Web Activity: Creating a Database of Sexually Transmitted Infections

In this activity, you will create a database of information on STIs that can be used by people looking for information about sexually transmitted diseases. Worldwide, sexually transmitted infections (STIs) find more than 250 million hosts each year (see **Figures 1** and **2** for reported cases in Alberta). STIs are easily spread through any person-to-person transfer of bodily fluids such as semen, vaginal secretions, or blood.

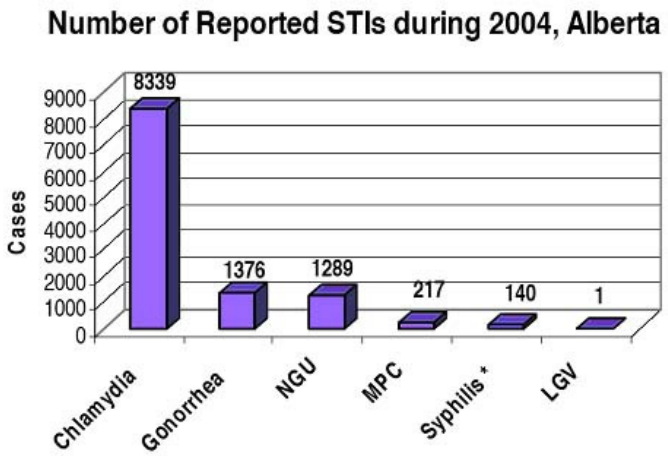

Figure 1

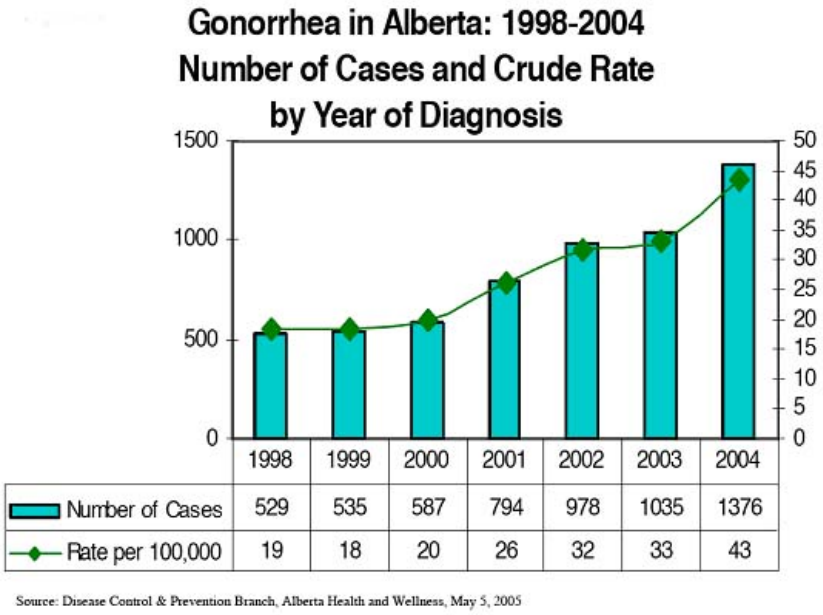

Figure 2

Purpose

Youth and young adults are the highest risk group for contracting sexually transmitted infections, yet many have limited knowledge of how the disease is contacted and how infections spread.

(a) What purpose could a database serve?

Problem

When you design a database, you must first decide on what categories you will use for describing information.

(b) What categories have you selected for organizing information about sexually transmitted infections?

(c) What advantages do electronic databases have over lists of sexually transmitted infections?

Procedure

1. Using the categories you decided to use in (b), collect information for the following sexually transmitted infections.
    - syphilis
    - gonorrhea
    - herpes
    - Chlamydia
    - human papillomavirus (HPV)
    - lymphogranuloma venereum (LGV)
2. When research is complete, create your electronic database. (Refer to your software documentation for specific instructions. We provide an example using the database program Microsoft Access™. Other database programs (e.g., FileMaker Pro™, and Claris DataBase™) will follows similar procedures. Databases may also be created using spreadsheet software, but spreadsheet software cannot sort text) Launch your program. In our example, we then choose the program wizard option (**Figure 3**) to start database construction.

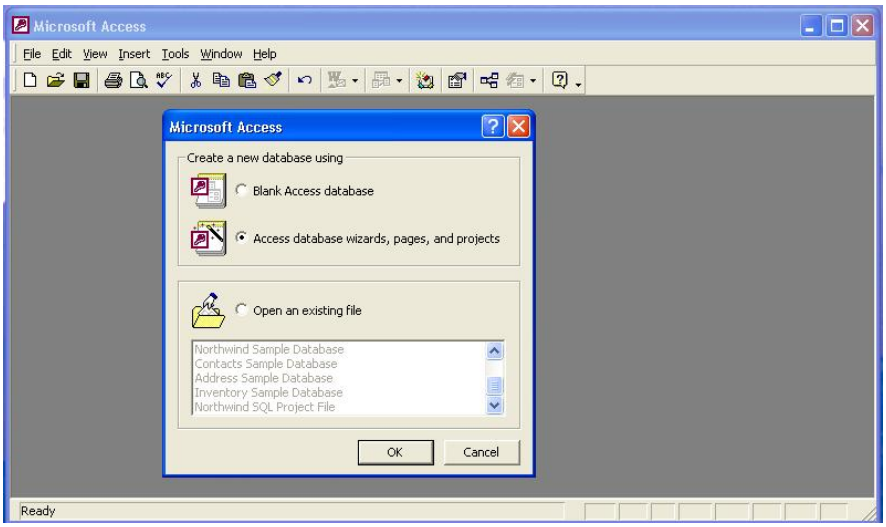

Figure 3

4. We next choose the type of wizard we wish to use. We have chosen the “Database” wizard (**Figure 4**).

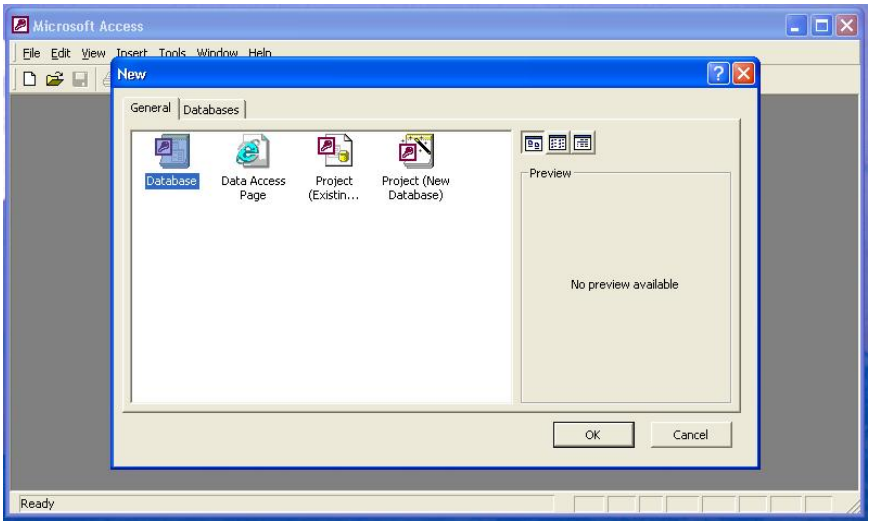

Figure 4

3. Name your file. In our example, the file is given the name “STI” (**Figure 5**).

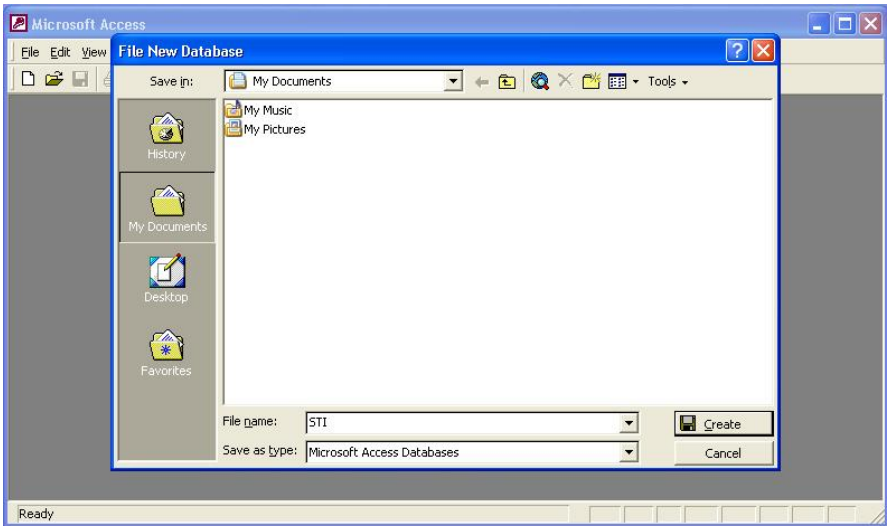

Figure 5

4. There are many ways to design a database. We will demonstrate how to use tables. In the screen shown in **Figure 6**, we have chosen the object type as “Tables”, on the far left of the screen. We have also chosen to create our tables by entering data, by clicking on this option. This will allow us to enter your data using screens that are similar to spreadsheets (**Figure 7**).

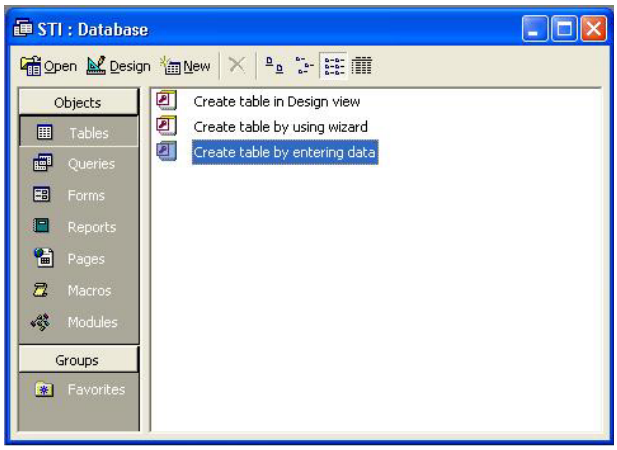

Figure 6

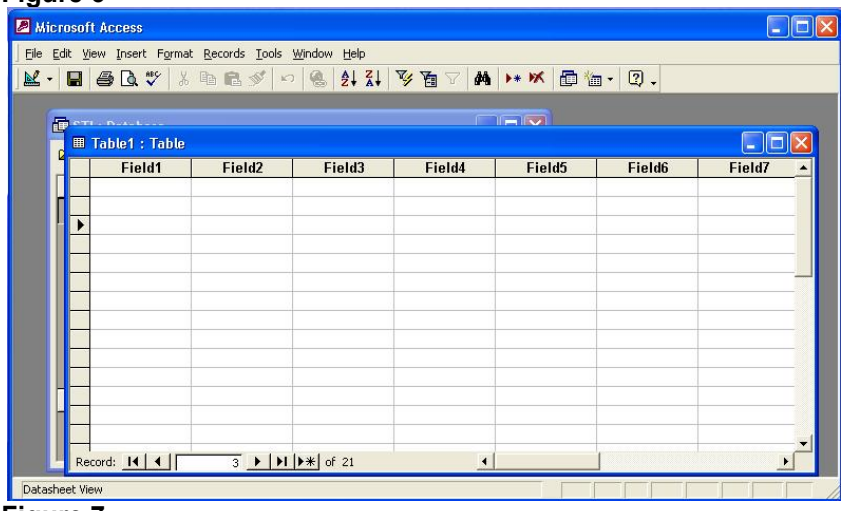

Figure 7

5. Rename the Fields according to the categories you chose in (b). In our example, we first choose the column we wish to rename. We then go to the “Format” pull-down menu, and use the “Rename Column” command. (**Figure 8**). Repeat this procedure to create a column for each category.

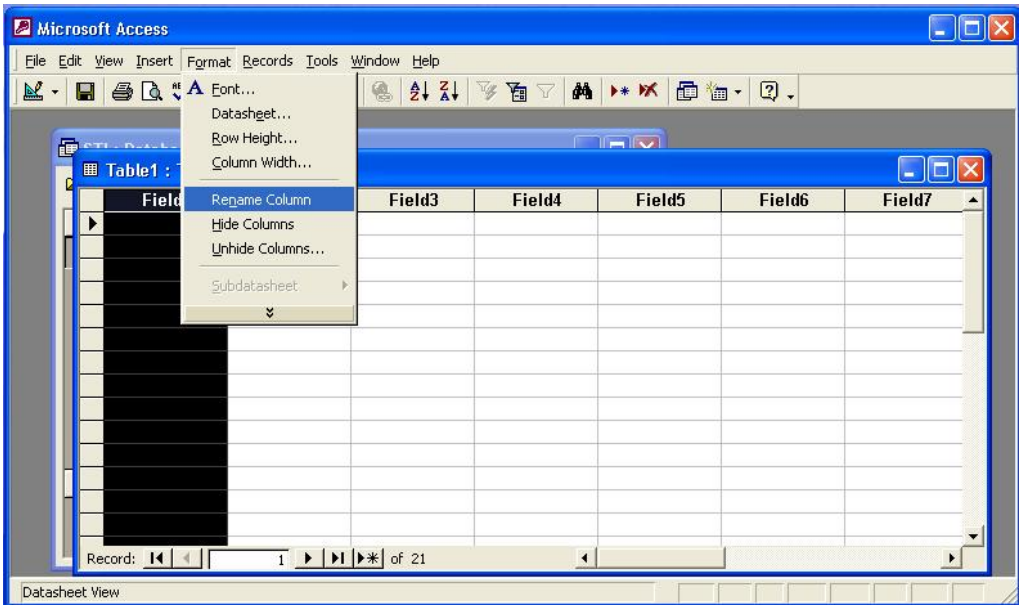

Figure 8

6. Enter the data you collected in step 1 under the appropriate categories (**Figure 9**).

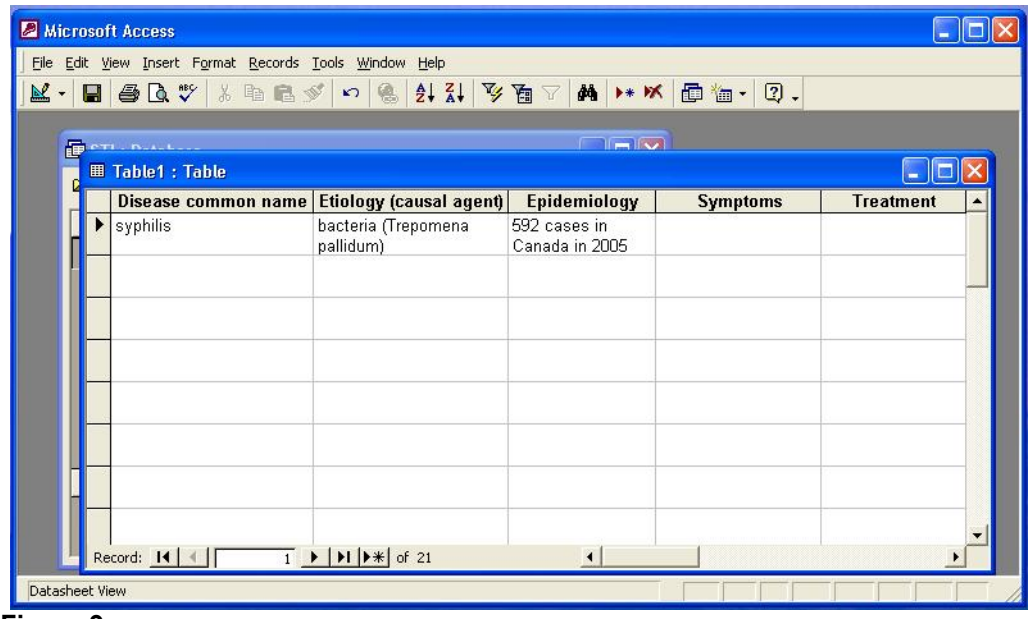

Figure 9

7. When you have finished working, save your file. When prompted, give your table an appropriate name (**Figure 10**).

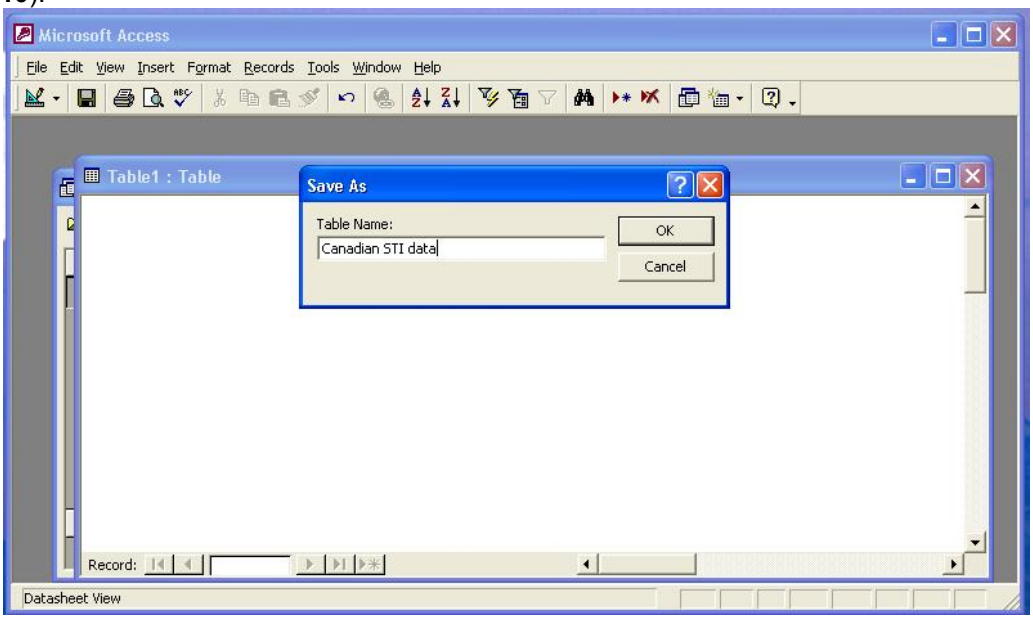

Figure 10

8. If you follow the steps in this example, you will next see an alert similar to that in **Figure 11**. Choose "Yes". (Your teacher may explain the function of a primary key.) Your saved table will now look similar to the screen shown in **Figure 12**.

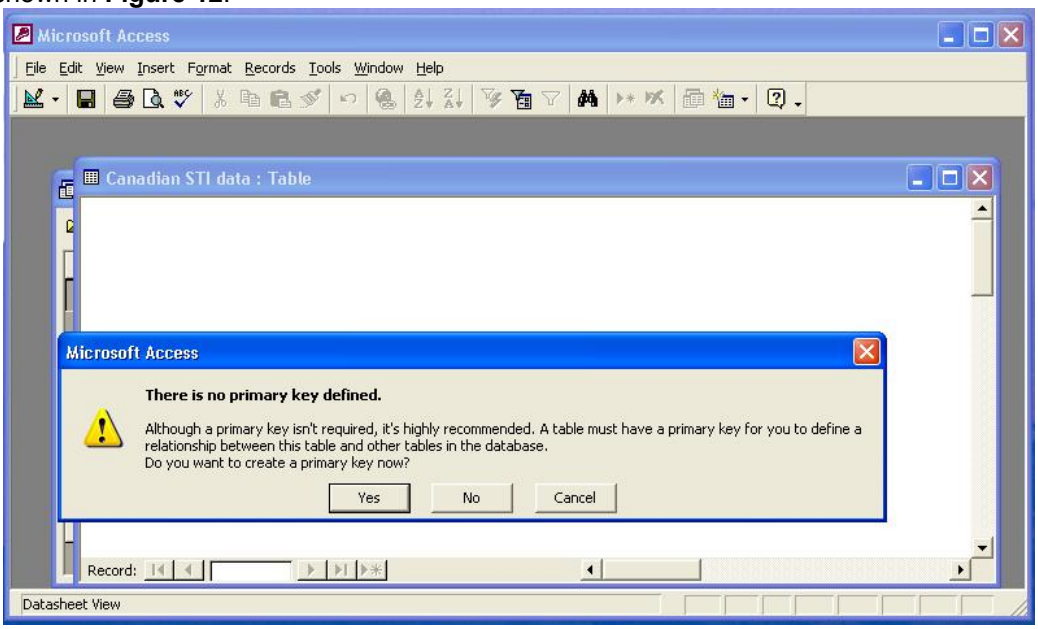

Figure 11

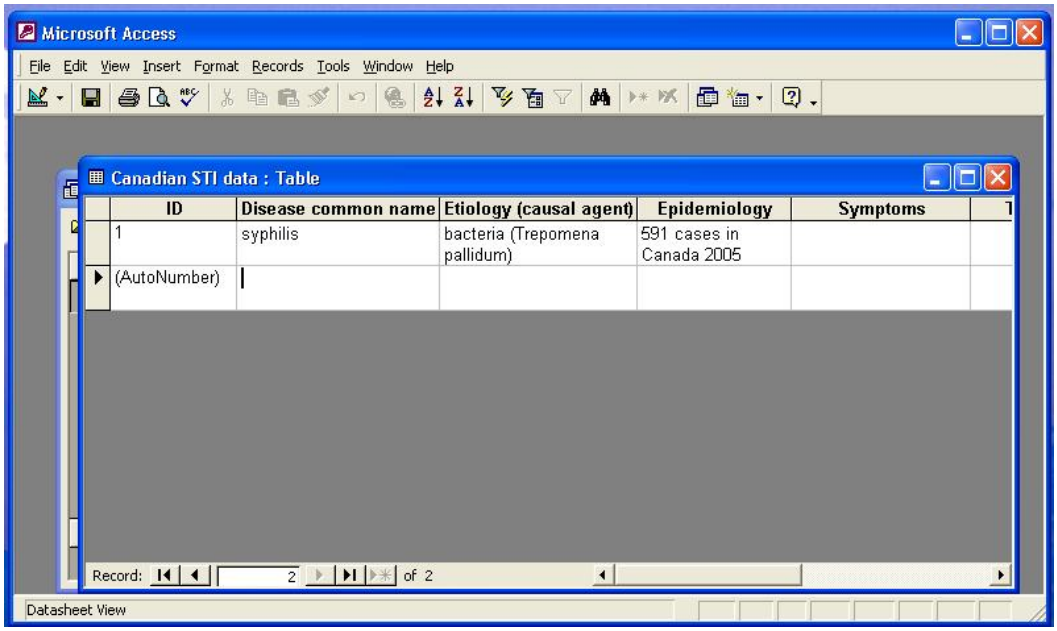

Figure 12

9. In order to use the database, you need to ensure that the properties of the data in each field (column in your table) are designated as text. To check this, you will need to go to "Design View". You can switch to Design View from the "View" pull-down menu, or by clicking on the icon in the toolbar, as shown in **Figure 13.**

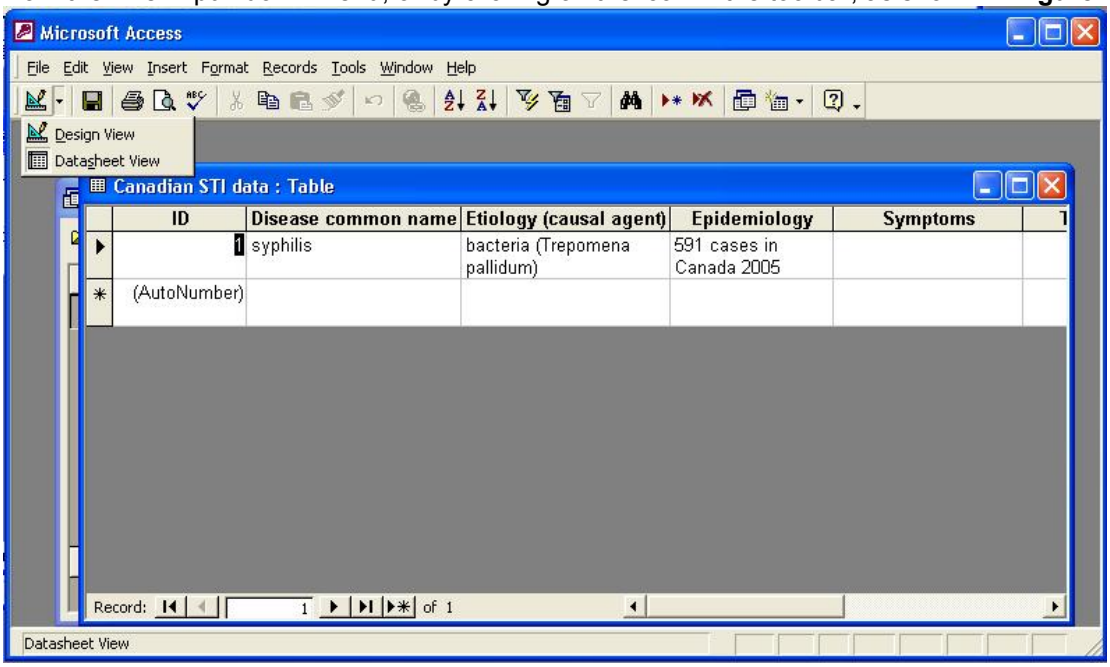

Figure 13

10. The first field will be the primary key set that was set in step 8. Its name is “ID” and the type is “AutoNumber” (**Figure 14**). Click on each of the Field Names that you entered and check that the Data Type is “Text” for all data that is written description. If you have other data types, such as numbers or dates, work with your teacher or the program documentation to ensure the field is set to the appropriate data type.

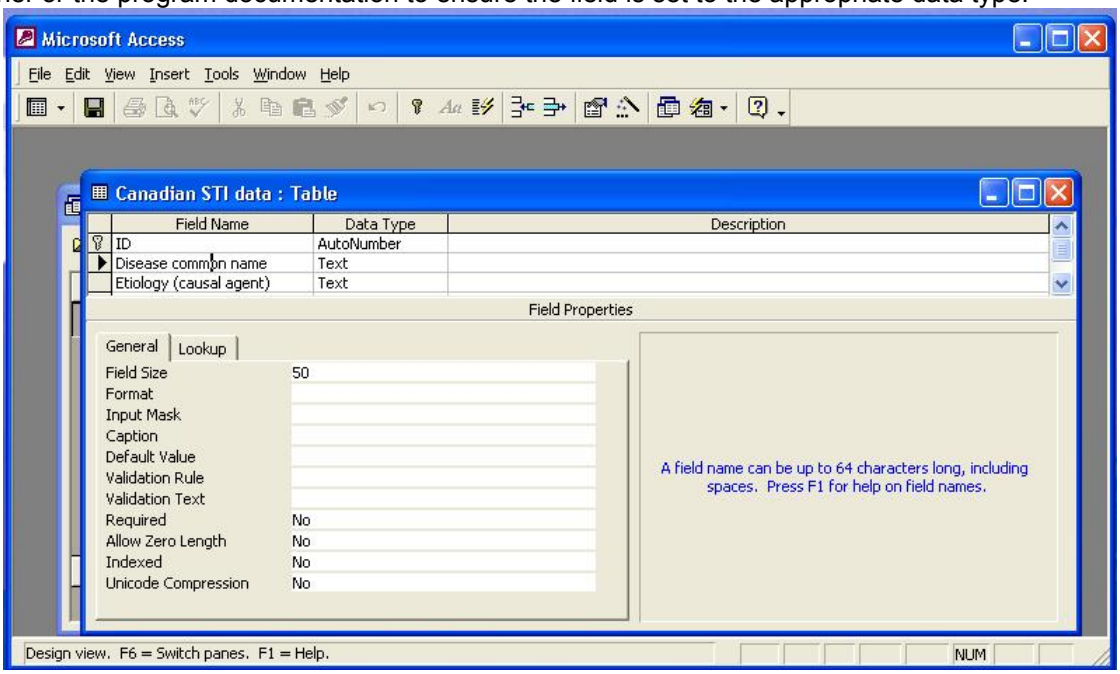

Figure 14

Evidence

Complete construction of your database by entering all the information on STIs you collected. Be prepared to show other groups how your database works.

Analysis

(d) How many records do you have in your database?

(e) Search your database according to the type of species (e.g. bacteria, virus, etc.). Under the search name, type in “epidemiology.” How many records were you able to find with more than 200 cases reported in Canada?

Evaluation

(f) Set up a demonstration of your database for the class. Evaluate how well your database works.

(g) Import the data created by another group to make a larger database. Explain how you accomplished the task. What difficulties did you have?