Quattro Pro 8 Spreadsheet: Creating Graphs
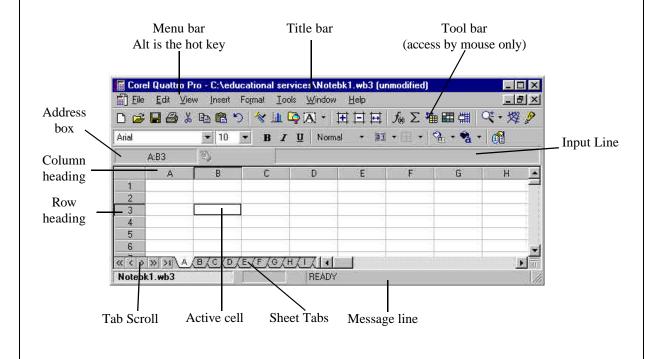
Start *Quattro Pro 8*.

What is a spreadsheet?

A computer program that allows the user to organize the solution to a problem by arranging numbers, formulas, and labels in a table of rows and columns. Each intersection of a row and column is called a **cell**. A cell is **addressed** by its column letter and its row number. For example, cell **B3** is the intersection of column B and row 3. There are 256 columns and 8 192 rows, or 2 097 152 cells per worksheet. A *Quattro Pro* notebook consists of 256 worksheets or 536 870 912 cells. In the diagram below, cell B3 is contained on worksheet A and is identified as A:B3.

What are the parts of a Quattro Pro spreadsheet?

Menu bar — Alt is the hot key | Title bar | Tool bar (access by mouse only)

Address box | Column heading | Row heading

Input Line

Tab Scroll | Active cell | Sheet Tabs | Message line

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	A	B	C	D	E
1	*This is cell A1*				
2					
3		*This is cell B3*			

Spreadsheet Setup:

Enter the labels and numbers as shown starting in cell A1. Click in cell A1, key the label *Activity*, and press enter. Using the mouse or the *arrow* keys move to the next cell and continue entering all the labels and values. You may replace the given values with your own numbers if you have them. It may be necessary to adjust the width of column A.

	A	B
1	Activity	Number of Hours
2	Time at work	6
3	Recreation	2
4	Eating	1.5
5	Watching TV	4
6	Working at home	1
7	Sleeping	8
8	Other	1.5
9	Total Hours	

To quickly adjust the width, *right-click* on the column heading and choose *Auto Width.*
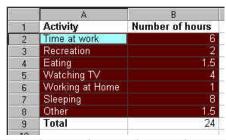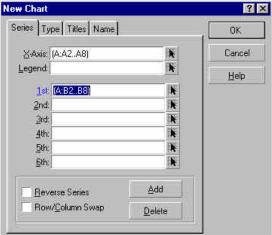
Enter a Formula:

In cell **B9** enter the formula   **@SUM(B2..B8)**. The answer should be **24**.
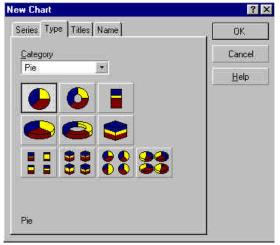Adjust the value in the *Other* category if necessary.

Creating Graphs (Charts)

Example 1 – Pie Graph

	A	B
1	**Activity**	**Number of hours**
2	Time at work	6
3	Recreation	2
4	Eating	1.5
5	Watching TV	4
6	Working at Home	1
7	Sleeping	8
8	Other	1.5
9	**Total**	24

1 Select the range of cells from A2 to B8. (Left click in cell A2, hold down the button, and drag to cell B8.)

2 **Right-click** anywhere in the range of selected cells.

3 Select (left-click) **New Chart Window**.

4 **X-Series** A:A2..A8 represents the activity categories.

5 **1st** (Y-Series) A:B2..B8 represents the number of hours.

6 Click on the **Type** tab.

7 Choose **Pie** from the **Category** drop down list.

8 Click on the **Titles** tab.

9 Enter a **Main** title and a **Subtitle**. The other boxes are not needed for the pie graph.

10 Click on the **Name** tab. Enter an appropriate **Chart Name**.

11 Click **OK**. A Pie Chart appears in a new Window. The Font sizes will need to be adjusted later.

12 From the **Window** menu choose **Tile Side by Side**. You should now be able to see both the spreadsheet data and your graph. If you change a number in the spreadsheet, the graph is automatically updated.
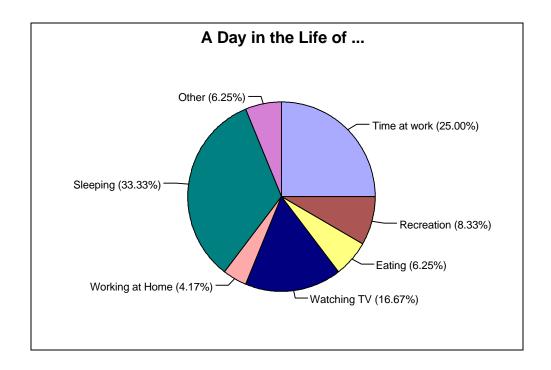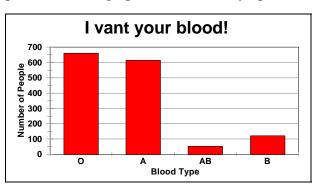
13 Save your work often!

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15 Right-click on the Main Title. Select **Chart Title Properties…**.

16 Click on the **Text Font** tab. Select a **Point Size** of 18.

17 Right-click anywhere on the Pie. Select **Pie Chart Properties…**.

18 Click on the **Text Font** tab. Select a **Point Size** of 12.

19 Right-click on any Pie section. Select **Pie Chart Properties…**.

20 Click on the **Explode slice** tab. Try a distance of 10%.

21 Try experimenting with other Pie Chart Properties.

22 Save your work often!

23 From the **Edit** menu, choose **Select All**.

24 From the **Edit** menu, choose **Copy**.

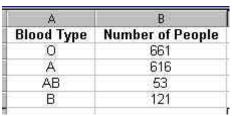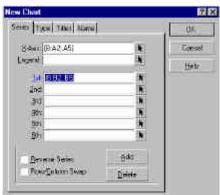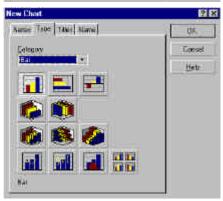25 Switch to any word processor and **Paste** your pie graph.

A Day in the Life of ...

Other (6.25%)

Time at work (25.00%)

Sleeping (33.33%)

Recreation (8.33%)

Eating (6.25%)

Working at Home (4.17%)

Watching TV (16.67%)

Example 2 – Bar Graph

A research group recorded the blood types of a random sample of people.

	A	B
	Blood Type	**Number of People**
	O	661
	A	616
	AB	53
	B	121

1   Open a new spreadsheet notebook and enter the labels and numbers as shown. Adjust column widths and styles. Save the file.

2   Select the range of cells from A2..B5.

3   Right-click anywhere in the range of selected cells. Select (left-click) **New Chart Window**.

4   **X-Series** A:A2..A5 represents the blood type categories.

5   **1st** (Y-Series) A:B2..B5 represents the number of people.

6   Click on the **Type** tab.

7   Choose **Bar** from the **Category** drop down list.

8   Click on the **Titles** tab.

9   Enter a **Main Title**, **X-Axis Title** and **Y1-Axis Title**.

10 Click on the **Name** tab. Enter an appropriate **Chart Name**.

11 Click **OK**. A Bar Chart appears in a new Window.

12 From the **Window** menu choose **Tile Side by Side**. You should now be able to see both the spreadsheet data and your graph. If you change a number in the spreadsheet, the graph is automatically updated.
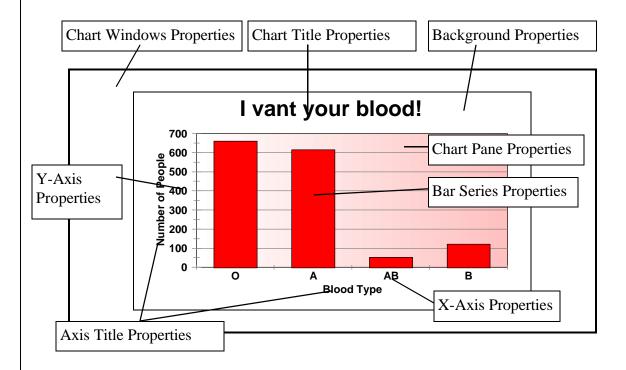
Enhancements

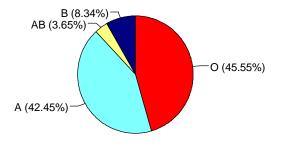Experiment with different object properties.
Right-click on an object and then select the Properties item at the bottom of the list.
It is a good idea to save your work before you experiment.

Chart Windows Properties   Chart Title Properties   Background Properties

I vant your blood!

Chart Pane Properties

Y-Axis Properties

Bar Series Properties

X-Axis Properties

Axis Title Properties

Example 3 – Graph Type Conversion

To convert the Bar graph from example 2 to a Pie graph, right-click on any part of the graph and select Type/Layout. Choose Pie from the Category drop done list.
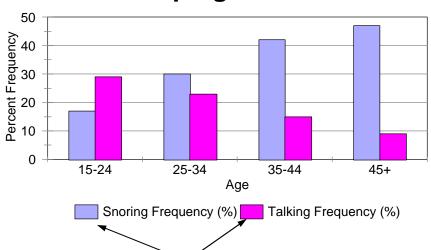
I vant your blood!

B (8.34%)
AB (3.65%)
O (45.55%)
A (42.45%)

Practice 1 - Sleeping Habits

Display the data using a double bar graph.

Age	Snoring Frequency (%)	Talking Frequency (%)
15-24	17	29
25-34	30	23
35-44	42	15
45+	47	9

Sleeping Habits

Include a Legend.

Right-click anywhere on the graph.
Select Series from the list.
Enter the cell range for the Legend. B1..C1 or B1,C1

Example 4 - Line Graph

	A	B
1	Year	**Amount of Garbage (kg)**
2		**Produced per person**
3	1960	450
4	1970	540
5	1980	600
6	1990	700

1 Open a new spreadsheet notebook and enter the labels and numbers as shown. Adjust column widths and styles. Save the file.
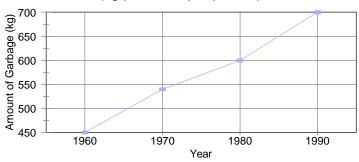
2 Select the range of cells from A3..B6.

3 Right-click anywhere in the range of selected cells. Select **New Chart Window**.

4 The *Year* values (A3..A6) were put into the 1st (Y) series and the *Amount of Garbage* (B3..B6) were assigned to the 2nd series.

5 The Year values should be on the X-Axis and the Amont the 1st series. Edit the Series assignments as shown.

Series	Type	Titles	Name

X-Axis: A3..A6

Legend:

1st: B3..B6

2nd:

6 Click on the **Type** tab. Choose **Area/Line**, **Line** type.

7 Click on the **Titles** tab. Add appropriate titles.

8 Click on the **Name** tab. Enter an appropriate **Chart Name**.

9 Click **OK**. A Line graph appears in a new Window.

10 Select X-Axis Properties and add major grid lines.

Garbage on the Rise !
(kg produced per person)

Practice 2 - At the Dance
Display the data using a line graph.

Dance #	1	2	3	4	5	6
Attendance	125	110	140	135	160	150

Example 5 - XY Graph

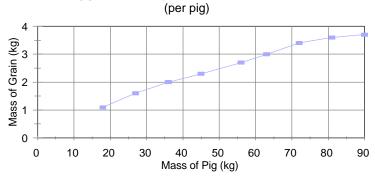|	A	B	C
1	Suggested Daily Grain Requirments per Pig		
2	Mass of Pig (kg)	Mass of Grain (kg)	
3	18	1.1	
4	27	1.6	
5	36	2.0	
6	45	2.3	
7	56	2.7	
8	63	3.0	
9	72	3.4	
10	81	3.6	
11	90	3.7	

1 Open a new spreadsheet notebook and enter the labels and numbers as shown. Adjust column widths and styles. Save the file.

2 Select the range of cells from B3..B6.

3 Right-click anywhere in the range of selected cells. Select **New Chart Window**.

4 The *Mass of Grain* (B3..B11) was put into the 1st series.

5 The *Mass of Pig* values values should be on the X-Axis. Enter A3..A11 in the X-Axis series.

6 Click on the **Type** tab. Choose **Specialty**, **XY** type.

7 Click on the **Titles** tab. Add appropriate titles.

8 Click on the **Name** tab. Enter an appropriate **Chart Name**.

9 Click **OK**. An XY graph appears in a new Window.

10 Select X-Axis Properties.

11 Select the Scale tab. Key in 0 in the low box, 90 in the High box, 10 for increment.

12 Select the Major Grid Style tab. Choose thin line.

13 Select Minor Grid Style tab. Choose no line.

14 Click OK.

15 Adjust Y-Axis Properties.

Suggested Daily Grain Requirements
(per pig)

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MATHEMATICAL MODELLING (trial

There appears to be a linear relationship between the mass of the pigs and the mass of the grain.
Open the *XYPIGS.WKS* file.

In cell **A13** enter the label *slope* and in cell **A14** enter the label *y-intercept.*.
In cell **B13** enter the value **0.04** and in cell **B14** enter the value **0.6**.

In cell **C3** enter the formula =**B13*A3 + B14**.
Select the range **C3:C11**. Click the **Edit** menu and choose **Fill Down**.

With the range still selected, click on the **Edit** menu and choose **Copy**.
Click on the **Chart** menu and choose **1 Chart1**.
Click on the **Edit** menu and choose **Paste Series**.
Select **2nd** and click **OK**. These values now form the 2nd Y-Series on the graph.

Click on the **Format** menu and choose **Patterns and Colors**.
Select the **2nd Series** and under **Patterns** choose **Solid**.
Click on **Format** and then on **Close**.

Click on the **Window** menu and choose **Tile**.
Change the values in cells B13 and B14 until the "best-fit" line is achieved.

S u g g e s t e d D a i l y G r a i n R e q u i r e m e n t s
(p e r P i g)