.	Sorts the columns in ascending order by Category and then by Price.
8. Click the **Remove Sort** button on the Sort & Filter command set.	Restores the records to their original sort order.

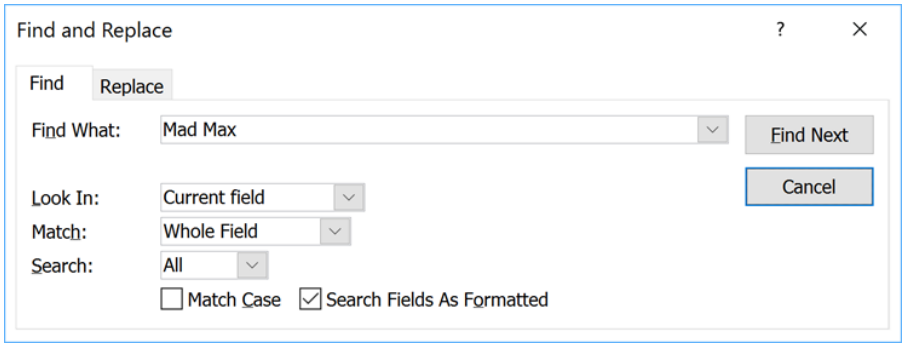
3.7 Finding and Replacing Data

In this lesson, you will learn how to use the Find and Replace feature in Access.

There will be times when you need to find certain information in your table. It can become quite challenging to manually look for data, especially once your tables become large. The **Find** feature allows you to quickly search for information in tables, queries and forms.

If you know in which field the information resides, this will speed up your search. When searching, you can match either **Whole Field** (find data that is exactly the same as what you entered in the Find What box), **Any Part of Field** (find records that contain the data in the Find What box at any position in the field), or **Start of Field** (locate records that contain the data in the Find What box at the beginning of the field).

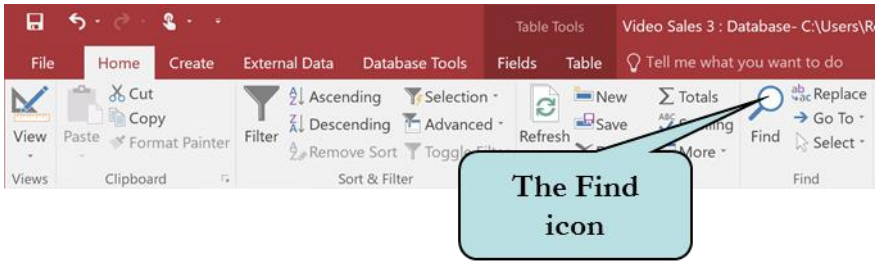
To automatically change the data in a field to something else, click the **Replace** tab and enter the new data in the **Replace With** box.



Find and Replace Dialog Box

To Find and Replace Data in a Table

1. Open the table in Datasheet View.
2. Click anywhere in the column of the field in which you wish to search for data.
3. Click the **Find** icon under the Home tab.

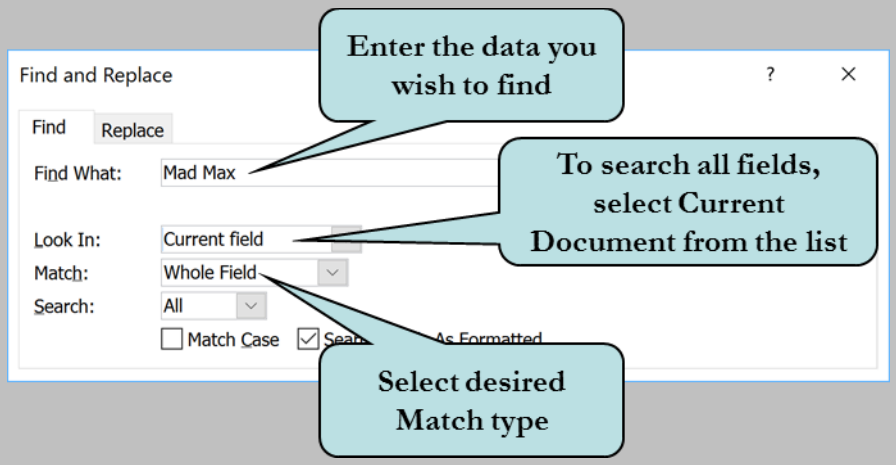


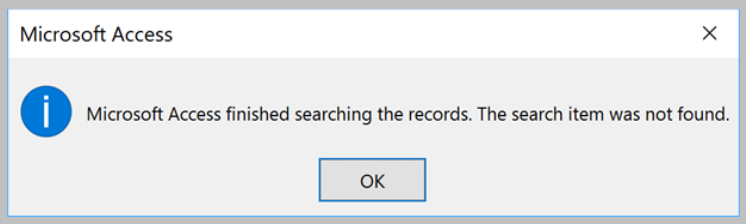
Or Press the **Ctrl + F** keystroke combination.

4. Type the data you wish to find in the **Find what** box.
5. Select **Whole Field**, **Any Part of Field** or **Start of Field** from the **Match** drop-down list.
6. Select either **Up, Down,** or **All** in the **Search** drop-down list.
7. Click **Find Next** to begin searching.
8. Click Find Next again to search for the next instance of the desired data.
9. To replace data, click the **Replace** tab.
10. Type the new data in the **Replace with** text box.
11. Click **Replace** to replace each instance one at a time. Click **Replace All** to replace all instances of the data at once.
12. Click **Cancel** to close the Find dialog box.

Let's Try It!

What	Why
1. Click anywhere in the **Title** column.	Selects the column in which we wish to search for data.
2. Click the **Find** button on the Home tab.	Opens the Find and Replace dialog box.
3. In the **Find What** box, type: **Mad Max**	Enter the data that we wish to find.
4. Click the **Match** drop-down list and then select **Whole Field** as shown below.	Data must match exactly what we typed in the Find What box.



What	Why
5. Click **Find Next**.	Begins the search and stops when the first instance of Mad Max is found.
6. Click **Find Next** again.	Searches for another instance of Mad Max.
7. Click **OK**.	Closes the dialog box that informs you that the search item was not found.
	
8. Click **Cancel**.	Closes the Find dialog box.
9. Click anywhere in the **Price** column.	Selects the column in which we wish to search for data.
10. Press the **Ctrl + F** keystroke combination.	Displays the Find and Replace dialog box.
11. Click the **Replace** tab.	Switches to Find and Replace options.
12. Type: **$19.99** in the **Find What** box. Don't forget the currency symbol!	Enters the data that you wish to find.
13. Type: **$22.95** in the **Replace with** box.	Enters the new data that will replace the information in the Find What box.
14. Click the **Replace All** button.	Replaces all instances of $19.99 with $22.95.
15. Click **Yes**.	Closes the dialog box that tells you that you will not be able to undo the replace operation.
16. Click **Cancel**.	Closes the Find and Replace dialog box.

©2016 PCM Courseware, LLC

3.8 Filtering Data by Selection

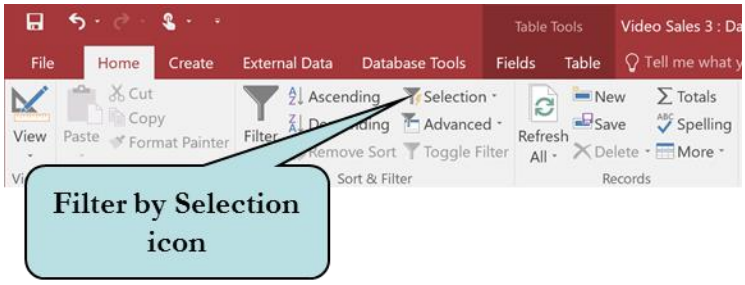
In this lesson, you will learn how to filter data based on selected information.

A **filter** is a tool that retrieves only a subset of the records in a table. For instance, if you only wanted to see customers in the state of Wisconsin, you could apply a filter that hides all the records except those where the state field is equal to Wisconsin. To apply such a filter, click in any field whose contents are "Wisconsin" and then click on the **Filter by Selection** button under the Home tab or right-click and choose the desired filter commands from the contextual menu. The available filter commands will vary depending on the type of data selected. Once the filter is applied, all other records will be hidden from view.

To remove the filter and restore all records, click the **Toggle Filter** button under the Home tab or right-click and select **Clear filter from [Column Name]** from the menu.

To Filter Data for a Selection

1. Open the table in Datasheet View.
2. Click in a field whose information you wish to filter.
3. Click the **Filter by Selection** icon and chose the desired filter command.

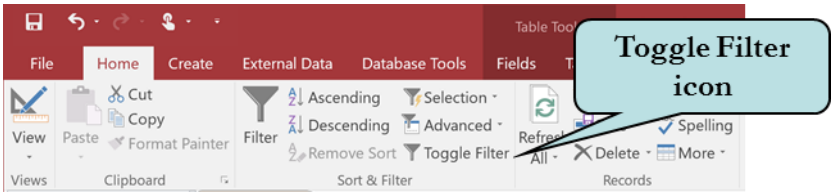


Or

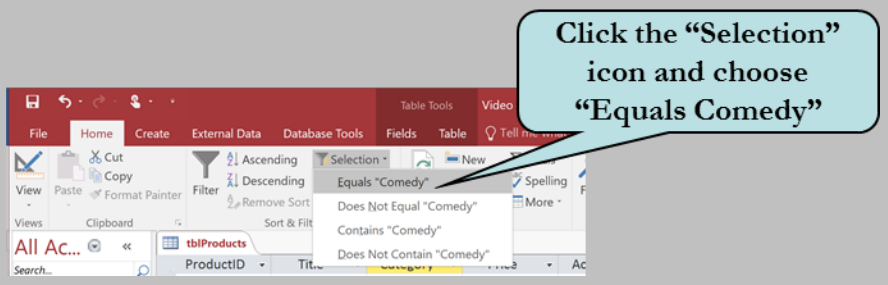
Right-click and choose the desired filter commands from the contextual menu.

To Remove a Filter

1. Click on the **Toggle Filter** button.
2. Click to Toggle Filter icon again to restore the filter.



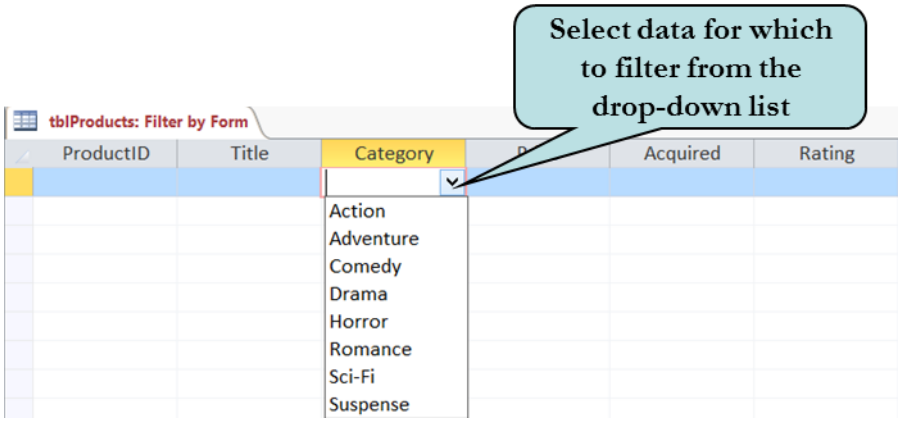
Let's Try It!

What	Why
1. **Click** on any instance of the word **Comedy** in the **Category** column as shown below.	Selects the data for which we wish to filter.
2. Click the **Selection** button on the Sort & Filter command set and choose **"Equals Comedy"** from the command list as shown below.	Hides all records except those whose category is "Comedy"
	
3. **Click** on any instance of the number **$39.99** in the **Price** column.	Selects the next column we want to add to the filter.
4. Click the **Selection** button and choose **"Less than or Equal to $39.99"** from the command list.	Hides all records except those whose category is "Comedy" and whose price is less than or equal to $39.99.
5. Click the **Toggle Filter** button.	Removes the filter and displays all records.

3.9 Filtering Data by Form

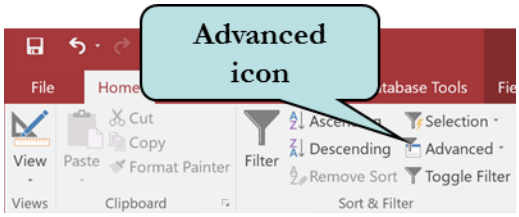
In this lesson, you will learn how to filter data based on selected information from a drop-down list.

Filtering by Form allows you to choose the data you want the filtered records to contain from a drop-down list of available data. Clicking the **Filter by Form button** displays a blank record row. Clicking in any of the blank fields displays a drop-down list of available data from which you can choose. This feature is especially helpful if you want to find a specific record or want to filter on several fields in a datasheet.



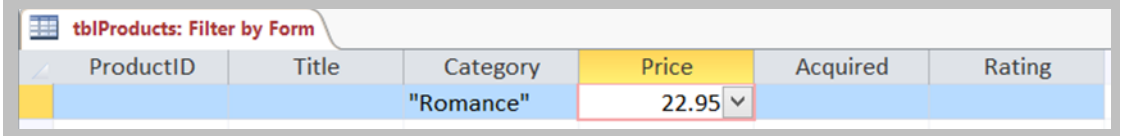
To Filter by Form

1. Open the table in Datasheet View.
2. Click the **Advanced** icon under the Home tab and choose **Filter by Form** from the menu.



3. Click in the field whose information you wish to filter.
4. Click the drop-down arrow and then select the data you want the filtered records to contain.
5. Repeat step 4 for any additional fields you wish to filter.
6. Click the **Toggle Filter** button.

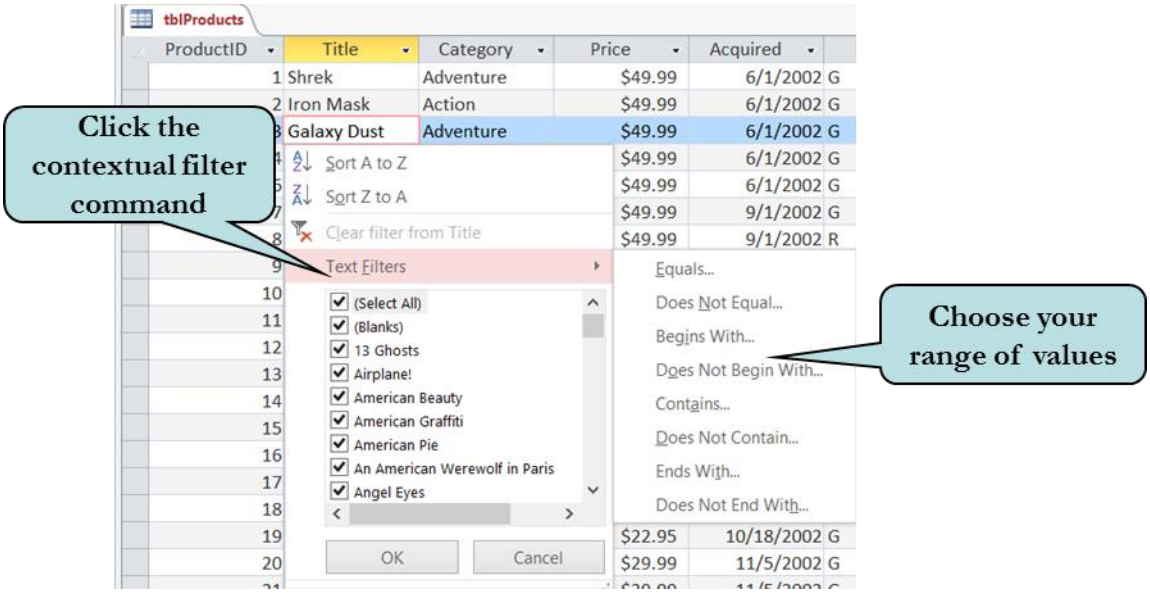
Let's Try It!

What	Why
1. Click the **Advanced** button the Home tab and select **Filter by Form** from the menu.	Opens a blank record row with the values automatically inserted from our previous filter.
2. Click the Category drop-down arrow and then select **Romance**.	Selects the Category by which we want to filter.
3. Press **Tab**.	Moves us to the Price field and displays the drop-down arrow for the Price field.
4. Click the Price drop-down arrow and then select **22.95** from the drop-down list.	Selects the Price amount by which we want to filter.
	
5. Click the **Toggle Filter** button.	Only displays records with a Category of Romance AND a price of $22.95.
6. Click the **Toggle Filter** button again.	Restores the hidden records.

3.10 Using Common Filters

In this lesson, you will learn how use the Common Filters feature in Access.

Common Filters allow you to quickly apply a filter to your data from a contextual menu command. To access these commands, click the **Filter** button on the Home tab or **right-click** the field you wish to filter and then choose from the data type filter contextual menu (the available commands will vary depending on the data type of the column). You can also click the drop-down arrow on the column heading to access common filters.



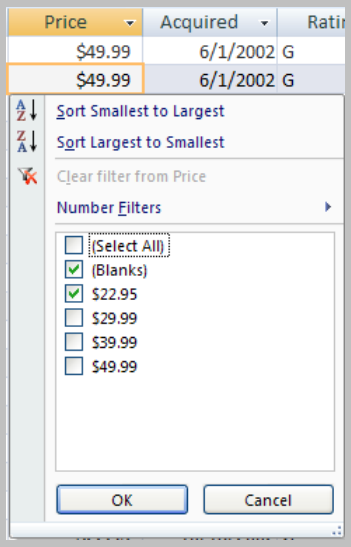
From the Common Filter box, you can filter for specific values by using the check box list to include or exclude fields from the list. To filter for a range of values, choose the contextual filter command (i.e. Date Filters, Text Filters, etc.), choose the range of values for which to filter and then enter your criteria.

To Use Common Filters

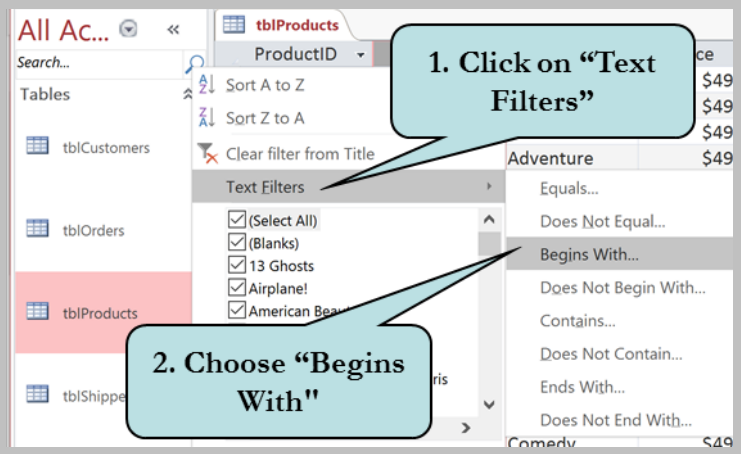
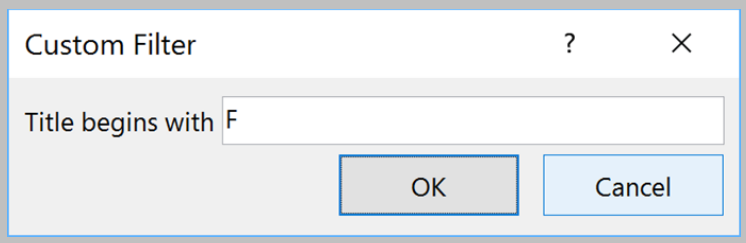
1. Open the table in Datasheet View.
2. Click the drop-down arrow on the **Column Heading** of the field you wish to filter
   Or
   Click the **Filter** button under the Home tab.

3. To filter for specific values, check the checkbox next to the records you want to include and uncheck the checkbox next to the records you want to exclude.
4. To filter for a range of values, click the contextual filter command, choose the range by which you wish to filter and enter your values in the dialog box.

Let's Try It!

What	Why
1. Click anywhere in the **Price** column and click the **Filter** button under the Home tab.	Displays the Common Filter Menu.
2. Uncheck the boxes next to $29.99. $39.99, $49.99	Selects the data we wish to exclude. 
3. Click **OK**.	Hides all records except for those with a price of $22.95
4. Click the **Toggle Filter** button.	Removes the filter.
5. Click the drop-down arrow on the **Title** column header, click on **Text Filters** and then choose **Begins With** from the menu as shown below.	Allows us to filter this column for a range of values. In this case, we are going to only display records which begin with a specific letter.

©2016 PCM Courseware, LLC

What	Why
	
6. Type **F** in the Custom Filter dialog box as shown below.	Specifies the criteria for our filter.
	
7. Click **OK**.	Only displays records whose title begins with the letter "F"
8. Click the **Toggle Filter** button on the Ribbon.	Removes the filter.

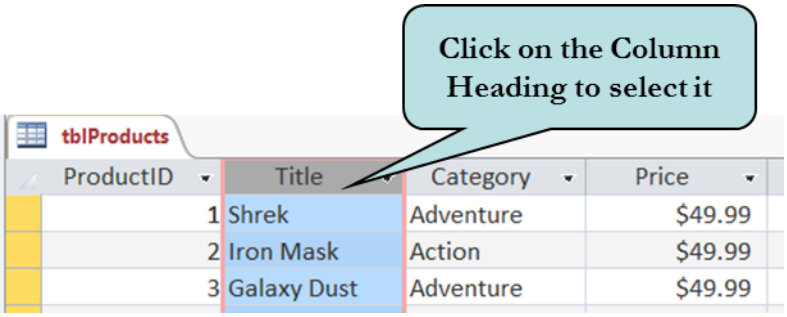
3.11 Hiding/Unhiding Columns

In this lesson, you will learn how to hide and unhide table columns.

There may be instances when you wish to view only certain columns in a table datasheet. Perhaps you need to print table data for only a few relevant columns. Or perhaps you want to hide sensitive columns from those entering data into the tables. To hide columns from view, click on the field name to select it, right-click and select **Hide Fields** from the contextual menu or click the **More** button under the Home tab and select Hide Fields from the menu. Saving the design of your table ensures that the columns will remain hidden the next time the table is opened.

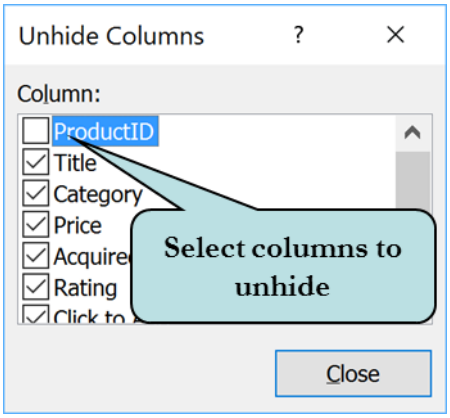
To Hide a Column

1. Open the table in Datasheet View.
2. Click on the field name of the column you wish to hide.
3. Right-click and select **Hide Fields** from the menu.
   Or
   Click the **More** button under the Home tab on the Records command set and choose Hide Fields from the menu.

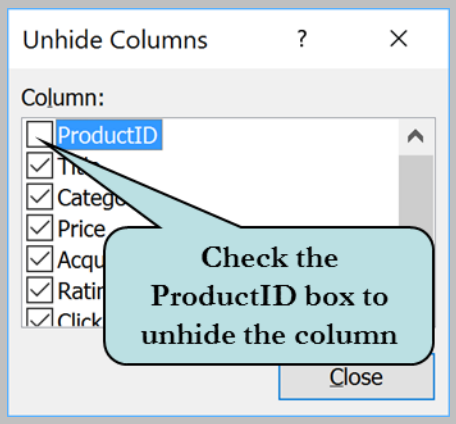


To Unhide a Column

1. Open the table in Datasheet View.
2. Right-click on any column heading
   Or
   Click the **More** button under the Home tab and select **Unhide Fields**.
3. In the Unhide Columns dialog box, check the column(s) you wish to unhide.
4. Click **Close**.



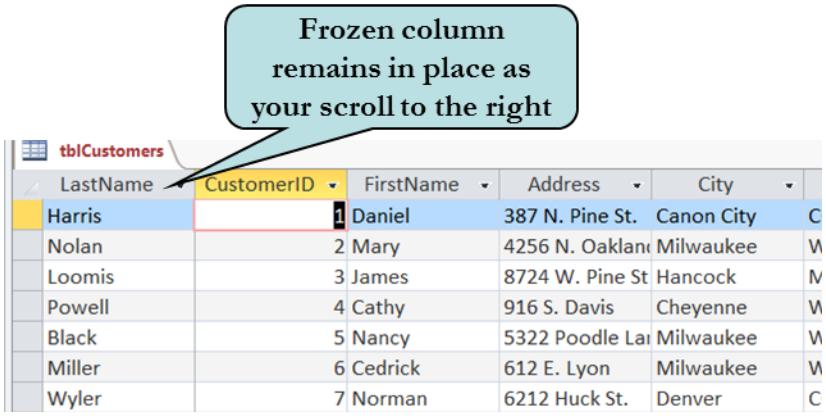
Let's Try It!

What	Why
1. Click the field name of the **ProductID** field.	Selects the entire column.
2. Right-click and select **Hide Fields** from the contextual menu.	Hides the ProductID field.
3. Click the **More** button on the Records group of the Ribbon and choose **Unhide Fields.**	Dispalys the Unhide Columns dialog box.
4. Click the **ProductID** box as shown.	Unhides the ProductID column 
5. Click **Close**.	Closes the Unhide Columns dialog box.
6. Click the **Close** button for tblProducts. **Save** any changes.	Closes tblProducts and saves the design changes.

3.12 Freezing Columns

In this lesson, you will learn how to freeze a column to the left side of the Datasheet.

If you have a large table, you may wish to keep a particular column in view while you scroll to the right. To accomplish this, **freeze** your columns in place by using the **Freeze Fields** command. When scrolling to the right, the frozen columns are restrained to the left side of your screen.



To Freeze a Column in Place

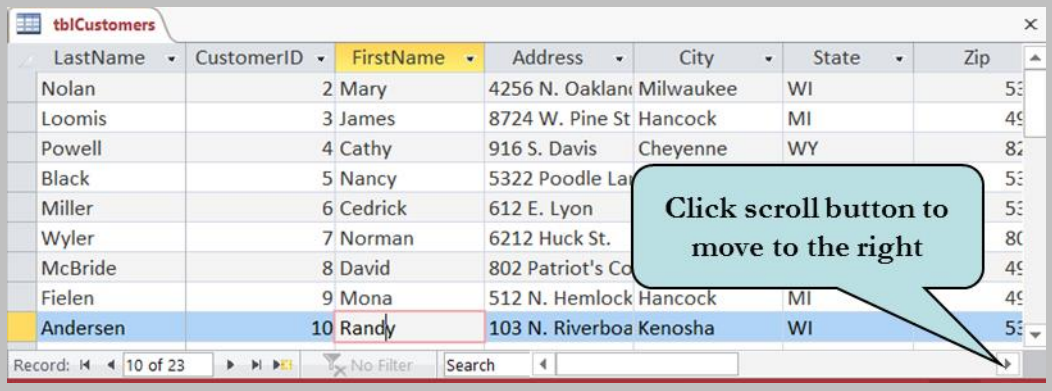
1. Open the table in Datasheet View.
2. Click on the field name of the column you wish to freeze.
3. Right-click and select **Freeze Fields** from the contextual menu.
   Or
   Click the **More** button under the Home tab on the Records command set and choose **Freeze Fields** from the menu.

To Unfreeze Columns

1. Open the table in Datasheet View.
2. Click on the field name of the column you wish to unfreeze.
3. Right-click and select **Unfreeze All Fields** from the menu.
   Or
   Click the **More** button under the Home tab on the Records command set and choose **Unfreeze Fields** from the menu.

©2016 PCM Courseware, LLC

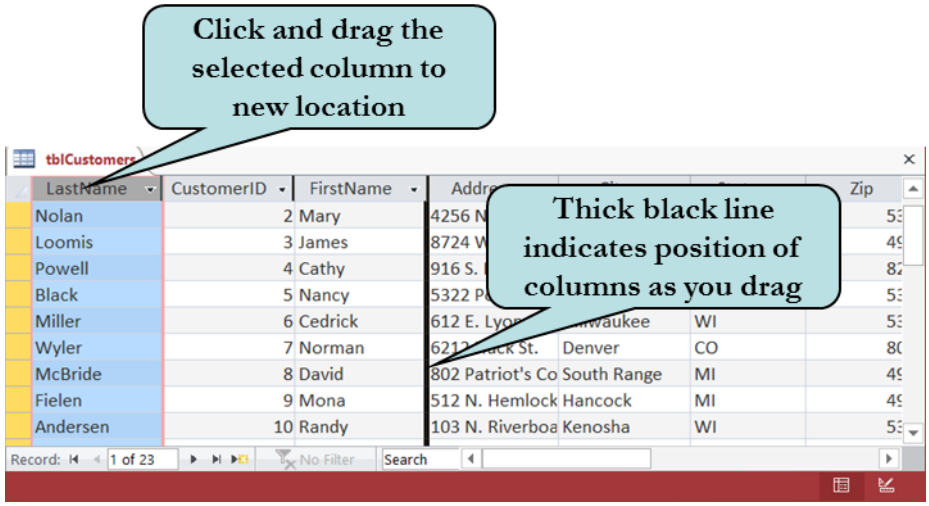
Let's Try It!

What	Why
1. Double-click **tblCustomers**.	Opens tblCustomers in Datasheet View.
2. Click anywhere in the **LastName** column**.**	Selects the column we wish to freeze.
3. Click the **More** button under the Home tab on the Records command set and choose **Freeze Fields** from the menu.	Freezes the LastName column to the left side of the Datasheet.
4. Scroll to the right as shown below.	Notice that the LastName column is now unscrollable. You can also press the right arrow key or the Tab key to move to the right.
	
5. Right-click the Column Heading of the frozen column and select **Unfreeze All Fields** from the contextual menu.	Unfreezes all frozen columns. Notice that although the column is now unfrozen and scrollable, it remains in the same position as when it was frozen.

3.13 Rearranging Columns

In this lesson, you will learn how to rearrange columns in a Datasheet.

In Datasheet View, you can change the column order of your table by selecting the column you wish to move and then dragging it to its new location. As you drag, a thick black line appears marking the new location of the column should you release the mouse button. Saving the table design ensures that the column will be in the same position the next time the table is opened.



To Rearrange Columns

1. Open the table in Datasheet View.
2. Click on the **field name** of the column you wish to move and then release the mouse button.
3. Click on the field name, hold down the mouse button and then drag until the column is in the desired new position.
4. Release the mouse button.

©2016 PCM Courseware, LLC

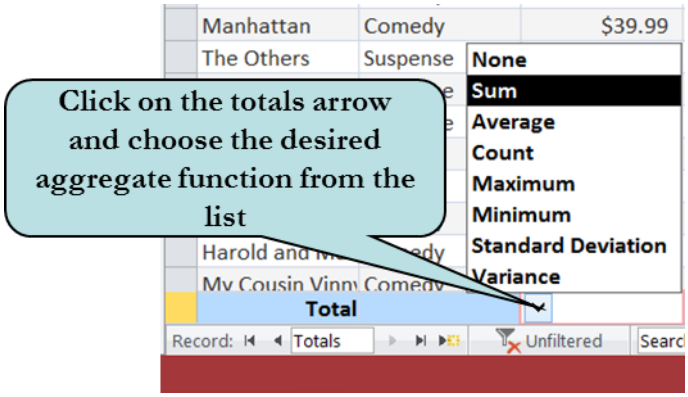
Let's Try It!

What	Why
1. Click the column heading of the **LastName** field.	Selects the LastName Field.
2. Click the **LastName** field name and hold down the mouse button.	Enters drag mode. You are now ready to drag the column to its new location.
3. Drag to the right until the thick black line is to the right of the **FirstName** field.	Positions the LastName column to the right of the FirstName field.
4. Release the mouse button.	Completes the move process.
5. Click the **Close** button on the tblCustomers table. **Save** any changes.	Closes tblCustomers and saves the design changes.

3.14 Displaying Column Totals in a Datasheet

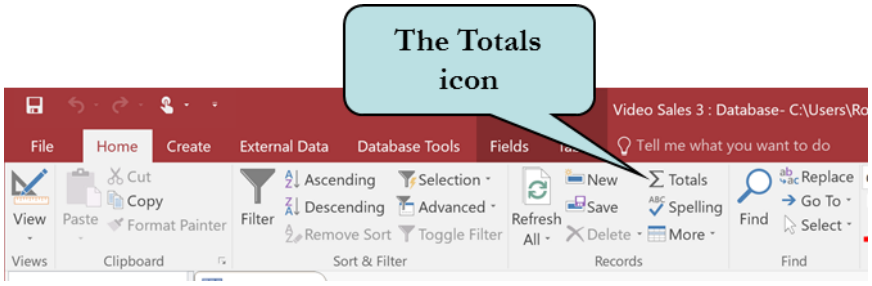
In this lesson, you will learn how to display column totals in a Datasheet.

Access allows you to display column totals right in your datasheet. By clicking the **Totals** tool in the Records command set under the Home tab, you can quickly sum the values in a Datasheet column. In addition, you can also apply other aggregate functions to the column. Available aggregate functions are Sum, Average, Count, Minimum, Maximum, Standard Deviation and Variance.



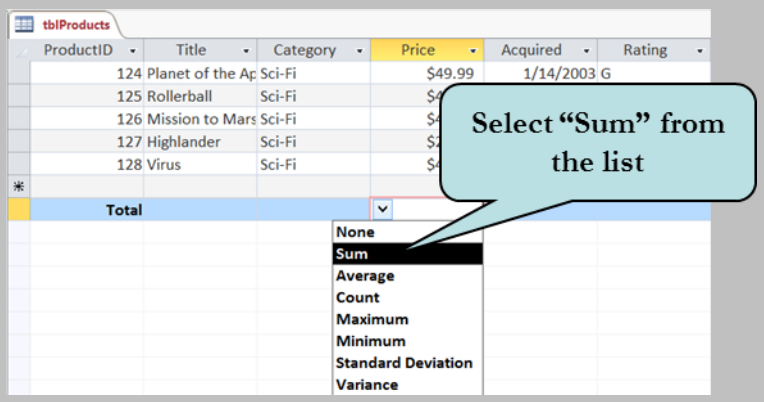
To Display Column Totals in a Datasheet

1. Open the table in Datasheet View.
2. Click the **Totals** button under the Home tab on the Records command set. A new Total row will appear at the bottom of the Datasheet.



3. Click the arrow in the Total row for the column whose totals you wish to display.
4. Choose the desired aggregate function from the list.
5. To remove the Total row, click the **Totals** button.

Let's Try It!

What		Why
1.	Double-click **tblProducts**.	Opens tblCustomers in Datasheet View.
2.	Click the **Totals** button on the Ribbon.	Adds a Totals row on the bottom of the datasheet.
3.	Scroll down and click in the Total row for the **Price** column.	Displays the Total drop-down arrow.
4.	Click the drop-down arrow and select **Sum** from the list as shown below.	Sums the values in the column.
		
5.	Click the **Totals** button on the Ribbon.	Removes the Total row.
6.	Click the **Close** button on the tblProducts table. **Save** any changes.	Closes tblCustomers and saves the design changes.
7.	Press the **Alt + F** keystroke combination and select **Close** from the File Options menu in Backstage View.	Closes the Video Sales 3 database. Alt + F is the keyboard shortcut for displaying the File Options menu.

Lesson Summary – Working with Data

- In this lesson, you learned how to edit data in a table datasheet by clicking in the table cell and typing your changes.
- Then, you learned how to import data from Excel by clicking the Excel button under the External Data tab and following the directions of the wizard.
- Next, you learned how to import a delimited text file by clicking the Text File button under the External Data tab and following the directions of the wizard.
- Next you learned how to select records by clicking on the record selector. You also learned how to delete selected records by either pressing the Delete key or clicking the Delete button under the Home tab.
- Next, you learned how to sort records by clicking either the Sort Ascending button or the Sort Descending button.
- Next, you learned how to find and replace data in a table by clicking the Find button under the Home tab.
- Next, you learned how to filter data based on the selected field by clicking in a table cell, clicking the Selection button and choosing the desired filter commands from the contextual menu.
- Next, you learned that by clicking the Filter by Form button, you can filter records by choosing the data you want the filtered records to contain from a drop-down list of available data.
- Next, you learned how to quickly apply a filter to your data from a contextual menu command by clicking the Filter button and then choosing from the data type filter contextual menu.
- Next, you learned how to hide columns from view, by clicking on the field name to select it, right-clicking and selecting Hide Fields from the contextual menu. You learned that you can also hide columns from the More button on the Ribbon.
- Next, you learned that you can freeze columns in place by clicking on the field name of the column you wish to freeze, right-clicking and selecting Freeze Fields from the menu.
- Next, you learned how to rearrange columns by selecting the column you wish to move and then dragging it to its new location.
- Lastly, you learned how to display column totals in your datasheet by clicking the Totals button on the Ribbon and the selecting the desired aggregate function from the list on the Totals row for the column you wish to total.

©2016 PCM Courseware, LLC

Lesson 3 Quiz

1. Under which command tab can you find the commands to import an Excel file?
   A. Excel
   B. Import & Export
   C. External Data
   D. Database Tools

2. You want to apply bold formatting to only one word in a field that is set to a short text data type. What is the command to accomplish this?
   A. Click the Bold button on the Ribbon.
   B. You cannot apply formatting to a single field or word if the data type is set to short text.
   C. Highlight the word to which you want to apply bold formatting and click the Bold button.
   D. Highlight the word to which you want to apply bold formatting and press the Ctrl + B keystroke combination.

3. What is a delimited text file?

4. To delete a single record, you (select all that apply):
   A. Click the record selector for the record that you wish to delete and press the Delete key.
   B. Select the record you want to delete and click the Delete button under the Datasheet tab.
   C. Select the record you want to delete and click the Delete button under the Home tab.
   D. Select the record you want to delete and click the Delete button under the Database Tools tab.

5. You have sorted your records in descending order and wish to return the order of the records to the way they were before the sort. How can you accomplish this?
   A. Click the Clear All Sorts button.
   B. Click the Remove Sort button.
   C. Click the Remove Filter button.
   D. Click the Column Heading of the sorted row.

6. To search for specific data in your datasheet, click the:
   A. Search button
   B. Find button
   C. Replace button
   D. Search Records button

7. Which of the following filters allow you to choose the data you want the filtered records to contain from a drop-down list of available data from a blank record row?
   A. Filter by Selection
   B. Filter by Form
   C. Filter by List
   D. Common Filters

8. How can you remove a filter from a datasheet?
   A. Right-click and select Remove Filter from the menu.
   B. Click the Remove Filter button.
   C. Click the Clear All Filters button.
   D. Click the Toggle Filter button.

9. You want to display only those records whose value is between 200 and 400. What is the best filter to use?
   A. Filter by Selection
   B. Filter by Form
   C. Common Filters
   D. You cannot accomplish this with a filter. You will need to create a query.

10. On what tab would you find the command to remove (delete) a field from a table?
    A. Home
    B. Database Tools
    C. Fields
    D. Create

11. When you freeze columns, the columns are restrained to the right side of your screen.
    A. True
    B. False

12. Which of the following is NOT an aggregate function?
    A. Sum
    B. Multiply
    C. Average
    D. Minimum

13. What happens to the position of a column when you unfreeze it?
    A. It returns to its original position.
    B. It jumps to the right side of the screen.
    C. Nothing – it stays in the same position where it was when it was frozen.
    D. It repositions itself after the column that is selected.

14. How do you remove the Totals row from a datasheet?

©2016 PCM Courseware, LLC

LAB 3 – ON YOUR OWN

1. Open the **Lab3** database in the Lesson Files folder.

2. Import the Excel file in the Lesson Files folder named **Comics** to a **new** Access table. Make sure to check the **First Row Contains Column Headings** box. Let Access add a primary key. Name the new table **tblComics**.

3. Open tblComics in Datasheet view. Change the font type of the data in tblComics to Times New Roman. Changes the font size to 12.

4. Use the Search tool to find the May 1967 issue of: **Kid Colt Outlaw**. Delete the record from the table.

5. Sort the records in **Ascending** order by the **Year Published** field. Which is the oldest comic in the database?

6. Using the Filter by Selection tool, only show comics whose **Publisher** is **Classics Illustrated**. Remove the filter.

7. Using the **Filter by Form** tool, only show comics whose **Year Published** is **1970** (delete the entry in the Publisher field, if there is one). Remove the Filter.

8. Add a Total field to the table which sums the Amount Paid field.

9. Hide the **NoPrintings** column and the **ID** column.

10. Freeze the **Title** Column.

11. Unhide the **ID** Column.

12. Save the design changes. Close the database.

Lesson 4

Lesson 4 - Working With Queries

Lesson Topics:

4.1 Working in Query Design View
4.2 Creating a Query in Design View
4.3 Adding Fields to a Query
4.4 Removing Fields from a Query
4.5 Saving a Query
4.6 Running a Query
4.7 Adding Criteria to a Query
4.8 Specifying Multiple Criteria
4.9 Sorting Data in a Query
4.10 Moving Columns in a Query
4.11 Using the Query Wizard

© 2016 PCM Courseware, LLC

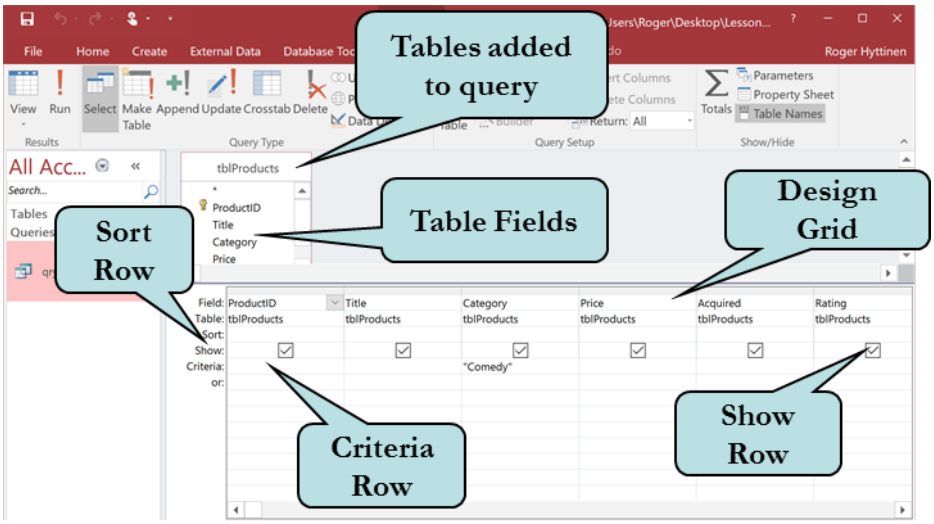
4.1 Working in Query Design View

In this lesson, you will learn about the Query object.

In the last lesson, you learned how to filter data in a table, using the *Filter by Selection* and *Filter by Form* tools. However, for more complex searches, it is often better to create a **query**. Queries are also the fastest and easiest way to retrieve information from a database.

A query allows you to **ask a question** of your data. For instance, you might want to know how many customers in the state of Illinois spent more than $250 in the year 2009. The fields you wish to receive along with the criteria by which you wish to limit your data are set in **Query Design View**.

The parts of a query in Design View are as follows:

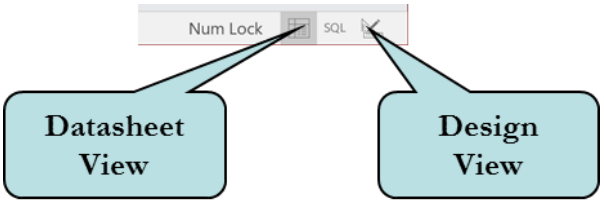


Field Lists – the tables along with their fields that are part of the query. This section is the top part of the query.
Design grid – The lower part of the query broken down into rows and columns. This is where you add fields from the field lists that you want to be part of your query.

- **Field** – The table field whose data will be displayed when the query is run.
- **Table** – The table that contains the field.
- **Sort row –** designates how the results of the query are to be sorted.
- **Show row** – designates which fields will be displayed when the query is run.
- **Criteria row** – used to specify the limits placed on the records to be retrieved.

To Open a Query in Design View

1. Select **Queries** in the Navigation Pane.
2. Right-click the query you wish to open and select **Design View** from the contextual menu.
   Or
   Click the **View** button arrow and then select **Design View** from the menu
   Or
   From query Datasheet view, click the Design View button on the lower right-hand corner of the Access screen.

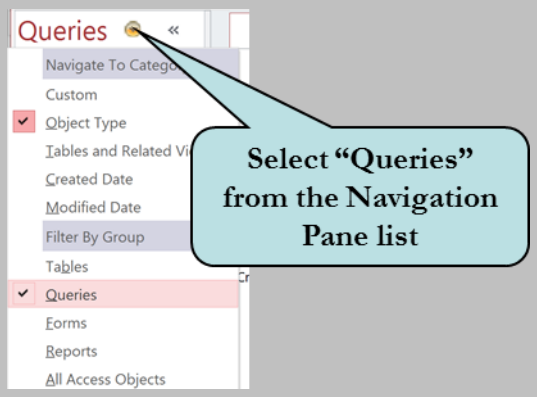
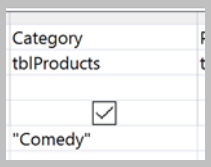


3. To close the query, click the query's close button.

Let's Try It!

What	Why
1. Click the **File tab** on the Ribbon button.	Displays Backstage view.
2. Click **Open**.	Displays the Open dialog box.
3. Click **Browse** in the center pane.	Displays the Computer pane.
4. Click **Desktop** in the left pane double-click the **Lesson Files** folder in the right pane.	Displays the contents of the Lesson Files folder.
5. Select the **Video Sales 4** file and then click **Open**.	Opens the Video Sales 4 database.
6. If necessary, select **Queries** from the Navigation Pane drop-down list as shown below.	Displays query objects.

© 2016 PCM Courseware, LLC

What		Why
		
7.	Right-click the **qryProducts** query.	Displays the contextual menu.
8.	Select **Design View**.	Opens the query in Design View.
9.	Observe the **criteria row** for the **Category** field.	The results of the query are limited to those records whose category is **"Comedy"** 
10.	Press the **Ctrl + W** keystroke combination.	Closes the query.

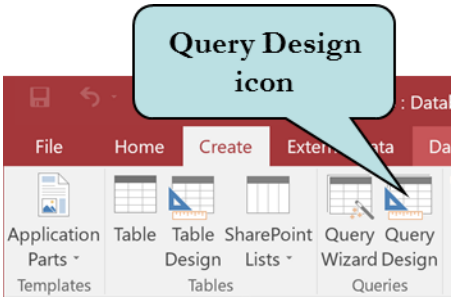
4.2 Creating a Query in Design View

In this lesson, you will learn how to create a query in Design View.

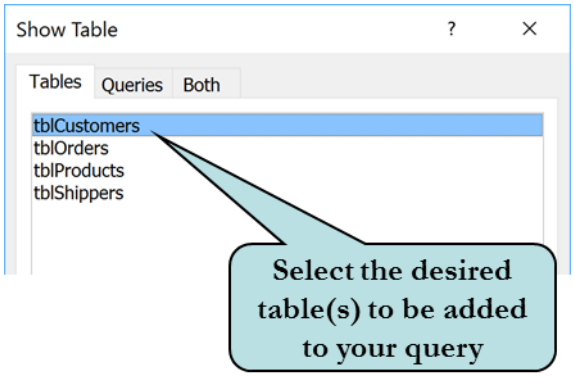
There are two ways to create queries: using the query wizard or manually creating a query in Design View. In this lesson, we will create a query in Design View that returns data from a single table. This is accomplished by clicking the **Query Design** button under the Create tab, and then choosing which table you wish to add to the query.

To Create a New Query in Design View

1. Click the **Create** tab on the Ribbon.
2. Click the **Query Design** button in the **Queries** command set.



3. Click the **Tables** tab in the Show Table dialog box.
4. Select the table upon which you want to base your query.
5. Click **Add** on the bottom of the Show Table window.

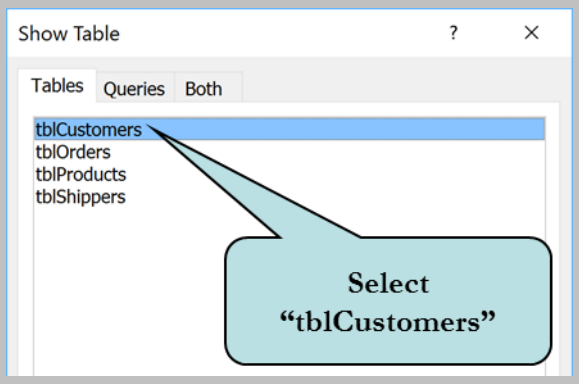


6. Click **Close** when finished.

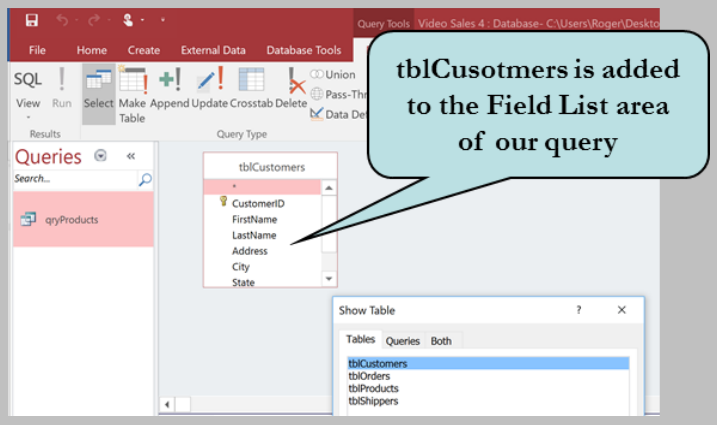
© 2016 PCM Courseware, LLC

Let's Try It!

What	Why
1. Click the **Create** tab on the Ribbon.	Displays commands for creating Access objects.
2. Click the **Query Design** command button.	Displays the Show Table dialog box. This lists all tables and queries in your database.
3. Click **tblCustomers**.	Selects the table we wish to add to our query.



4. Click **Add**.	Adds **tblCustomers** to the Field Lists area (the top portion) of our query.



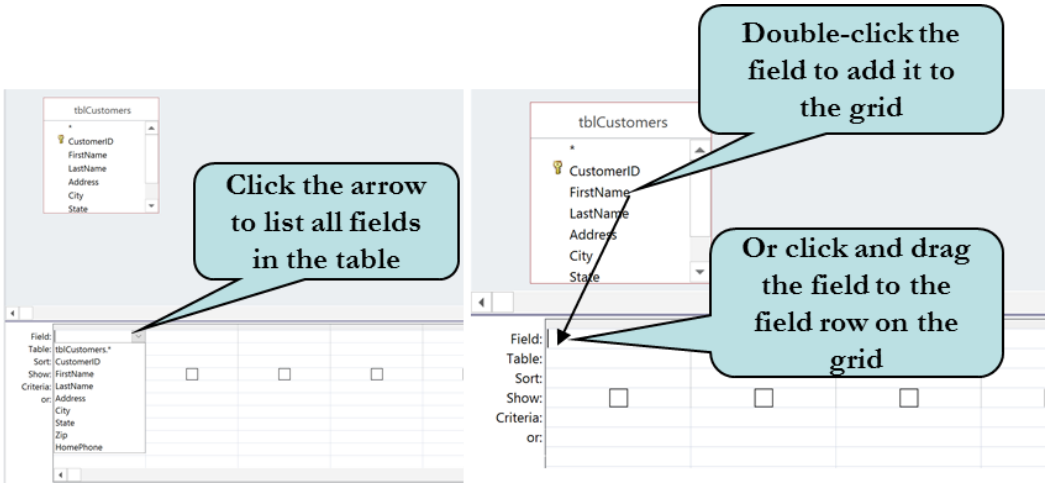
5. Click **Close**.	Closes the Show Table dialog box and displays query Design View.

4.3 Adding Fields to a Query

In this lesson, you will manually add fields to your query.

Once you have chosen the table to use in your query, you will next need to add the **fields** to your query that you wish to be included in the query's results. There are several ways to add fields to your query:

- Click and drag the field from the Field Lists area to the design grid.
- Double-click the field in the table list.
- Click in the field row, click the arrow that appears and then select the desired field.
- To add all fields, double-click the **title bar** of the field list box, click anywhere within the field list, and drag to the query grid.
- Click the **asterisk** in the field list box to add all fields to the query results (the individual fields in the query grid are not displayed).



To Add Fields to a query

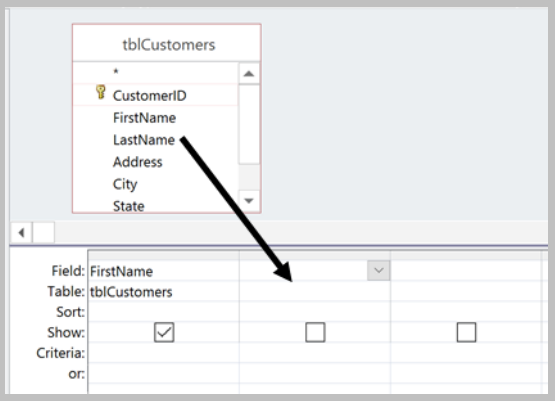
1. Double-click the field name in the field list box
   Or
   Click and drag the field from the field list box to the design grid
   Or
   Click the field row and then choose the desired field by clicking the drop-down arrow.

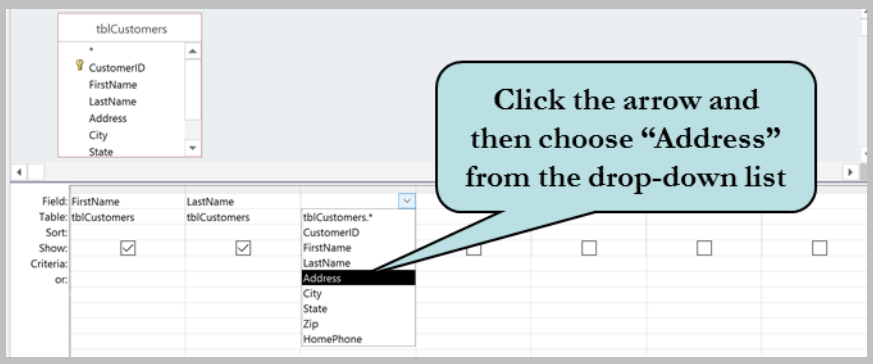
© 2016 PCM Courseware, LLC

To Add All of the Fields in a Table to a Query

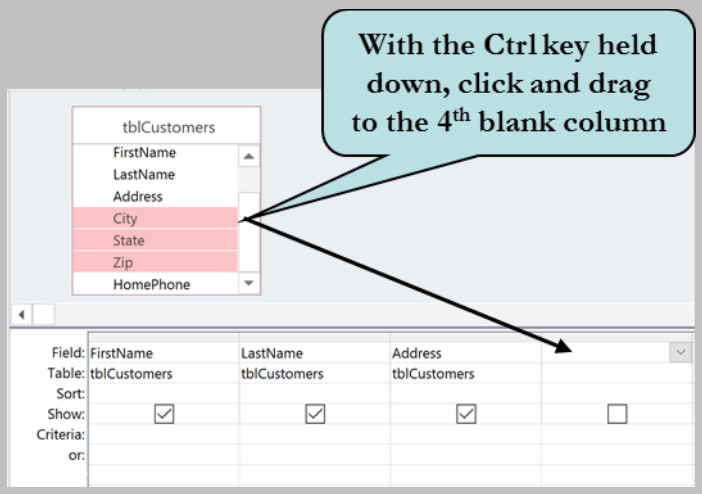
1. Double-click the **title bar** of the field list box.
2. Click and hold your left mouse button anywhere within the field list box.
3. Drag to the query grid.

Let's Try It!

What	Why
1. Double-click **FirstName** in the field list box.	Adds the FirstName field to the first column of the query grid.
2. Click the **LastName** field in the field list box and drag it to the second column of the query grid as shown below.	Drags the LastName field to the second column of the query grid.
	
3. Press **Tab**.	Moves the insertion point to the field row in the next blank column.
4. Click the **arrow** and then choose **Address** from the drop-down list as shown below.	Adds the address field to the third column of the query gird.

What	Why
	
5. In the field list box (on the top section of the query), scroll downwards until the City, State, and Zip fields are visible.	Scrolls downward in the field list box to display the additional table fields.
6. Click the **City** field in the field list box.	Selects the field we wish to add to our query.
7. Press and hold the **Ctrl key** and click the **State** and **Zip** fields in the field list box.	Chooses the additional fields to be added to the query. Holding down the Ctrl key allows you to select more than one field.
8. With the Ctrl key still held down, click anywhere in the selected fields and then **drag** to the **fourth blank column** in the query grid as shown below. Release the mouse button and the Ctrl key.	Adds the City, State and Zip fields to the query.

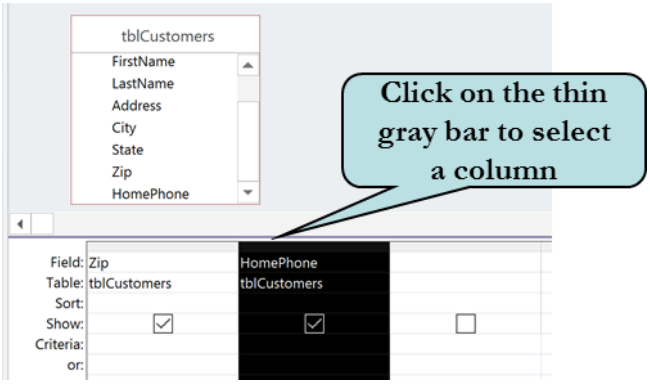
© 2016 PCM Courseware, LLC

What	Why
	
9. **Double-click** the **HomePhone** field.	Adds the HomePhone field to the query grid.

4.4 Removing Fields from a Query

In this lesson, you will learn how to remove fields from the query grid.

After you have added fields to your query, you may decide that you in fact do not want a particular field to be included in your query. To remove a field from the query grid, select the column by clicking the thin gray bar above the field row and then press the **Delete** key.



You can also simply choose not to display a column in the query's results by clicking the checkbox in the **Show** row. The field will still be part of the query, but will not be displayed in the query's results.

To Remove a Field from a Query

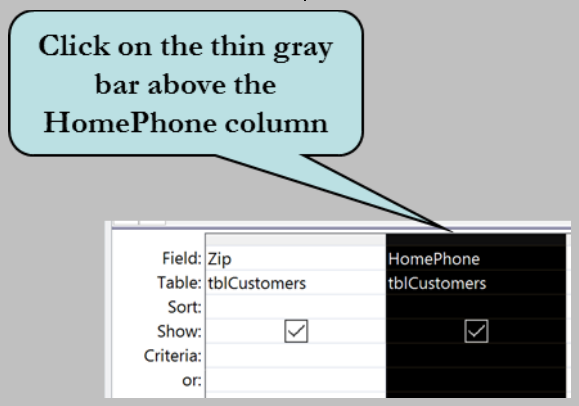
1. Click the thin gray bar above the field row for the column you wish to remove.
2. Press the **Delete** key.

To Hide a Field from the Query Results

1. Uncheck the checkbox in the **Show** row for the field whose results you wish to hide.

© 2016 PCM Courseware, LLC

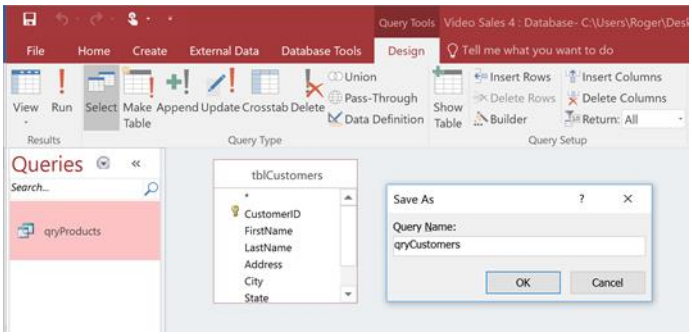
Let's Try It!

What	Why
1. Click the thin gray bar above the Field row for the **HomePhone** field as shown below.	Selects the field we wish to remove from the query grid. We have decided that we do not want to include the HomePhone field in our query.
	
2. Press the **Delete** key.	Removes the selected field from the query.

4.5 Saving a Query

In this lesson, you will learn how to save a query.

If you will need to generate the results for a query more than once, you may wish to **Save** the query, rather than recreating it every time you need it. To save a query, click the **Save button** on the Quick Access Toolbar and then enter the name for your query in the Query Name box. Don't forget about naming conventions!



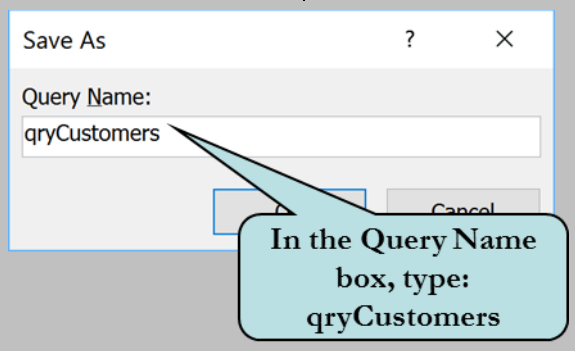
Saving a Query

To Save a Query

1. Click the **Save button** on the Quick Access toolbar.
   Or
   Click the **File tab** on the Ribbon and click Save.
2. Enter the name for the query in the **Query Name** box.
3. Click **OK**.

Let's Try It!

What	Why
1. Click the **Save** button on the Quick Access toolbar as shown below.	Displays the Save As dialog box as we have not yet saved our query.

What	Why
2. Type: **qryCustomers** in the Query Name box as shown below.	Enters a name for our query.
	
3. Click **OK**.	Saves the query as qryCustomers and then closes the Save As dialog box.

4.6 Running a Query

In this lesson, you will learn how run a query.

We already know that a query is a question that you ask about the data in your database. To receive the answer to your question, you need to run your query. The answer to a query is called a **recordset** or a **result set**. It is also commonly referred to as a **dynaset**. In this class, we will refer to it as a result set.

FirstName	LastName	Address	City	State	Zip
Daniel	Harris	387 N. Pine St.	Canon City	CO	81212
Mary	Nolan	4256 N. Oakland Ave.	Milwaukee	WI	53211
James	Loomis	8724 W. Pine St.	Hancock	MI	49905
Cathy	Powell	916 S. Davis	Cheyenne	WY	82005
Nancy	Black	5322 Poodle Lane	Milwaukee	WI	53216
Cedrick	Miller	612 E. Lyon	Milwaukee	WI	53201
Norman	Wyler	6212 Huck St.	Denver	CO	80207
David	McBride	802 Patriot's Court	South Range	MI	49950
Mona	Fielen	512 N. Hemlock	Hancock	MI	49905
Randy	Andersen	103 N. Riverboat Rd.	Kenosha	WI	53206
Alice	Juntinen	2006 W. Center	Denver	CO	80207
Thomas	Henderson	9892 E. Clinton Drive.	Orlando	FL	32825
Patti	LaRouche	602 Lincoln St.	Milwaukee	WI	53202
Laura	Prescott	21053 E. Lark	Denver	CO	80207
Jonathan	Zavasky	3065 N. Rochelle	West Allis	WI	53207
Lance	Ferrare	10062 Petersburg Dr.	Cheyenne	WY	82006
Daniel	Morris	312 E. Park St.	Dallas	TX	75225
Larry	Campbell	7323 Sun Dr.	Hollywood	CA	90210
Leo	Lenke	17524 N. Columbia	Hollywood	CA	90210
Florence	Bateman	8177 Redwood Ln.	Cheyenne	WY	82006
Nicole	Travis	406 W. Pine #26	Glendale	WI	53209
Sara	Beckman	4193 Templeton Dr. NE	Racine	WI	52602
Jaime	Rickman	704 Clark St.	Atlanta	GA	30303

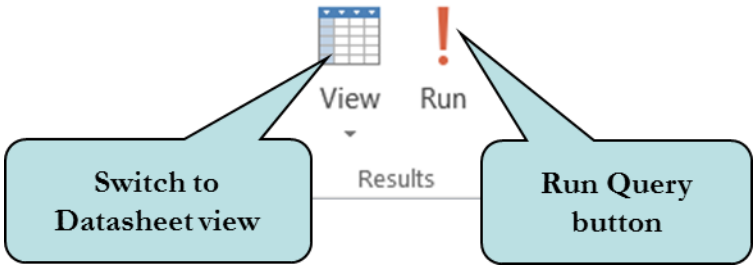
Record: 1 of 23 No Filter Search

The Query Result Set

To run a query if you are in Design View, click the **run icon** on the Ribbon or click the **View** button on the Ribbon. To run a query that is not already open, double-click the query name in the Navigation Pane.

To Run a Query from Design View

1. Click the **Run Query button** on the Design tab of the Ribbon
   Or
   Click the **View button** on the Ribbon.

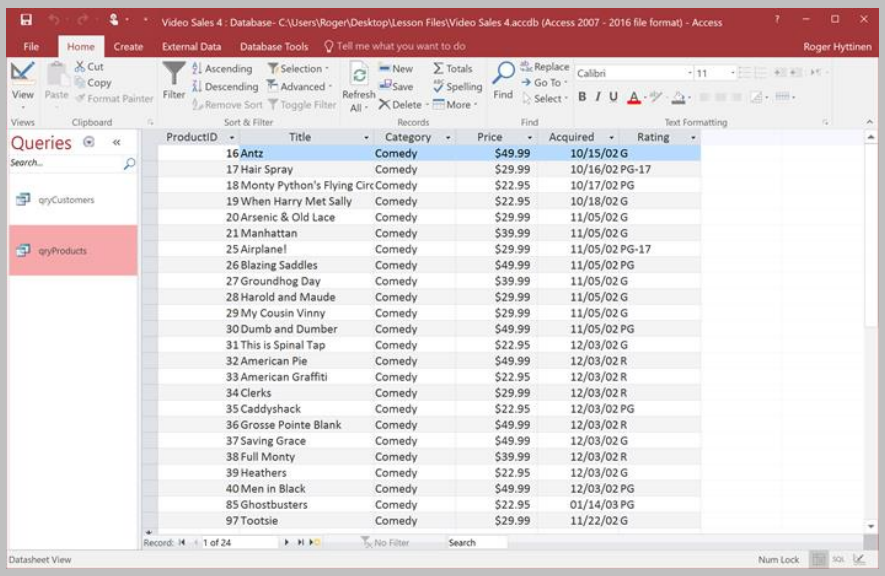


To Run a Query from the Navigation Pane

1. Select **Queries** from the Navigation Pane drop-down menu.
2. **Double-click** the name of the query that you wish to run.

Let's Try It!

What	Why
1. Click the **Run icon** on the Ribbon.	Runs the query and displays the result set.
2. Click the **View** button on the Ribbon.	Switches back to Design View.
3. Click the **View** icon on the Ribbon.	Runs the query and displays the result set.
4. Press the **Ctrl + W** keystroke combination.	Closes the query.
5. Double-click **qryProducts**.	Opens qryProducts in Datasheet View (in other words, we run the query).



6. Press the **Ctrl + W** keystroke combination.	Closes the qryProducts query.

4.7 Adding Criteria to a Query

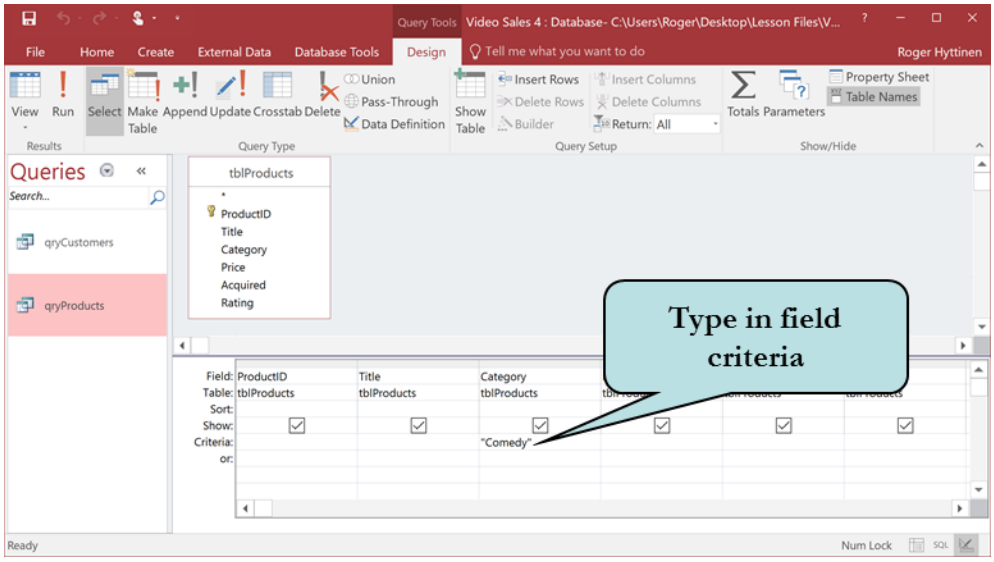
In this lesson, you will learn how to add criteria to a query.

The **criteria row** of the query grid is where you enter the limits to identify the specific records you wish to return. For example, instead of viewing all of our customers, we could enter **"CA"** in the criteria row for the State field. When we run the query, only customers from the state of California would be returned.

You can also use numerical expressions as your criteria. If you wanted to see all products whose cost was greater than $20, you would enter: **>20** in the criteria row. Notice that numerical expressions are not surrounded in quotes whereas string (text) expessions must be enclosed in quotation marks.

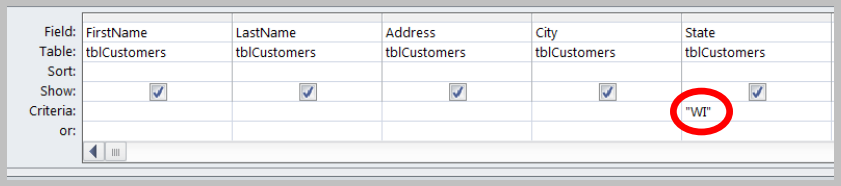
To Specify Criteria for a Query

1. Click in the **Criteria** row of the field whose results you wish to limit.
2. Type in the criteria that must be met.



Let's Try It!

What	Why
1. Right-click on the **qryCustomers** query.	Displays the contextual menu.
2. Select **Design View** from the contextual menu.	Opens qryCustomers in Design View.
3. In the **Criteria** row for the **State** field, type: **"WI"** as shown below.	Enters the criteria that must be met. In this case, we wish to see only those customers who reside in Wisconsin.



4. Click the **Save** button on the Quick Access toolbar.	Saves the design changes that we have made to the query.
5. Click the **Run** button and observe the result set as shown below.	Displays the results of the query.

FirstName	LastName	Address	City	State	Zip
Mary	Nolan	4256 N. Oakland Ave.	Milwaukee	WI	53211
Nancy	Black	5322 Poodle Lane	Milwaukee	WI	53216
Cedrick	Miller	612 E. Lyon	Milwaukee	WI	53201
Randy	Andersen	103 N. Riverboat Rd.	Kenosha	WI	53206
Patti	LaRouche	602 Lincoln St.	Milwaukee	WI	53202
Jonathan	Zavasky	3065 N. Rochelle	West Allis	WI	53207
Nicole	Travis	406 W. Pine #26	Glendale	WI	53209
Sara	Beckman	4193 Templeton Dr. NE	Racine	WI	52602

The Query Results

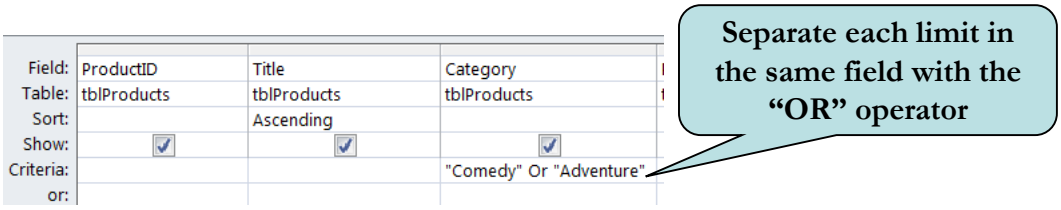
6. Press the **Ctrl + W** keystroke combination. Save any changes.	Closes qryCustomers.

4.8 Specifying Multiple Criteria

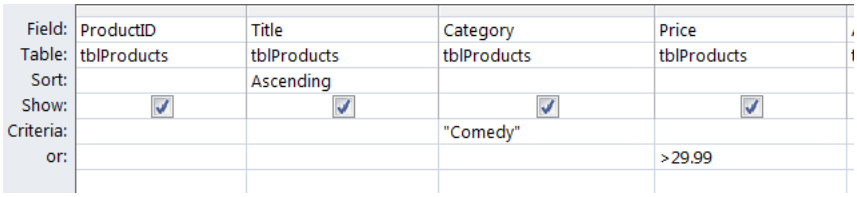
In this lesson, you will learn how to add more than one limit to a query.

As you work more with queries, you will inevitably want to add more than one limit to a query. For instance, you may wish to see a list of all customers who live in the state of Colorado **and** who rented Comedy or Adventure films.

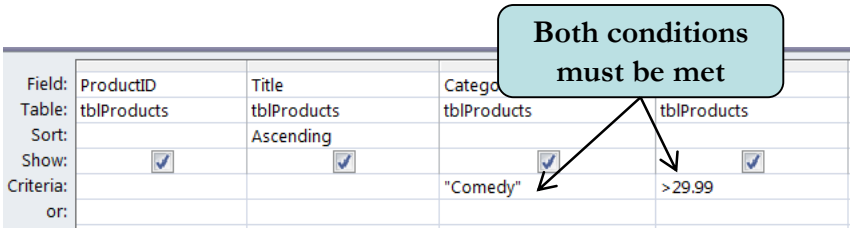
To specify an **OR** condition for the **same field**, separate each limit by the **Or** operator. In the example below, any films with the category of Comedy or Adventure will be returned.



To specify an **OR** condition for **two different fields**, enter each limit on a different row as in the example below.



To create a query where two or more conditions must be met, enter the criteria on the same row. For instance, you might wish to see all comedy films that cost more than $29.99. You would enter both criteria on the same criteria row, as shown below. This is referred to as an **AND condition**.



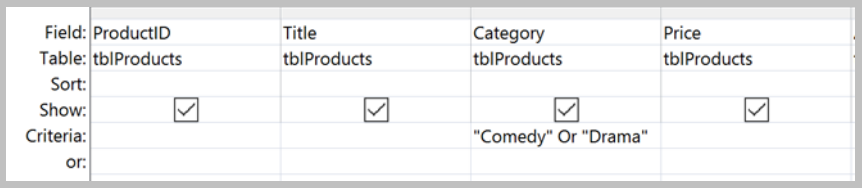
To Specify Multiple Criteria in a Query

1. For **OR** criteria in the same field, separate each limit by the word OR.
2. For OR criteria in different fields, enter each limit on a separate criteria line.
3. To specify **AND** criteria, enter all limits on the same criteria line.

© 2016 PCM Courseware, LLC

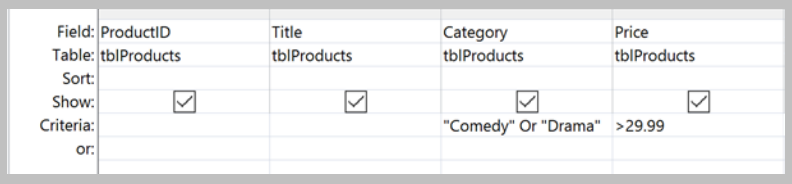
Let's Try It!

What	Why
1. Open **qryProducts** in **Design View**.	Opens qryProducts in Design View so we can enter our criteria. Notice that we already have a limit of "Comedy" for the Category field.
2. Place your cursor after the word "Comedy" and then type: **Or "Drama"** as shown below.	Enters a multiple "Or" criteria for the Category field. Films with either a category of Comedy or Drama will be returned in the results.



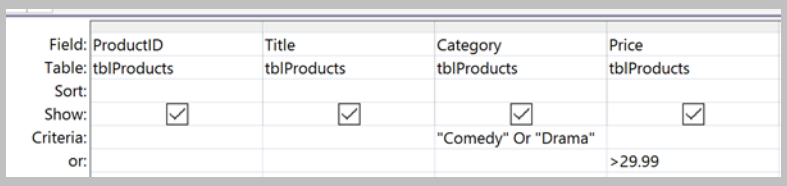
Field:	ProductID	Title	Category	Price
Table:	tblProducts	tblProducts	tblProducts	tblProducts
Sort:				
Show:	☑	☑	☑	☑
Criteria:			"Comedy" Or "Drama"	
or:				

3. Click the **Run** button.	All films with a category of Comedy or Drama are returned.
4. Click the **View** button on the Ribbon.	Switches back to Design View.
5. Click in the Criteria row for the **Price** field and type: **> 29.99** as shown below.	Enters the criterion for the Price field. Now, only films with a Category of Comedy or Drama AND whose price is greater than $29.99 will be returned.



Field:	ProductID	Title	Category	Price
Table:	tblProducts	tblProducts	tblProducts	tblProducts
Sort:				
Show:	☑	☑	☑	☑
Criteria:			"Comedy" Or "Drama"	>29.99
or:				

6. Press the **Run** icon on the Ribbon and observe the results.	Displays the results of the query.
7. Click the **View** icon on the Ribbon.	Switches back to Design View.

What	Why
8. Highlight the criterion for the Price field, **right-click** and then choose **Cut** from the contextual menu.	Copies the limit for the Price field to the clipboard.
9. Press the **down arrow** key on your keyboard. **Right-click** and choose **Paste** from the contextual menu.	Pastes the limit one row below the original location as shown below.
	
10. Click the **Run** icon on the toolbar and observe the results.	Displays the results of the query. All films with either a category of Comedy or Drama or a price greater than $29.99 are returned.
11. Click the **View** button on the Ribbon.	Switches back to Design View.
12. Press the **Ctrl + W** keystroke combination. Click **No** when asked to save your changes.	Closes qryProducts. The criteria changes we made will not be saved.

4.9 Sorting Data in a Query

In this lesson, you will learn how to sort the results of a query.

To make the results of your query easier to work with, you will most likely wish to **sort** the query results in some logical order. To sort a query by a particular field, click in the sort field and then choose either **Ascending** (A-Z) or **Descending** (Z-A) from the drop-down list.

You can sort by more than one query field. Access sorts from left to right. In the example below, the data would first be sorted by Category, and then by price within each category.

Field:	ProductID	Title	Category	Price	Acquired
Table:	tblProducts	tblProducts	tblProducts	tblProducts	tblProducts
Sort:			Ascending	Ascending	
Show:	☑	☑	☑	☑	☑
Criteria:					

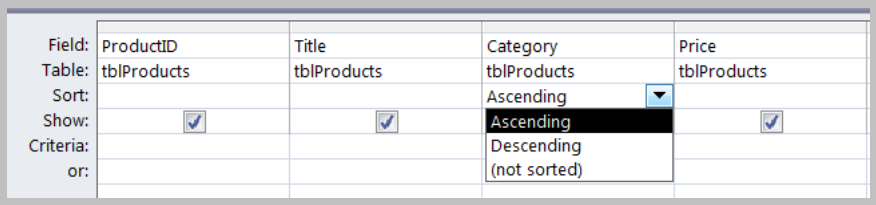
Access Sorts from Left to Right

To Sort the Results of a Query

1. Click in the **Sort** row for the field you wish to sort.
2. Click the **arrow** and then choose either **Ascending** or **Descending** order.
3. To remove a sort, click in the Sort row and then choose **(not sorted)** from the drop-down list.

Let's Try It!

What	Why
1. Open **qryProducts** in **Design View**.	Opens qryProducts in Design View.
2. Delete the word **"Comedy"** from the Criteria row for the Category field.	Removes the criteria for the Category field.
3. Click in the **Sort** cell for the **Category** field.	Displays the drop-down arrow for the Category field.

What		Why
4.	Click the arrow and then choose **Ascending** from the drop-down list as shown below.	Sets the sort order for the Category field to Ascending.
		
5.	Click in the **Sort** cell for the **Price** field.	Displays the drop-down arrow for the Price field.
6.	Click the arrow and then choose **Ascending** from the drop-down list.	Sets the sort order for the Price field to Ascending. The results will be sorted first by Category, and then by Price.
7.	Click the **Save** button on the Quick Access toolbar.	Saves the query design changes.
8.	Click the **Run** button and observe the results.	Displays the sorted query results. The data is sorted first by Category and then by Price.
9.	Click the **View** button.	Switches back to Design View.

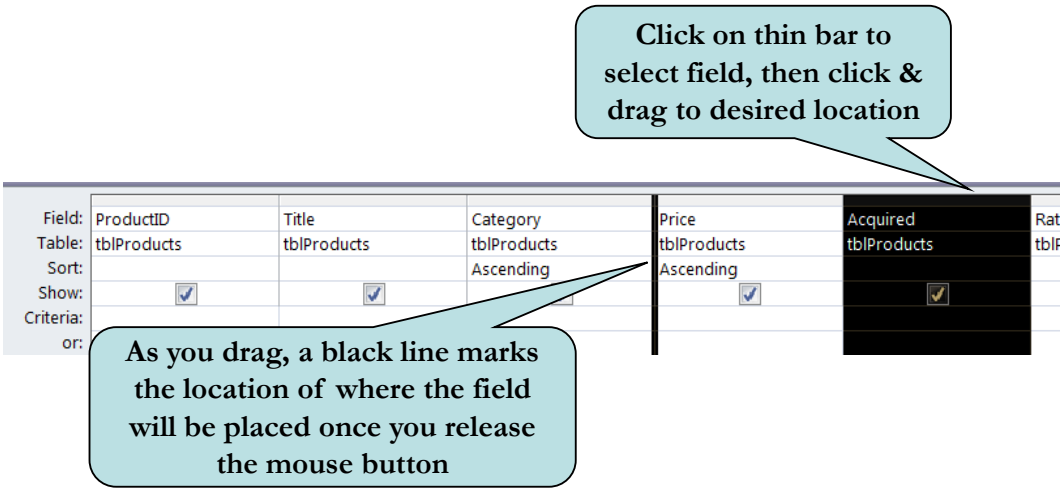
© 2016 PCM Courseware, LLC

4.10 Moving Columns in a Query

In this lesson, you will learn how to change the order of fields in a query.

In the last lesson, we learned that when sorting data, Access sorts from left to right. So what if the fields are not in the order in which we need them to be? In that case, we will have to rearrange the fields in our query.

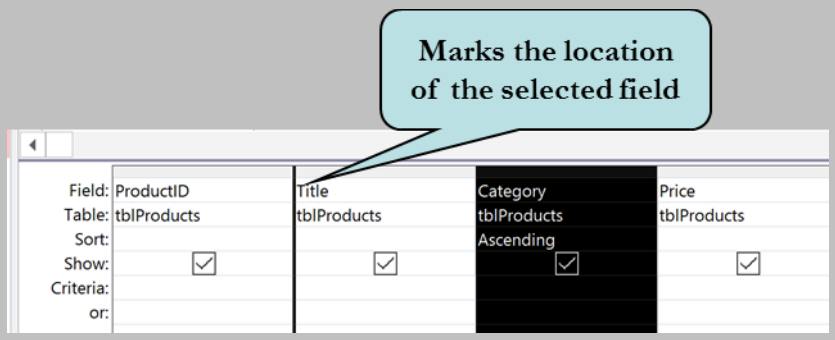
To move a field in a query, click on the thin gray bar above the field name to select the field. Then, click the gray bar again, hold down your mouse button and drag until the field is in the desired location. As you drag, a thin black line appears, letting you know the location of the field should you release the mouse button.



To Move a Column in a Query

1. Click the thin gray bar above the field name to select the field.
2. Release the mouse button.
3. Click the gray bar and hold down the mouse button.
4. Drag until the thick black line is in the desired location.
5. Release the mouse button.

Let's Try It!

What		Why
1.	Click in the **Sort** cell for the **Price** field.	Displays the drop-down arrow for the Price field.
2.	Click the arrow and then choose **(not sorted)** from the drop-down list.	Removes the sort for the price field. We want to sort our results by Category, and then by Title. In order to do this, we will have to move the Category field to the left of the Title field.
3.	Click the thin gray bar above the **Category** field name and then release the mouse button.	Selects the Category field.
4.	Click on the thin gray bar, hold down the mouse button, and then drag to the left until the thick black line is to the left of the Title field, as shown below.	Sets the new location of the Category field.
		
5.	Release the mouse button.	Completes the move process.
6.	Click in the **Sort** cell for the **Title** field.	Displays the drop-down arrow for the Title field.
7.	Click the arrow and then choose **Ascending** from the drop-down list.	Sets ascending as the sort order for the Title field.

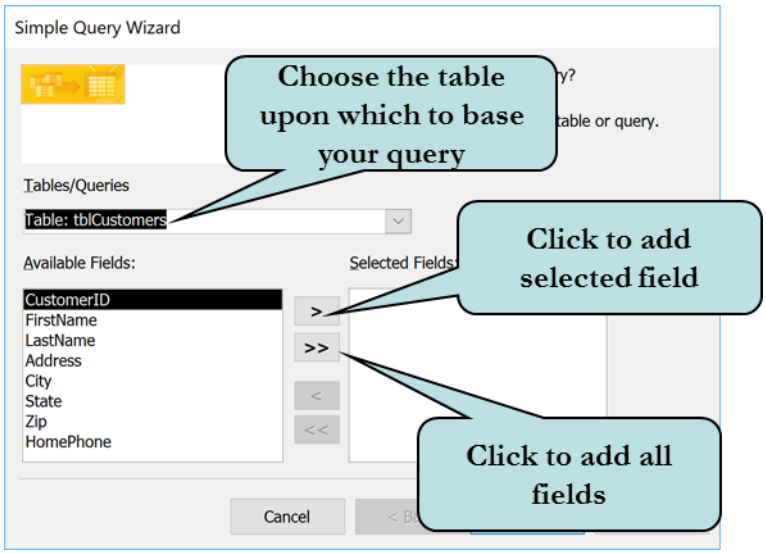
© 2016 PCM Courseware, LLC

What	Why
8. Click the **Run** icon.	Displays the query results. Data is sorted first by Category, then by Title.

4.11 Using the Query Wizard

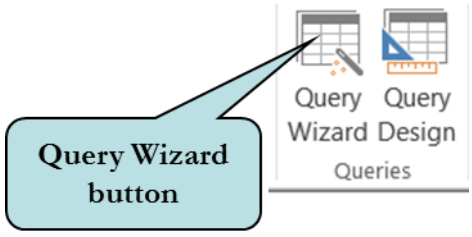
In this lesson, you will learn how to create a query using the Query Wizard.

Rather than create your queries manually, you can use the **Simple Query Wizard** to help you build your query. The Simple Query Wizard steps you through the process of creating a query. You will be first prompted to choose the table and table fields upon which to base your query. Next, you select the desired view (Detail or Summary), and then provide a name for your query. That last step asks you if you want to open your query in Datasheet View or in Design View.



To Create a Query using the Query Wizard

1. Select **Queries** in the Navigation Pane
2. Click the **Create** tab on the Ribbon.
3. Click the **Query Wizard** button on the Ribbon.

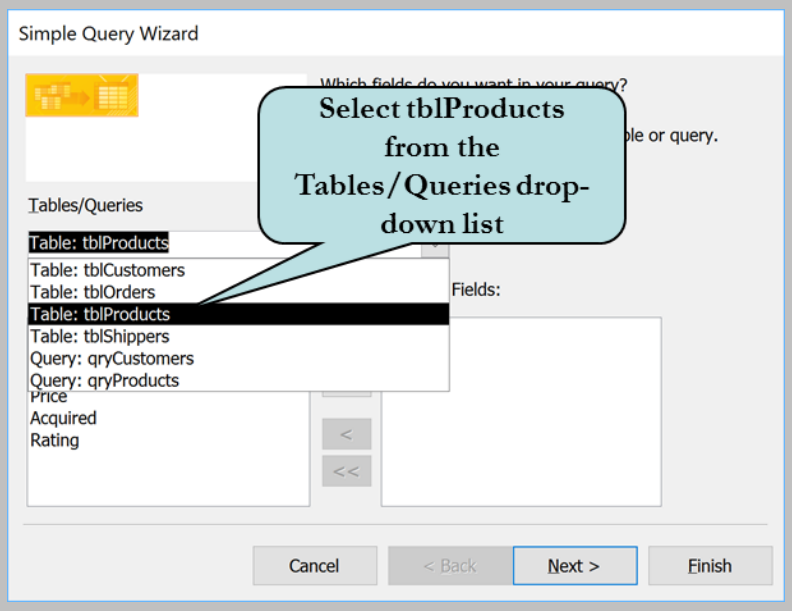
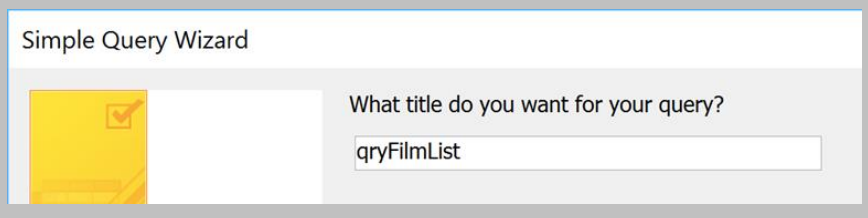


4. Select **Simple Query Wizard** and then click **OK**.
5. From the **Tables/Queries** drop-down list, choose the table or query upon which to base your new query.

6. Choose fields to add to the query by clicking the **>** button to add the selected field. Repeat for all desired fields.
7. To add all fields to the query, click the **>>** button.
8. Click **Next**.
9. Enter a name for your query in the "**What title do you want for your query?"** box.
10. Choose whether to view the query's design (Design View) or whether to open the query to view information (Datasheet View).
11. Click **Finish.**

Let's Try It!

What	Why
1. Press the **Ctrl + W** keystroke combination. Click **Yes** when asked if you want to save changes.	Saves and closes the qryProducts query.
2. Click the **Query Wizard** button on the Ribbon under the **Create** tab.	Displays the New Query dialog box.
3. Ensure that **Simple Query Wizard** is selected and then click **OK**.	Displays the first step of the query wizard.
4. Click the arrow on the right of the **Tables/Queries** combo box and then select **tblProducts** from the drop-down list as shown below.	Selects the table upon which we want to base our new query.

What	Why
	
5. Select the **Title** field in the **Available Fields** window and then click the **>** button.	Selects the Title field to be added to our query.
6. Select the **Acquired** field in the **Available Fields** window and then click the **>** button.	Selects the Acquired field to be added to our query.
7. Click **Next**.	Moves to the next step of the wizard.
8. In the **Title box**, type: **qryFilmList** as shown below.	Enters a name for our query.
	

What	Why
9. Click the **Open the query to view information** radio button and then click **Finish**.	Opens the query in Datasheet View.
10. Press the **Ctrl + W** keystroke combination.	Closes the qryFilmList query.
11. Press **Alt + F** and select **Close** from the File Options menu.	Closes the database.

Lesson Summary – Creating Queries

- In this lesson, you learned about the different parts of a query by looking at the query in Design view.
- Then, you learned how to create a new query in Design view by clicking the Create tab on the Ribbon, clicking the Query Design button in the Queries command set and then choosing the table or query upon which the query is to be based.
- Next, you learned how to add fields to a query by double-clicking the field name in the field box, by dragging the field from the field box to the design grid, or by choosing the field from the field row drop-down list.
- Next, you learned how to remove fields from a query by clicking the thin gray bar above the column to select it and then pressing the Delete key.
- Next, you learned how to save a query by clicking the Save button on the Quick Access toolbar and typing in the name for your new query.
- Next, you learned how to run (execute) a query by clicking the Run icon on the Ribbon or by displaying the query in Datasheet view.
- Next, you learned how to limit the results of your query by typing in the criteria that must be met in the Criteria row in the query grid.
- Next, you learned how to specify "and" criteria by entering all limits on the same line. You also learned how to specify "or" criteria, by either separating each limit with the word "OR" or by entering each limit on a separate criteria line.
- Next, you learned how to sort data in a query by clicking the Sort drop-down list for the field you wish to sort and selecting Ascending, Descending or (not sorted).
- Next, you learned how to rearrange columns in a query by clicking on the thin gray bar in the query column and dragging the column until it is in the desired position.
- Lastly, you learned how to create a query using the Simple Query Wizard by clicking on the Query Wizard button on the Ribbon and making your desired selections.

© 2016 PCM Courseware, LLC

Lesson 4 Quiz

1. How can you hide columns from displaying when you run a query?
   A. Uncheck the box in the Show row.
   B. Uncheck the box in the View row.
   C. Uncheck the box in the Field row.
   D. Uncheck the box in the Sort row.

2. To display a query in Design view, you (select all that apply):
   A. Double-click the query name in the Navigation pane.
   B. Right-click the query name and choose Design View from the menu.
   C. Select the query name and then press the "D" key on your keyboard.
   D. Click the View button when in Datasheet view.

3. To create a new query in Design View, you:
   A. Click "New" from the File Options Menu.
   B. Click the Query Design button under the Create tab.
   C. Click the New Query button under the Home tab.
   D. Right-click an existing query and select "New" from the contextual menu.

4. You can base a query off of either a table or another query.
   A. True
   B. False

5. What are three ways that you can add fields to the query grid?

6. To select multiple non-adjacent fields from the Field List area, you:
   A. Hold down the Shift key and select the desired fields from the Field List area.
   B. Hold down the Alt key and select the desired fields from the Field List area.
   C. Hold down the Ctrl key and select the desired fields from the Field List area.
   D. You can only add one field at a time to a query.

7. How can you remove a field from the query grid?
   A. Click the thin bar above the column and press the Delete key.
   B. Uncheck the Show box.
   C. Click the Remove button on the Ribbon.
   D. Click the Field drop-down list and select "None"

8. What are two ways to execute (run) a query?

9. How can you add limits to your query so that only specific records are returned?
   A. Enter your criteria in the Filter row.
   B. Enter your criteria in the Limits row.
   C. Select your criteria from the Criteria drop-down list.
   D. Enter your criteria in the Criteria row.

10. You cannot enter more than one criteria on the same row.
   A. True
   B. False

11. How can you create a query using the Simple Query Wizard?
   A. Click the Simple Query button under the Create tab and make your selections.
   B. Click the Query button under the Design tab and make your selections.
   C. Click the Query Wizard button under the Create tab and make your selections.
   D. Click the File tab on the Ribbon and select New Query from the File Options menu.

12. How can you rearrange the fields in the query grid?

© 2016 PCM Courseware, LLC

LAB 4 – ON YOUR OWN

1. Open the **Lab4** database in the Lesson Files folder.

2. Create a new query in Design View from tblComics. Add the following fields to the query:

   Title
   Publisher
   Original Price
   YearPublished
   Condition

3. Save the query as **qryComicList**.

4. Run the query. How many records are there?

5. Switch to Design View. Limit the query so that only those comics whose publisher is **Marvel Comics** or **Marvel Comics Group** are displayed. Run the query.

6. Switch to Design View. Move the **Condition** field so that it is to the **right of the Title field**. Sort the data in ascending order by **Title**.

7. Only display comics whose original price is greater than **.25** (don't forget to remove the criteria from the Publisher field). How many records do you have now? **Save and Close the query**.

8. Create a new query using the query wizard from **tblComics** that includes **all of the fields**. Save the query as: **qryComics**. Open the query in Datasheet View.

9. Switch to Design View. Set a criterion so that only those comics that were published **before 1970** are displayed. Sort ascending by YearPublished. Run the query.

10. Save and close the query. Exit Microsoft Access.

Lesson 5

Lesson 5 - Creating Forms

Lesson Topics:

5.1 Using the Form Wizard

5.2 Entering Data into a Form

5.3 A Look at Design View

5.4 Adding a Field to a Form

5.5 Changing Control Properties

5.6 Using Layout View

5.7 Finding Records in a Form

© 2016 PCM Courseware, LLC

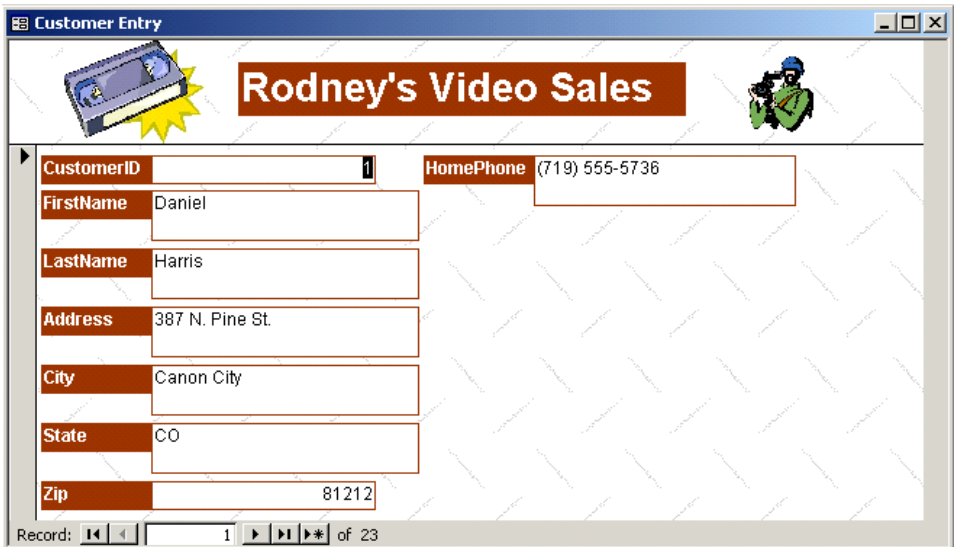
5.1 Using the Form Wizard

This lesson will guide you through the process of creating a form with the Form Wizard.

A **form** is an interface between the user and the data, utilized primarily to enter, edit or display data in a database. The form window contains labels (descriptive text), text boxes, combo boxes, radio buttons etc. that are bound to the data in your table and can help make your database more user-friendly. Entering or changing data in a form automatically enters or changes it in the underlying table.

Using the **Form Wizard** is the easiest way to create a form. The Form Wizard is similar to the Query Wizard that we worked with in the last chapter – it will step you through the process of creating a form. While you can create a form from scratch, using the Form Wizard is much easier and much quicker.

You may want to consider creating a query upon which to base your form, rather than using a table as the form's data source. Using a query allows you to filter the data that is displayed in the form and provides more flexibility in sorting your data.



To Create a Form using the Form Wizard

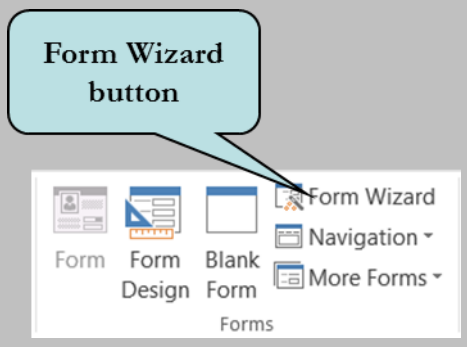
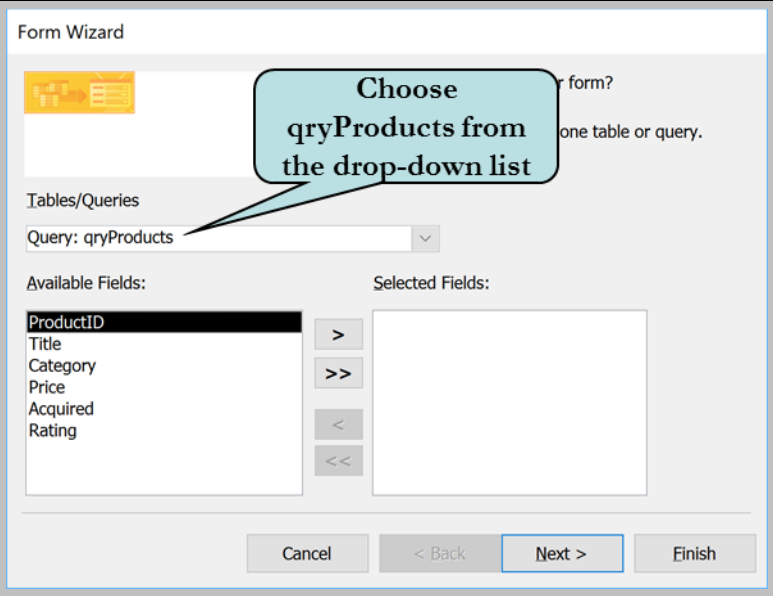
1. Click the **Create** tab on the Ribbon.
2. Click the **Form Wizard** button
3. From the **Tables/Queries** drop-down list, choose the table or query upon which to base your new form.
4. Choose fields to add to the form by clicking the **>** button to add the selected field. Repeat for all desired fields.

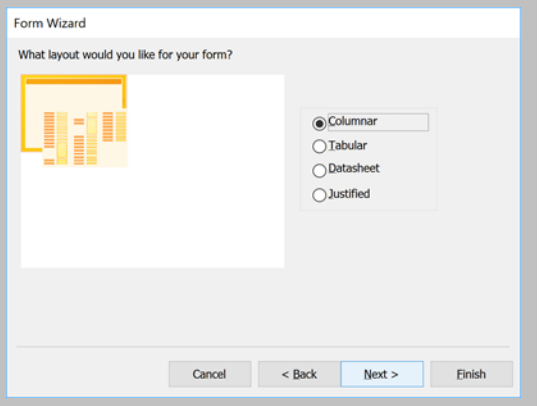
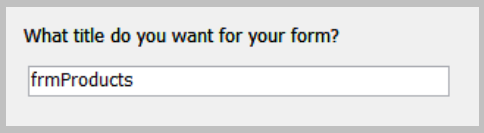
5. To add all fields to the form, click the **>>** button.
6. Click **Next**.
7. Choose the desired layout for your form.
8. Click **Next**.
9. Enter a **name** for your form.
10. Choose whether to view the form's design (Design View) or whether to open the form to view or enter information (Form view).
11. Click **Finish.**

Let's Try It!

What	Why
1. From the Microsoft Access Welcome Screen, click **Open Other Files** in the left pane.	Displays the Open Pane.
2. Click the **Browse** button in the center pane.	Displays the Open dialog box.
3. Click **Desktop** on the left side of your screen.	Opens the Desktop folder.
4. Double-click the **Lesson Files** folder.	Opens the Lesson Files folder and displays the files in that folder.
5. Select the **Video Sales 5** file and then click **Open**.	Opens the Video Sales 5 database.
6. Click the Navigation Pane drop-down menu and select **Forms** from the list.	Displays form objects. Currently, there are no forms created.
7. Click the **Create** tab on the Ribbon.	Displays commands for creating Access objects.
8. Under the **Forms** command set, click the **Form Wizard** button as shown below.	Launches the Form Wizard.

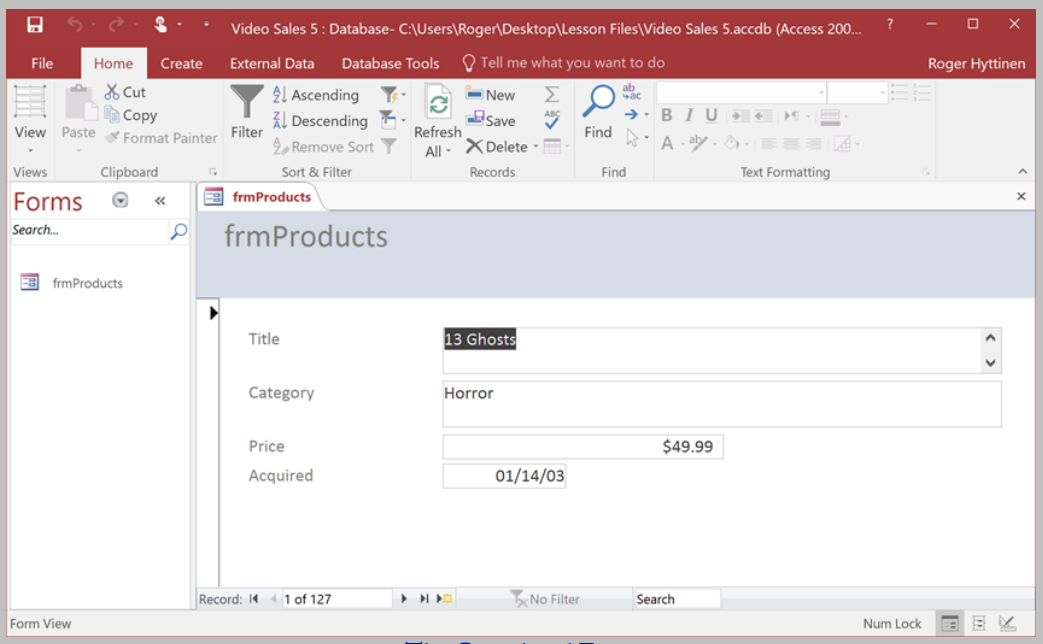
© 2016 PCM Courseware, LLC

What	Why
	
9. Click the arrow on the right of the **Tables/Queries** combo box and then select **qryProducts** from the drop-down list as shown below.	Selects the query upon which we want to base our new form.
	
10. Select the **Title** field in the **Available Fields** window and then click the **>** button.	Selects the Title field to be added to our form.

What	Why
11. Repeat Step 11 for the following fields: **Category** **Price** **Acquired**	Adds the Category, Price and Acquired fields to our form.
12. Click **Next.**	Moves to the next step of the Wizard.
13. Ensure that **Columnar** is selected as shown and then click **Next**.	Selects Columnar for our form layout and then moves to the next step of the Wizard. 
14. Type: **frmProducts** in the form title box as shown.	Enters the name for the form. 
15. Ensure that **Open form to view or enter information** is selected, and then click **Finish**.	Opens the form in Form View.

© 2016 PCM Courseware, LLC

What	Why



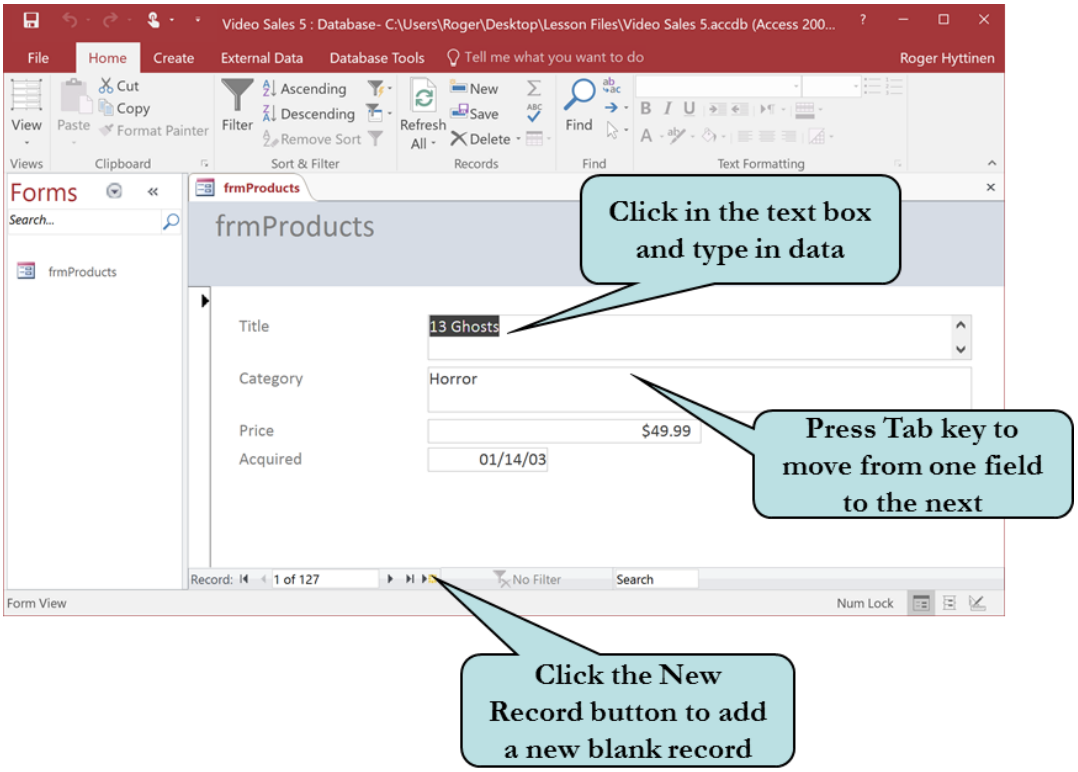
The Completed Form

5.2 Entering Data into a Form

In this lesson, you will learn how to enter new data into a form.

Similar to tables, the navigation bar on the bottom of the form window allows you to move from one record to another. Clicking the **New Record** button creates a new blank record.

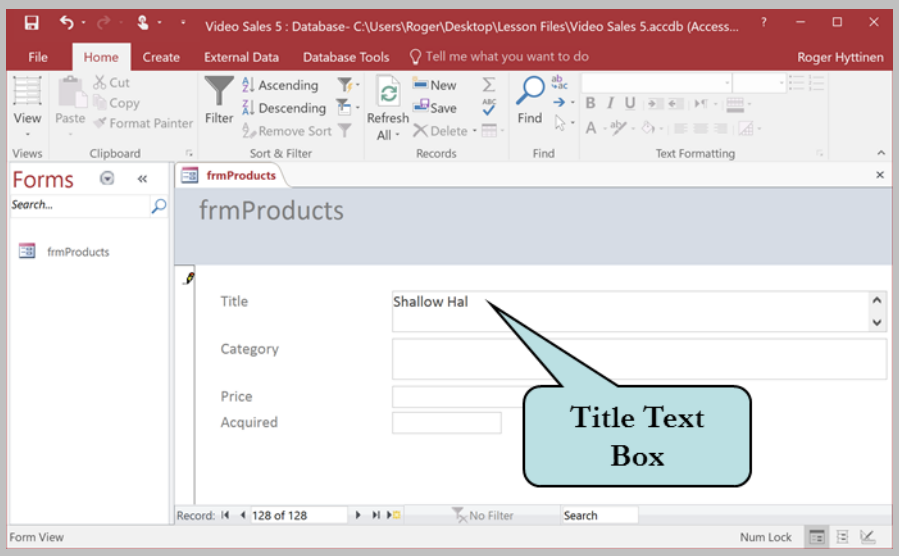
To enter data into a form, click in the first blank text box and begin typing. Pressing the **Tab** key moves you from one field on your form to another. When the cursor is in the last text box of the form, press the Tab key to insert a new blank record.



To Enter New Data into a Form

1. In **Form View**, click the **New Record** button.
2. Click in the first text box where you wish to begin entering data.
3. Click **Tab** to move to the next field.
4. To add another new record, click the **New Record button**.
   Or
   Press the **Tab** key when the cursor is in the last field of the form.

Let's Try It!

What		Why
1.	Click the **New Record** navigation button on the bottom of the screen.	Inserts a new blank record.
2.	Click in the **Title** text box and then type: **Shallow Hal** as shown below.	Enters data for the Title field.
		
3.	Press the **Tab** key.	Moves to the Category field.
4.	Type: **Comedy** and then press the **Tab** key.	Enters data for the Category field and then moves to the Price field.
5.	Type: **39.99** and then press the **Tab** key.	Enters data for the Price field and then moves to the Acquired field.
6.	Type: **2/15/2013**	Enters the data for the Acquired field.
7.	Press **Tab**.	Inserts a new blank record.

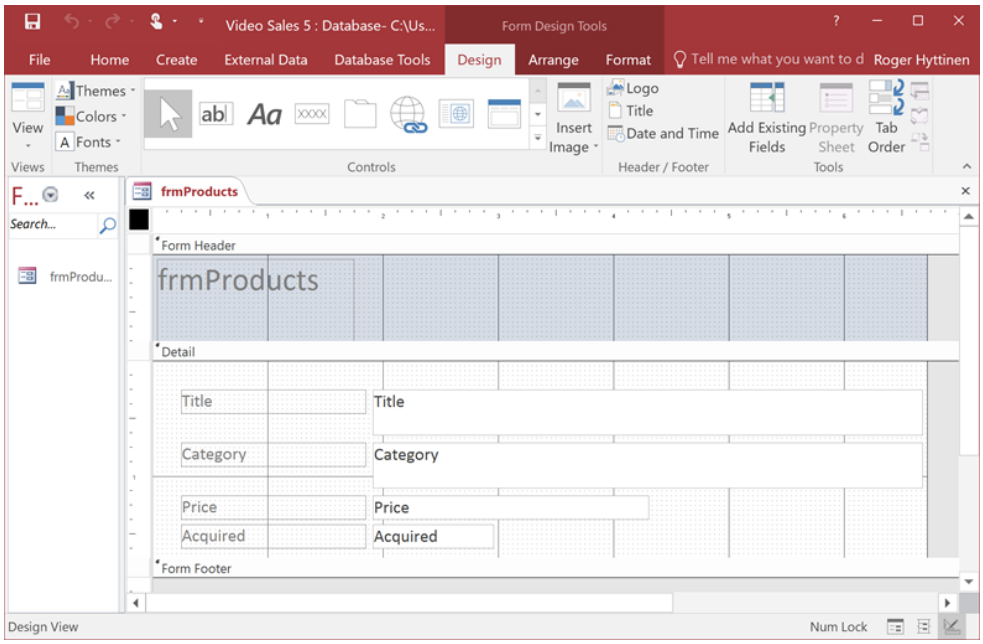
5.3 A Look at Design View

In this lesson, we will look at our form in Design view.

Design View is where you make changes to your form. For example, you can add additional descriptive text to your form, add or delete fields from your form, and move and/or resize form objects.

Design View consists of the following sections:

- **Detail –** where most of the form's data entry controls appear. This is where data is entered.
- **Form Header-** information in this section appears on the first page of the form.
- **Form Footer** – information in this section appears on the last page of the form.

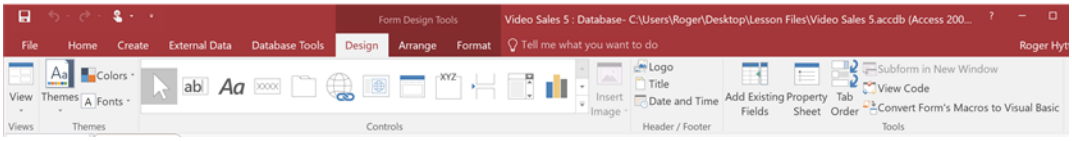


Form Design View

The Form Headers and Form Footers allow you to add descriptive text, such as the purpose of the form, the company name, the date or time the form was created or even a company logo.

The objects on a form are called **Controls.** These include text boxes, labels, graphics, lines, radio buttons, combo or list boxes, just to name a few. You can add a control to a form by clicking the control you wish to use from the **Controls** command set under the Design tab and then dragging it onto the form. Positioning our mouse pointer over any tool on the Control command set will display an informational box informing you what that particular control is.

© 2016 PCM Courseware, LLC

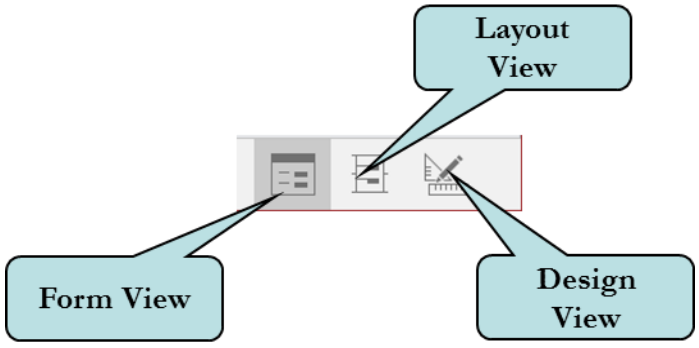


Form Controls

Once a control is placed on your form, it can easily be moved to a different location on your form or resized.

To View a Form in Design View

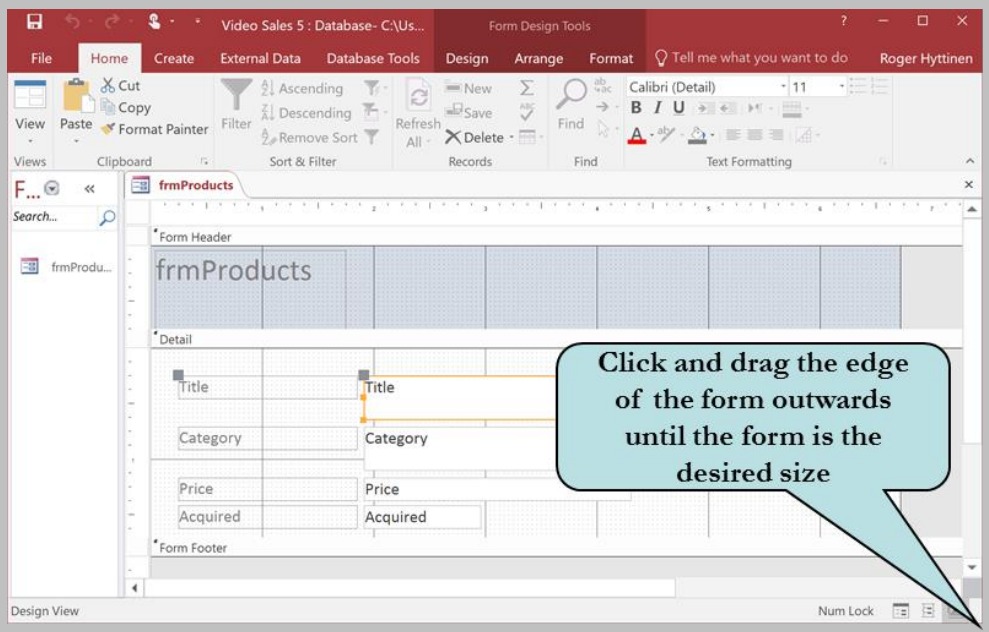
1. Under the Home tab in the **Navigation Pane**, select **Forms** from the drop-down list.
2. **Right-click** the form you want to view and select **Design View** from the contextual menu
   Or
   Double-click the form to open it in form view, click the **View button arrow** and choose **Design View**.
   Or
   Click the **Design View** button on the lower-right corner of the Access window.



View buttons on lower-right corner of the Access Window

Let's Try It!

What	Why
1. Click the **Home** tab on the Ribbon.	Ensures that we are in the Home tab area.
2. Click the arrow under the **View** button and then select **Design View** from the menu as shown below.	Switches to Design View.

What	Why
3. Move your mouse pointer over the **right bottom edge** of the form until the cursor transforms into a double arrow.	Enters resizing mode. We are going to increase the width and the height of our form in order to add additional fields.
4. Click on the edge of the form and then drag outwards and downwards as shown below, until all of the form fields are visible.	Resizes the form so that all of the form objects are visible.
	
5. Click the contextual **Design** tab on the Ribbon.	Allows us access to our Control commands.

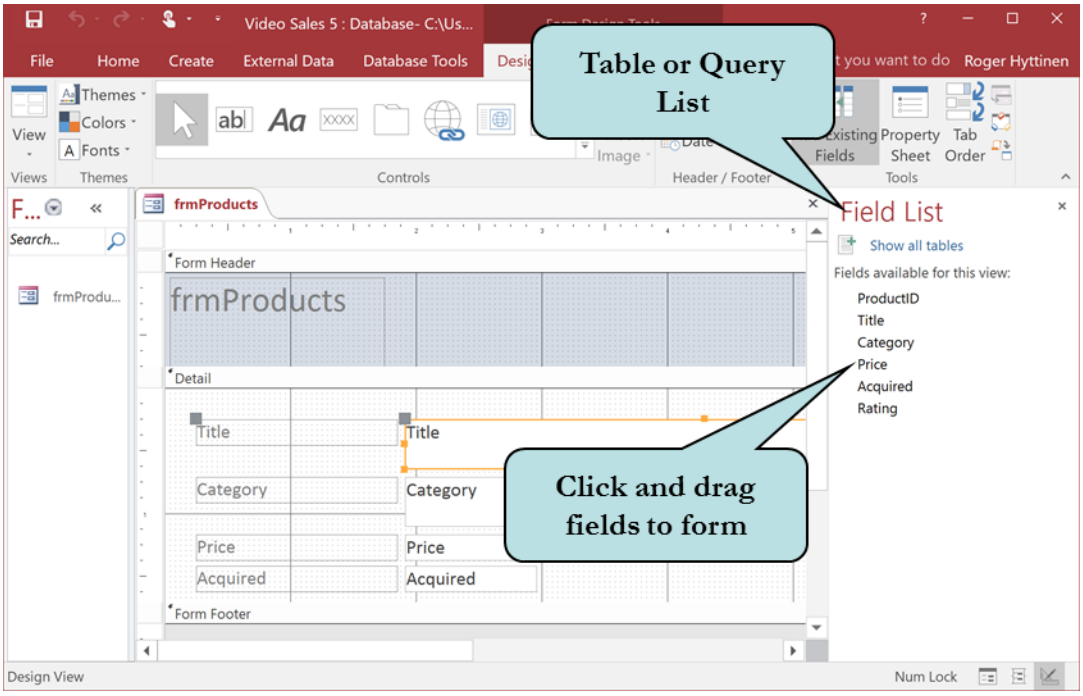
What	Why
6. Position your mouse pointer over any of the control icons in the **Controls** command set.	Displays an informational tag that displays the control name.

5.4 Adding a Field to a Form

In this lesson, you will learn how to add additional fields to your form.

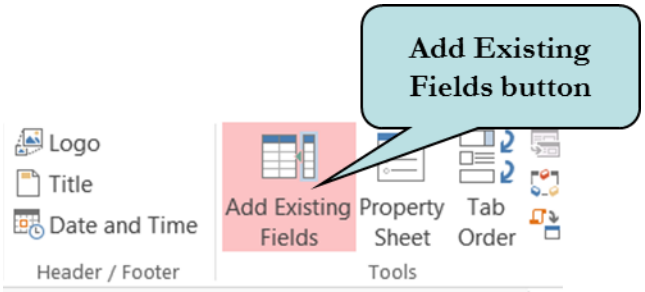
After creating your form, you may decide that you want to add additional fields from your table or query to your form. To add additional fields to your form, click the **Add Existing Fields** button in the **Tools** command set on the Ribbon to display the **Field List** pane. From the Field List pane, you can either **double-click** the field name to automatically add it to the form or **drag** it to the desired location in your form.

To add multiple fields to your form at once, hold down the Ctrl key as you select and then drag the selected fields to your form.



To Add Additional Fields to a Form

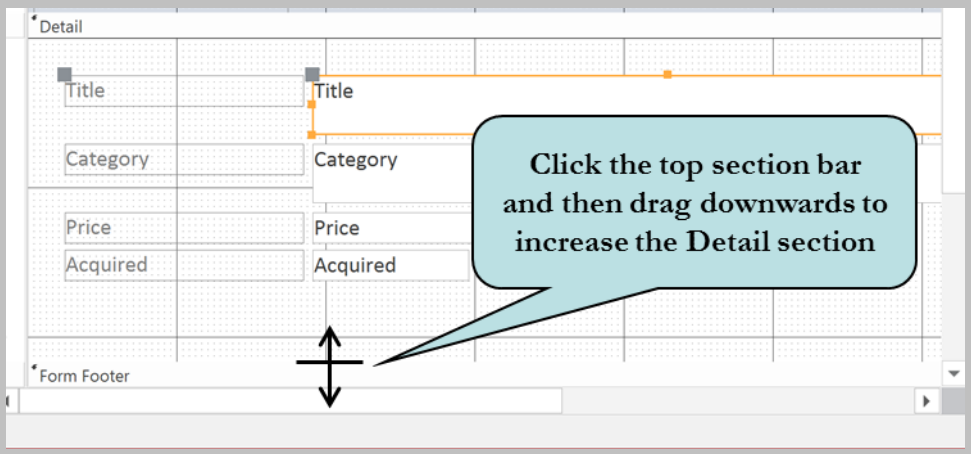
1. In **Form Design View**, click the **Add Existing Fields** button on the Ribbon if the field list is not visible.

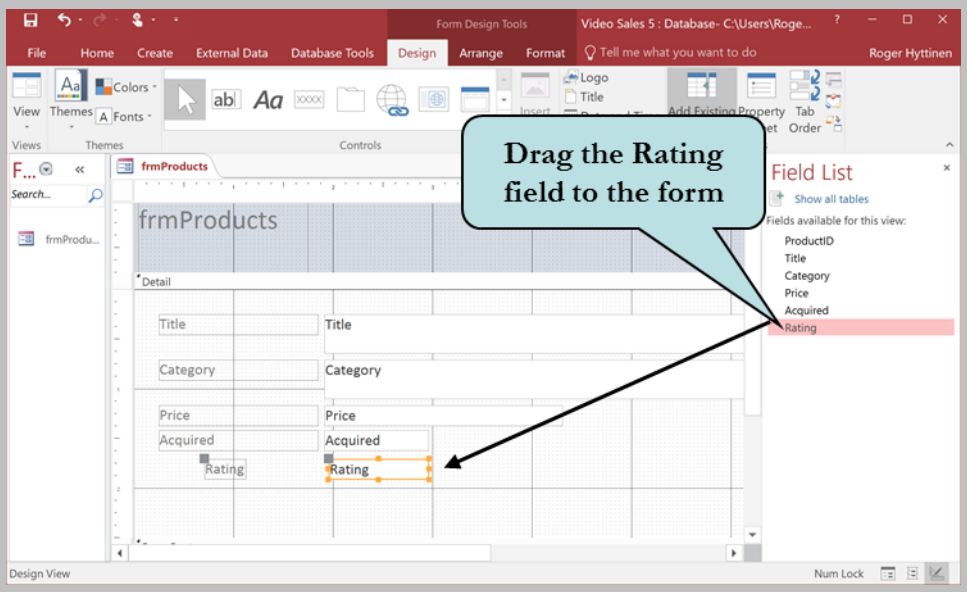


2. Click the field in the field list window that you wish to add to the form and hold down the left mouse button.
3. Drag the field to the location of the form where you wish to insert the new field.
4. Release the mouse button.

Let's Try It!

What	Why
1. Move your mouse pointer over the top of the **Form Footer** bar until the pointer transforms into a black cross with a vertical arrow as shown below.	Before we can add our new field, we need to increase the space of the Detail area to make room for the field. To do this, click on the top of the Form Footer bar and drag downwards.
2. Click and draw downwards about ½ inch as shown below.	Increases the height of the Detail area by ½ inch.



What	Why
3. If the field list is not visible, click the **Add Existing Fields** button on the Tools group on the Ribbon.	Displays the Field List.
4. Click the **Rating** field in the Field List Box and then drag to about the 1 ¾ inch mark on the ruler underneath the acquired field as shown below. **Release** the mouse button.	Adds the Rating field to the form.
	
5. Click the **Close** button on the Field List pane as shown below.	Closes the Field List pane.

What	Why

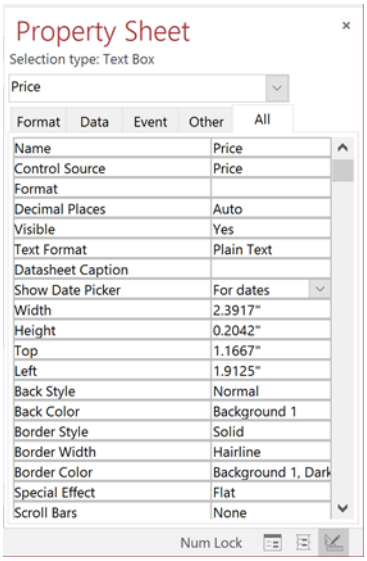
Field List
close button
Field List
Show all tables
Fields available for this view:
ProductID
Title
Category
Price
Acquired
Rating

5.5 Changing Control Properties

In this lesson, you will learn how to modify the properties of a control.

The **properties** of a control allow you to change the look of that control. Some common properties that you can change are the font size, font style, font color, number of decimal places, caption, and alignment of data within text boxes or labels. Each type of control has many such properties or attributes that you can set.

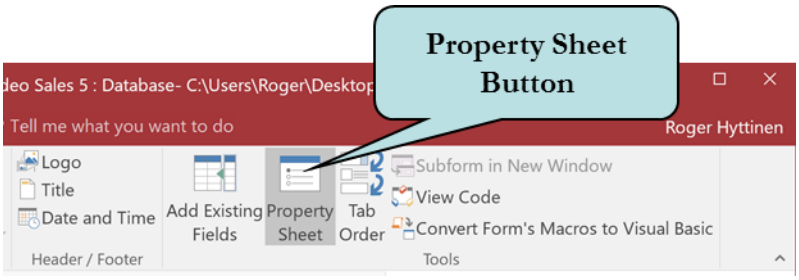
You change control properies via the Property Sheet dialog box, which displays on the right side of your screen. To display the Property Sheet box, select the object and then click the **Property Sheet button** under the **Tools** command set on the Ribbon. You can also **right-click** and then choose Properties from the pop-up menu. Double-clicking an object will also display the properties for that object.



Property Sheet Box for the Text Box Control

To Change the Properties of a Control

1. Select the control whose properties you wish to change.
2. Click the **Property Sheet button** on the Ribbon.



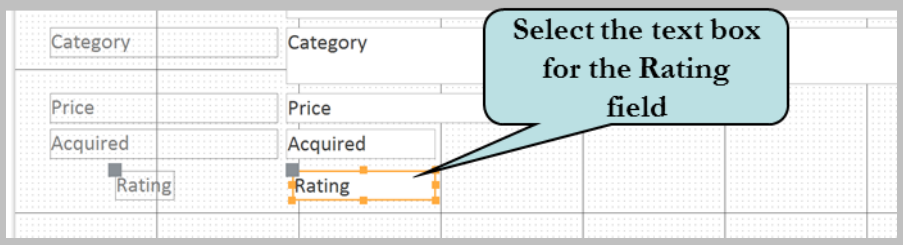
Properties Button

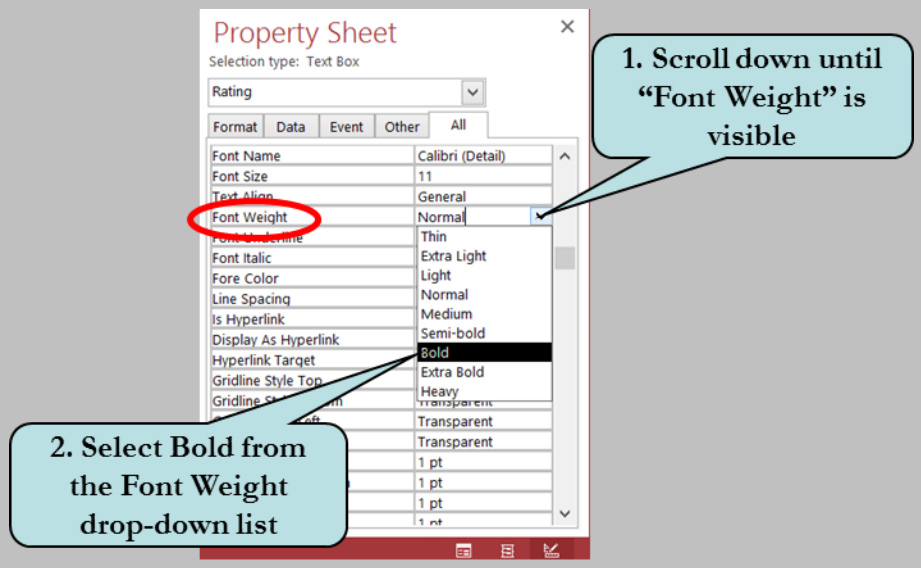
Or

Right-click and then choose **Properties** from the pop-up menu.

3. Enter the desired changes in the Properties box.
4. To increase the width of the property sheet pane, move your mouse pointer over the left edge of the Property Sheet pane until your cursor transforms into a double arrow and then drag to the left until the pane is the desired size.

Let's Try It!

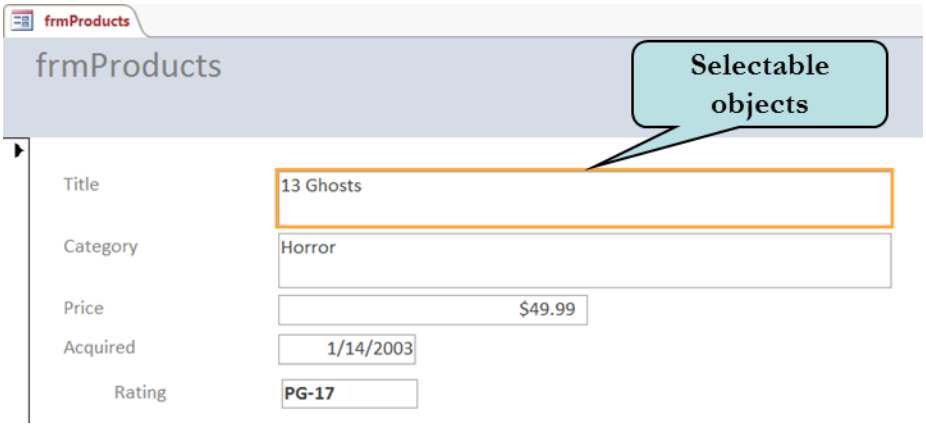
What	Why
1. Select the **text box** for the **Rating** field as shown below.	Selects the object whose properties we wish to change.
	
2. Click the **Property Sheet** button on the **Tools** command set on the Ribbon.	Displays the Property Sheet box for the Rating field.
3. Scroll down until **Font Weight** is visible in the Properties box.	Scrolls down until the property we wish to change is visible.
4. Click in the **Font Weight** box, click the arrow and then select **Bold** from the drop-down list, as shown below.	Sets the font weight of the Rating text box to bold.

What	Why
	
5. Click the **Close button** on the Property Sheet Box.	Closes the Properties Box.
6. Click the **View** button on the Ribbon and then observe the Rating field.	Switches to Form View. Notice that the text in the Rating field is bolded.
7. Click the **Save** button.	Saves the design changes.

5.6 Using Layout View

In this lesson, you will learn how to modify a form in Layout View.

Layout View allows you to modify your form and immediately see how your data will appear. When working in Layout View, you can change the design of the form while viewing your actual data, which makes this view extremely useful for changing the size and layout of controls. All of the form objects are selectable – you can change the location and size of objects, add and remove fields, change field names, modify font settings and more. While some tasks can only be completed in Design view, you can accomplish much of your form design in Layout view.



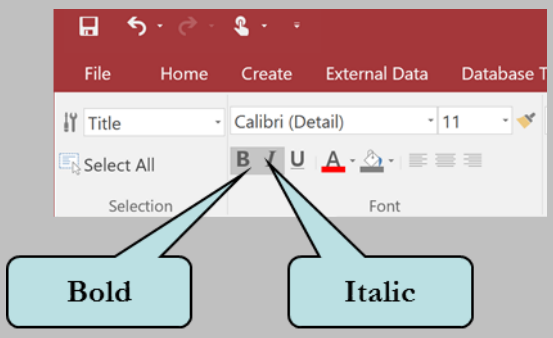
To display a form in Layout view, click the arrow on the **View** button in the Home tab and choose Layout View or right-click the desired form and choose Layout View from the contextual menu. You can also click the Layout view icon on the lower-right hand corner of the Access window.

To Display a Form in Layout View

1. Under the Home tab on the **Navigation Pane**, select **Forms** from the drop-down list.
2. **Right-click** the form you want to view and select **Layout View** from the contextual menu
   Or
   Double-click the form to open it in form view, click the **View** button arrow and choose **Layout View**.
   Or
   Click the **Layout View** button on the lower-right corner of the Access window.

Let's Try It!

What		Why
1.	Click the **View button arrow** on the Ribbon under the Home tab and choose **Layout View** from the list.	Displays the form in Layout view.
2.	Click on the **Rating** text box.	Selects the Rating text box and label.
3.	Press the **Delete** key.	Deletes the Rating text box and label from the form.
4.	Click the **Title** text box.	Selects the Title field on our form.
5.	Click the contextual **Format tab** (under Form Layout Tools) on the Ribbon as shown below.	Displays form formatting tools.
6.	Click the **Bold** button and the **Italic** button on the Font command set as shown below.	Applies bold and italics formatting to the selected field.

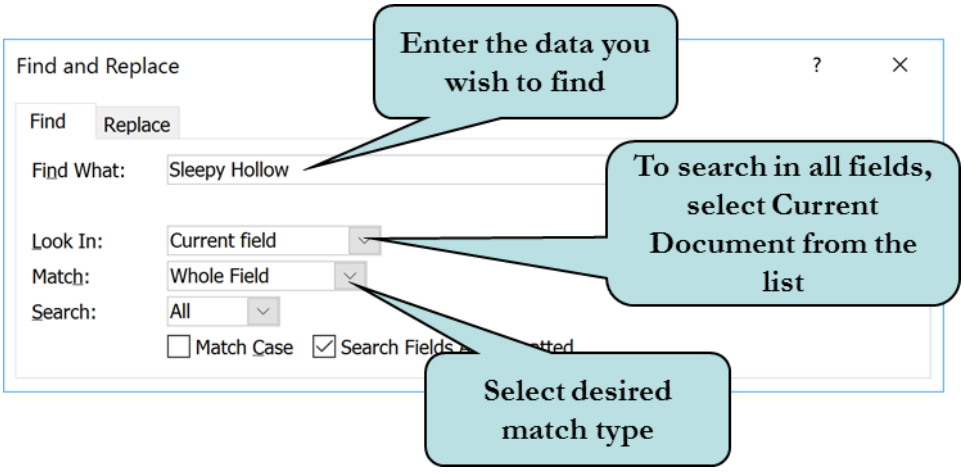
What	Why
	
7. Click the **Save** button.	Saves the design changes.
8. Click the **Design tab** on the Ribbon.	Switches to Design commands and tools.
9. Click the **View** button on the Ribbon.	Displays the form in Form view.

5.7 Finding Records in a Form

In this lesson, you will learn how to search for records in a form.

There will be times when you need to find a particular record in your form. The **Find** feature allows you to quickly search for information. To launch the Find and Replace dialog box, click the **Find button** on the Ribbon or press the **Ctrl + F** keystroke combination.

If you know in which field the information resides, click in that field. This will speed up your search. When searching, you can match either **Whole Field** (find data that is exactly the same as what you entered in the Find What box), **Any Part of Field** (find records that contain the data in the Find What box at any position in the field), or **Start of Field** (locate records that contain the data in the Find What box at the beginning of the field).

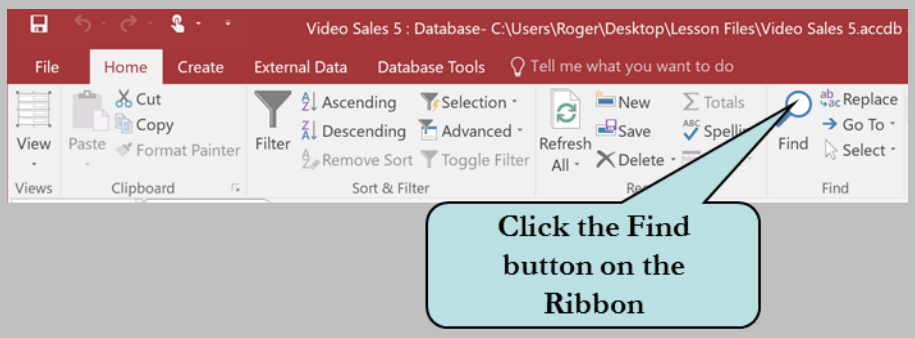


To Find Data in a Form

1. Open the form in Form View.
2. Click in the text box of the field in which you wish to search for data.
3. Click the **Find** button
   Or
   Press the **Ctrl + F** keystroke combination.
4. Type the data you wish to find in the **Find what** box.
5. Select **Whole Field**, **Any Part of Field** or **Start of Field** from the **Match** drop-down list.
6. Select either **Up, Down,** or **All** in the **Search** drop-down list.
7. Click **Find Next** to begin the search.
8. Click Find Next again to search for the next instance of the desired data.
9. Click **Cancel** to close the Find and Replace dialog box.

© 2016 PCM Courseware, LLC

Let's Try It!

What		Why
1.	Click in the **Title** text box.	Selects the field in which we wish to search for data.
2.	Click the **Find** button on the Ribbon as shown below.	Displays the Find and Replace dialog box.
		
3.	In the **Find What** box, type: **Sleepy Hollow**.	Enters the text that we wish to find.
4.	Click the **Match** drop-down list and then select **Whole Field**.	Data must match exactly what we typed in the Find What box.
5.	Click **Find Next**.	Begins the search and finds the first record matching our criteria.
6.	Click **Cancel**.	Closes the Find and Replace dialog box.
7.	Click the form's **Close button**. **Save** any changes.	Closes the form.
8.	Click the **File tab** on the Ribbon and select **Close** from the File Options menu in Backstage View.	Closes the Video Sales 5 database.

Lesson Summary – Creating Forms

- In this lesson, you learned how to create a form using the Form Wizard. You learned that you can base your forms upon either queries or tables.
- Next, you learned how to enter data into a table in Form view. You learned that the Tab key moves you from one field on your form to another.
- Next, you worked with the Design view of a form. You learned that Design view consists of a Detail section, Form Header and Form Footer. You also learned about controls such as text boxes, labels and list boxes. You learned that you can switch to Design view by right-clicking the form you want to view and selecting Design View from the contextual menu, or by double-clicking the form to open it in form view, clicking the View button arrow and choosing Design View. You can also click the Design View button on the lower-right corner of the Access window.
- Next, you learned how to add a field to a form by clicking the Add Existing Field button on the Ribbon to display the Field List pane and then either dragging the desired field from the Field List pane to your form, or double-clicking the desired field.
- Next, you learned how to change the look of a control by modifying its properties from the Property Sheet dialog box. To display the Property Sheet box, select the object and then click the Property Sheet button under the Tools command set on the Ribbon or right-click the control and choose Properties from the contextual menu.
- Next, you worked with Layout view, from where you can change the design of the form while viewing your actual data. To display a form in Layout view, click the arrow on the View button in the Home tab and choose Layout View or right-click the desired form and choose Layout View from the contextual menu.
- Lastly, you learned how to Find and Replace data in a form by clicking the Find button under the Home tab.

© 2016 PCM Courseware, LLC

Lesson 5 Quiz

1. Under which command tab can you find the commands to generate a form with the Form Wizard?
   A. Forms
   B. Create
   C. Wizards
   D. Database Tools

2. Under what tab can you find commands to modify the font style of your form?
   A. The Font tab
   B. The Layout tab
   C. The Design tab
   D. The Format tab

3. To search for specific data in your form, click the:
   A. Search Records button
   B. Find button
   C. Replace button
   D. Search button

4. You can base a form off of either a query or a table.
   A. True
   B. False

5. How can you add a new record to a form?
   A. Click the New Record button on the form.
   B. Click the Next Record button on the form.
   C. Click the New Record command button on the Ribbon.
   D. Right-click and select New Record from the contextual menu.

6. Which of the following is NOT a section in the Design view of a form?
   A. Detail section
   B. Form Header
   C. Form Layout
   D. Form Footer

7. You are in Datasheet view and wish to switch to Design view. How can you accomplish this (select all that apply)?
   A. Right-click the form you want to view and select Design View from the contextual menu.
   B. Click the View button arrow under the Home tab and choose Design View from the list.
   C. Double-click the form name in the Navigation pane.

D. Click the Design View button on the lower-right corner of the Access window.

8. In which of the form views can you modify the layout of a form (select all that apply)?
   A. Form View
   B. Layout View
   C. Datasheet View
   D. Design View

9. From Design view, you want to display the properties for a text box. Name two ways you can accomplish this.

10. You can add a field to a form from the:
    A. Property Sheet dialog box
    B. From the Fields tab on the Ribbon
    C. From the Fields List pane
    D. From the Table Fields dialog box

11. You can rearrange fields on your form when in Form view.
    A. True
    B. False

12. Which view allows you to view your actual data while being able to rearrange the fields on your form?

© 2016 PCM Courseware, LLC

LAB 5 – ON YOUR OWN

1. Open the **Lab5** database in the Lesson Files folder.

2. Using the **Form Wizard** , create a new form based on the **qryCustomers** query.

3. Add the following fields to the form:

   Customer ID
   FirstName
   LastName
   Address
   City
   State
   Zip

4. Choose the **Columnar** layout.

5. Name the form **frmCustomers**.

6. Create a new record and then enter your own information into the form.

7. Switch to Design View and then click the Maximize button. Display the properties for the **Zip** field (make sure to select the text box, not the label) and then change the **Font Size property** to **10**.

8. Switch to Form View. Using the **Find** feature, search for any customers whose last name is **Nolan**.

9. Switch to **Layout view**. Delete the CustomerID field from the form.

10. Save and close the form. Close the database.

Lesson 6

Lesson 6 - Creating Reports

Lesson Topics:

6.1 Creating a Basic Report

6.2 Applying a Theme to a Report

6.3 Using the Report Wizard

6.4 Report View and Layout View

6.5 A Look at Design View

6.6 Modifying Report Setup

6.7 Printing Reports

6.8 Using the Label Wizard

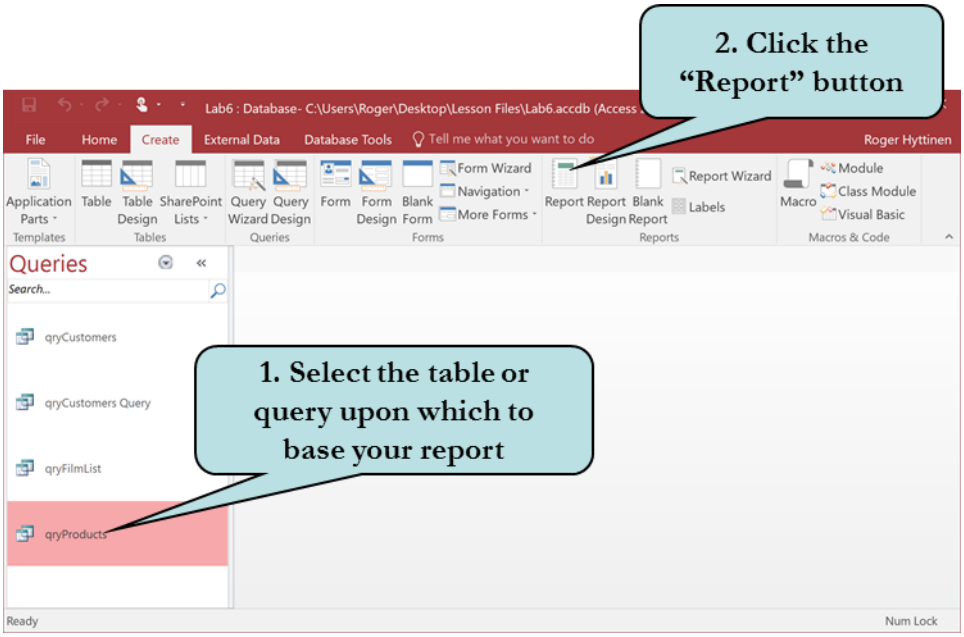
© 2016 PCM Courseware, LLC

6.1 Creating a Basic Report

In this lesson, you will create a Basic Report.

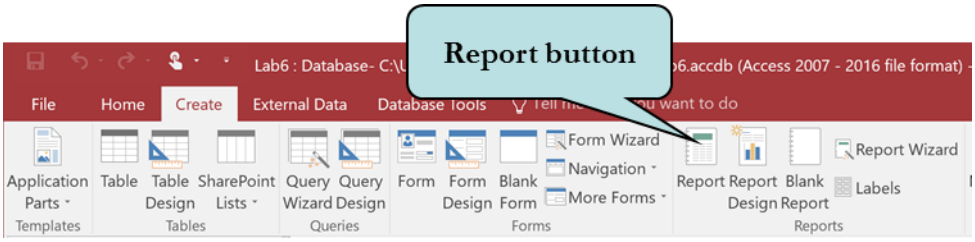
As with the other objects we have worked with so far, Access also has wizards that help you to create reports. If you remember, reports are Access objects that represent your data in printed form. Reports can be based upon either tables or queries, although basing your report upon a query allows you maximum flexibility. Reports, unlike Forms, Queries or Tables, do not allow you to make any changes to the underlying data.

The fastest and easiest way to create a report is using a **Basic Report.** A Basic Report creates a "quick-and-dirty" columnar report, based on all fields in the selected table or query. You do not have the option of choosing which fields to include in your report. To only include specific fields in your Basic Report, you may wish to create a query with the fields you want included in your report, and then create a report based on that new query.



To Create a Basic Report

1. In the Navigation pane, select the query or table upon which to base your report.
2. Click the **Create** tab on the Ribbon.
3. Click the **Report** button on the Ribbon.

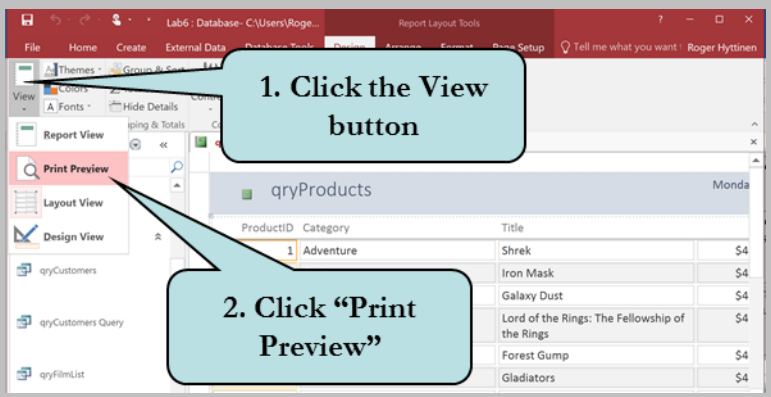


The Report Button

Let's Try It!

What	Why
1. With Access open, click the **File tab** on the Ribbon.	Displays Backstage view.
2. Click **Open**.	Displays the Open dialog box.
3. Click **Browse** in the center pane.	Displays the Computer pane.
4. Click **Desktop** in the left pane and then double-click **Lesson Files** in the right pane.	Opens the Lesson Files folder and displays the files in that folder.
5. Select the **Video Sales 6** file and click **Open**.	Opens the Video Sales 6 database.
6. Click the **Title Bar** on the Navigation Pane and select **All Access Objects** from the list.	Displays all Access objects in the database.

© 2016 PCM Courseware, LLC

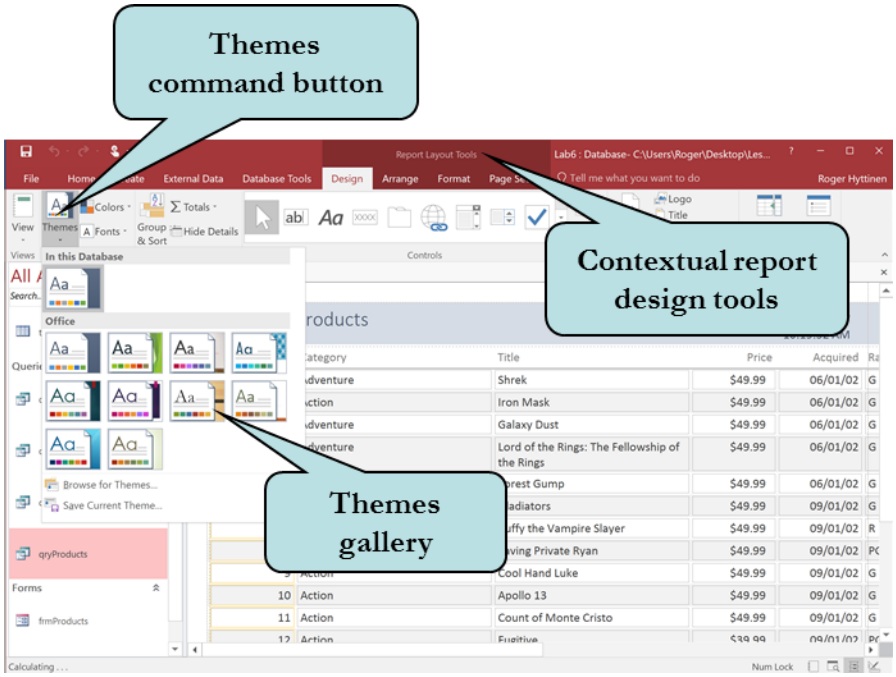
What	Why
7. Click on **qryProducts** in the Navigation Pane under the Queries category.	Selects the query upon which to base our report.
8. Click the **Create** tab on the Ribbon.	Displays commands for creating Access objects.
9. Click the **Report** button on the Ribbon on the Reports command set.	Create a basic report based upon qryProducts and displays the Report in Layout view.
10. Click the **View button arrow** on the leftmost side of the Ribbon and choose Print Preview from the list.	Displays the report in Print Preview mode - how it will appear if it is printed.
	

What	Why
11. Click the **Close Print Preview** button on the Ribbon.	Displays the report in Layout view.

6.2 Applying a Theme to a Report

In this lesson, you will learn how to apply a theme to a Report.

Once your report is created, the contextual tab displays four sets of report tools in Design view: Design, Arrange, Format and Page Setup. Under the Design tab is the **Themes** command button, which allows you to apply quick formatting by choosing from a gallery of styles. The gallery of styles contains preset formatting that you can quickly apply to your report. Hold your mouse pointer over a style to view the style name.

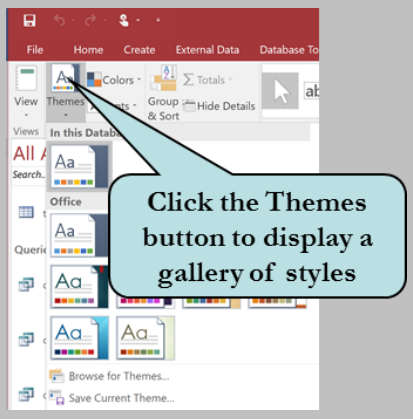
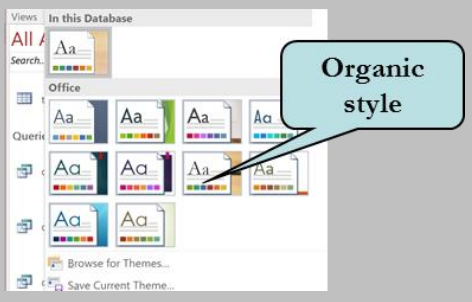


To Apply a Style to a Report

1. Display the Report in Design View or Layout View.
2. Click the **Themes** button under the Design tab under the Report Layout Tools to display the Styles Gallery.
3. Click the desired style from the Gallery.

Tip: You can also apply Themes to Forms.

Let's Try It!

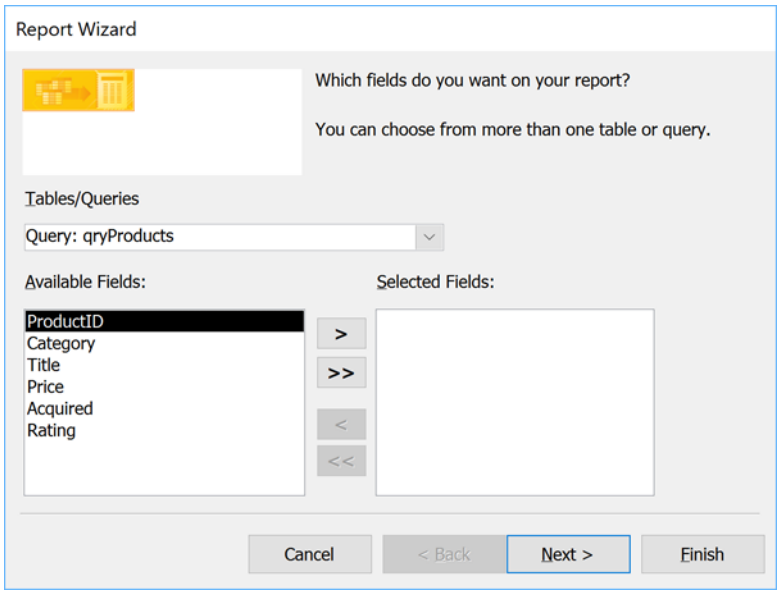
What	Why
1. Click the **View button arrow** on the Ribbon and choose **Design View** from the menu.	Switches to Design View.
2. Click the contextual **Design tab** on the Ribbon.	Displays Report design tools.
3. Click the **Themes** button under the Design tab as shown below.	Displays the Themes Gallery.
	
4. Click the **Organic** style in the second row, third column as shown below.	Applies the Organic style to the report.
	
5. Press the **Ctrl + W** keystroke combination. Click **No** when prompted to save your changes.	Closes the Report without saving it.

© 2016 PCM Courseware, LLC

6.3 Using the Report Wizard

In this lesson, you will create a report using the Report Wizard.

The **Report Wizard** steps you through the process of creating an Access report. Unlike the Basic Report wizard, the Report Wizard allows much more control over the design of your reports. Like the Form Wizard, the Report Wizard allows you to select the fields to be included in your report as well as choose various style options. Although you can create a report manually, it can be quite time consuming as reports can be difficult to design. Most people prefer to use the Report Wizard when designing reports.

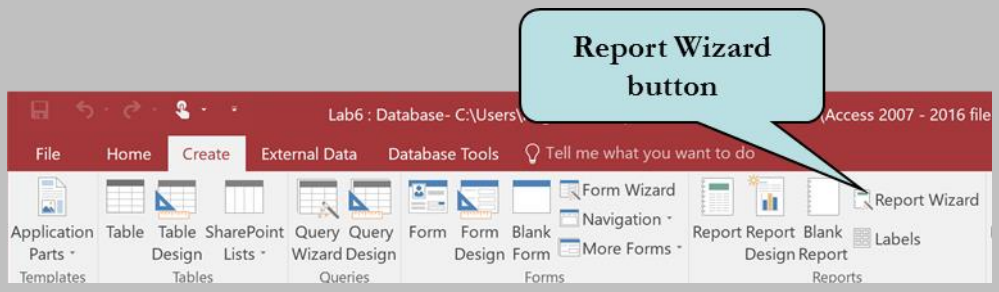


To Create a Report using the Report Wizard

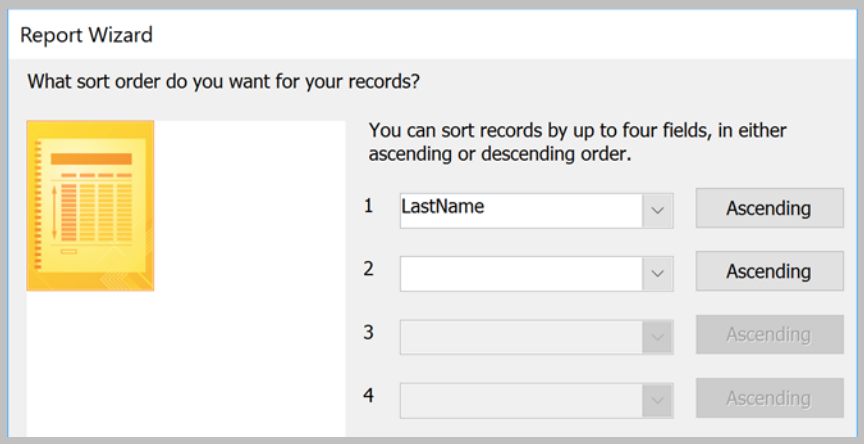
1. Click the **Create** tab on the Ribbon.
2. Click the **Report Wizard** button under the Reports command set on the Ribbon.
3. From the **Tables/Queries** drop-down list, choose the table or query upon which to base your new report.
4. Choose fields to add to the report by clicking the **>** button to add the selected field. Repeat for all desired fields.
5. To add all fields to the report, click the **>>** button.
6. Click **Next**.
7. To add **grouping** to your report, click the field by which you wish to group and click the > button. Repeat for any additional grouping levels.
8. Click **Next**.

9. To add sorting to your report, click the combo box and then choose the desired field by which to sort. Click the **Ascending** button to toggle the sort order to **Descending** (you can sort up to 4 levels).
10. Click **Next**.
11. Choose the desired **layout** and **page orientation**.
12. Click **Next**.
13. Enter a **name** for your report.
14. Choose whether to view the report's design (Layout view) or whether to preview the report (Print Preview).
15. Click **Finish.**

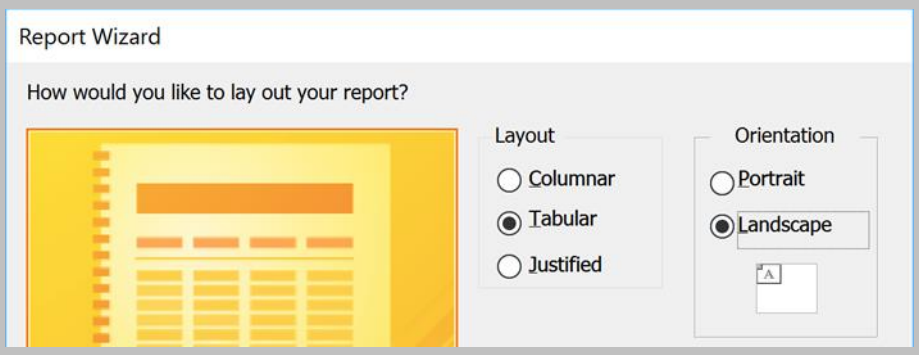
Let's Try It!

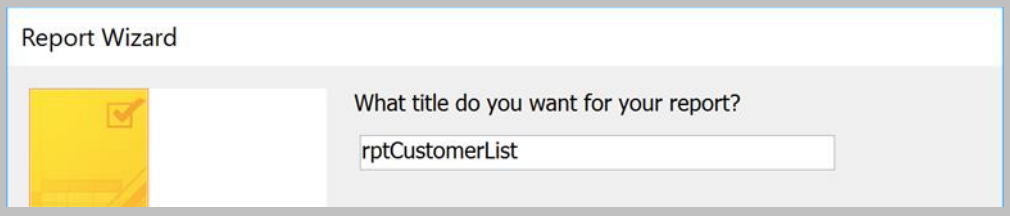
What	Why
1. Click the **Create** tab on the Ribbon.	Displays commands for creating Access objects.
2. Under the **Reports** command set, click the **Report Wizard** button as shown below.	Launches the Report Wizard.
	
3. Click the arrow on the right of the **Tables/Queries** combo box and then select **qryCustomers** from the drop-down list.	Selects the query upon which we want to base our new report.
4. Click the **>>** button.	All fields in the query will be added to our report.
5. Click **Next.**	Moves to the next step of the wizard.

What	Why
6. Click **Next**.	As we do not wish to add any grouping, we will move to the next step of the wizard.
7. Click the first **combo** box and then choose **LastName** as shown below.	Sets our report to sort ascending by the LastName field.



8. Click **Next**.	Moves to the next step of the wizard.
9. Click the **Tabular** radio button in the Layout section and then choose **Landscape** in the **Orientation** section as shown below.	Chooses Tabular for the report layout and chooses Landscape for the page orientation.



What	Why
10. Click **Next**.	Moves to the next step of the wizard.
11. Type: **rptCustomerList** in the report title box as shown below.	Enters the name for our report.
	
12. Ensure that **Preview the Report** is selected, and then click **Finish**.	Opens the report in Print Preview view.
13. Click anywhere in the report window.	Zooms out.
14. Click again in the report window.	Zooms in.
15. Click the **Close Print Preview** button on the Ribbon.	Displays the report in Design view.

© 2016 PCM Courseware, LLC

6.4 Report View and Layout View

In this lesson, you will look at two new Access views: Report View and Layout View.

In this section, we will look at two different views from where you can observe your report data – **Layout View** and **Report View**. We have already worked a bit with Layout View when we looked at forms and it works the same way with reports. That is to say, Layout View allows you to change the design of the report while viewing your live data. Like forms, all of your report objects are selectable so you can easily rearrange and resize your fields, columns and rows all while displaying actual report data.

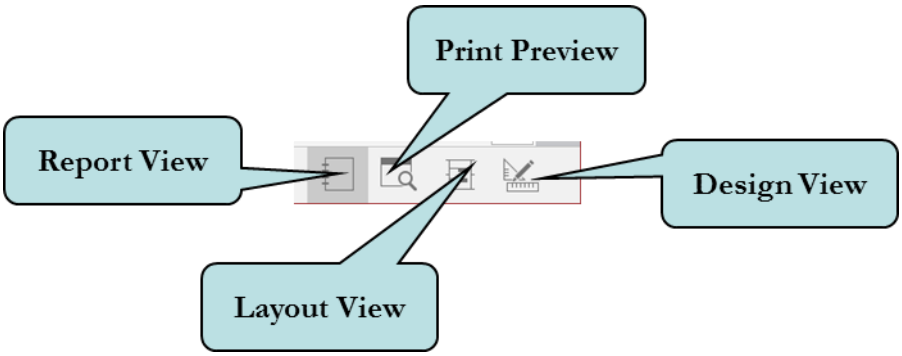
Report View

Report View allows you to view an accurate rendering of your report and browse your data without the need to display the report in Print Preview view. What's nice about Report View is that you can apply filters to your report data, displaying only specific records. Additionally, you can easily copy and paste fields of report data from one application to another. If you have added hyperlinks to your report, clicking on a hyperlink in Report View will open the link in your default Web browser. Double-clicking a report in the Navigation Pane will automatically display it in Report View.

To Display a Report in Report View

1. Under the Home tab on the **Navigation Pane**, select **Reports** from the drop-down list.
2. **Double-click** the report in the Navigation Pane
   Or
   Right-click the report you want to view and select **Report View** from the contextual menu
   Or
   Click the **View** button arrow on the Ribbon and choose **Report View**

Or
Click the **Report View** button on the lower-right corner of the Access window.



View buttons on lower-right corner of Access Window

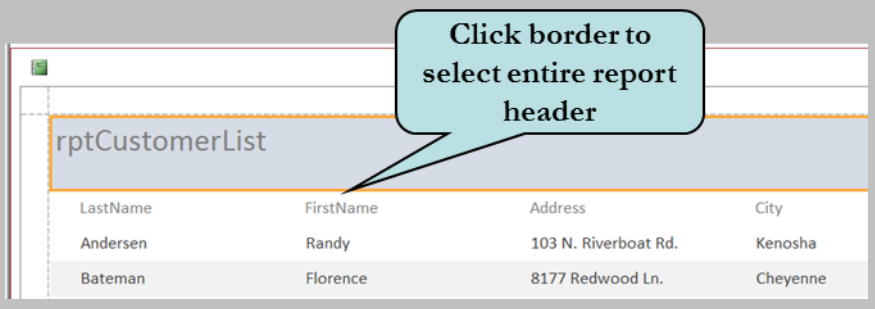
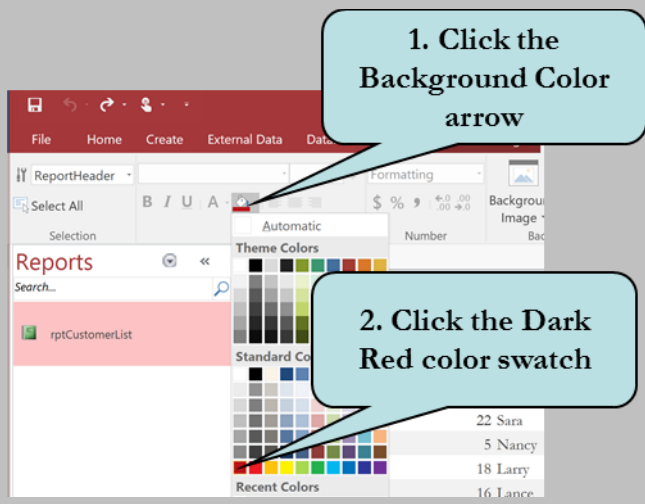
To Display a Report in Layout View

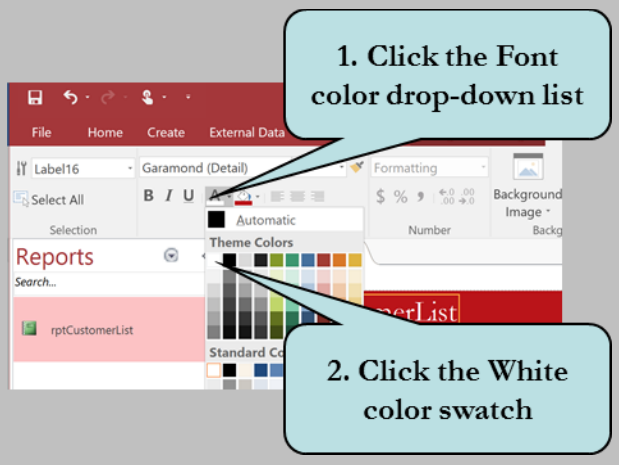
1. Under the Home tab, select **Reports** from the **Navigation Pane**, drop-down list.
2. **Right-click** the report you want to view and select **Layout View** from the contextual menu
   Or
   Double-click the report to open it in Report view, click the **View button arrow** and choose **Layout View**
   Or
   Click the **Layout View** button on the lower-right corner of the Access window.

Let's Try It!

What	Why
1. Click the **View button arrow** on the Ribbon under the Home tab and choose **Layout View** from the list.	Displays the report in Layout view.
2. Click in the report header to select the entire header as shown below.	Select the report object we wish to modify. In Layout view, report objects are selectable.

© 2016 PCM Courseware, LLC

What	Why
	
3. Click the contextual **Format tab** on the Ribbon.	Displays report formatting tools
4. Click the **Background Color drop-down arrow** and select the Dark Red color swatch from the palette as shown below.	Applies the Dark Red color to the report header.
	
5. Click directly on the words **rptCustomerList,** click the **Font Color drop-down arrow** and select the White color swatch from the palette as shown below.	Applies the White color to the text of the report header.

What	Why
	
6. Click the **Home tab** on the Ribbon.	Displays the Home tab.
7. Click the **View button arrow** on the Ribbon and choose **Report View** from the list.	Displays the report in Report view.
8. Click the **Save** button on the Quick Access Toolbar.	Saves our design changes.

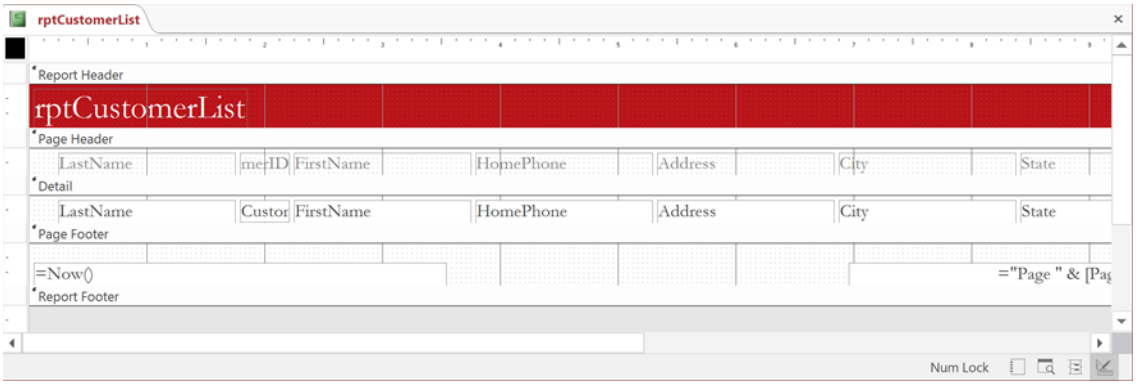
6.5 A Look at Design View

In this lesson, we will look at our report in Design view.

Design view is where you make changes to your report. For example, you can add additional descriptive text to your report, add or delete fields from your report, and move and/or resize report controls.

In Design View, a report consists of the following sections:

- **Page Header** – information in this section appears on the top of each printed page of the report. Often, column headings are placed in this section.
- **Page Footer** – information in this section appears on the bottom of each printed page of the report. Often, page numbers are placed in this section.
- **Detail –** where most of the report's field data appears.
- **Report Header-** information in this section appears on the first printed page of the report. Often, the title of the report or a company logo is placed in this section.
- **Report Footer** – information in this section appears on the last printed page of the report. Often, grand total fields are placed in this section.



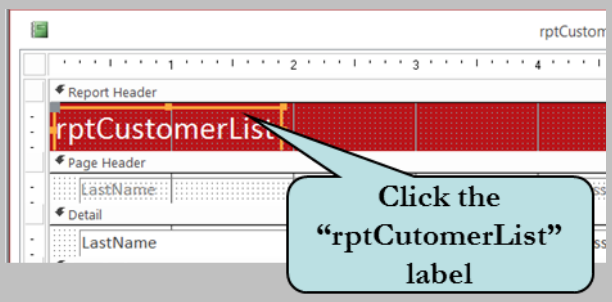
Report Design View

Like forms, you can also add controls such as text boxes, labels, graphics, lines, or rectangles to reports. To add a control to a report, click the control you wish to use on the **Controls** command set under the Design tab and then drag it onto the report. Changing properties of report controls works the same way as for form controls – select the control, click the Property Sheet button and then make the desired changes.

To View a Report in Design View

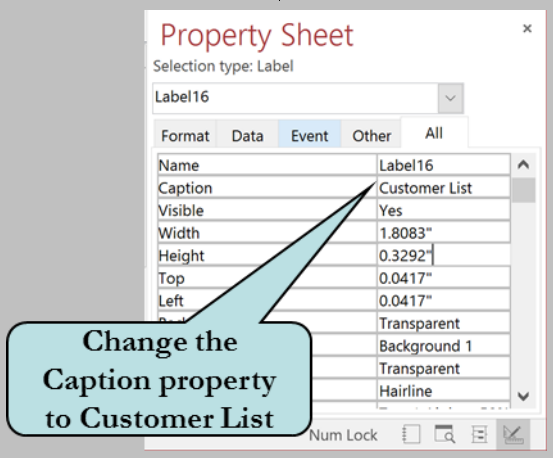
1. Under the Home tab on the **Navigation Pane**, select **Reports** from the drop-down list.
2. **Right-click** the report you want to view and select **Design View** from the contextual menu
   Or
   Double-click the report to open it in Report view, click the **View** button arrow and choose **Design View**
   Or
   Click the **Design View** button on the lower-right corner of the Access window.

Let's Try It!

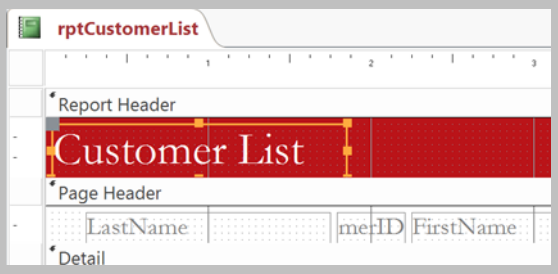
What	Why
1. Right-click **rptCustomerList** and then select **Design View** from the contextual menu.	Switches to Design View.
2. Select the **rptCustomerList** label in the Report Header as shown below.	Selects the control whose properties we wish to change.
	
3. Click the contextual **Design tab** on the Ribbon.	Displays Report design tools.
4. Click the **Property Sheet button** on the Ribbon.	Displays properties for the selected label control.

© 2016 PCM Courseware, LLC

What	Why
5. Highlight rptCustomerList in the **Caption Property** and then type: **Customer List** as shown below.	Changes the caption for the selected label.



6. Click the **Close button** on the Property Sheet Box and observe the Report Header.	Closes the Property Sheet box. Notice that the report title now reads "Customer List"

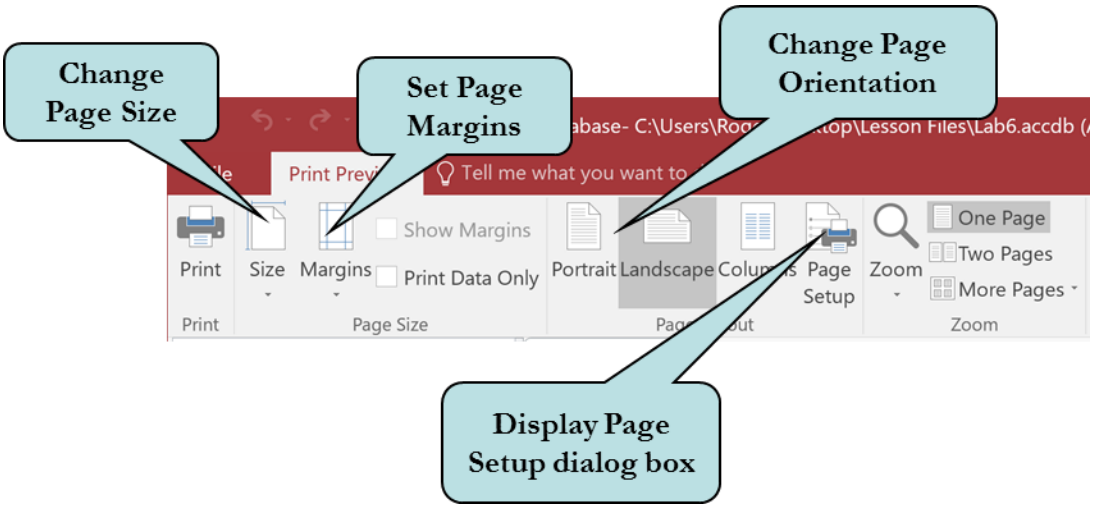


7. Click the **Save** button.	Saves our design changes.

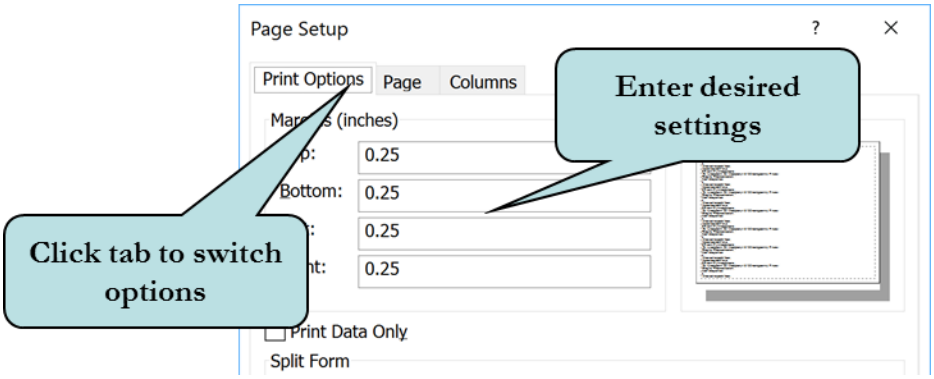
6.6 Modifying Report Setup

In this lesson, we will modify the page setup of our report.

Before printing your report, you may need to make some additional changes to the setup of your document, such as adjusting page margins, setting paper size, paper source, and page orientation, choosing a printer and printing your report in columns. Display your report in **Print Preview** mode and choose your desired page setup options from the Page Size and Page Layout command sets on the Ribbon.



You can also enter custom settings in the **Page Setup dialog box** by clicking the Page Setup button on the Ribbon. From the Page Setup dialog box, click the **Print Options** tab, the **Page** tab or the **Columns** tab, and then enter the desired settings.



Note: You must have a printer driver installed to modify the page setup of a report.

© 2016 PCM Courseware, LLC

To Modify Page Setup

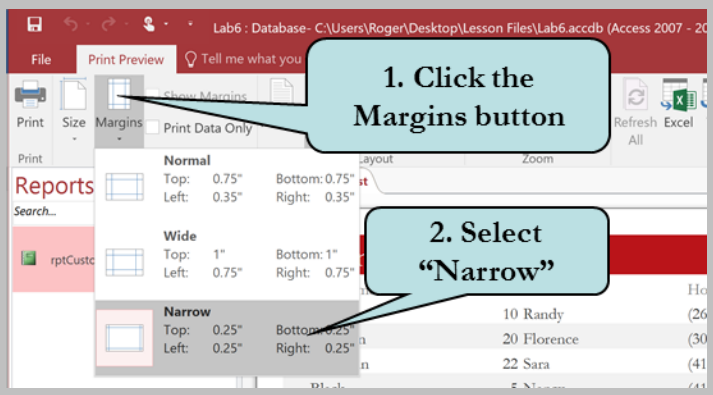
1. From the Home tab, click the **View** arrow and select **Print Preview**.
2. To change paper size settings, click the **Size** button on the Ribbon and choose the desired paper size from the list.
3. To change margin settings, click the **Margins** button and choose Normal, Wide or Narrow from the list.
4. To change page orientation, click the **Portrait** or **Landscape** button on the Ribbon.

To Modify Page Setup from the Page Setup Dialog Box

1. From the Home tab, click the **View** arrow and select **Print Preview**.
2. Click the **Page Setup** button on the Ribbon.
3. For margin options, click the **Print Options** tab and then enter the desired margin settings (in inches) for the top, bottom, left and right margins.
4. For page settings, click the **Page** tab.
   a. To change page orientation, choose **Portrait or Landscape** in the Orientation section.
   b. To change paper size, select the desired size from the **Size** combo box in the Paper section.
   c. To change printer paper source, select the desired option from the **Source** combo box in the Paper section.
   d. To choose a different printer, click **Use Specific Printer,** click the **Printer** button and then choose the desired printer from the printer combo box.
5. To print your report in columns, click the **Columns** tab and enter the desired column settings.
6. Click **OK**.

Tip:	You can also access Report Setup options from the Page Setup tab on the Ribbon when in Layout View or Design View.

Let's Try It!

What		Why
1.	Click the **View** button arrow and select **Print Preview** from the list.	Displays the report in Print Preview view.
2.	Click the **Margins** button on the Ribbon and choose **Narrow** from the list as shown below.	Choose Narrow as the margin type.
		
3.	Click the **Margins** button again on the Ribbon and choose **Normal** from the list.	Choose Normal as the margin type.
4.	Click the **Page Setup** button on the Ribbon.	Displays the Page Setup dialog box.
5.	In the **Left Margin Box**, type: **.75**	Sets the left margin to .75 inches.
6.	In the **Right Margin Box**, type: **.75**	Sets the right margin to .75 inches.
7.	In the **Top Margin Box**, type: **.50**.	Sets the top margin to .50 inches.
8.	Click the **Page tab.**	Switches to Page options. Observe the settings.
9.	Click **OK**.	Applies the settings and closes the Page Setup dialog box.

© 2016 PCM Courseware, LLC

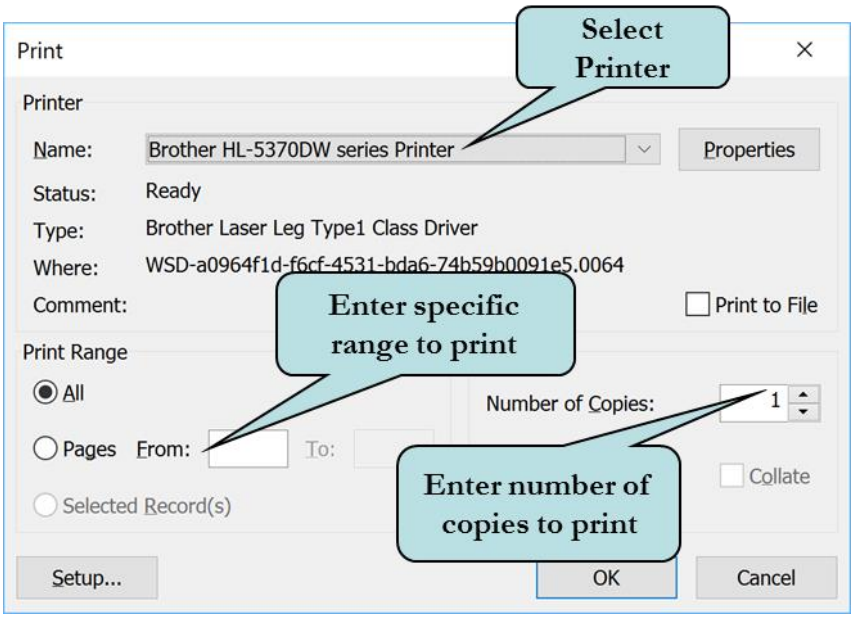
6.7 Printing Reports

In this lesson, you will learn how to print reports.

Now that you've modifed the page setup, you are ready to generate a hard copy of your report. Click the **Print** button on the Ribbon when previewing a report to display the **Print dialog box** or press the **Ctrl + P** keyboard shortcut. The Print dialog box allows you to:

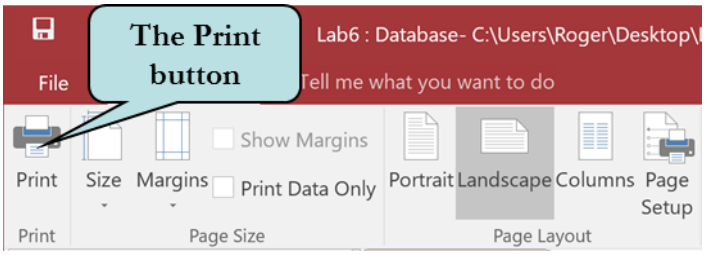
- Modify printer properties
- Choose which printer to use
- Set the page range
- Set the number of copies to print

The Print dialog box allows you to modify the final printer settings before generating a hard copy.



To send your document directly to the printer without displaying the Print dialog box, click the File tab on the Ribbon, click Print from the menu and then choose Quick Print from the second pane.

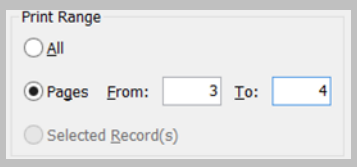
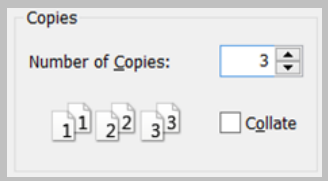
If you use the Quick Print feature often, you can add it to your Quick Access toolbar by clicking the arrow next to the **Quick Access Toolbar** and choosing **Quick Print** from the list. The Quick Print icon will now be displayed on the toolbar.



To Print a Report

1. Click the **Print** button on the Ribbon when previewing a report
   Or
   Press the **Ctrl + P** keyboard shortcut
   Or
   Click the **File tab** on the Ribbon, click **Print** from the menu and then click Print in the right pane to display the Print dialog box.
2. Enter any desired print options in the **Print** dialog box.
3. Click **OK**.
4. To send a report directly to the printer, click the **File tab**, click **Print** from the menu and then choose **Quick Print** from the second pane.

Let's Try It!

What	Why
1. Click the **Print** button on the Ribbon.	Displays the Print dialog box.
2. In the **Print Range** section, enter **3** in the **From** box and **4** in the **To** box as shown.	Enters a specific range to print. 
3. In the **Copies** section, type **3** as shown.	Enters the number of copies of the report to print. 

What	Why
4. Click **Cancel**.	Cancels the print job.
5. Click the **Close Print Preview** button on the Ribbon.	Returns to Report Design View.
6. Click the **Close** button on the Report window. If prompted, save your changes.	Closes the report.

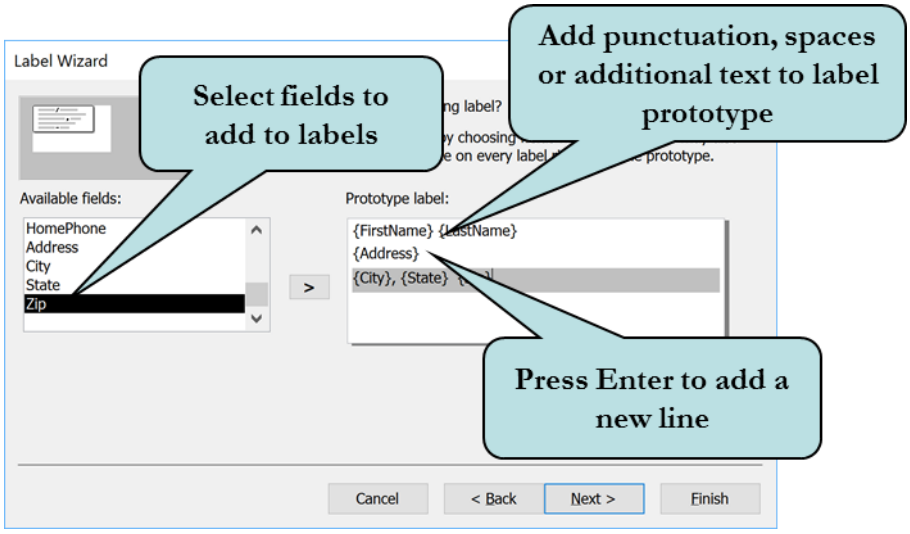
6.8 Using the Label Wizard

In this lesson, you will learn how to create mailing labels using the Label Wizard.

The **Label Wizard** allows you to create mailing labels in standard and custom sizes from the data in your tables. Like the Report Wizard, the Label Wizard steps you through the process of creating labels, allowing you to select various options as you go. Access supports most standard label sizes and manufacturers.

To Create Mailing Labels

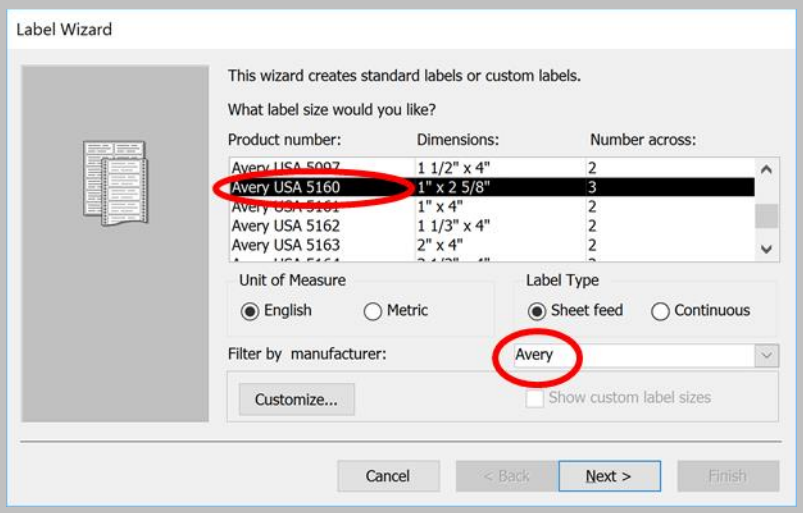
1. In the Navigation pane, select the query or table that contains the data for your labels.
2. Click the **Create** tab.
3. Click the **Labels** button on the Ribbon.
4. Choose the label manufacturer from the **Filter by Manufacturer** combo box.
5. Select the desired **product number** in the window.
6. Click **Next**.
7. Select any desired font options.
8. Click **Next.**
9. Select fields from the **Available fields** window and then click the **>** button to add them to the prototype label. Add any desired punctuation, spaces, or additional text to the prototype. Press **Enter** to move to the next line.



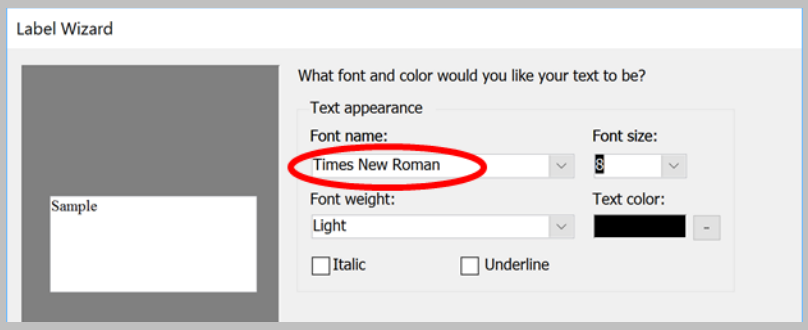
10. Click **Next**.
11. Add the field(s) by which to sort in the Sort By window.
12. Click **Next**.
13. Type the name for your report.

14. Click **Finish**.

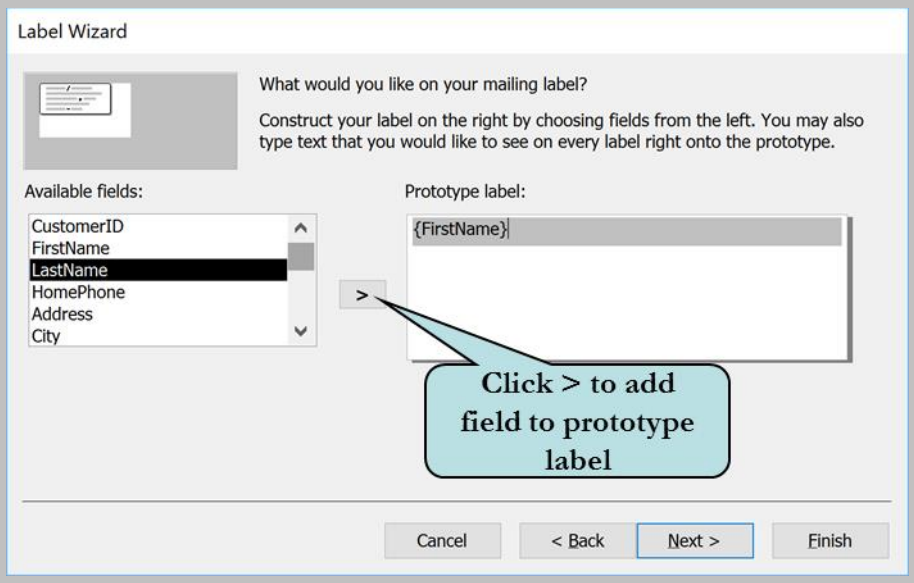
Let's Try It!

What	Why
1. Click on **qryCustomers** in the Navigation Pane under the Queries category.	Selects the query upon which to base our label report.
2. Click the **Create** tab on the Ribbon.	Displays commands for creating Access objects.
3. Click the **Labels** button on the Reports command set of the Ribbon.	Launches the Label Wizard.
4. From the **Filter by Manufacturer** drop-down list, select **Avery** as shown below	Selects the label manufacturer.
	
5. Choose product number **Avery UA 5160** from the label size window as shown below.	Selects Avery 5160 labels.
6. Click **Next**.	Moves to the next step of the wizard.

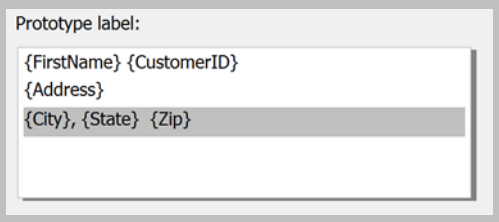
What	Why
7. Click in the **Font name** drop-down list and type: **Tim** until **Times New Roman** appears as shown below.	Selects the font we wish to use for our labels.

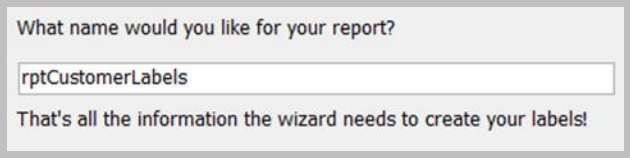


8	Click **Next**.	Moves to the next step of the wizard.
9.	Select **FirstName** from the **Available fields** list then click the **>** button as shown below.	Adds the FirstName field to our Prototype label and then moves to the next field in the Available Fields window.



10.	Press the **spacebar**.	Adds a space after the First Name field.

What	Why
11. Click the **>** button.	Adds the LastName field to the Prototype label and then moves to the next field in the Available Fields window.
12. Press **Enter**.	Starts a new line in the Prototype label.
13. Double-click the **Address** field in the Available fields window.	Adds the Address field to the Prototype label.
14. Press **Enter**.	Starts a new line in the Prototype label.
15. Click the **>** button.	Adds the City field to the Prototype label.
16. Press **,** and then press the **spacebar**.	Adds a comma and a space after the City field.
17. Click the **>** button.	Adds the State field to the Prototype label.
18. Press the **spacebar** twice.	Adds two spaces after the State field.
19. Double-click the **Zip** field. The prototype label should look like the example below.	Adds the Zip field to the Prototype label.
	
20. Click **Next**.	Moves to the next step of the Wizard.
21. Double-click the **State** field in the Available Fields Window.	Specifies that our labels will be sorted by the State field.

What	Why
22. Click **Next**.	Moves to the next step of the Wizard.
23. In the name box, type: **rptCustomerLabels** as shown below.	Provides a name for our label report.
	
24. Click **Finish**.	Displays our labels in Print Preview view.
25. Click anywhere on the report area.	Zooms in.
26. Click the **Close Print Preview** button on the Ribbon.	Displays the Report in Design View.
27. Click the **Close button** on the Report window. **Save** any changes.	Closes the Report.
28. Click the **File tab** and select **Close** from the File Options menu.	Closes the Video Sales 6 database.

© 2016 PCM Courseware, LLC

Lesson Summary – Creating Reports

- In this lesson, you learned how to create a basic report by choosing the query or table upon which to base your report, and then clicking the Report button under the Create tab.
- Next, you learned how to apply a preset style to a report by clicking the Themes button under the Design tab of the contextual Report Layout Tools tab to display the Styles Gallery and then clicking the desired theme style from the Gallery.
- Then, you learned how to create a report using the Report Wizard, by clicking the Report Wizard button under the Create tab and following the directions of the Wizard.
- Then, we looked at two report views - Report View which allows you to view an accurate rendering of your report and browse your data without the need to display the report in Print Preview view and Layout View, which allows you to change the design of the report while viewing your live data.
- Then, you worked with the Design view of a report. You learned that report Design view consists of a Page Header, Page Footer, Detail section, Report Header and Report Footer. You learned that you can switch to Design view by right-clicking the report you want to view and selecting Design View from the contextual menu, or by double-clicking the report to open it in Report view, clicking the View button arrow and choosing Design View or by clicking the Design View button on the lower-right corner of the Access window.
- Then, you learned how to modify report setup from the Page Layout command set on the Ribbon while previewing a report. We also worked with the Page Setup dialog box.
- Then, we learned how to set print options from the Print dialog box such as modifying printer properties, choosing which printer to use, setting the page range and setting the number of copies to print by clicking the **Print** button on the Ribbon when previewing a report or by pressing the **Ctrl + P** keyboard shortcut.
- Lastly, we learned how to create mailing labels using the Label Wizard by clicking the Labels button under the Create tab and following the directions of the Wizard.

Lesson 6 Quiz

1. To create a Basic Report:
   A. Click the Report Wizard button under the Create tab.
   B. Click the Basic Report Wizard under the Create tab.
   C. Click the Report button under the Create tab.
   D. Click the Blank Report button under the Create tab.

2. When creating a basic report, you can choose which fields to add to your report.
   A. True
   B. False

3. To apply a preset style to a report, you:
   A. Click the Themes button and choose the desired style from the gallery.
   B. Click the AutoStyle button and choose the desired style from the gallery.
   C. Click the Navigation Pane button and choose the desired style from the list.
   D. Click the Styles button and choose the desired style from the gallery.

4. In which of the report views can you modify the layout of a report (select all that apply)
   A. Report View
   B. Layout View
   C. Print Preview
   D. Design View

5. Which views allows you to view your actual data while being able to rearrange the fields on your report (select all that apply):
   A. Report View
   B. Layout View
   C. Print Preview
   D. Design View

6. You want to browse your live data while being able to apply filters to view only specific records. What report view would best accomplish this?
   A. Layout View
   B. Browse View
   C. Design View
   D. Report View

7. How can you send a report directly to the printer without displaying the Print Setup dialog box?

© 2016 PCM Courseware, LLC

8. To specify custom margin settings for a report, you:
   A. Click the Margins button on the Ribbon while previewing a report and then type in your desired margin settings.
   B. Click the Page Setup button on the Ribbon while previewing a report and then type in your desired margin settings under the Margins tab.
   C. Click the Page Setup button on the Ribbon while previewing a report and then type in your desired margin settings under the Print Options tab.
   D. You cannot specify custom margins for an Access Report.

9. You can rearrange fields on your report when in Report view.
   A. True
   B. False

10. To launch the mailing label wizard:
   A. Click the Report button under the Create tab.
   B. Click the Avery button under the Create tab.
   C. Click the Envelopes and Labels button under the Create tab.
   D. Click the Labels button under the Create tab.

11. You can base a report off of either a query or a table.
   A. True
   B. False

12. What happens if you change the caption property of a label?
   A. Text will be placed underneath the label.
   B. The label's background (fill) color will change.
   C. You will change the label's text.
   D. You will change the text that appears when you hold your mouse pointer over a label.

LAB 6 – ON YOUR OWN

1. Open the **Lab6** database in the Lesson Files folder.

2. From the Navigation Pane, display All Access Objects.

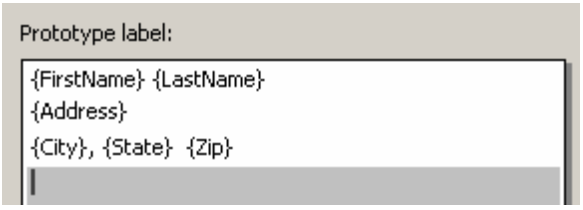
3. Create a new report based on the **qryProducts** query by using the **Report Wizard**. Add the following fields to the report:

   Category
   Title
   Price
   Rating

   Do not add any grouping to the report. Sort the report by **Category**. Choose a tabular layout with a portrait orientation. Name your report **rptProductListing** and open the report in Print Preview view.

4. Switch to Design View (Hint: first click the Close Print Preview button). Select the **rptProductListing** label and then click the **Property Sheet button** under the Design tab. Change the **Caption** property of the label to: **Product Listing**. Close the Propery Sheet pane. Close the report and save any design changes.

5. Create a new report using the **Label Wizard**. Base the report on the **qryCustomers** query and use **Avery 5160** standard labels. Add the fields so that the prototype label looks like the one below.



   Sort by **LastName**. Name your label report **rptCustomerLabels**.

6. Close the report and exit the database

© 2016 PCM Courseware, LLC

Congratulations!

You have completed Access 2016 – Level 1! You are now ready to use the skills that you have learned in this class to design your own Access databases. Don't be afraid to experiment with all you have learned. If you would like to continue your Access training, we have an Access 2016 – Level 2 class in which you learn about database relationships and work with queries, tables, forms and reports in more detail.

Class Project – Employee Database

You are the owner of Rodney's Video store. Create a new database called "RVS Employees"

Create a table with includes the following fields: Employee ID, First Name, Last Name, Address, Home Phone, Cell Phone Social Security Number, Date Hired, Title, Salary, email address and Department. Be sure to follow naming conventions when creating your database objects and fields.

Create a form named "frmEmployees" that you can use to enter in employee information. Enter at least 8 records using your form.

Create a query that only lists employees whose salary is greater than $25,000 (when entering in your data, make sure to include a couple of records for employees who fall under the $25,000 salary range). Save and name your query "qryMore_than_25"

Create another query that lists only employees from a particular state (you choose) and whose salary is greater than $30,000. Name the query something meaningful.

Create an employee report based upon your "qryMore_than_25". Make any changes that you feel would improve the appearance of the report. Save the report as rptMore_than_25.

Create a mailing label report for your employees based upon your employees tables. Only include relevant fields in your report (i.e. name and address fields). Save your report as "rptLabels"

© 2016 PCM Courseware, LLC

Index

A

Access Environment 21
Access Options
  setting 40
Aggregate Functions
  using in Datasheet 133
Application Parts
  using 55
AutoFit
  using 72

B

Backstage view 21
Basic Reports
  creating 204

C

Column Totals
  displaying in Datasheet 133
Columns
  changing width of in tables 72
  freezing in tables 129
  hiding/unhiding in tables 126
  rearranging in tables 131
Command Sets 21
Command Tabs 21
Contextual Commands 21
Controls
  defined 184
  properties of 191
Create
  database - blank 37
Criteria
  adding multiple 159
  adding to queries 157

D

Data
  editing in tables 94
  entering into forms 181
  entering into tables 59
  filtering by form 121
  filtering by selection 118
  filtering using Common Filters 123
  finding and replacing 114
  formatting 97
  importing - text files 104
  importing Excel data 100
Data Type
  defined 65
Database
  creating blank 37
  design 13
  normalization 13
  planning 13
Database Wizard 14
Databases
  defined 12
  open existing 18
Datasheet Tab 84
Datasheet view
  designing in 84
Delete
  records in tables 110
Delimited Text Files
  defined 104
Design View
  forms 183
  tables 61
Design View Button 62

E

Excel Environment 21

F

Field Properties
  changing 79
  types of 80
Field Templates
  adding to tables 84
Fields
  adding to forms 187
  deleting in tables 76
  inserting in tables 76
  rearranging in tables 74

Fields tab
using 84
Filter
data by selection....118
data to include/exclude selection....118
Filter by Form icon 121
Filter by Selection icon 118
Filtering
Common Filters....123
data by form 121
Find and Replace
data in tables 114
records in forms....197
Formatting Table Data 97
Forms
adding fields to 187
controls....184
creating with form wizard....176
defined....29
design view 183
entering data into 181
finding records in 197
layout view 194
opening....29
parts of....183
Freezing
columns in tables 129

H

Help
using 43, 46
Hide
columns in tables....126

I

Importing
Excel data into tables....100
text field into tables....104

L

Layout View in Forms....194

M

Macro Security
changing 19
Mailing Labels
creating with the label wizard 229

N

New Record Button 59
Normalization
defined.... 13

O

Open
forms.... 29
queries 32
reports 34
tables 25
Opening a database.... 18

P

Page Setup
modifying 222
Preferences
setting 40
Primary Key
defined.... 13
rules for setting.... 70
setting 70
Primary Key Icon 70
Print
dialog box.... 226
reports 226
Print Button.... 226
Properties Button.... 191

Q

Queries
adding criteria to.... 157
adding fields to 146
adding multiple criteria to 159
creating new in design view.... 143
defined.... 32
design view 140
hiding field results.... 150
moving fields in.... 164
opening 32
parts of.... 140
query wizard 167
removing fields from.... 150
result set 154
running.... 154
saving 152
sorting.... 162
Quick Start
using.... 84

© 2016 PCM Courseware, LLC

R

Records
deleting in tables 110
selecting in tables 110
sorting....112
Relational Database
defined....12
Report View
using 215
Reports
Applying Themes to 208
creating....204
creating with the report wizard....211
defined....34
design view 219
label wizard....229
opening....34
page setup 222
parts of....219
printing 226
report view 215
Rich Text Format
using in tables....97
Rows
changing height of in tables....72
Run Query Icon 154

S

Security
macro....19
Sort
data in queries....162
Sorting
records in tables 112
Styles
applying to a Report 208

T

Table
changing row height of 72
chaning column width of 72
Table Tools
using features of 84
Tables
adding fields to in Datasheet View 84
creating from scratch 65
creating using Application Parts.... 55
defined 12, 25
Design view 61
entering data into 59
navigating.... 25
opening 25
Tell Me
getting help using.... 46
Templates
table 55
using.... 14
Themes
adding styles to Reports with.... 208
Touch Display Mode.... 22

U

Unhide
columns in tables 126

W

Wizards
database.... 14
forms.... 176
label wizard.... 229
query wizard 167
report wizard 211