

Pictogram

Introduction

A Brief Description

Pictogram is an application that progressively teaches children the use of graphs for representing data. Pictures are dragged onto stacks and may either be displayed vertically or horizontally. The graph can be switched to a block graph where the pictures are replaced as more abstract blocks of different colours. Finally the blocks can be joined into one long bar to create the familiar bar chart.

- Wide variety of picture sets for creating pictograms
- Easy point and drop method for constructing graphs
- All of the graphs can be exported as an TIFF file or be copied to the clipboard
- Pictogram recognises when colours are used as labels and will colour the graphs appropriately.

System Requirements

- Apple Macintosh running Mac OS 10.2 or higher.

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Installing Pictogram

Pictogram must be installed onto the hard disc in the computer.

Installing the software onto the hard disc

- 1 Insert the CD ROM into the CD ROM drive.
- 2 If you are using Mac OS X ensure you are logged on to the machine as an administrator.
- 3 Drag the appropriate folder to your hard drive.

For Mac OS 8 and 9 you should use the folder labelled **Pictogram (Classic)** and for Mac OS X copy the folder labelled **Pictogram (OS X)**.

You can place the folders wherever you wish on your system, but we would recommend you put them in the **Applications** folder.

Registering Your Software

- 1 Double click the Pictogram icon in order to run the program.

The first time that you run Pictogram you will be asked to enter your licence details. If you do not do this Pictogram will run only in demonstration mode. When used in this state the application will not let you save files, print or copy the graph to the clipboard.

- 2 Enter your details and the serial number in the appropriate fields on the start up screen.

Your serial number can be found with your licence details supplied with the software.

- 3 Click on the **Register** button to complete the registration process.



Starting Pictogram

To Run the Pictogram Application

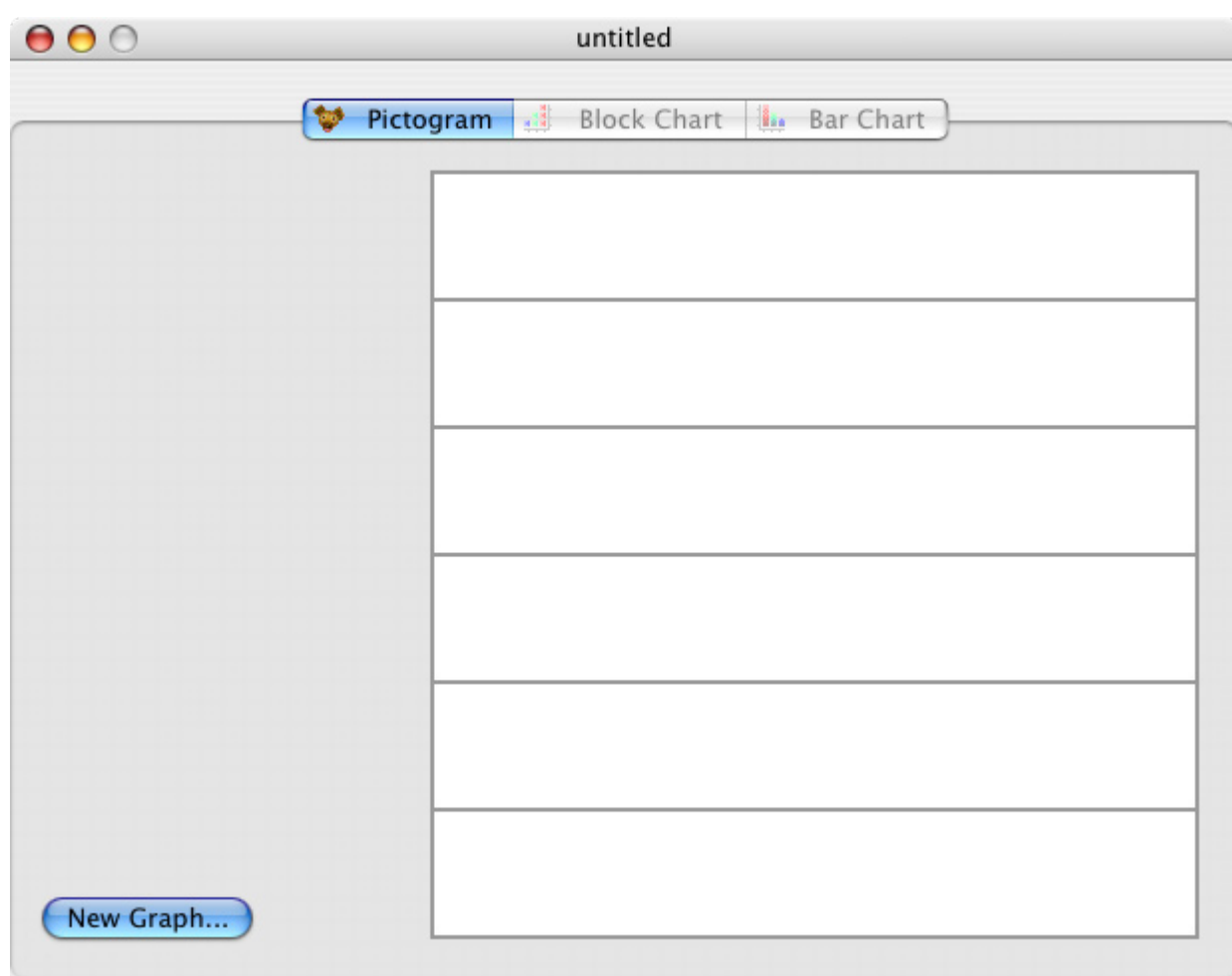
- 1 Double click on the Pictogram alias on the desktop.
The main Pictogram window will appear on screen.

Finishing with Pictogram

To Close Pictogram

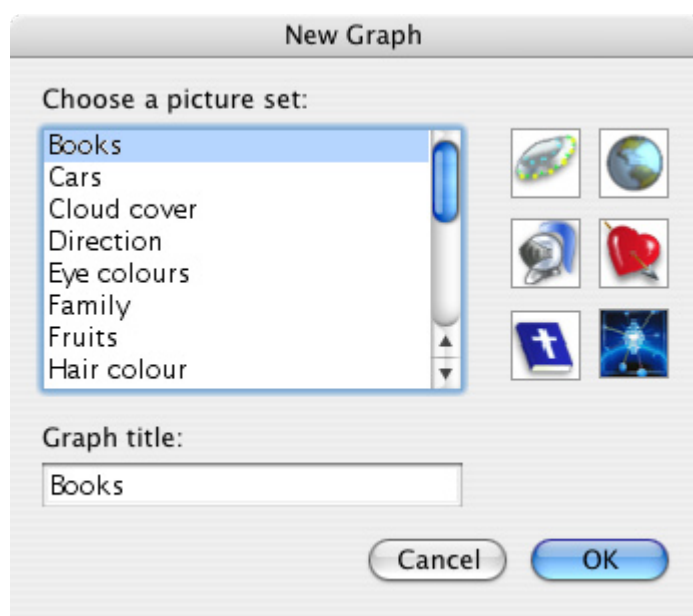
- 1 Either open the **Pictogram** application menu and choose the item **Quit**.
If you have not saved your work, a message box will open asking if you wish to save your work.
- 2 Click the mouse on the appropriate button.

When pictogram starts the main window will open as shown:



First we need to load a set of pictures into Pictogram. To do this:

- 1 Click on the **New Graph...** button.
The New Graph dialogue will open as shown:
- 2 Click on the picture set that you wish to load. You can click on the scroll button to display more picture sets.



If you wish you can at this stage give the graph a title. By default it will be the same as the name of the picture set. If you do not set the graph title now, you can change it later. To do this click in the writable field labelled **Graph title:** and enter the text you require.

To load the chosen set of pictures:

- 3 Click on the **OK** button.

The Pictogram window will then display the picture set you have chosen.

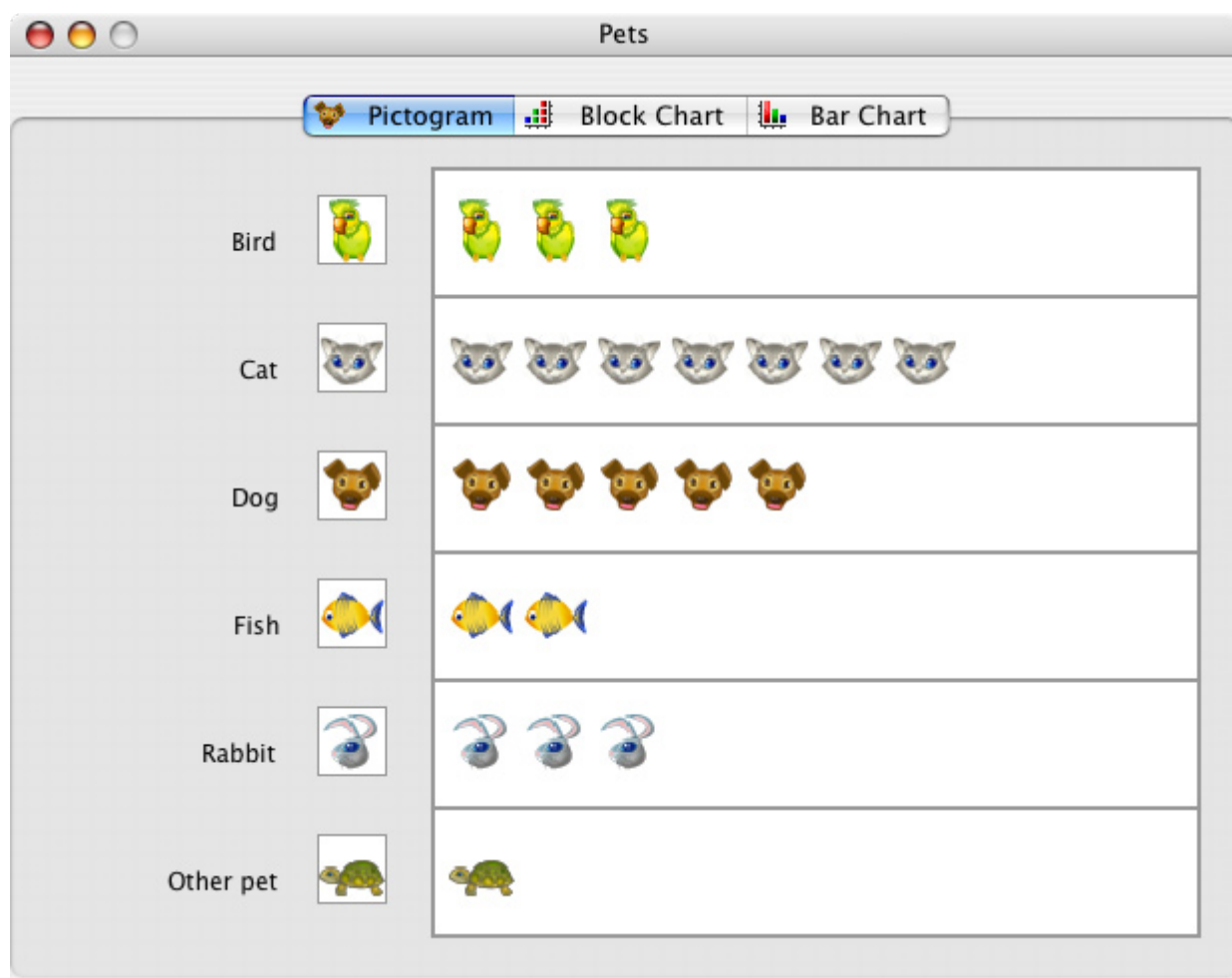
Creating a Graph

Adding Pictures to the Pictogram

- 1 Move the mouse pointer over the picture you wish to use.
- 2 Either double click on the picture you wish to add, or click and hold down the mouse button and drag the picture onto the adjacent row on the pictogram graph area.

You can only place a picture in its appropriate row or column.

There is only room for ten pictures in each row or column.



To Remove a Picture

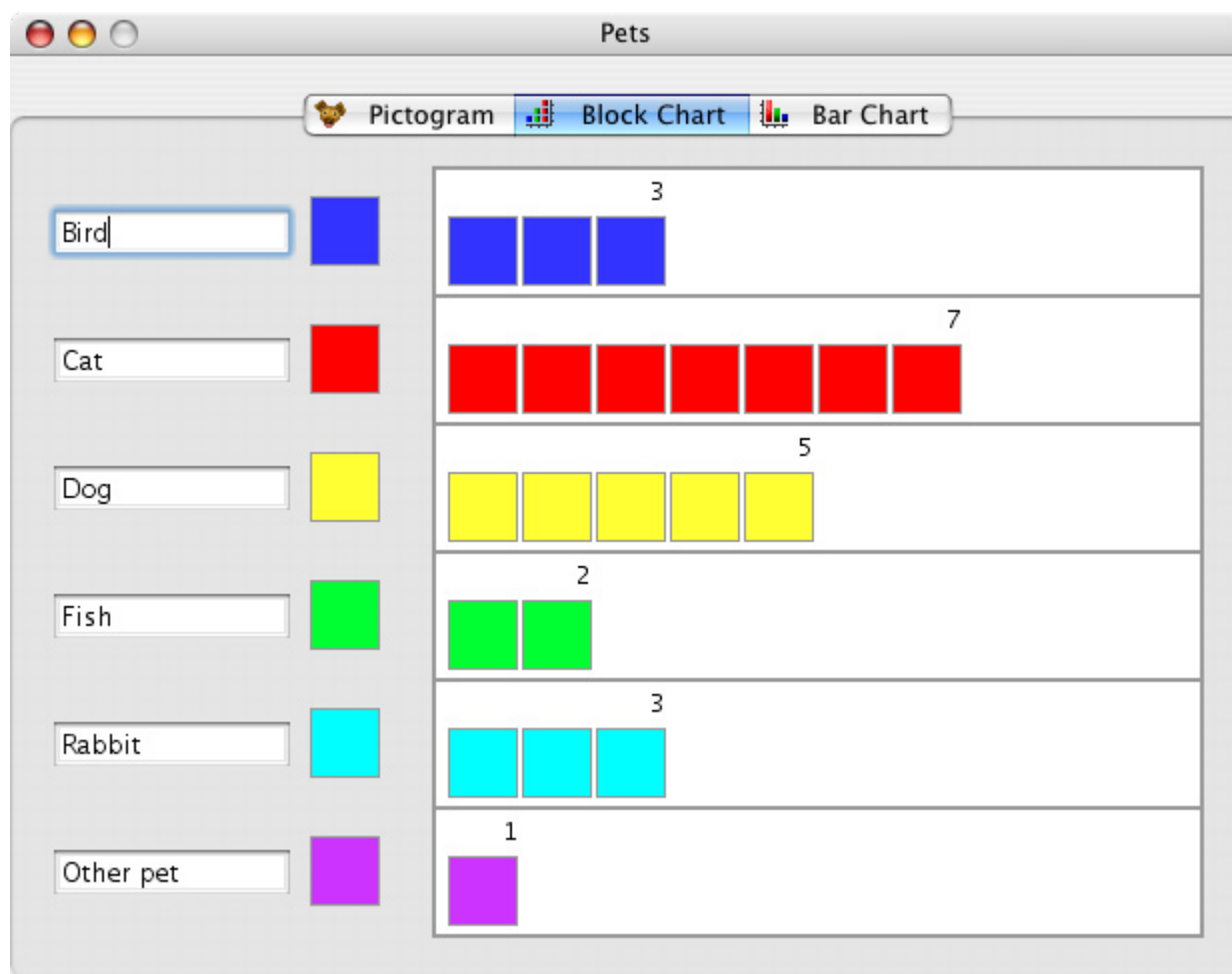
- 1 Move the mouse pointer over the picture you wish to remove and either drag out of the column or double click on it.

Using the Block Chart

To change the graph type to a block chart, either:

- 1 Click on the block chart tab on the right hand side of the main window, or
Open the **Graph** menu and choose the item **Block Chart**.

The graph will then be displayed as shown below:



The purpose of the block chart is to replace the pictures with just abstract coloured blocks. The children must now refer to the key at the side of the graph in order to understand what each coloured block represents. We have also introduced numbers which are displayed in each stack. If the item you are counting has a colour, e.g. 'Blue eyes' then Pictogram will automatically use the colour blue for that stack of blocks.

It is still possible to add and remove blocks to the graph when displaying the block chart. You do this in exactly the same way that you would with the pictogram graph.

You can if you wish click in the writable text boxes and change the text label that is used for each item. To confirm the change remember to press the **ENTER** key.

More than ten items!

With the block chart, you can add more than ten items to the graph. However, in order to do this Pictogram will have to make the blocks smaller, i.e. it is *re-scaling* the graph. By switching between the block and bar chart with more than ten items you can explain to the children the necessity of re-scaling a graph as the number of items being counted increases.

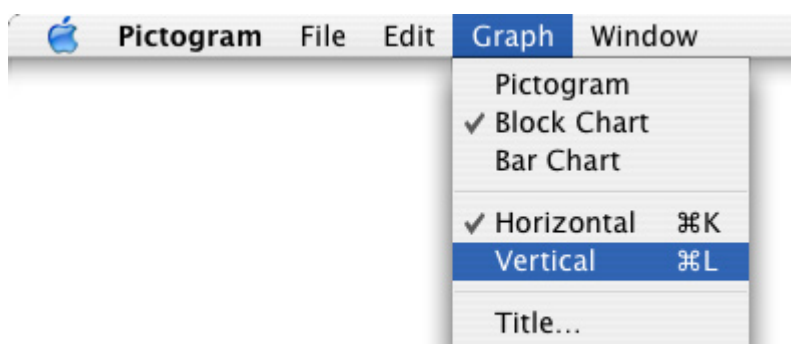
Note: Once you have more than ten items in a graph you cannot switch back to a pictogram.

Horizontal and Vertical Graphs

You can switch any of the graph types between being horizontal and vertical at any point and still carry on adding, or removing, items.

To do this:

- 1 Open the **Graph** menu and choose either the **Horizontal** or **Vertical** item. The ticks indicate the current graph type.

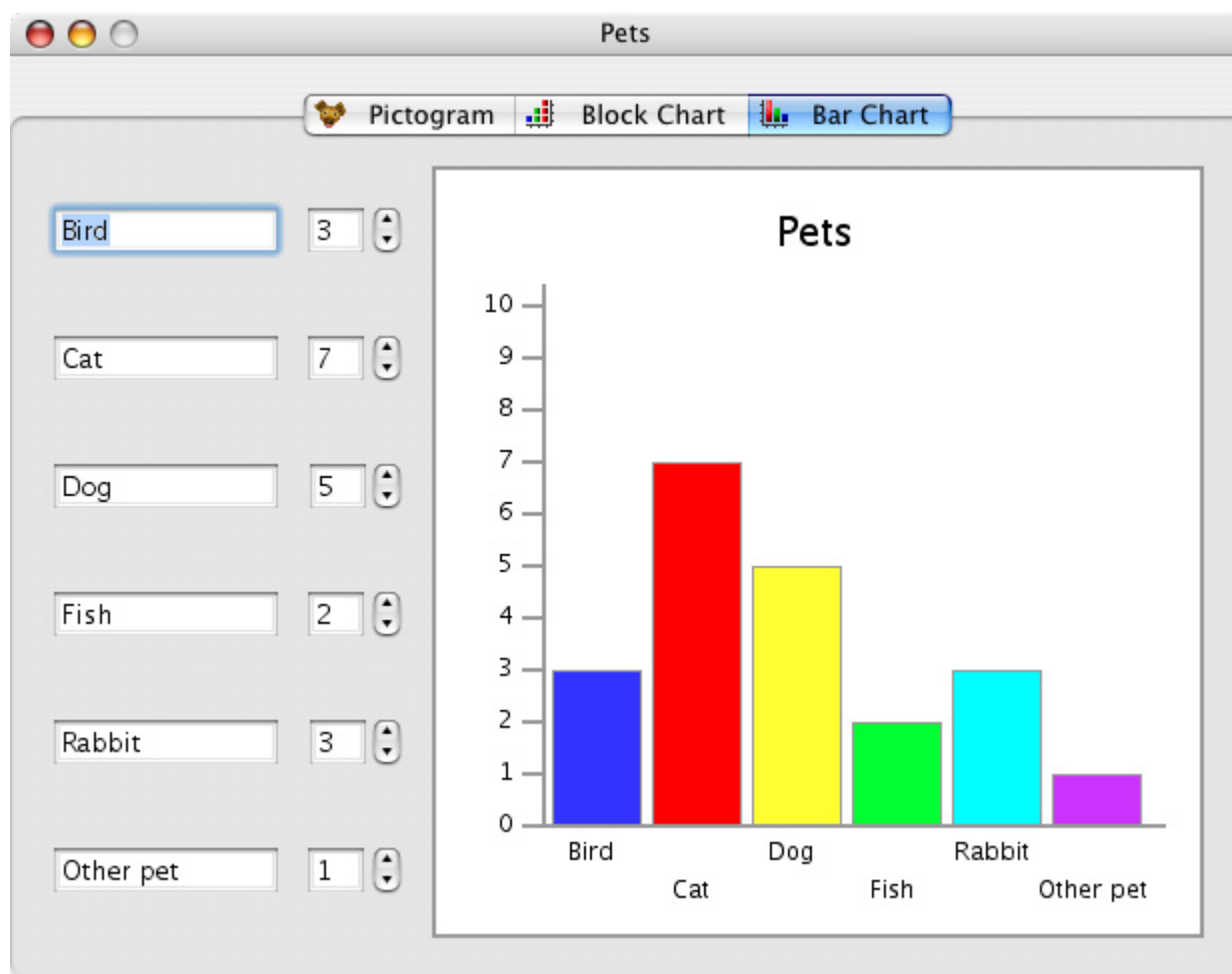


Using the Bar Chart

To change the graph type to a bar chart, either:

- 1 Click on the bar chart tab on the right hand side of the main window, or
Open the **Graph** menu and choose the item **Bar Chart**.

The graph will then be displayed as shown below:



With the bar chart we have now joined all the blocks together and created an axis at the side of the graph and labelled each of the items with text. The graph title is now also shown on the graph.

As with the block chart, you can still edit the text labels for each of the items and also change the number of items being counted by clicking on the up/down buttons to the right of each data item.

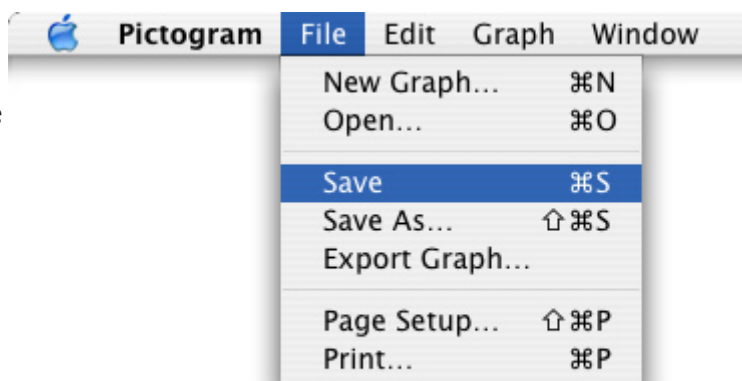
Saving the Graph

Pictogram can save two types of files, either a data file which contains information on the graph, which can be loaded back into Pictogram later and the graph can be changed further, or you can save the graph as a 'picture file'. This file can then be inserted into word processors and DTP documents. However if you want to place your graph in a word processor or other application you may find it more convenient to use the Clipboard, see page 13 for more details.

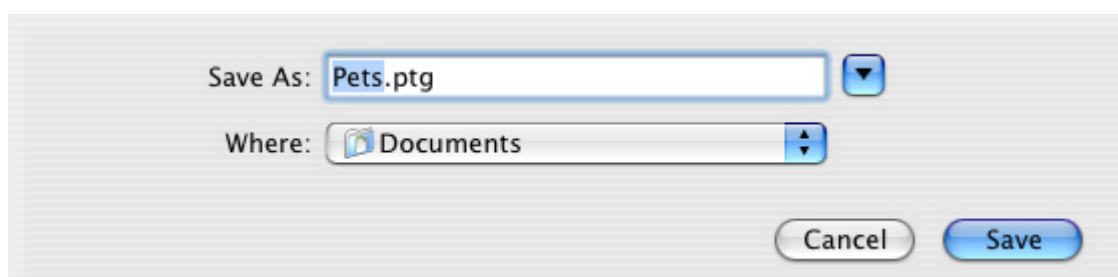
To save a data file:

- 1 Open the **File** menu and choose either the **Save** or the **Save As...** item.

If you have already saved the file or you are editing a graph that you loaded from a previous session then just clicking on **Save** will save the data file.



If the file has not yet been saved, i.e. it does not yet have a file name, or you chose the item **Save As...** then the Save sheet will drop down from the main window as shown:



- 2 The text in the writable field labelled **Save As:** will display a default file name for your data.
- 3 Enter the name you wish to give your file in the writable field.
- 4 When ready, press the ENTER key.

The file will be saved in the directory that is displayed in the window.

If you wish you can change the directory folder using the standard navigation buttons.

Exporting the Graph

To export the graph as a graphic file:

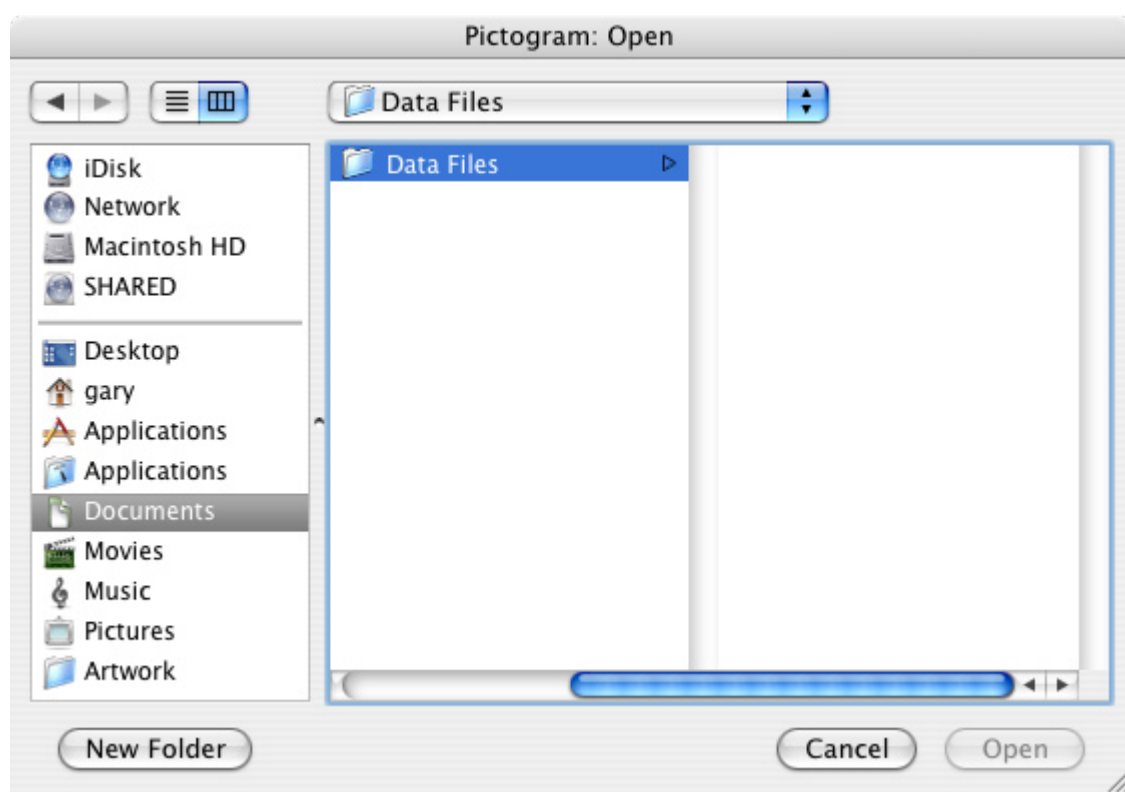
- 1 Open the **File** menu and choose the item **Export Graph...**

A save window will open allowing you to save your graph as an TIFF file. This type of file can be placed into many word processors and DTP applications, although if you wish to use the graph in another program you may find it more convenient to use the Clipboard, see page 12 for more details.

Loading Graph Data

- 1 Open the **File** menu and choose the item **Open...**

The Open dialogue will open as shown:



- 2 If required, locate the folder where the file is stored using the navigation buttons. A list of Pictogram data files will be shown.
- 3 To load a data file either double click on the file you wish to load or select the file by clicking and highlighting it and then click on the **Open** button.

The data file will load and the graph will appear on screen.

If an attempt is made to load a data file, and the old graph has not been saved, a warning will appear asking you if you wish to save your existing graph first. Click on the appropriate button.

Changing the Graph Title

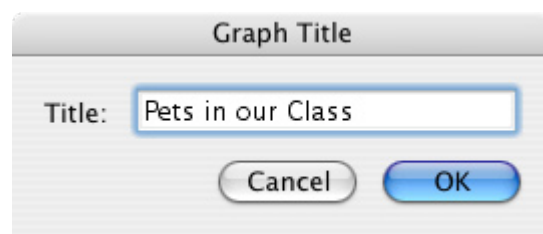
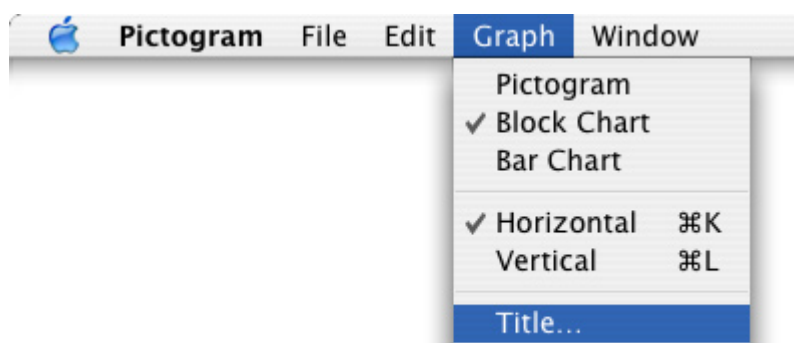
Although the graph title is only shown on screen with the bar chart, it is used when printing all graph types and also when copying the graph to the clipboard.

To set the graph title:

- 1 Open the **Graph** menu and choose the item **Title...**

The **Graph Title** dialogue will open.

- 2 Enter the text you wish to use for the graph title.
- 3 To confirm the changes click on the **OK** button, or to forget any changes click on the **Cancel** button.



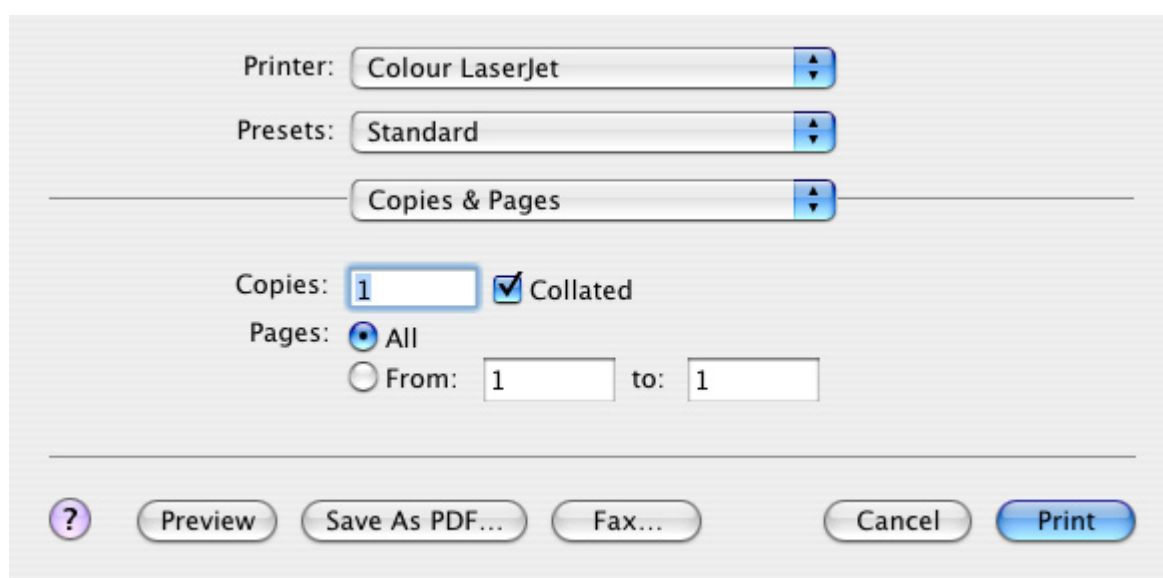
Printing

In order to print you must have setup a printer driver for your particular printer. You should refer to your user guide for details on how to do this.

To print your picture:

- 1 Open the **File** menu and choose the item **Print...**

The Print sheet will drop down from the main window as shown:

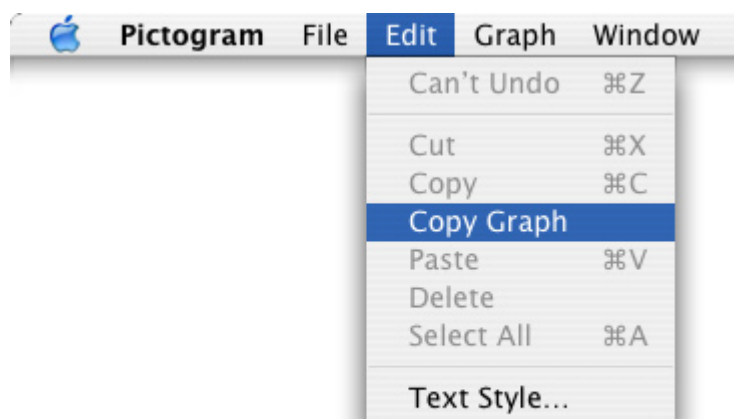


- 2 To print the picture click on the **Print** button.

More Advanced Features

Using the Clipboard (Copy and Paste)

Pictogram makes use of the clipboard for copying and pasting the graph as a picture file. This is really useful if you have created a graph in pictogram and then want to paste it into a word processor or DTP application. To do this we use the **Copy Graph** item in the **Edit** menu, as shown below:

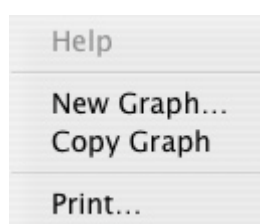


To copy your graph to the clipboard:

- Open the **Edit** menu and choose the item **Copy Graph**.

Using the Pop-up Menu

If you hold down the CTRL key and click the mouse button over the graph area, then a pop-up menu will open as shown:



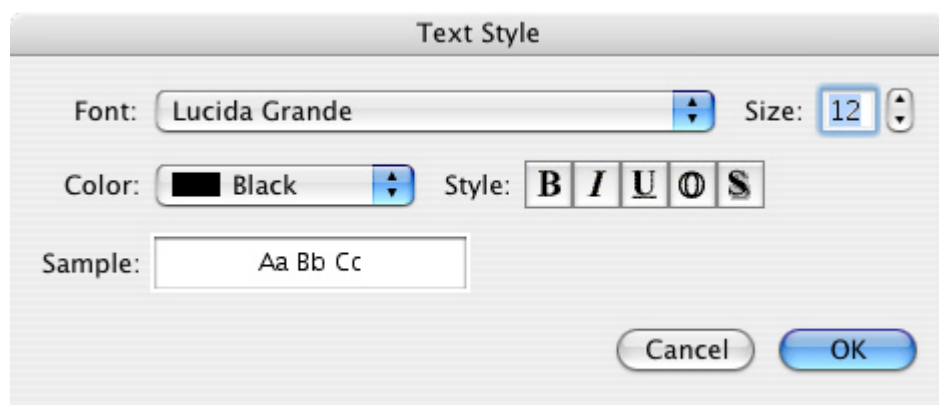
This menu replicates those items which are most likely to be used from the menu bar at the top of the Pictogram window.

Changing the Style and Size of Text

To change the text style

- 1 Open the **Edit** menu, and choose the item **Text Style...**

The Text Style dialogue will open:



- 2 Choose a different font by clicking on its name with the mouse.
- You can also click in the frame labelled Font Style to change the style of the font, e.g. Bold and / or Italic.

To change the size of the text

- 1 Choose a value from the pop-up menu.

A sample of the text style and size will be shown in the frame labelled Sample.

- 2 When you are happy with your choices click on the OK button.

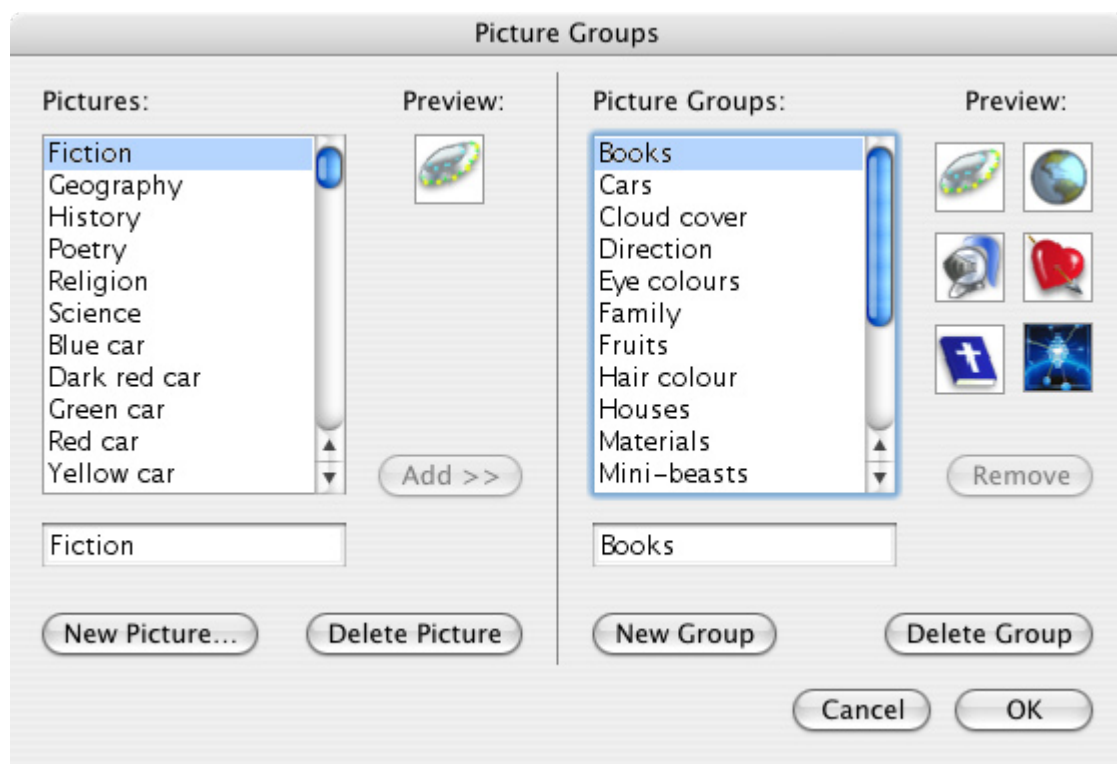
The font style will be applied to both the axis font and also the graph title. However, the size will only be applied to the axis font, the size of the title font is fixed.

Picture sets supplied with Pictogram

Picture sets	Pictures					
Books	Fiction	Geography	History	Poetry	Religion	Science
Cars	Blue car	Dark red car	Green car	Red car	Silver car	White car
Cloud cover	Clear sky	Few clouds	Half cloudy	Many clouds	Grey clouds	
Direction	North	East	South	West		
Eye colours	Blue eyes	Brown eyes	Green eyes	Grey eyes		
Family	Two	Three	Four	Five	Six	More than six
Fruits	Apple	Banana	Grapes	Lemon	Orange	Pear
Hair colour	Black hair	Blond hair	Brown hair	Fair hair	Ginger hair	Grey hair
Houses	Bungalow	Caravan	Detached	Flat	Semi-detached	Terrace
Materials	Cardboard	Glass	Metal	Paper	Plastic	Wood
Mini-beasts	Beetle	Centipede	Fly	Ladybird	Spider	Woodlouse
Occupation	Building	Factory	Farm / Forest	Helping	Shop / Office	Other occupation
Pets	Bird	Cat	Dog	Fish	Rabbit	Other pet
Programmes	Comedy	Documentary	Film	Game show	News	Play / Drama
To school	Bicycle	Bus	Car	Train	Van	Walk
Traffic	Bicycle	Blue car	Bus	Lorry	Motorbike	Van
Vegetables	Cabbage	Carrot	Cauliflower	Onion	Peas	Potato

Creating your own picture sets

It is possible to create your own picture sets in Pictogram. To do this you need to use a *hidden* keyboard shortcut, Command-E. This will open the Picture Groups dialogue as shown:



The area to the left of the dialogue controls the pictures and how they are labelled and the right hand section controls the picture groups.

New Picture – This button opens the New Picture dialogue box where you can navigate to locate the new picture file that you wish to use in a picture group. Pictogram can open a wide variety of picture formats.

In the writable field below the list of pictures you can change the label that is used to describe any of the pictures.

Delete Picture – Select the picture you wish to delete and then click on this button to remove the picture from the list.

New Group – This button allows you to create a new picture group. When you do this, the caret is placed in the writable field below the picture groups where you need to enter the name you wish to give to the new group.

Delete Group – Select the group of pictures you wish to delete and click this button. The group will then be removed from the list, but any pictures that it contained will still be in the pictures list.

Add>> – This button adds a picture to a picture group. Select the group in which you wish to add a picture, select the picture you wish to add then click the Add>> button. This button will not be enabled until you have a valid picture group and picture selected. The button will also be disabled if the selected group already has six pictures.

Remove – This button removes a picture from a group. Select the picture you wish to remove from the group in the Preview frame. The Remove button will then be enabled. Removing a picture from a group does not remove the picture from the pictures list.

Cancel – This button closes the dialogue but forgets any changes you have made.

OK – This button closes the dialogue and confirms any changes you have made to the pictures' list and any new groups you have created.

The new groups you have created should now appear in the New Graph dialogue box.

Data Handling in the Classroom

Using Information Handling Software with Children

The provision of prepared data files for data handling computer programs serves a very real need. This need is for giving an example to new users of the possibilities of the software and a chance to practice some of the procedures which need to be considered before beginning to use the program in earnest. The use of prepared files for INSET is extremely commonplace and has proved to be a good way for teachers new to the ideas of computer data handling of becoming familiar with what can and cannot be attempted. Frequently during INSET sessions extremely innovative ideas for the use of specific programs are developed.

It is important not to use computer programs simply because they exist, and this should always be a consideration when work which could involve data collecting and processing is being planned.

Collecting and processing information is and has been common in the education of our children for a very long time. The advent of the computer did not herald the advent of data collection, the drawing of graphs and the analysis of the tables and so on. What the microcomputer in the classroom has meant is the easy access to, and use of, powerful means of processing information and the opportunity to allow time to dwell on the meaning behind the analysis of the collected information. When children collect information it should be with some definite aim in mind, or with some definite questions to which answers are sought. For example, "Is there a pattern in the likes and dislikes of children?" or "Which colour of eyes occurs most frequently in our class?" and "How do our results compare with that of another class?"

The collection of information by children is normally aimed at giving them a greater level of understanding of their surroundings. There are other aims involved, naturally, and these will alter from situation to situation. The process of gaining a greater understanding of the environment depends on the completion of a set of processes which begin with the identification of a need, the purpose for making the data collection in the first place, the next step is to decide precisely what information is required and the format in which it will be collected. Following this, the processing of the information takes place, this is where the power and sophistication of a computer program may be of use. Lastly and most importantly, is the stage of presenting and interpreting findings. This may mean the drawing of graphs, not the laborious process of the "pre-micro" days, although children do benefit from drawing axes with a pencil choosing scales and so on, and the close examination of the results of searches and other processes carried out by the computer at the request of the user. At this stage it is obvious that the answers to questions can only be comprehensible if the initial queries were correctly and sensibly formed.

In brief then, the process follows this course:

- Decide on purpose for collection of information.
- Collect information in a sensible, usable format.
- Process the information, often by the use of a computer.
- Test hypothesis and seek answers to questions.

If children are to be in a position to make decisions for themselves eventually, about the particular piece of software to use for particular application in the course of their work, then it is important that they have been in at least reasonably close contact with some of the programs available to them. One way of ensuring this familiarity is to work towards a gradual progression in the use and the variety of software which the children encounter. The other, and possibly an important means of giving awareness to children at “short notice”, is to demonstrate software with the use of prepared files. This is really the only use for prepared files which can be recommended in the early stages of data handling. The exception to this rule is perhaps the use of files which are commercially available which hold very large amounts of information on such topics as census returns.

In general children gain very much more from information processing work if the information which is being processed has a special meaning for them. This can be achieved if the children have been responsible for the gathering and structuring of the information at all stages of the activity. This notion of involvement adheres very closely to the thoughts of many primary educationalists who believe that good primary practice must include a good deal of work based around children’s first hand experiences.

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