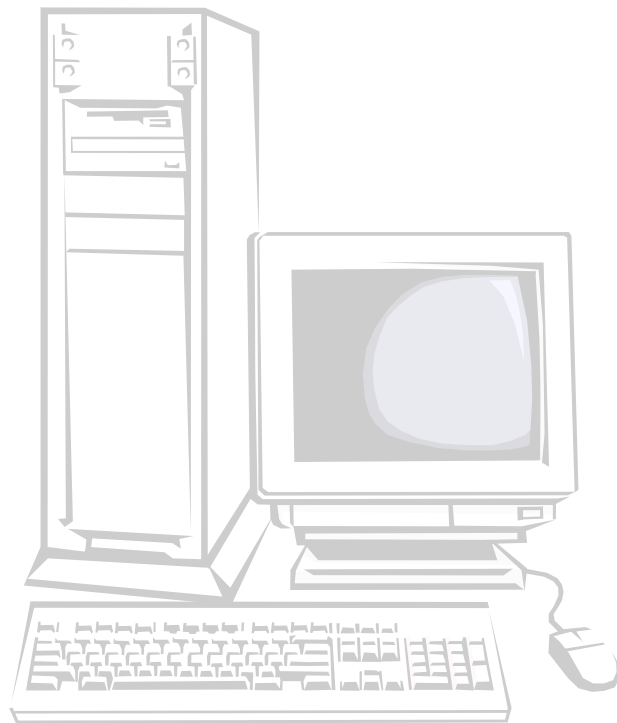


# **Omaha Public Schools**

## **Information Management Services**



## **Technology Training**

Microsoft<sup>®</sup> Access<sup>™</sup> Level II

## ***Topics***

- Simple Queries
- Queries & Charts
- Advanced Queries
- Form Switchboards
- Import Excel Spreadsheets
- Filters
- Compacting

## ***Access Objects & Functions***

<b>Object</b>	<b>Data Entry</b>	<b>Print</b>	<b>Retrieve Info.</b>
Table	X	X	
Form	X	X	
Report		X	
Query		X	X

## ***Create a Student Information Database***

Databases allow the convenient organization and retrieval of large amounts of information, so they are well suited for classroom use. The following database is a student information database.

### ***Create a Folder***


Before launching Access, right-click on the desktop to open the shortcut menu. Select **New/Folder**, and rename the folder "My Access Files."

### ***Create a Table***

- Launch Access, select **Blank Access Database**, and click **OK**.
- Create a new database named **Students**, and then select **Tables/Create table in Design view**.

## Create Fields

Create the following fields, with properties as shown:




Field Name	Field Type	Field Size
Student ID	Text	10
Last Name	Text	20
First Name	Text	15
Address	Text	50
City	Text	20
State	Text	2
Zip	Text	10
Phone	Text	14
Date Entered	Date/Time	---

## Defining a Primary Key

When multiple tables are used in a database, Access provides a means of correlating the information between the tables by using **Primary Keys**. Each Primary Key must be unique to a set of data in a table. An employee ID, or student ID, would be a good choice for a Primary Key, since these identify each unique individual in a database. Primary Keys are required when establishing relationships between tables. The most important thing to remember is that a Primary Key field requires *unique data* for each record.

## Set Input Masks

Input masks make data entry easier and more accurate. They can determine data formatting, and they can also act as data-entry filters to specify the type of characters to be used in specific fields. These specifications can include whether the characters are numbers or letters, and whether they are upper- or lower-case letters.

- In **Design View**, select the **Phone** field, and click in the **Input Mask** box in **Field Properties**.
- Click on the **Build** button  to launch the **Input Mask Wizard**:
- The **Phone Number** input mask is selected by default. Click the left side of the **Try It** box and type the phone number **111 222 3456**. Click **Finish**.
- Click the **Date Entered** field, then the **Input Mask** box and the **Build** button.
- Select **Short Date**, and click **Finish**.


## Enter Data

Click the View button to change to the **Datasheet View**. You will be prompted to save when you change views: click **Yes**. The screen will change to show a single, blank record. Enter the data shown on the next page, using the **Tab** or **Enter** keys to move from field to field.


	Student ID	Last Name	First Name	Address	City	State	Zip	Phone	Date Entered
	1111	Jones	Pat	5116 Oak St.	Omaha	NE	68105	(402) 557-1093	10/23/2004
	1112	Chang	Tai Li	11326 S. 136th Ave.	Omaha	NE	68137	(402) 427-8420	09/15/2004
	1113	Hershberger	Amber	7909 Pinkney St.	Omaha	NE	68134	(402) 664-1915	09/15/2004
	1114	Todd	Denisha	9418 Grant St.	Omaha	NE	68134	(402) 954-2938	09/15/2004
	1115	Alvarez	Mary	15422 Frederick St.	Omaha	NE	68164	(402) 257-8137	09/15/2004
▶									

## Change Column Width

Some data in the **Address** field is hidden, because the column is too narrow. Some of the other columns also need to be widened to make them easier to read.

- Move the mouse pointer to the vertical line between the column headers for **Address** and **City**. The cursor turns into a heavy black line with two pointers: 
- Double-click the double-headed arrow cursor, and the column width will be adjusted to fit the longest line in the column.
- Use the same method to adjust the column width of the **ID**, **State**, and **Zip** fields.

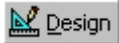
## Sort Records

It is usually easier to work with sorted data, so sort the records alphabetically by **Last Name**. Click the column header for that field, and then click the **Sort Ascending** button  on the toolbar.

## Create Auto-Entry Fields

Access features can help speed the data-entry process and reduce data-entry errors. The most commonly used features allow you to set default values for certain fields and automatically enter the current day's date.

### Set a Default Value

- Open the **Student Info** table, and click the **Design view** button 
- Select the **State** field, and click the box next to **Default Value** in **Field Properties**.
- Type the two-letter state abbreviation **NE**, for Nebraska.

**Note:** default values can be changed when a record is entered.

## ***Set a Date Function***

Functions are instructions that are included in Access formulas. They are usually followed by a pair of parentheses (), and they can be used to insert default values in fields. The following formula will automatically enter the current date.

- The **Student Info** table should be open in the **Design view**.
- Select the **Date Entered** field, and click the box next to **Default Value** in the **Field Properties** section.
- Type **Date()** with no spaces. When new records are entered, the current day's date will be inserted in the Date Entered field.

## ***Create Value Lists***

In addition to using default values and auto-entry functions to speed data entry, pull-down menus, created using *value lists*, provide alternative values for specified fields.

### ***Safety Patrol Value List***

This list will provide an easy way to show the time of day when a student serves on the safety patrol.

- With the **Student Info** table open in **Design view**, select the first empty row in the **Field Name** column, and type **Safety Patrol**.
- The **Safety Patrol** field is a **Text** data type, with a field size of **5**.
- In the **Field Properties** section of the screen, click the **Lookup** tab.
- Click in the **Display Control** box, click the down-arrow that appears, and select **Combo Box**.
- Next, click the box next to **Row Source Type**, and when the down-arrow appears, select **Value List**.
- Click the box next to **Row Source**, and type **AM;PM;Both**. These are the choices that will appear in a drop-down menu.
- Switch to the **Datasheet View**. Note: Access will always remind you to **Save** your table after you have made modifications.
- Select the first student record, and scroll to the right until you can see the **Safety Patrol** field. Click the down-arrow and select **AM** from the drop-down menu, and use the menu to insert a value for the remaining students.





## ***Transportation Value List***

- In **Design view**, select the first empty row below **Safety Patrol**, and type **Transportation**.
- The **Transportation** field is a **Text** data type, with a field size of **6**.
- In the **Field Properties** section of the screen, click the **Lookup** tab.
- Click the **Lookup** tab, and select **Combo Box**.
- In the **Row Source Type** box, select **Value List**.
- In the **Row Source** box, type **Bus;Walk;Drive**.
- Switch to the **Datasheet View**, select the first student record, and scroll to the right until you can see the **Transportation** field. Click the down-arrow and select one of the transportation choices for all of the students.


## ***Create a Form***

The new fields have extended the datasheet view beyond the viewable area of the screen. To enter new data or view all fields for a record, it is necessary to scroll to the right. Forms allow all data to be viewed on one screen, making it faster and easier to enter and view information.

### ***Create a Basic Form***



- Open the **Student Info** table, and click the **New Object** button .
- Choose **AutoForm**, and the columnar form will appear.
- Click the **New Record** button  Record:  1  of 5 to enter a new record.
- Click the **Save** button, and click **OK** to use the default form name (**Student Info**).

### ***Change the Form's Background***


- Click the **View** button to switch to the **Design View**.
- Click the **Autoformat** button .
- Choose a background, and then click OK. The new background will be applied to the form.
- Select **File/Save As**, and save the form as **Enter Data**.
- Enter data for two new students using the new form.

## Create a Form with the Wizard

Creating a new form with the wizard allows you to select which fields to use, and it also permits the use of the design templates available when using the **Autoformat** feature.


- From the main database window, click the down-arrow next to the **New Object** button  
- Select **Form**, and then select **Form Wizard**, and verify that the **Student Info** table is selected at the bottom of the window.
- The **Form Wizard** allows you to choose the fields to be used in the form. Click the **double-arrow** button to move all fields into the selection window, and click **Next**.
- Select **Justified**, and click **Next**.
- Choose a style for your form, and click **Next**.
- Title the new form **Students Justified**, and click **Finish**.
- Enter data for two new students using the new form. Navigate with the **Tab** key to move through the fields, and use the **PgUp** or **PgDn** keys to move between records.

## Create Mailing Labels


- Using the **Students** database, in the main database window, click the **New Object** button  and select **Report**.
- Click on **Label Wizard**, verify that **Student Info** appears in the box at the bottom of the **New Report** window, and click **OK**.
- The **Label Wizard** will appear with choices for brand of labels to use, the type of label (continuous or sheet feed), and how many labels to print per row.
- In the **Filter by manufacturer** box, click the down-arrow and select **Avery**. Then select **English** as the **Unit of Measure** and **Continuous**.
- Select Avery Product number **4160** and click **Next**.
- Choose any font, and select a font size of 24, and a normal font weight. Click **Next**.
- When the prototype window appears, double-click on **First Name** and **Last Name**, and then press **Enter** to move to the next line.
- Double-click **Address**, press **Enter**, and then add **Address**, **City**, **State**, and **Zip**.
- The next window allows you to sort the labels by any field. Select **Zip**, and click **Next**.
- Accept the default report name and click **Finish**. The labels can now be printed, or they can be modified in **Design** view.


## ***Find a Record***

It's easy to find records in Access, and the Find function works in tables or forms.

- Open the **Student Info** table.
- To find a record for a student, click in the **Last Name** field, and click the **Find** button .
- When the **Find and Replace** window appears, type **Jones** in the **Find What** box.

## ***FILTERS***

Filters allow you to display a subset of records within a table, form, and certain other Access objects. As with most features, there are several methods for applying filters, but the simplest method is to use the **Filter By Selection** button on the toolbar .

- Open the **Northwind** sample database, and open the **Products** table.
- In the **Category** column, click on one of the product categories, such as **Seafood**.
- Only products matching the selected category are displayed. This subset of records can now be sorted on another field, if desired, e.g., alphabetically.
- To remove the filter and see all of the records, click the **Remove Filter** button .

## ***COMPACTING A DATABASE***

Access databases can grow dramatically in size, even when new information has not not been added. Every time you add, delete, or modify an object (table, query, form, report, macro, or module) the overall size of the database file grows. Over time, your database can grow to several times its original size, even without additional data being entered.

To use your available disk space efficiently and maintain your Access database at the correct size, you should periodically **compact** it as follows: Select **Tools/Database Utilities/Compact Database**.

The compacting utility will automatically remove any unused or wasted space within your database files.