



## INSTRUCTIONS FOR USING ARCVIEW

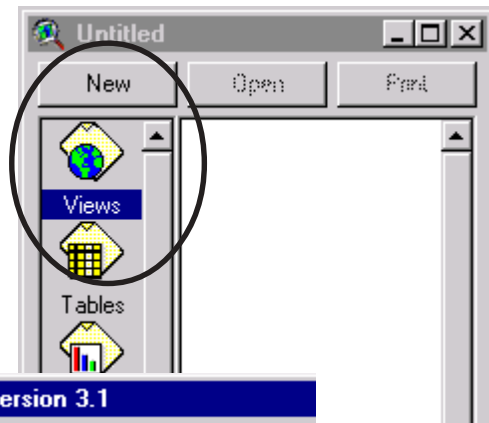
ArcView software is available in the UTS Lab,  
Burke Sciences Building, Room 241 and  
in Mills Library, Gateway Data/GIS Lab, Room 111A.

ArcView will also be available on two workstations in the Map Collection,  
Mills Library, Room 110, which are available Monday to Friday 9-5.  
Please use these workstations if you require staff assistance.

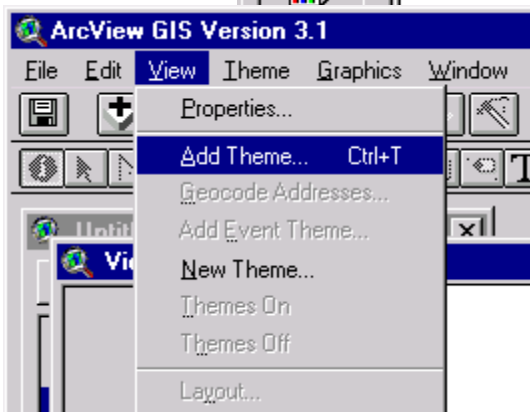
**If you are in the UTS Lab:** Logon to a computer. Select the **Course Folder** icon on the desktop. Select **Science**. Select **Geography & Geology**. Select **geog3ug3**. Select the **ArcView GIS icon**.

**If you are in the Map Collection or the Gateway Data/GIS Lab:** Before starting Arcview, Select **Start**. Select **Programs**. Select **Maintenance**. Select **Courses**. Select **geog3ug3**. (This loads a fresh copy of the data files.) Select **Start**. Select **Programs**. Select **ArcView GIS**.

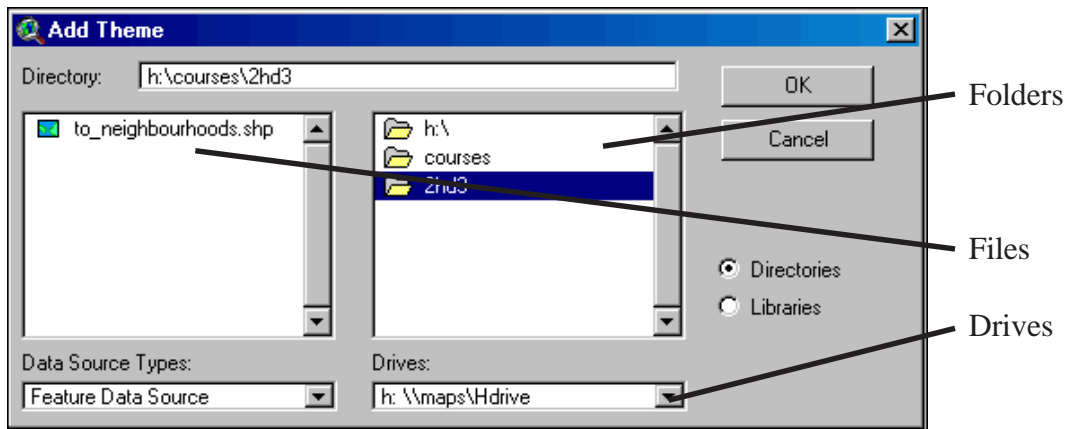
If your first screen does not look like the image below, click OK and then Yes, and go to the top of page 2 in these instructions.



Click on the word **Views** and then on the **New** button.



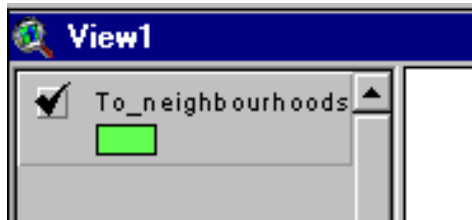
Click on the word **View** at the top of the screen, and then on **Add Theme...**



Under **Drives**, click on the drop down menu and select

**c: if you are in the UTS Lab**. In the upper right box (**Folders**), double click on the **temp** folder.

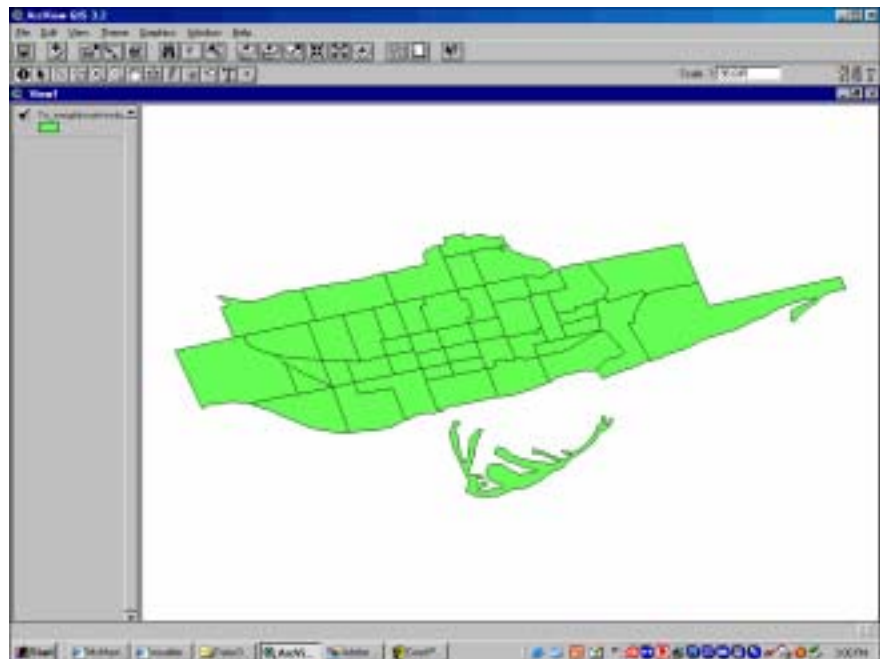
or **h: if you are in the Map Collection or the Gateway Data/GIS Lab**. In the upper right box (**Folders**), double click on the folder for **Courses**, then on the folder for **geog3ug3**. (If you don't see the courses folder, double click on **h:** to get to the root directory first.)



In the left hand box (**Files**), click on **to\_neighbourhoods.shp** and click **OK**.

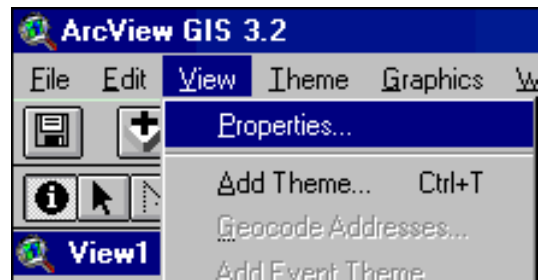
Click on the gray box to the left of the word **To\_neighbourhoods.shp** to turn on that theme.

An outline map of the neighbourhoods of Toronto in 1901 should appear.

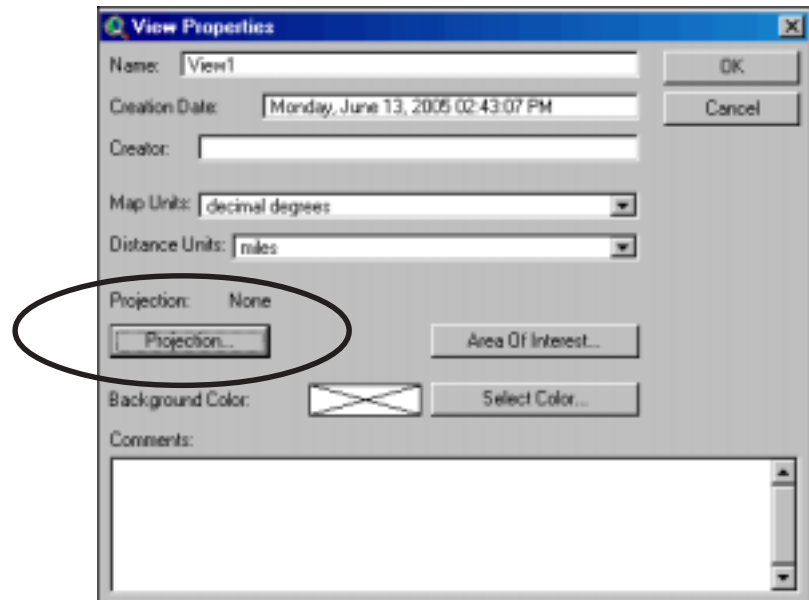


This map is a little elongated because it was created using a map of a much larger area.

To remove this distortion, click on **View** at the top of the screen, then on **Properties**.



Click on the **Projection** button.



In the dropdown menu beside **Category**, select **Projections of a Hemisphere**.



The **Type** should now read **Lambert Equal-Area Azimuthal (Equatorial)**. If it does not, click on the dropdown menu beside **Category**, and select **Lambert Equal-Area Azimuthal**.



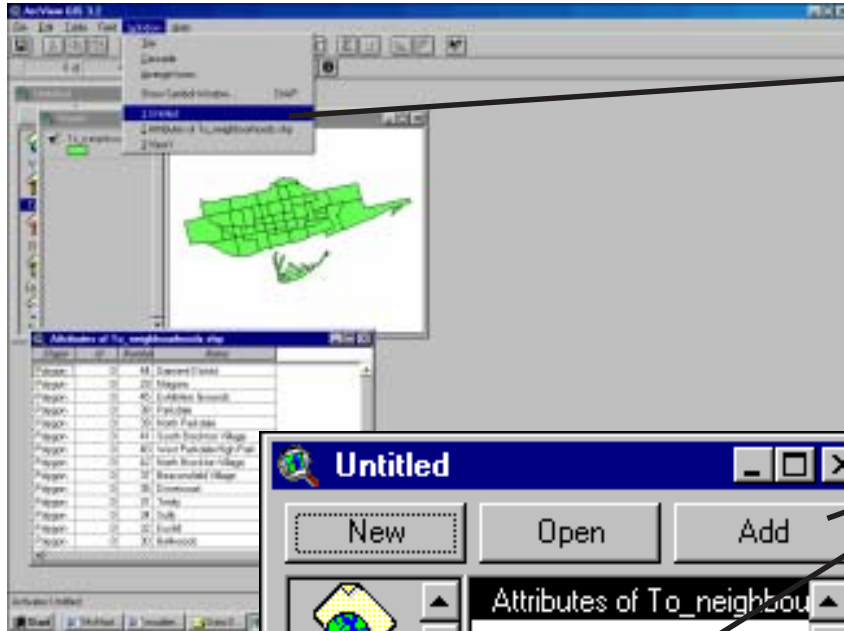
Click two **OK** buttons to confirm.



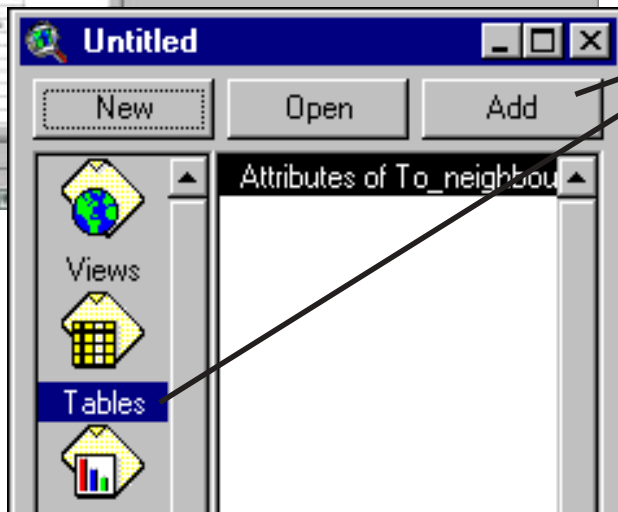
Click on the **Open Theme Table** button.



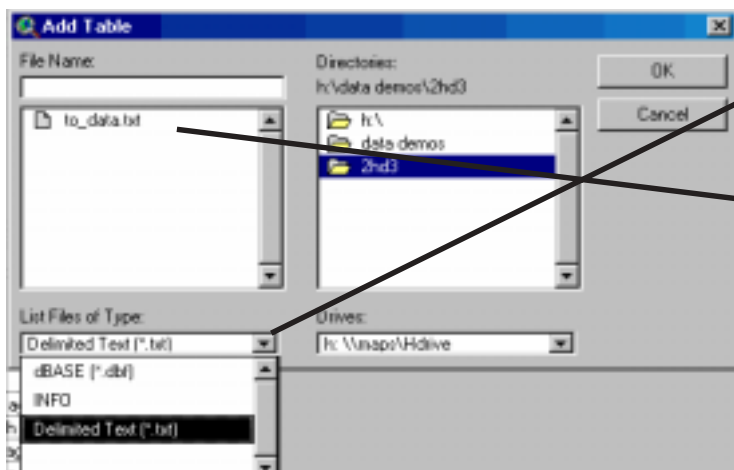
Use the **Resize Window** button to shrink the table to a more manageable size. Pull the sides of the table inwards if necessary to make it smaller.



At the top of the screen, click on **Window**, and then click on **Untitled**.



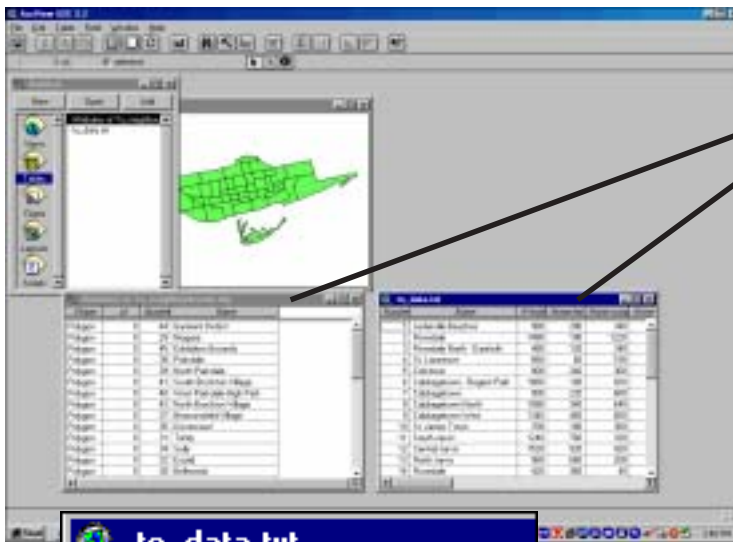
Click on the word **Tables**, and then on the **Add** button.



Click on the down arrow beside **List Files of Type:** and select **Delimited Text (.txt)**.

Click on the filename **to\_data.txt**.

Click the **OK** button.



Resize and move the two table windows until you have them positioned side by side.

The **Attributes of To\_neighbourhoods.shp** table must be on the left side.

The **to\_data.txt** table must be on the right.

<i>Number</i>	<i>H-holds</i>	<i>Home-bids</i>	<i>H...</i>
1	980	280	
2	1480	100	
3	480	120	
4	560	60	

Click on the title bar of the **to\_data.txt** table.

And then click on the label at the top of the column called **Number**.

<i>Shape</i>	<i>Id</i>	<i>Number</i>	<i>Name</i>
Polygon	0	44	Garment District
Polygon	0	29	Niagara
Polygon	0	45	Exhibition Grounds
Polygon	0	38	Parkdale

Click on the title bar of the **Attributes of To\_neighbourhoods.shp** table.

Then click on the label at the top of the column called **Number**.



In the menu at the top of the screen, click on **Table**.

Then click on **Join**.

<i>Shape</i>	<i>Id</i>	<i>Number</i>	<i>Name</i>	<i>H-holds</i>	<i>Home-bids</i>	<i>Home-owng</i>
Polygon	0	44	Garment District	720	460	
Polygon	0	29	Niagara	1060	240	7
Polygon	0	45	Exhibition Grounds	0	0	
Polygon	0	38	Parkdale	880	700	
Polygon	0	39	North Parkdale	660	240	4
Polygon	0	41	South Brockton Village	700	120	6
Polygon	0	40	West Parkdale High Park	640	460	1
Polygon	0	42	North Brockton Village	620	200	3
Polygon	0	37	Beaconsfield Village	940	260	6
Polygon	0	35	Dovercourt	840	520	2
Polygon	0	31	Trinity	1160	340	7

The **to\_data.txt** table should close.

The **Attributes of To\_neighbourhoods.shp** table should now display the columns of data from the **to\_data.txt** table.

Look at the fields available in the table and determine what you must calculate to produce a map of your specific variable.

Some variables can be expressed as a ratio or percentage using a numerator and a denominator which already exist in the table. Other variables require you to determine the city total for the given data so that this information can be used as the denominator.

If you must sum data for your variable to get the city total, follow the steps on this page.  
If you do not need to sum, then go on to page 7.

The screenshot shows a software window with a menu open. The menu items are: Sort Ascending, Sort Descending, Create Index, Summarize..., Calculate..., and Statistics... (which is highlighted). Below the menu is a data table with columns 'H-holds' and 'Home-bric'. The 'H-holds' column has a total of 41060, and the 'Home-bric' column has a total of 240. The table also lists 'Exhibition Grounds' and 'Parkdale' with their respective values.

	H-holds	Home-bric
	720	460
	1060	240
45 Exhibition Grounds	0	0
38 Parkdale	880	700

To sum the data in a column, click first on the name at the top of the column to select the correct field.  
(\*Selected field should appear as a darker gray.)

At the top of the screen, select **Field** then **Statistics...**

The screenshot shows a dialog box titled 'Statistics for H-holds field'. The statistics displayed are: Sum: 41060, Count: 47, Mean: 874, Maximum: 1520, Minimum: 0, Range: 1520, Variance: 110576, and Standard Deviation: 333. The 'Sum' value is circled in red.

Sum: 41060
Count: 47
Mean: 874
Maximum: 1520
Minimum: 0
Range: 1520
Variance: 110576
Standard Deviation: 333

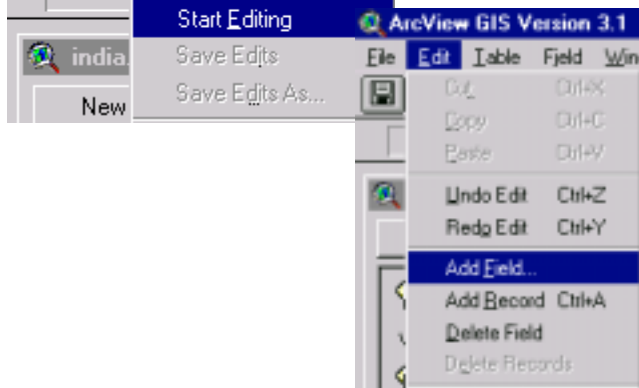
The **Sum** of data in this field appears at the top of the displayed window.

Copy down this number to use later as the demoninator in your calculation.



In the menu at the top of the screen, click on **Table**.

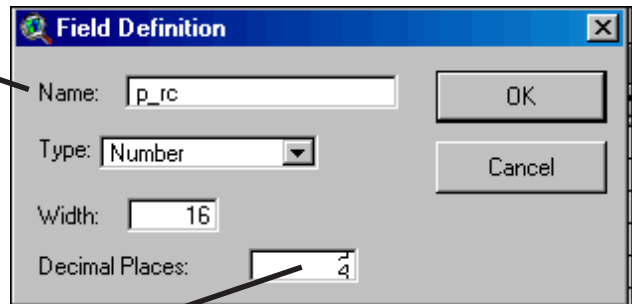
Then click on **Start Editing**.



In the menu at the top of the screen, click on **Edit**.

Then click on **Add Field...**

In the **Field Definition** dialogue window, click on the **Name** box and type a name for the new field which will contain your calculated data - the name must be 8 characters or less. (\*This example uses **p\_rc** for a field which will contain percentage of the neighbourhood households which are Roman Catholic.)



Leave Type set at **Number**. Set field Width to accommodate the largest possible result of your calculation. (\*This example leaves the Width at 16, including 2 decimal places.)

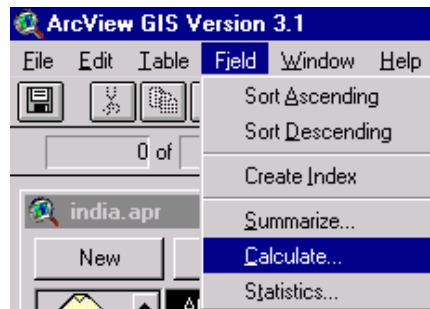
Click the **OK** button.

Hh-tenure	Hh-assva	p_rc
80	851.5	
160	604.2	
0	0.0	
460	1799.1	
100	1033.3	
100	609.9	

A new column with this name should be displayed in the **Attributes of To\_neighbourhoods.shp** table.

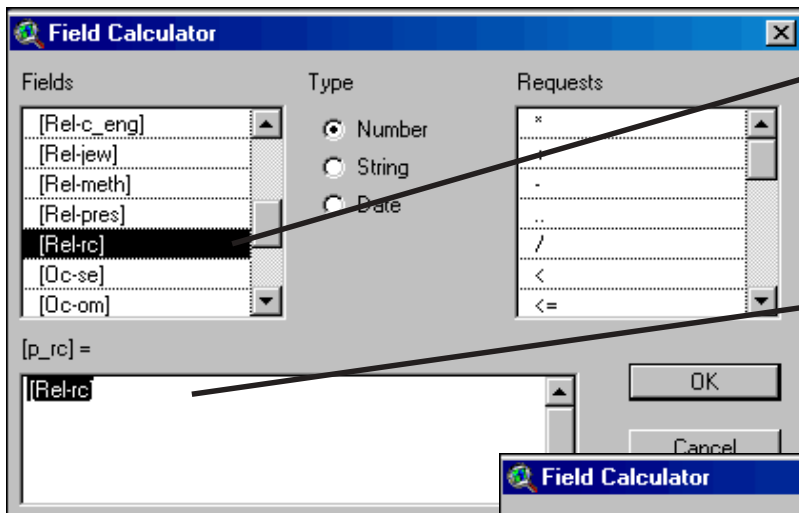
To calculate the values for this field, click on **Field** at the top of the screen.

Then click on **Calculate...**



The following example shows how to calculate the percentage of the neighbourhood households which are Roman Catholic:

Households which are Roman Catholic divided by Total households multiplied by 100 = percentage



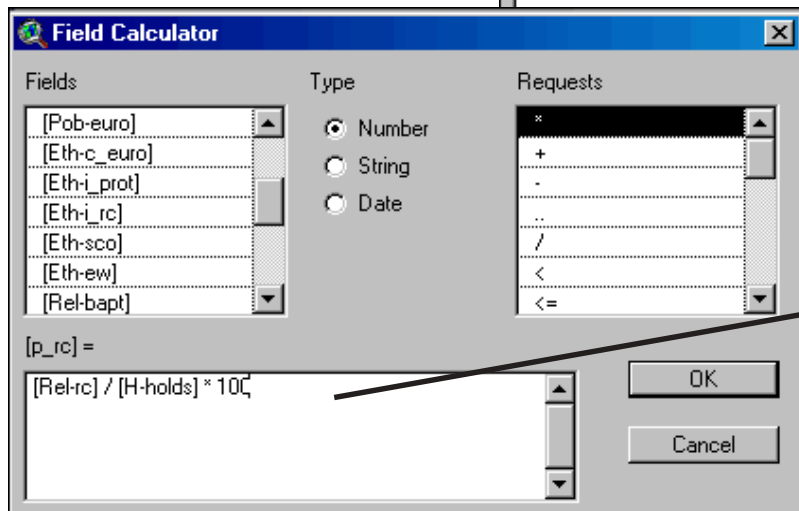
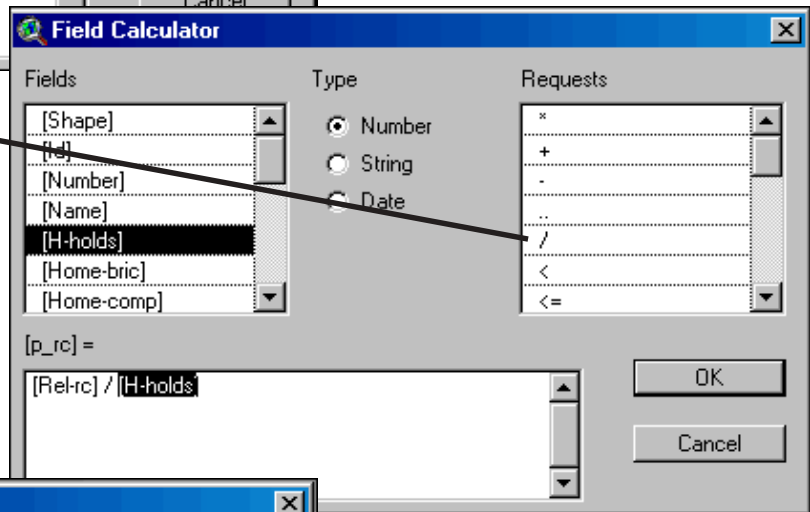
In the Field Calculator dialogue window, scroll down the **Fields** list and double click on the name of your **numerator**. (\*This example uses **Rel-rc**.)

The field name [Rel-rc] should appear in the lower box.

In the **Requests** box, double click on the division sign (/).

In the **Fields** box, double click on the name of your **denominator**. (\*This example uses **H-holds**.)

These should be added to the query in the lower box.

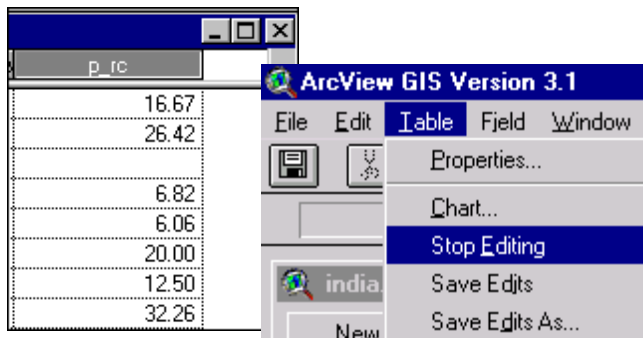


In the **Requests** box, double click on the multiplication sign (\*).

Then type the number 100.

The final query should read **[Rel-rc] / [H-holds] \* 100**.

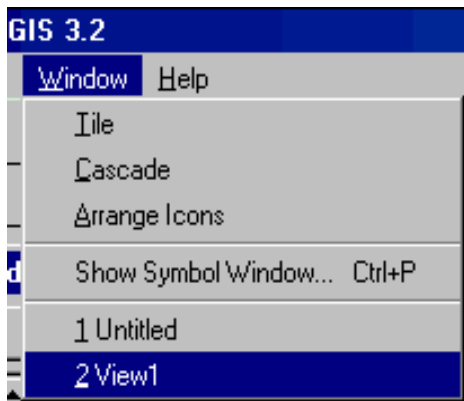
Click the **OK** button.



The new field should now show values.

In the menu at the top of the screen, click on **Table**, and then on **Stop Editing**.

Click the **OK** button when prompted **Save Edits?**



In the menu at the top of the screen, click on **Window**.

And then click on **View1**, to bring your map window to the front. You may wish to maximize the window size for easy viewing.



In the menu at the top of the screen, click on **Theme**.

Then click on **Properties...**

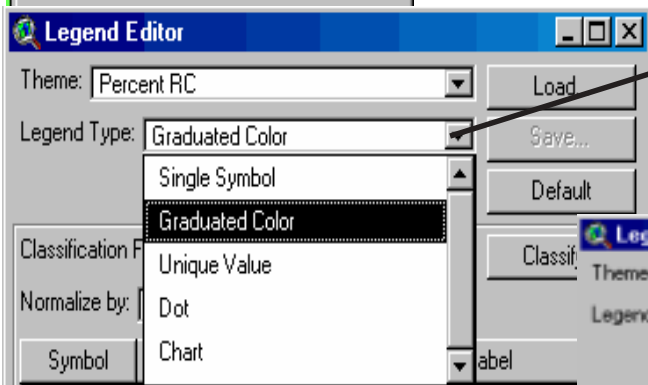
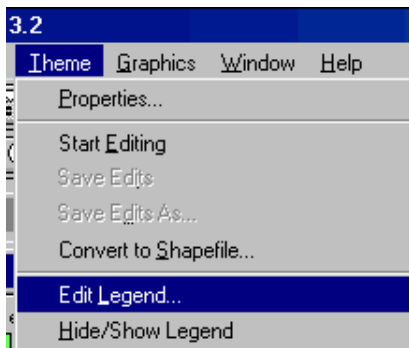


In the **Theme Name** box, type a name for this variable. This is the label that will appear above the legend on your map. Keep it short.

Click the **OK** button.

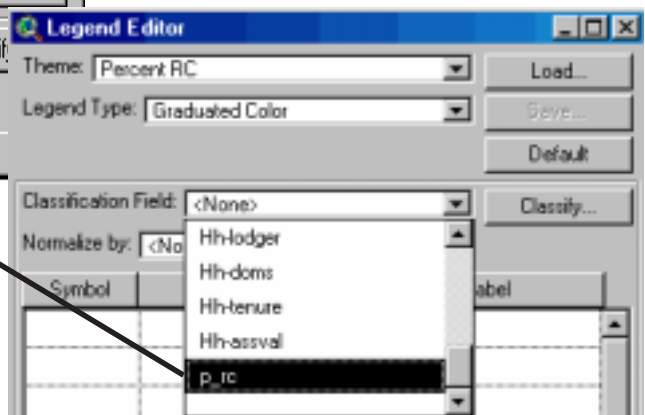
In the menu at the top of the screen, click on **Theme**.

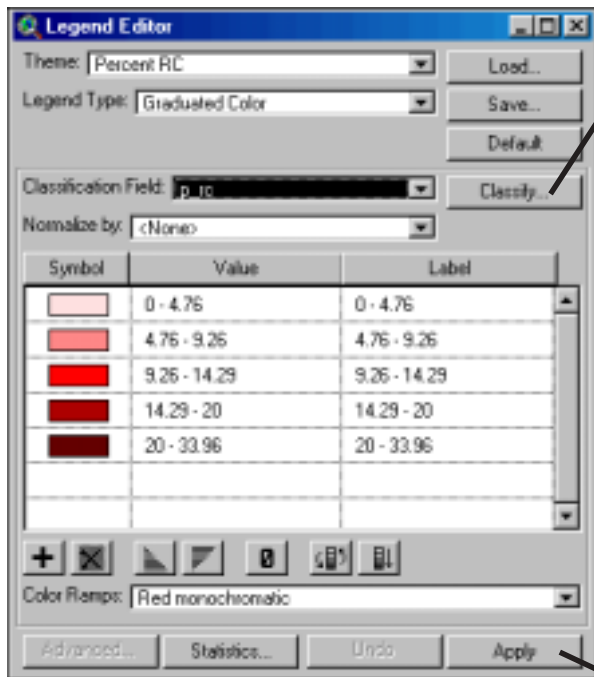
Then click on **Edit Legend**.



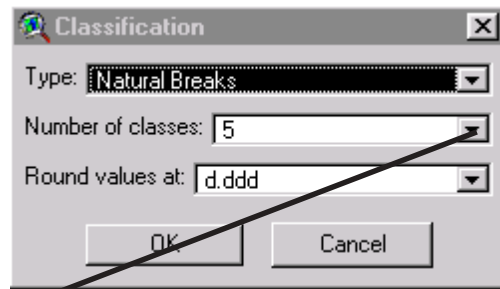
In the drop down menu for **Legend Type**, click on **Graduated Color**.

In the drop down menu beside **Classification Field**, click on the name of the field which you created.





Click on the **Classify** button.



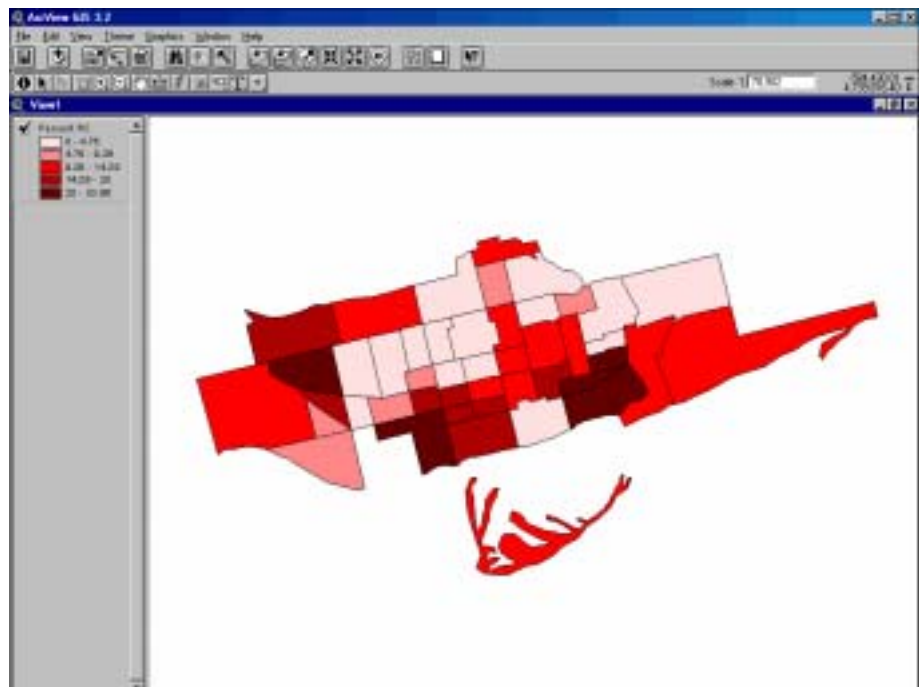
In the **Classification** window, experiment with different **Numbers of classes**.

Leave the **Type** setting at the default **Natural Breaks**.

Click on the **Apply** button, to see what each number choice does to the map.

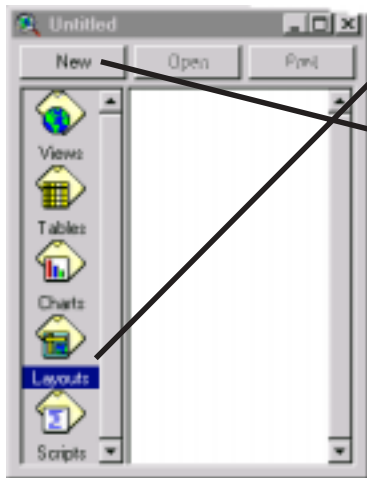
To print in black and white, change the **Color Ramps** to **Gray monochromatic**.

Experiment with different numbers of class intervals until you have produced your final map. (Click on the X button in the upper right corner when you are ready to close the Legend Editor).



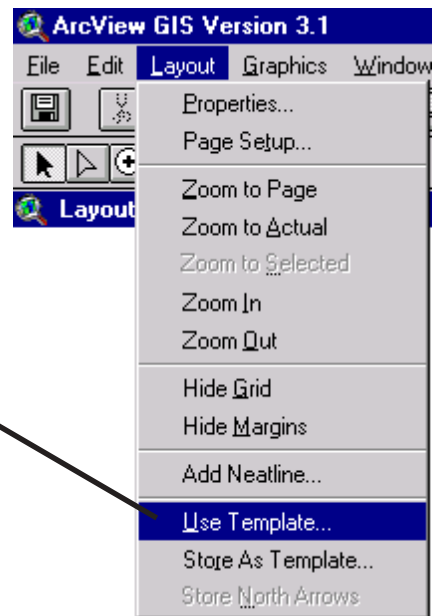
In the menu at the top of the screen, click on **Window**.

Then click on **Untitled** to bring the project manager window to the front.



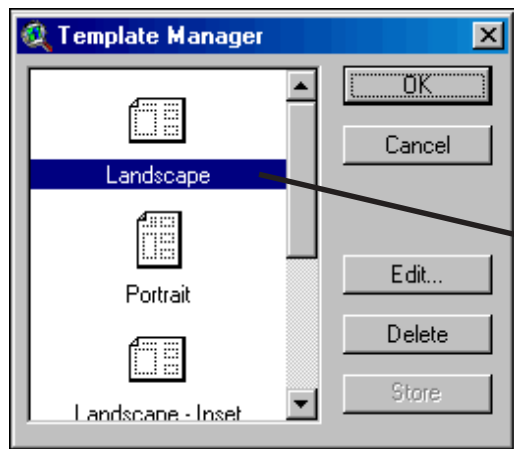
Click on the word **Layout**.

Then click on the **New** button.



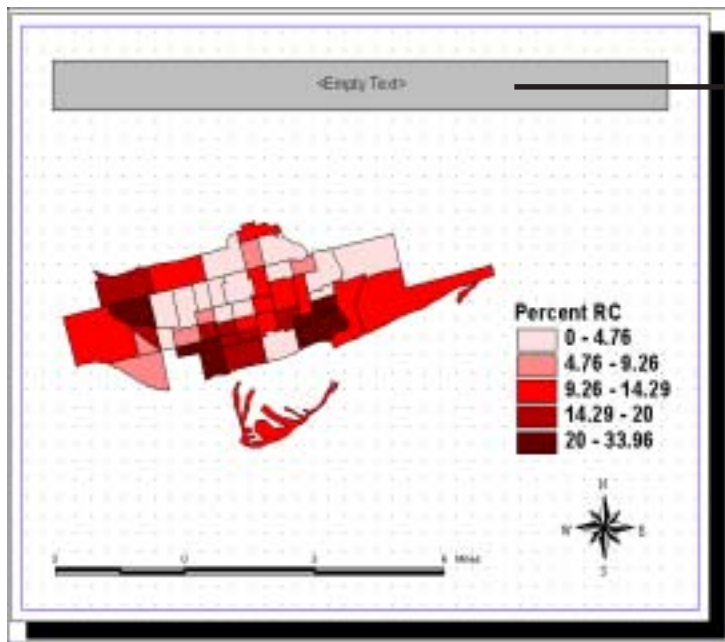
In the menu at the top of the screen, click on **Layout**.

Then click on **Use Template...**



In the **Template Manager** window, click on **Landscape**.

Click the **OK** button.



Double click on the Empty Text box, and type a title for your map. Click OK.

Click once on any element (title, map, legend, north arrow or scale bar) to select it. Black squares will appear in the corners of a selected object.

You can then resize the object by pulling the corner black squares in or out.

You can move the object by clicking in the centre and dragging.

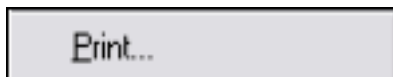
To add a source or other additional text to the map, click on the **Text** button and type the desired information.

After you have used the Text tool, you must turn it off by clicking the **Pointer** tool 



To add a neatline (border) to the map, click on **Layout**, then on **Add Neatline**. Click the radio button beside **Inset from margins** and click the OK button.

When you have finished your map completely, click on **File...**



**To print in the UTS lab**, you must have a UTS printer account with money on it.

**To print in the Library**, you must have a CopiCard. (\$0.10 for black/white, \$1.50 for colour).

Click on **File**, then **Print**

Under **Setup**, select the Colour or Black & White printer and confirm that the paper orientation matches your layout.

Click **OK**

Choose **Export...** to save the map as a file for printing at home or to email to yourself as an attachment.

Under **List Files by Type**, select the last option **JPEG**.

Indicate a drive letter and filename.

You can save to a USB keychain drive or...

**If you are in the UTS Lab**, save to **C:/temp**

**If you are in the Library**, save to the **U:** drive.

Do not save to the Desktop on Library computers.

Click **OK**