

# TECHNOPlanner

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## For Access 2010 Student Workbook



**TECHNO**eBooks

Project-based Computer Curriculum eBooks

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# SESSION 1

## About Databases

In this session, you learn about the purpose of a database. You open the TechnoPlanner database and label the parts of the Microsoft Access window. Afterwards, you critically view the objects in the database to learn that a table is used to store data, a form is used to enter data, a query is used to filter records to match a specific condition, and a report is used to create an attractive printed summary of the data. The activities in this session will prepare students to create their own database.

Assignment 1: What is a Database?

Assignment 2: About Microsoft Access

Assignment 3: Examine Tables in a Database

Assignment 4: Examine Forms in a Database

Assignment 5: Examine a Query in a Database

Assignment 6: Examine a Report in a Database

Session 1 Review: About Databases

Session 1 Extension Activity: Database Designer

## Assignment 1: What is a Database?

You will be operating your own event planning business. You will organize customer and event information using a database.

To prepare for this task you need to learn about databases.

### What is a Database?

Databases are used everywhere in the world today. For example, a store may use a database to organize product information. Or, an office may use a database to organize customer information.

A **database** is a collection of information that is stored on a computer using a program such as Microsoft Access. A database lets you organize, search, analyze, and report information quickly and easily.

A database has several functions:

- *Store Information:* A database stores and manages a collection of information related to a particular subject or purpose.
- *Find Information:* Instantly locate information of interest in a database.
- *Analyze Information:* Perform calculations on information in a database.
- *Report Information:* Display specific information in a printed report to make quick, accurate, and informed decisions.

### Benefits to Using a Database

- Efficient method of storing and organizing information compared to sheets of paper or index cards
  - Manage information that is constantly being reviewed and updated
  - Neatly present information in professionally designed reports
  - Calculate information quickly
  - Find information quickly based on one or more criteria
  - Accurately store information
  - Sort large amounts of information
1. How could you personally benefit from using a database?
  
  
  
  
  
  
  
  
  
  
  2. How could a company benefit from using a database?

## Parts of a Database

A database consists of tables, forms, queries, and reports.

### Table

A table stores data about one topic or subject. For example, a table may store customer information or product details. A database can have more than one table.

A table is a grid, made up of columns and rows that store data. The grid is a datasheet. Each row in the table stores one complete entry or *record*. For example, a record can contain the name, street address, city, state, and zip code of a customer. A table displays more than one record at a time.

A record is made of a group of fields. Each column in the table stores data for each *field*. A field is a specific piece of information in a record. For example, a field can contain the street address of a customer.

A field has two parts – *label* and *cell*. The label is the name of the field. It is the column heading. The cell is the box where data is entered for the field. A cell is the location where specific information is entered into the table. A cell holds data within one field. For example, “James” would be entered into the blank cell for the field “First Name.”

	Label	CustomerID	First Name	Last Name	Address	City	State	Zip Code
Table		1	Christa	Small	23 Birch St.	Hamilton	MS	10010
		2	Laurie	Gerard	12 Berry St.	Burlington	CA	32256
		3	Doug	Turner	45 Marsh Rd.	Ancaster	NY	89116
		4	James	Walid	78 Trent Lane	Hamilton	MS	23154
	Cell							
	Field							

Record

- Circle the **record** of the customer *Christa Small*.
- Circle the *State* **field**.
- List the **fields** in the **table**:

A table lets you see more than one record at a time.

## Form

A form is a visual display of a record with boxes that clearly show where to enter information. It provides a quick way to view, enter, and change information by presenting data in an easy-to-use format.

A form displays one *record* at a time. It has fields for each record arranged neatly on the sheet.

CustomerID	1
First Name	Christa
Last Name	Small
Address	23 Birch St.
City	Hamilton
State	MS
Zip Code	10010

Form  
A form displays one record.

Field  
A field is one piece of information on the form such as First Name.

6. Circle the **City field**.
7. List the fields on the form:

The information stored in a database table can be viewed, edited, deleted, and added, using a form. Although data can be managed in a table, usually a form is used because it provides an easier method of data entry.

8. What are some of the benefits with viewing a database using a form?

## Query

A query is a saved search question that tells the program what kind of data should be retrieved from the database. It is a method of asking a database to find information that meets the criteria or conditions specified. For example, a query can display all the customers who live in a specific city.

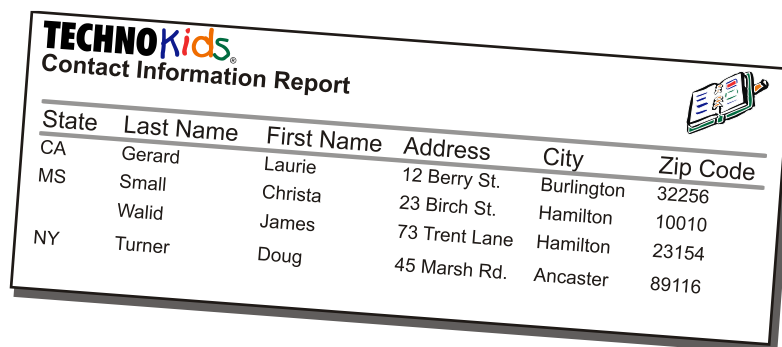
CustomerID	First Name	Last Name	City
1	Christa	Small	Hamilton
4	James	Walid	Hamilton

**Which customers live in Hamilton?**

9. Why would you want to perform a query?

## Report

A report is a professionally designed display of information formatted with page numbers and headings to be used as a printed copy of data in the database. Often the report may include calculations such as totals or averages to summarize information.



State	Last Name	First Name	Address	City	Zip Code
CA	Gerard	Laurie	12 Berry St.	Burlington	32256
MS	Small	Christa	23 Birch St.	Hamilton	10010
	Walid	James	73 Trent Lane	Hamilton	23154
NY	Turner	Doug	45 Marsh Rd.	Ancaster	89116

10. Why would you want to run a report?

## Assignment 2: About Microsoft Access

You will be using Microsoft Access to create your database. Answer the questions to learn more about the program.

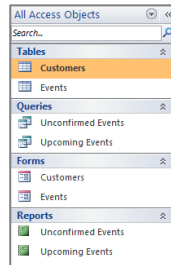
### Open the TechnoPlanner Database in Microsoft Access

- Open the *Planner* folder. Double click the *TechnoPlanner* database.

If you get a *Security Warning* click *Options*. Click inside the *Enable this content* button and then click *OK*.

### Study the Access Objects in the Database

- Look at the Navigation Pane.



If you cannot see all the objects, click the arrow on the Navigation Pane. From the list, select *Object Type*.

- List the names of the *Tables* in the database.

---

- List the name of the *Query* in the database.

---

- List the names of the *Forms* in the database.

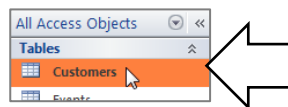
---

- List the name of the *Report* in the database.

---

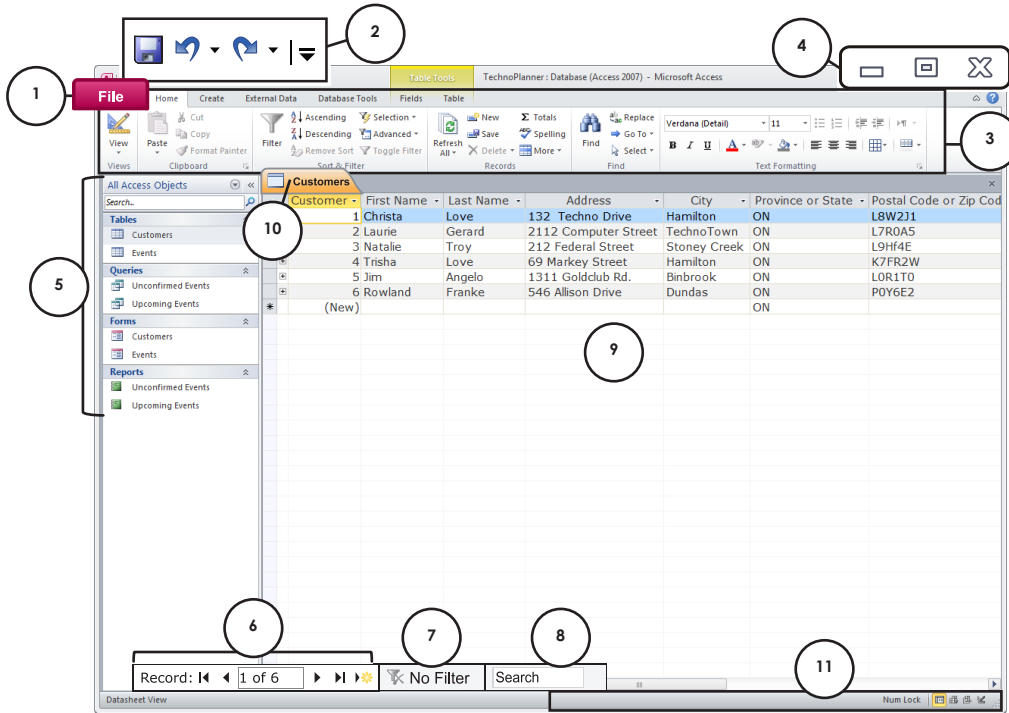
### Open the Customers Table

- Double click the *Customers* table in the Navigation Pane.



**Label the Parts of the Access Window**

5. Use the descriptions on the next page to label the parts of the window below.

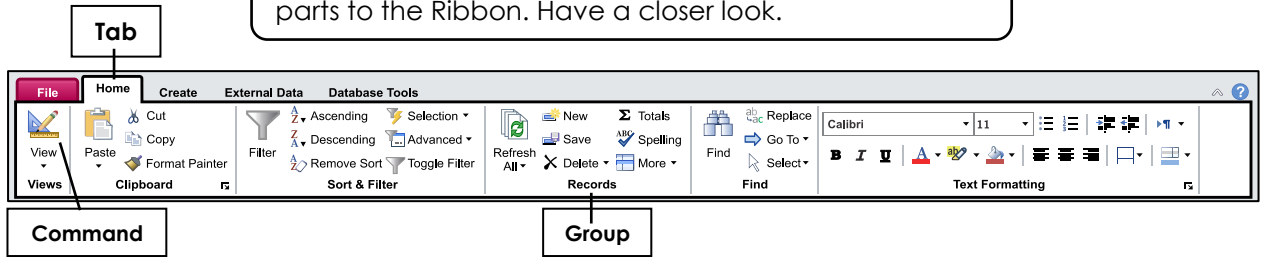


- |          |          |           |
|----------|----------|-----------|
| 1. _____ | 5. _____ | 9. _____  |
| 2. _____ | 6. _____ | 10. _____ |
| 3. _____ | 7. _____ | 11. _____ |
| 4. _____ | 8. _____ |           |

Window Part	Description
status bar	A bar at the bottom of the Access window that holds the view controls and displays messages or hints during data entry.
File tab	A button to the left side of the window, which opens a menu of basic commands used in many Microsoft Office programs, such as New, Open, Save, and Print.
quick access toolbar	A customizable toolbar found above the File tab that holds commands that are used often.
ribbon	A band that contains a set of tabs including Home, Create, External Data, and Database Tools.
document pane	A pane in the middle of the screen used to display a database object.
navigation pane	A pane at the left side of the window used to organize the objects in a database such as tables, forms, queries, and reports.
window controls	A set of three controls at the top right corner of a program window used to minimize, maximize/restore, or close the program window.
document tab	A tab at the top of the document used to change or close the database object in view.
navigation buttons	A bar at the bottom of the document pane that holds buttons for changing the record in view.
filter indicator	A button at the bottom of the document pane that shows whether a filter has been applied to the records in view.
search box	A box at the bottom of the document pane used to type in a search term to find records that match the term.

### A Closer Look at the Ribbon

The Ribbon is a band with a set of tabs. There are three parts to the Ribbon. Have a closer look.



6. The ribbon has **tabs**. Each tab holds commands that do a similar job. Draw a box around the *Home* tab.
7. Each tab is divided into **groups**. A group is a collection of commands that do similar actions like add, save, or delete a record. Draw a box around the *Records* group.
8. Each group has **commands**. Commands are a button, box, or menu that tells the computer what to do. Draw a box around the *View* command in the Views group.

### Questions About the Ribbon

9. Look at the Home tab. In which group of commands can you change the look of the words, such as font, font size, or underline?

\_\_\_\_\_

10. Look at the Home tab. What group has the command *New*?



\_\_\_\_\_

11. If you want to create a table, form, report, or query which tab of the ribbon should you choose?

\_\_\_\_\_

12. Click the *Create* tab. What group has the command *Form*?



\_\_\_\_\_

### Exit Microsoft Access

☞ Click the *File* tab. Click *Exit*.

## Assignment 3: Examine Tables in a Database

To prepare to create a database that organizes customer and information for your business, you need to learn more about the parts of a database. To do this you will study some of the parts in the TechnoPlanner database.

The *TechnoPlanner* database is for an event planner that hosts children's birthday parties. It holds customer and event information.

To start, you will look at two tables in the TechnoPlanner database – the Customers table and the Events table.

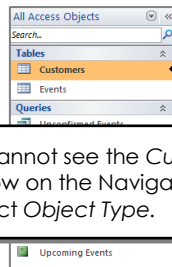
### Open the TechnoPlanner Database

- Open the *Planner* folder. Double click the *TechnoPlanner* database.

If you get a *Security Warning* click *Options*. Click inside the *Enable this content* button and then click *OK*.

### Open the Customers Table

- Double click the *Customers* table in the Navigation Pane.



If you cannot see the *Customers* table, click the arrow on the Navigation Pane. From the list, select *Object Type*.

- Look at the table. It is in *Datasheet View*.
- Use the horizontal scroll bar to see all the information in the table.

Customer #	First Name	Last Name	Address	City	Province or State	Postal Code or Zip Code
1	Christa	Love	132 Techno Drive	Hamilton	ON	L8W2J1
2	Laurie	Gerard	2112 Computer Street	TechnoTown	ON	L7K9A5
3	Natalie	Troy	212 Federal Street	Stoney Creek	ON	L9H4E
4	Trisha	Love	69 Markey Street	Hamilton	ON	K7R2W
5	Jim	Angelo	1311 Goldclub Rd.	Berbrook	ON	L0K1T0
6	Rowland	Frankie	546 Allison Drive	Dundas	ON	P0Y6E2
(New)					ON	

A table is a grid, made up of columns and rows. A table is used to store information. A database can have one or more tables.

Horizontal Scroll Bar

### Study the Customers Table in Datasheet View

The Customers table stores contact information for customers. A table is made of rows and columns. Each row has a record. Each column has a field. You can view, edit, search, and add new records using a table. Read to learn more about tables, then answer the questions.

Information for each customer is stored in a **record**. Each record appears in a **row** on the datasheet.

Information for each field is added into a **cell**.

Customer ID	First Name	Last Name	Address	City	Province or State	Postal Code or Zip Code	Phone Number	Email Address
1	Christa	Love	132 Techno Drive	Hamilton	ON	L8W2J1	(905) 235-4141	christa@technokids.com
2	Laura	Geraud	2112 Computer Street	TechnoTown	ON	L7R0A5	(905) 505-5050	laura@technoparty.com
3	Natalie	Troy	212 Federal Street	Stoney Creek	ON	L9H4E	(905) 326-8471	natalie@synaptic.ca
4	Trisha	Love	69 Hurkey Street	Hamilton	ON	N7R2T0	(905) 288-2251	trish.smilg@internet.com
5	Jim	Langal	1311 Goldclub Rd.	Benbrook	ON	L0R1T0	(905) 692-8897	jma@copeco.com
6	Rowland	Francis	546 Allison Drive	Dundas	ON	P0Y6E2	(905) 824-7154	frankrowland@quickcl.net
(New)								

The name of the **field** is the column heading.

A record is made up of **fields**. Each field appears in a **column** on the datasheet.

1. Look at the column headings in the table. List the **fields** in this table.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. Fill in the blanks using the words from the Word Bank:

datasheet      column      record      information      cell      row

- a) A table contains \_\_\_\_\_ organized in rows and columns.
- b) A table displays information in \_\_\_\_\_ view.
- c) Datasheet view allows a person to focus on more than one \_\_\_\_\_ at a time.
- d) Information for each field is added into a \_\_\_\_\_ .
- e) In a table a field is organized in a \_\_\_\_\_ .
- f) In a table a record is organized in a \_\_\_\_\_ .

### View the Records in the Customers Table

You can see the records in a table by using the Navigation Buttons.

**TIP:** If you are having trouble reading the information, you can make a column wider. Place the mouse pointer between the column headings. Click and drag the mouse to make it wider.

Province/St. + Postal/Zip Cc -

3. Rest your mouse over each Navigation Button to label each one.



- a) First Record   b) Previous Record   c) Next Record   d) Last Record   e) New Record

4. Use the Navigation Buttons to answer the questions.

a) What is the *first name* of the customer in the **last** record in the table ▶? \_\_\_\_\_

b) What *city* is the customer from in the **previous** record ◀? \_\_\_\_\_

c) What is the *email address* listed in the **first** record in the table ◀? \_\_\_\_\_

d) What is the *phone number* for the customer in the **next** record ▶? \_\_\_\_\_

5. What are some problems with viewing information in a table?

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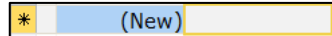
6. What is a benefit to viewing information in a table?

---

### Add a New Record to the Customers Table

Add a record to the Customers table. Answer the questions about entering data.

Click inside the *First Name* cell in the LAST row of the table.



The *Current Record Symbol* \* highlights the last row in the table.

Type **your First Name**. Press the TAB key on the keyboard.

Type **your Last Name**. Press the TAB key on the keyboard.

Add the following information into the table:

- o Address: **34 Happy Lane**
- o City: **Hamilton**
- o Province/State: **ON**
- o Postal/Zip Code: **L8K2Z3**
- o Phone Number: **905 566 7876**
- o Email Address: **planner@TECHNOeBooks.com**

7. What features built into the table made data entry easy?

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8. What features of the table made data entry difficult?

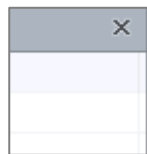
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### Close the Customers Table

Close the table by clicking the Close button at the top of the document pane.  
**DO NOT CLOSE THE DATABASE.**



If you are asked to save the changes to the layout, click *No*.