



PC Passport

Artwork and Imaging Student Workbook



Published date: August 2008

Publication code: CB4123

Published by the Scottish Qualifications Authority
The Optima Building, 58 Robertson Street, Glasgow G2 8DQ
Ironmills Road, Dalkeith, Midlothian EH22 1LE

www.sqa.org.uk

The information in this publication may be reproduced to support the delivery of PC Passport or its component Units. If it is to be used for any other purpose, then written permission must be obtained from the Assessment Materials and Publishing Team at SQA. It must not be reproduced for trade or commercial purposes.

© Scottish Qualifications Authority 2008

Introduction

This student workbook is one of a range of eight titles designed to cover topics for the refreshed PC Passport. Each title in the range covers the required subject material and exercises for candidates studying PC Passport.

This workbook covers all three levels of PC Passport — Beginner, Intermediate and Advanced.

There are a number of exercises associated with each subject and it is recommended that centres download and use the sample exercise files provided.

Each workbook will help prepare candidates for the assessments for the refreshed PC Passport. It is recommended that centres use the most up-to-date Assessment Support Packs appropriate for their type of centre, eg either school, FE or work-based.

Contents

| | |
|---|----|
| Types of Graphics | 1 |
| Fonts | 1 |
| Page Layout | 3 |
| Using Desktop Publishing Software | 6 |
| Editing the Newsletter | 13 |
| Changing Title and Title Text Colours | 16 |
| Grouping and Ungrouping Groups of Objects | 18 |
| Changing and Editing Images and Photographs | 20 |
| Clips Online | 22 |
| Copying Titles from Headlines | 27 |
| Text Overflow | 29 |
| Making Final Adjustments | 34 |
| <i>Exercise 1: Creating a Newsletter</i> | 39 |
| Working with Images and Graphics | 39 |
| Image Editing | 44 |
| Navigating Your Image | 46 |
| <i>Exercise 2: Using Navigation Tools</i> | 48 |
| File Formats | 48 |
| <i>Exercise 3: Saving Files</i> | 53 |
| Selections | 54 |
| <i>Exercise 4: Using Selection Tools</i> | 56 |
| <i>Exercise 5: Using the Crop Tool</i> | 57 |
| Rotations | 58 |
| <i>Exercise 6: Using the Rotate Tools</i> | 59 |
| Resolution Re-cap | 59 |
| Resizing | 60 |
| <i>Exercise 7: Resizing an Image</i> | 62 |
| Saving for the Web | 64 |
| <i>Exercise 8: Saving Images in Different Formats</i> | 69 |
| Painting Tools | 69 |
| <i>Exercise 9: Using Other Tools</i> | 73 |
| Advanced Selections | 74 |
| Colour-based Selections | 75 |
| Select Menu — More Advanced Options | 77 |
| <i>Exercise 10: Using the Lasso Tools</i> | 78 |
| Transformations | 78 |
| Colour Correction | 80 |
| Filters | 88 |
| <i>Exercise 11: Using the Filter Tools</i> | 91 |
| Finally | 92 |

Types of Graphics

There are three main reasons for using graphics and images within publications:

- ◆ Decorative
- ◆ Iconic (symbolic)
- ◆ Informative

Decorative Graphics

These are put into documents simply because they look attractive. However, you should be aware that what is attractive to you as the author is not necessarily attractive to every reader. So you need to be careful with pictures. Another issue is that you do not want the document to be bigger than it has to be for no good reason. Of course web pages and books often use decorative dividers to break up different topics. There are hundreds to choose from. It is best to use one type consistently — it looks less messy and it keeps the document smaller.

Iconic (Symbolic) Graphics

Look at any good textbook on, say, computers. You will often see small graphics that mean something. The consistent use of meaningful icons draws the user's attention to key types of information. It draws attention to important sections. It also helps people who are skim-reading to locate, for example, the tips you have provided.

Informative Graphics

These are pictures that actually convey information. For example, 10,000 words describing the Mona Lisa would not be as useful as a picture of it.

Fonts

In the world of publishing the word 'font' has a very precise meaning — a combination of a certain typeface (eg Arial), size (eg 12 point) and style (eg bold/italic).

In computer publishing the word 'font' has come to mean 'typeface'. There is a commonly accepted guideline in publishing: use no more than three fonts (typefaces) on any page. Any more than that makes it start to look messy. You may use one font for headings, another for paragraph text. Occasionally you may need another for another purpose, but be sure you do use them for a purpose.

Font Size

Common sense will tell you that if you type in a really small font it can get quite hard to read. If your font size is too large it can also be hard to read. It is much easier to judge font size when the publication is printed. The size of text on your screen may be different to the size of the same text on someone else's screen.

Font Style

Again, consistency and self-control are the most important issues. If you use italics to emphasise important text, do not change to using **bold** for emphasis for no logical reason. Try to be consistent.

The appearance of your text can have many different effects and these often have nothing to do with the font, the style or the size of the text.

They relate to how the text will appear on paper, in a presentation or on a web page. You may decide to have your text appear as you scroll down a web page, or flash for important news items.

Colour

One of the big benefits of electronic publishing is the ease and cheapness of using colour. Colour printing is very expensive, but richly coloured electronic publishing is free. Colours, like fonts, should be carefully thought out and used with restraint. Use them for a reason.

Note: Certain colour combinations are either hard to read (the contrast between them is poor) or the combination just looks terrible. You need to be careful, be conservative and do not use too many colours on one page.

Columns

Have you ever wondered why newspapers, newsletters and magazines are printed in columns? This is simply because it is easier to read narrow lines than wide lines. Imagine if a newspaper printed text right across the page. As you were reading, the slightest jump of the eye would make you lose what line you were on and you would end up running your finger along the line so you would not lose your place. So use columns in your publications.

Page Layout

Page layout or page composition is the process of placing and arranging and rearranging text and graphics on the page. A good composition is one that is not only pleasing to look at but also effectively conveys the message of the text and graphics to the intended audience. There are certain tried and true elements of page composition that can help insure a successful layout.

- 1 Align all elements with each other or a grid.

Place each text or graphic element on the page so that they have a visual connection to each other. You can use horizontal or vertical alignment, align objects along the same edge or centre them. For complicated layouts, a grid is helpful. This can greatly improve the composition of a page because of the way our eyes and brains read and look at printed documents.

- 2 Divide the page into thirds.

Related to balance, the rule of thirds suggests that a composition is better if your arrangement of text and graphics can be placed using one of these guidelines:

- ◆ most important elements spaced more or less evenly within vertical or horizontal thirds
- ◆ most important elements concentrated in the upper or lower third of the page
- ◆ most important elements centred on one of the points where lines intersect after visually dividing the page into thirds horizontally and vertically

3 Add white space in the correct place.

Just as important as the text and graphics on the page is the empty space. Cramming too much on the page, even if it is perfectly aligned and balanced and falls within the rule of thirds, can ruin a composition.

The best place for white space is around the edges of the page and the edges of text or graphic elements, but increased paragraph, line and letter spacing can also improve a layout

4 Emphasise differences between design elements.

While some aspects of page composition involve things that are the same, it is also a good idea to do some things differently, ie to use contrasting elements. The greater the difference, the greater the contrast and the more effective the layout. Simple examples include making headlines a great deal bigger than other text and using a different size or colour of text for captions, pull-quotes and page numbers.

Page Layout and Design

In desktop publishing, a good page layout is about more than just applying the principles of graphic design. A workable page layout is one that delivers the intended message to its audience. A workable page layout focuses on the practical aspects of the document such as method of distribution, visibility and handling.

The parts of almost any kind of a document can be broken down into five main sections:

- ◆ Artwork
- ◆ Titles
- ◆ Body
- ◆ Navigation
- ◆ Credits

Not every document you will create will contain all these parts — some may contain only some aspects of each.

Artwork: Even before reading the headlines, readers are often drawn to the visuals on a page. Both the choice of images and their placement in a document provide information about the document, its purpose and its organisation.

Titles: Typically headlines and titles are larger and more prominent than other text. These visual cues signal the start of a book, a magazine, an article, or a major division in a publication such as chapter of a book or a subsection of a report. Note their use in the workbook that you are reading.

Body: Body is the main text found in the publications we read and design. It is the text of the stories and articles — not the headlines. Beyond the actual words, the body of a document uses paragraph and character emphasis and organisational elements to aid in the reading and comprehension of the material.

Navigation: Longer publications such as books, newsletters and annual reports need some way to help readers find specific information within the document. From a table of contents to page numbers, sectional elements provide a means of navigating through and finding specific portions of a document.

Credits: Different types of publications have credits or other informational elements that contain such items as the name of the advertiser, publisher or other entity, an address, a logo, copyright information, and other notices. The number of parts and where they appear varies by publication type.

The Whole Picture

Consider the overall design as well as where the publication will appear. On newsprint, avoid very thin lines or intricate designs as they reproduce poorly. When using frames to set out information, be consistent. Choose a single style or location or size to use throughout your publication to avoid confusing readers.

Using Desktop Publishing Software

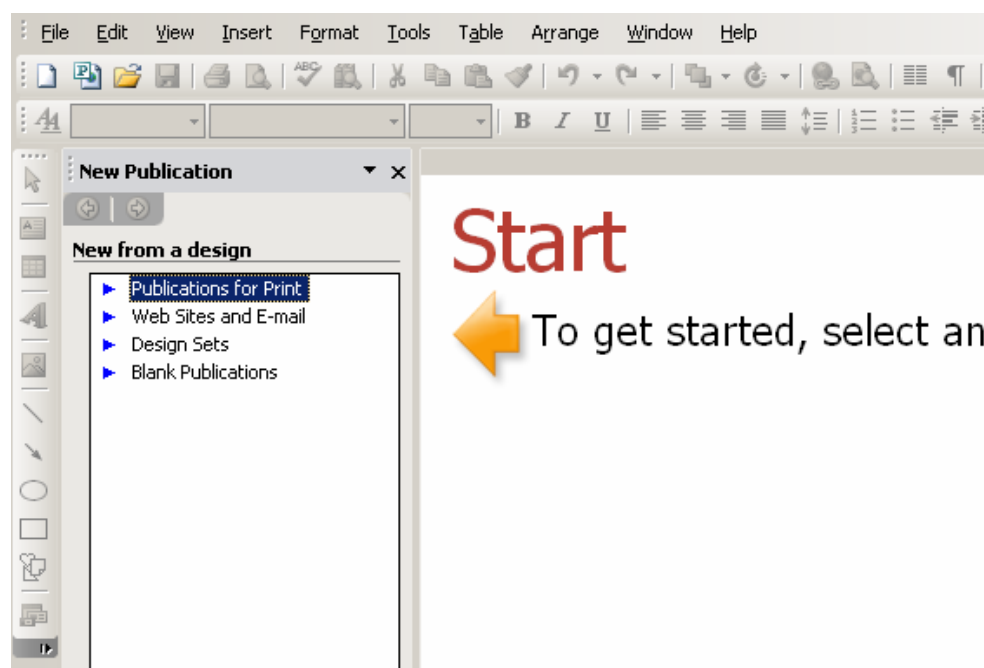
We will look at desktop publishing basics and use these ideas to develop a simple newsletter. We will also be using images and the various image techniques discussed in the other sections of this workbook.

Microsoft Publisher is a program that allows you to create professional quality newsletters, brochures, flyers, postcards, calendars and similar type publications. You can use any other type of desktop publishing (often referred to as DTP) software.

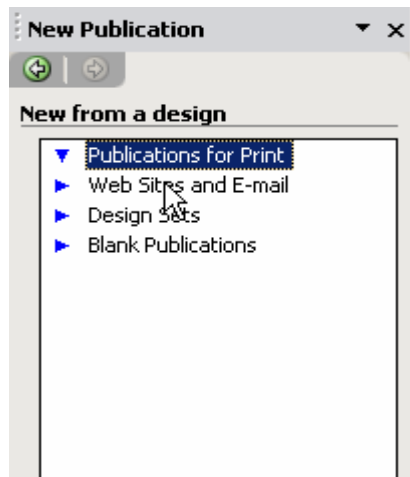
There are a variety of DTP software packages to choose from. You may use a similar package such as Page Plus, Adobe PageMaker, etc. The concepts and ideas are the same — the screen shots will be slightly different though.

To open the Microsoft Publisher program, either double-click on the **Microsoft Publisher** icon on the main Windows screen, or click on **Start** in the lower left corner of the screen, then click on **Programs**, and then click on **Publisher**. It may be under a sub-menu of Microsoft Office.

We are using Publisher 2003 as our DTP software package. When you start up Publisher the following main screen is displayed:



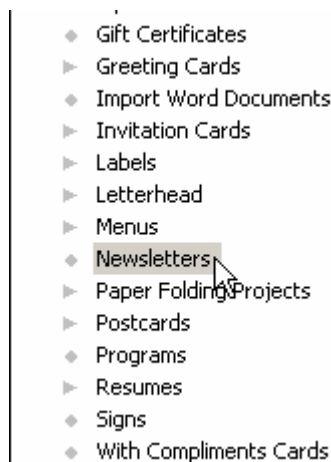
On the right side of your screen there should be a 'get started' message in the right task pane (a task pane is a portion of a window in the application). On the left side of the screen you will see the **New Publication** task pane. We are going to use the **Publications from Print** area to begin our publication.

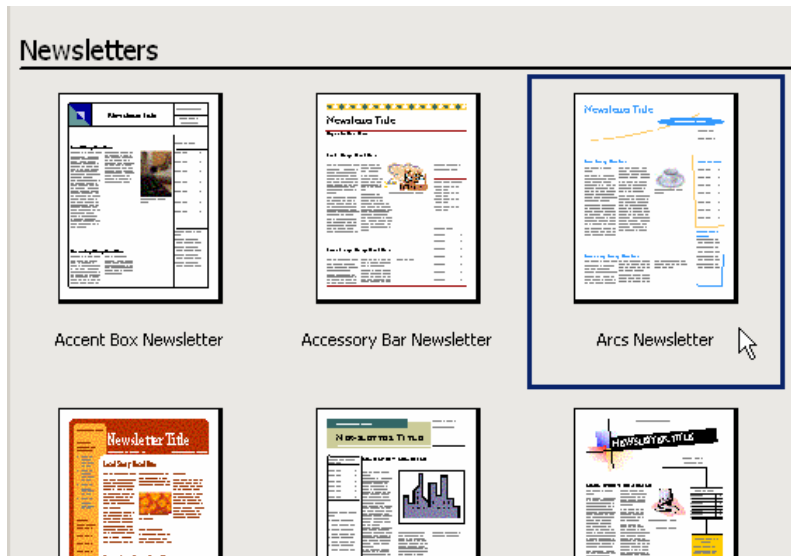


In this workbook whenever we say you need to click a mouse button, it will mean to click the left mouse button unless we specify that you should click the right mouse button.

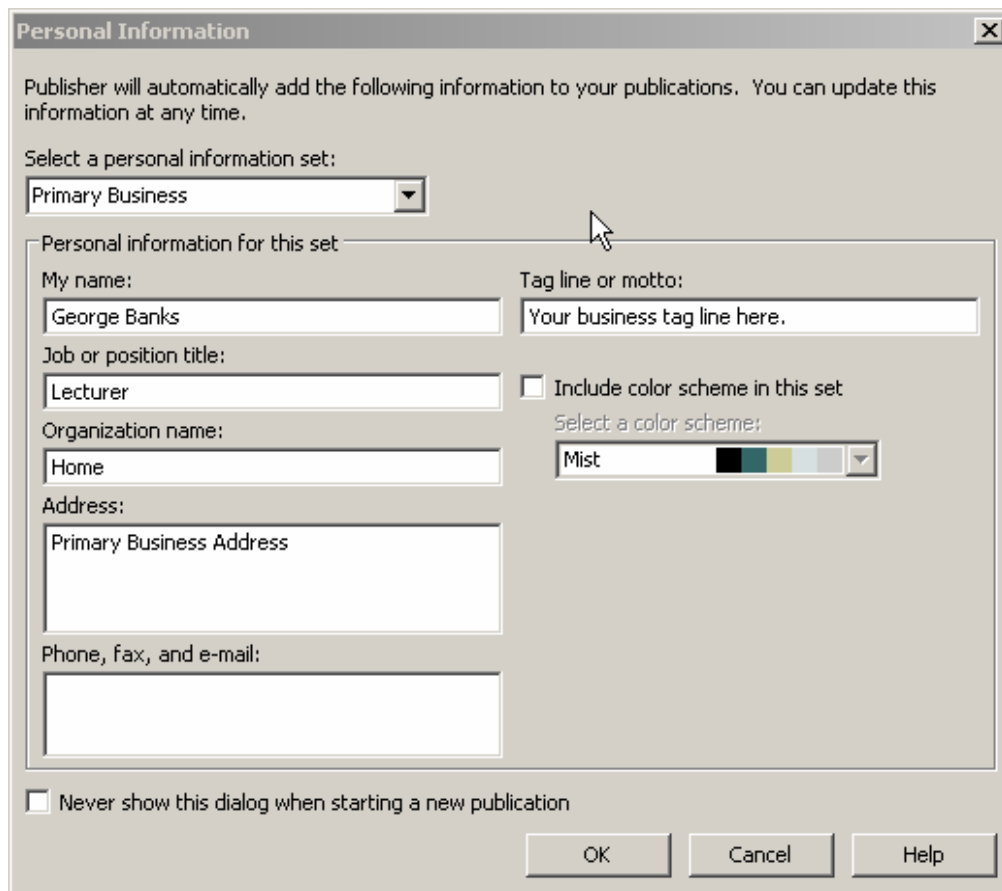
If you move your cursor over **Publications from Print** and click the left mouse button a design list will appear. Click on **Newsletters** in the design list.

On the right side of the screen you will now see the template design styles for a number of different Newsletters. Your desktop publishing software will have a range of newsletter templates to choose from.





If you are using Publisher pick the Arcs Newsletter template by moving the highlighted box and clicking the mouse button. However, if you are using another DTP program you can use a different one. There may be slight differences in the screen you use, but the operations are exactly the same.



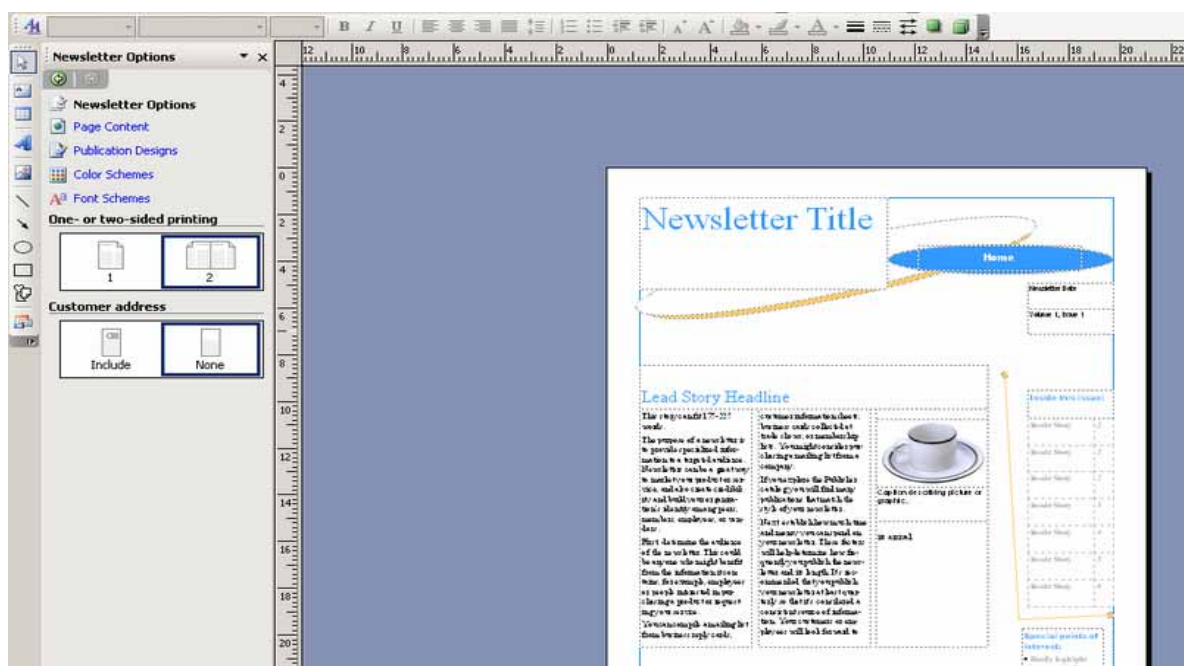
If this is the first time that you have used Publisher 2003, an information screen may appear like the one shown on the previous page. Click on the **OK** button when you have entered in the information.

You can enter this information at any time. Note that we can specify four different types of information set: Personal Information, Primary and Secondary Business, Other Organisation, and Home/Family. As you move through the form, new personal information can be entered in each of the text areas below.

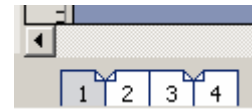
You can if you wish update or change any of the information at this time, or you can wait until later. If you wish to skip this step and continue then click on the **Cancel** button.

When you click on the close button or cancel button the main design screen is shown again with the template you selected loaded up. Some parts of the template will be completed from the information that you entered in the Personal Information screen.

If you have reached this stage then your screen should look something like the next screen shot. **Note:** it may be different if you have selected a different template.



At the bottom left of the main screen are symbols indicating that there are now four pages available in the newsletter. Page 1 is the front page, Pages 2 and 3 the inside pages, and Page 4 is the back page of the newsletter.



We are now ready to work with the newsletter, but first it is always a good idea to save the starting template with a name of your choice.

Saving Your Publication

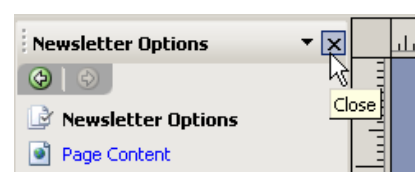
Your DTP software may have already prompted you to save your work. If not, save your publication now. If Publisher has asked you to save your newsletter for the first time, you will be asked where you want to save it, just as in a word processor, spreadsheet or database. If you have not been prompted to save the file you will be.

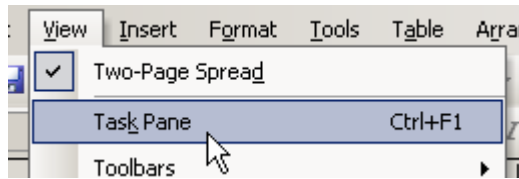
You can either click on **File** in the menu bar and then on **Save** or **Save As**, or you can click on the little Save diskette in the button bar. Either method will bring you to the **Save As** screen. When you decide on a drive on which to save the publication, name your file and click on the **Save** button.

Every now and then your DTP software will encourage you to save. This is called an auto save feature and is useful if your computer is prone to crashing. You will always get the most up-to-date copy back. Always save when asked to do so. Once you have saved the first time, your DTP software will update the publication file you are working on.

Closing the Task Pane

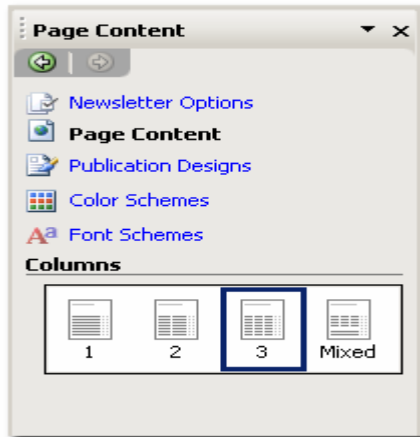
You can have several task panes open on your desktop. It is generally a good idea to work with publications in full screen mode and in order to make the screen as large as possible you need to close the task pane. To close the **Newsletter Options** task pane simply point to the small 'x' in the upper right corner of the task pane and click on it.





If later you need to re-open the task pane and revise some of your choices, simply click on **View** in the menu bar and then click **Task Pane**.

Your Newsletter task pane will again appear on the left. You can close and open this panel at any time. The shortcut key for this is **Ctrl+F1**.

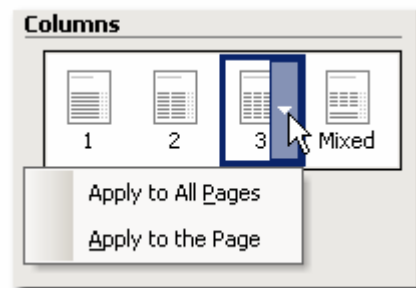


In the **Page Content** task pane you will notice that we have four column choices. The current selection is three columns. Click on the **1** column choice and watch the newsletter in the right-hand task pane change to one column. Now try **2** columns. Finally try **Mixed**.

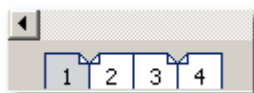
We are using three columns, so click back on **3** columns so you will match the screen shots for the remainder of the workbook.

By now you should see how neatly your DTP software can make each change so that you can instantly see the results.

You can apply column changes to all pages, or just on the page you have selected.



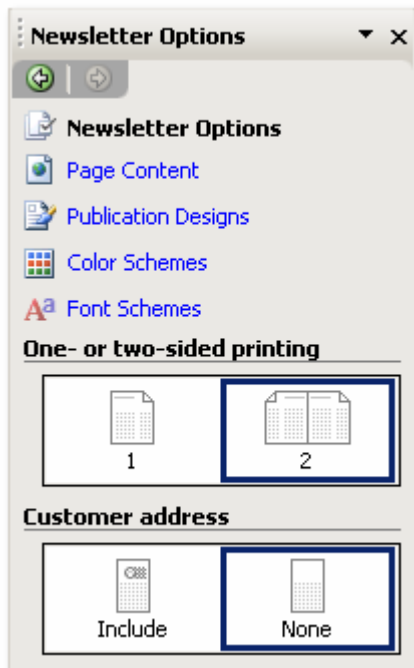
At the bottom of the screen the default newsletter has four pages as shown below.



The next selection in the Newsletter task pane is Publication Designs. At any time, you can change the design of your newsletter.

Keep your Arcs Newsletter template for this exercise but you can experiment later and select whatever newsletter you want.

You will choose the Colour Scheme and Font Scheme default values, however you could use any colour or font.



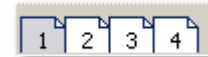
Now return to the **Newsletter Options** task pane.

The newsletter we created has four 'sides' or pages. As you click through the pages of the newsletter, notice when you click on Page 2 that both Pages 2 and 3 appear together.

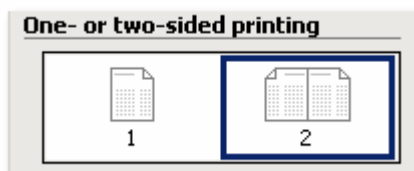
When you print your newsletter, you will have several options for printing, for example one- or two-sided. To 'see' what occurs (if you need to do this) click on the 1 page choice.

A Publisher menu screen will appear asking you to confirm the choice. Click on the **Yes** button.

After you click on Yes, the new formatting is applied. If you look at the 'new' formatting for your pages at the bottom of the screen, they will look like the image shown on the right.

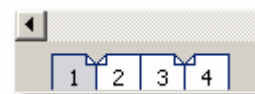


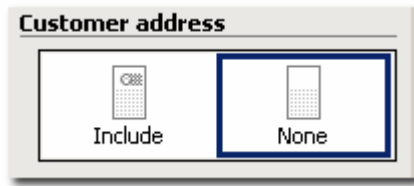
Compare this image to the previous one. Notice how the upper right corner of each page is now 'turned down'. This indicates that each page will appear and be printed separately. Click on each of the pages and you will see this is true.



Change the layout of the newsletter back to the double-sided default, ie click on **2** in the one or two sides printing option box. Click on **2** page view to return to the original newsletter layout.

Click on Page 4 at the bottom of the screen. Your pages should now look like the image at the right. You will now see Page 4 on the screen.

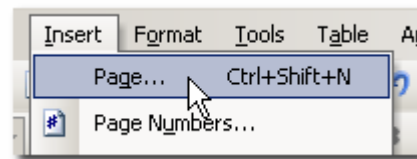




We can also include a mailing address in our newsletter. Click on **Include** in the **Customer address** portion of the **Newsletter Options** task pane. Now look at the last page of your newsletter — you will see that an area for a mailing address has been added to the last page.

Adding Pages to the Publication

You can add more pages to your publication by clicking on **Insert** in the menu bar and then click on **Page**. An **Insert Pages** menu screen will appear.



You can even select the type of page to insert into your newsletter. Experiment with the different types of page that can be inserted. Remember you can use the **Undo** button to revert back to your initial Arcs Newsletter publication.

Editing the Newsletter

Take a few minutes and look at the Arcs Newsletter on your screen. You should be viewing the complete front page. If you click on the Page 2 or 3 icon at the bottom left of the screen you will see the two inside pages together on the screen.

At the top of the screen, under the menu bar, you will notice an area that indicates 59%. This tells you the size of the publication that you are viewing. At times while we are editing a portion of the publication it will be necessary to zoom in on a specific object or area of the publication to enlarge it for editing. If we look at text, an object or picture in a larger view, we will be able to edit the object that much easier.

Editing Titles

Notice the title area at the top of the first page in your newsletter. We will start our editing here. Move your cursor over the title object and click the left mouse button on the title object.



Zoom In and Zoom Out



When you click on the title, small circles appear on the four corners and four sides of the title area. These are called grabbers. In order to make this task easier it would be helpful if we could zoom in on the title area so that we have a bigger object on which to work. The zoom key is the F9 function key. Whenever you want to zoom in or out you simply press the F9 function key at the top of the keyboard.

You should have the title selected so if you press the F9 key it will zoom in on the title. If you have not already done so, press the F9 key and zoom in. The title should look like the image below. Notice that the zoom percentage on the button bar now indicates 100%. It will be a lot easier to work with the title at this size.

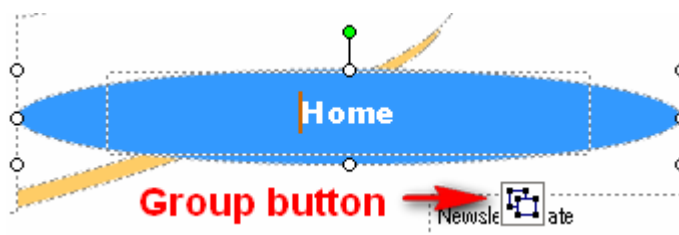


Point the cursor arrow just to the left of the N of Newsletter in the title and click the left mouse button. You should see a vertical light-green flashing cursor. When you see the cursor, you are in word processor mode. Keep pressing the **[Delete]** key until you have removed the title. You can also select the complete area and press the **[Delete]** key to cut out all the text. When you have done this, you will only see the light-green flashing cursor in the centre of the title. Now put in a title you would like for your newsletter. Use **PC Passport** as the title in this sample newsletter.

Once you have completed this, look at the title and see if you still have the 'grabbers' on the sides and corners. Once you have the grabbers slowly move your mouse over the title area but do not click. You will notice that as your mouse moves over the area a number of different 'cursors' appear and disappear. These cursors indicate when you can move and re-size the title.

| | |
|---|---|
|  | <p>The little crossed arrows indicate that if you click and hold down the left mouse button and then drag the mouse you will see the complete title move.</p> |
|  | <p>If you place the cursor over one of the grabbers you will see a little box with two arrows. If you click and hold down the left mouse button and drag the mouse a bit you will notice that the title gets a bit larger or smaller.</p> |

If you make a mistake it is easy to get back to where you were. In the button bar below the menu bar there is a little blue circular arrow. This is the **Undo** button. This performs the same function as in the word processor package so clicking on this button will undo your last action. You may need to do this several times as we proceed through the example.



Select the **Home** text area and make sure that you can still see the grabbers. If they are not visible then simply click on the Home title. You may have noticed that just below the title there is a little box that looks like it has two small boxes in it.



If you move the cursor arrow over these boxes and pause you will notice that a text help indicates **Ungroup Objects**. When you moved the title everything moved as a group of objects. This is great if you want to keep all of the objects together.



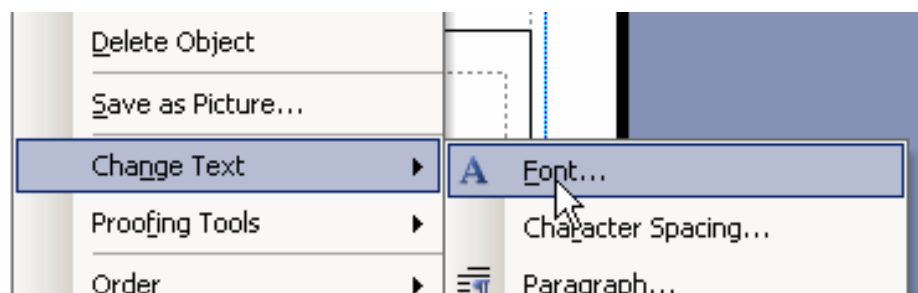
If you want to move the individual objects that make up the group then click on the boxes. They will move apart or ungroup. You can now click and move the individual objects as you want.

Experiment grouping and ungrouping items.

Changing Title and Title Text Colours

When you place the cursor arrow over any object and click the right mouse button, a tailored drop-down menu will appear with menu options for the area you were working on. So make sure the title text is highlighted and then click the right mouse button.

The following drop-down menu will appear. We will use this drop-down menu to change the text colour.



Once you have right-clicked on the text, the menu box will remain on the screen until you either click somewhere else or you select one of the menu choices. So move your mouse cursor down until you can select the **Change Text** option. A group of choices for changing text appears. Now click on the **Font** option.

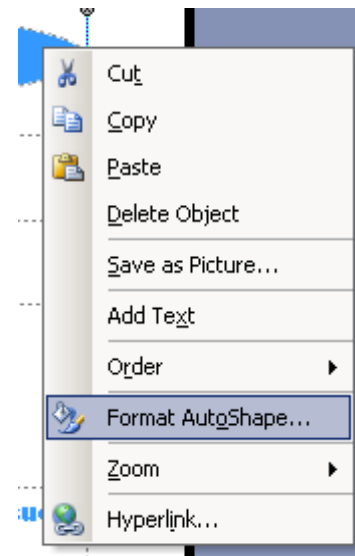
The standard **Font** menu will appear. You can change the font, font size, font colour and add effects. To do this, click on the small down arrows to the right of each effect and select the font changes you wish.

Just like when you are using the word processor, you have to highlight the text you want to change. If you have not done this, return to the text box, highlight the text, click-right on the text, and return to the Font.

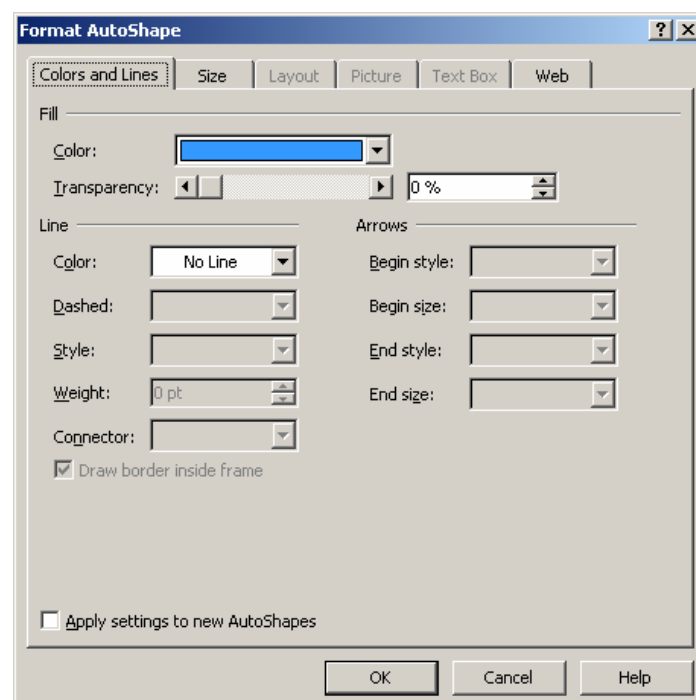
Changing the Colour of the Text Background Box

You can also change the background colours in the Newsletter AutoShape (the coloured oval around the Home text). Point to the edge of the coloured oval and click the right mouse button. The drop-down menu box will appear.

Every time you right-click an area, it zooms in to help you work on a specific area. The menu that appears when you do use the right mouse button allows you to format the AutoShape.



In the **Format AutoShape** menu, you can change the Colours and Lines, Size, Layout, etc. Experiment with all of these options.



If you click on the down arrow to the right of Colour in the **Fill** area, and then choose **Fill Effects** you can choose different fill effects. Experiment with these. You can always use the **Undo** button to take you back to your initial stage.

When working with colours, fill effects etc it is always best to save your work. If you do not like what you have done, you can quit without saving and be returned to your newsletter before you started using the Format AutoShape features.

Grouping and Ungrouping Groups of Objects

After you have made your text and background changes you may choose to ungroup the various objects that make up the Home object group. If you ungroup the objects, and move them, it makes editing, colouring and sizing the individual objects easier.



After you have made any changes, you can re-group the objects. Clicking on the **Group Object** button again will re-group your objects. When you have done this, click on the **Group Object** button.

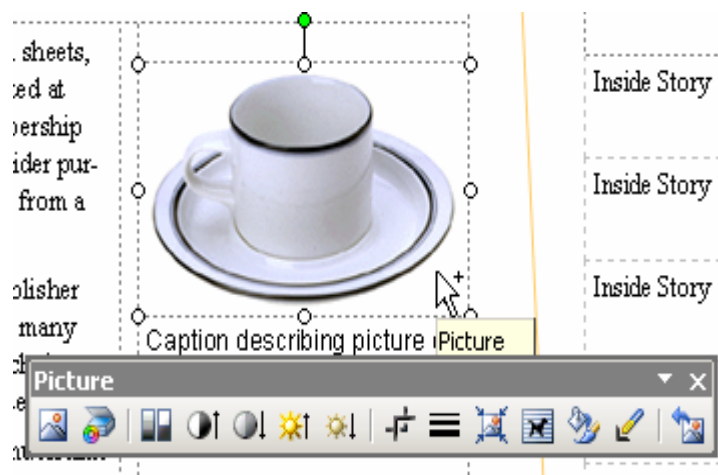


Grouping Objects That Are Not Grouped



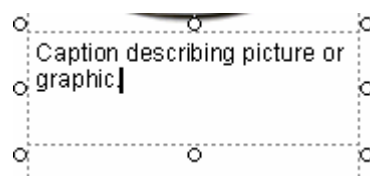
Zoom in on the cup object in your newsletter. Press the F9 function key to zoom out so that you can again see the whole publication. You will see a cup and saucer and a caption space underneath. Click on one of the boxes and press the F9 key to zoom in on them.

When you click on the top box, you will see this on your screen:



This graphic is a picture, indicated by the picture bar that appears once we have selected it. Graphics and images are held in picture frames. These frames are indicated by the grabbers around the picture. The **Picture** toolbar allows you to manipulate the picture, to make it more attractive and in line with text, etc. Look at some of the options in the **Picture** toolbar.

If you click on the caption box underneath, this will appear as a separate box.



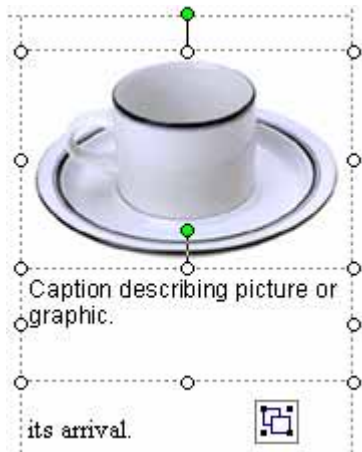
What we want to do is combine both these objects into a single group so that Publisher deals with them as one object.

To create a single group from these two objects (so that when you click on any of the boxes the whole group will move), do the following.

Make sure you can see all boxes. If you cannot, use the scroll bars on the right and bottom of the screen until all boxes are visible. Make sure that the boxes are aligned exactly as you would like them to appear.

Next click the left mouse button lightly on the first box. You will see the grabbers. Now hold down the **[Ctrl]** key and move the cursor over to the second box and click the left mouse button again.

You should now see both the top and middle boxes with grabbers around them. All boxes should have grabbers around the sides. If they do not, repeat the instructions until they do. You should now see the ungrouped object pieces box at the bottom right corner of the bottom text box.



Click left on the ungrouped object pieces box. The objects should now join into a single piece that looks like the image on the left.

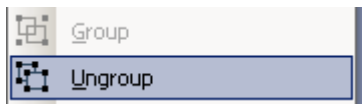
The object grouping box, at the bottom of the boxes, should have changed to a grouped objects box.



You should also see grabbers around the entire selection. This indicates that when you move the box, all parts of it will move together. Press the F9 key to zoom out so that you can view the entire front page of the newsletter.

Changing and Editing Images and Photographs

We are going to change the cup image to something more appropriate and in keeping with our newsletter topic.

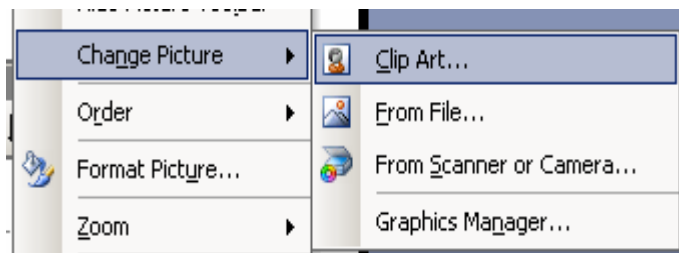


In order to manipulate the image we need to ungroup the two items, so select the **Ungroup** option from the drop-down menu.

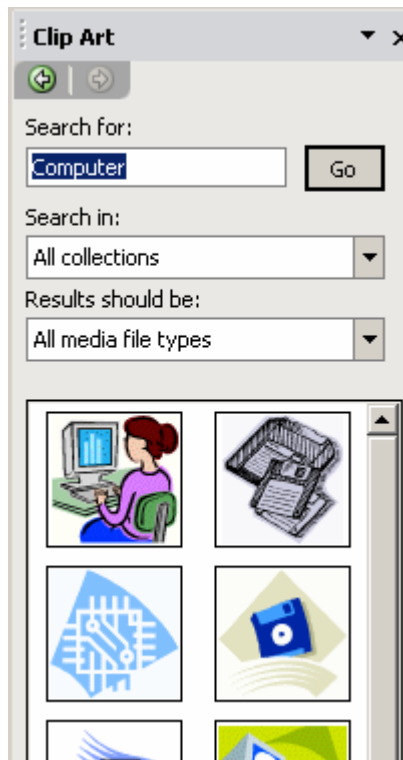
Point anywhere in the cup and saucer image and click the left mouse button.

Once the cup and saucer image has been ungrouped, left-click to mark the picture as the image we wish to replace.

Click on **Change Picture** in the menu and then select **Clip Art**.



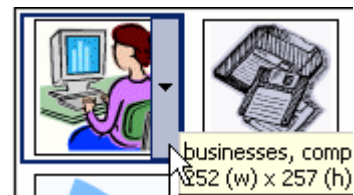
The **Insert Clip Art** task pane shown on the next page will appear on the left side of your screen.



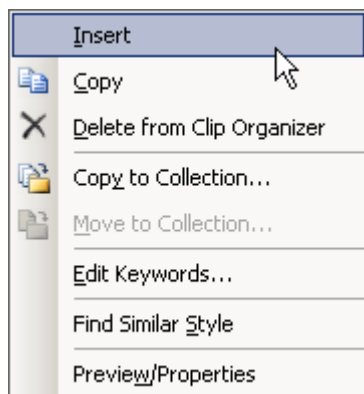
We are only using clip art from Publisher in this workbook but when you become more advanced you can import your images directly from a scanner or digital camera or a file on your computer.

Note: At the top of the **Clip Art** task pane there is a **Search for:** area. Type in **Computer** in the area below the **Search for:** text and then click on the **Go** button.

The bottom of the **Clip Art** task pane is now filled with computer clip art.



Select one of the computer images and move the mouse cursor over the right edge of the image; you will see a small down arrow appear. Choose the student working on the computer graphic as the image to insert.



Click on the down arrow and the **Insert** menu screen will appear. You have a number of choices. Select **Insert** as we are going to insert this into our publication.

Notice that our computer lab picture is now in the publication rather than the old image. You should also note that this image is actually smaller than the previous image and that some of the text has moved into the image area.

Using your mouse, enlarge the image so that it fills the area.

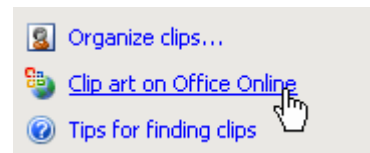
Before image**After image**

If the image is not available in your DTP software package pick something similar to insert instead of the cup and saucer.

Clips Online

If you have an internet connection then you can make use of the Microsoft Clips Online option.

At the bottom of the **Clip Art** panel, select and click on the **Clip art on Office Online** link.



You may see an information screen similar to the one below, or you may go directly to the Clips Online Microsoft web page.

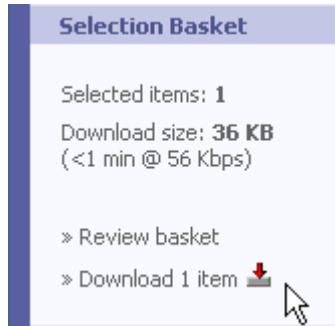
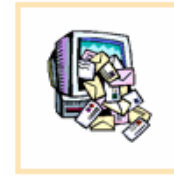


If you do see the above screen it is simply reminding you that you need to be on the internet. When you click on the **OK** button the browser you are using will go to the Microsoft Office Online web page. It may take a few moments, but the Clips Online screen will load.

You can filter by type. You can also filter by category, eg Academic. Notice the small check boxes below each image.

If you see an image that you would like to save for your image collection, click in the small box and a check mark will appear.

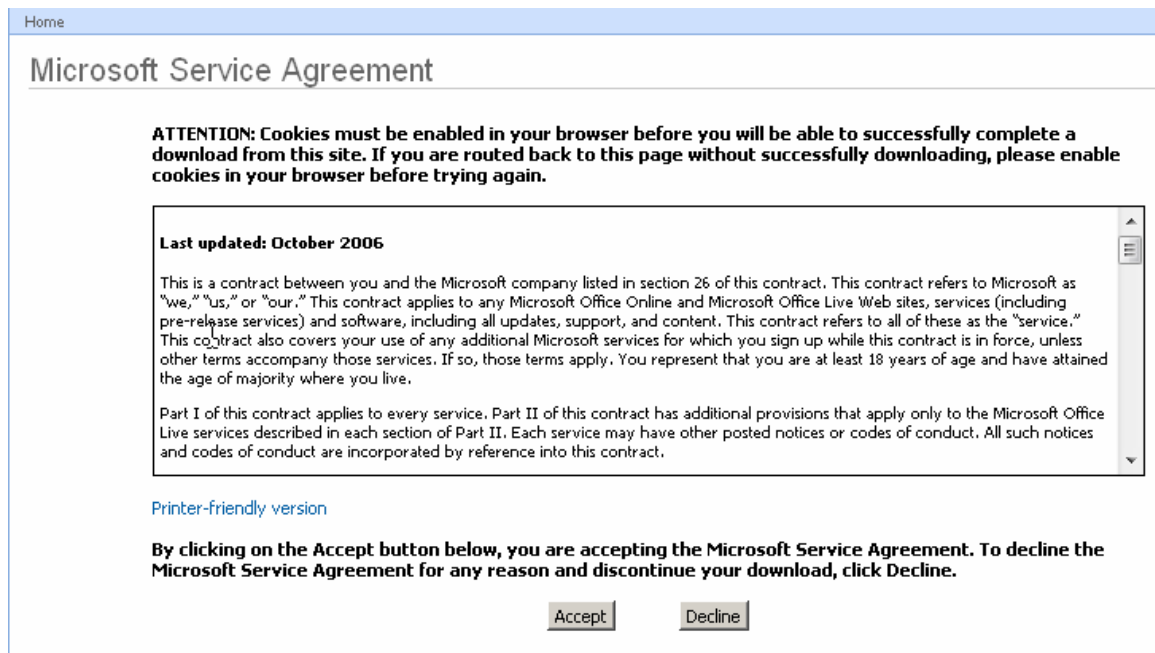
We chose the picture to the right for our selection. When you click in the check box your screen will look like the image at the right.



Your selection basket will change and if you click on **Download 1 item** the image will be stored on to your computer. You can add more than one image at a time to the basket.

When you have selected all of the clips that you desire, click on one of the Download item links.

The Microsoft Service Agreement screen will appear. Read the information and then click the **Accept** or **Decline** button.



Download

[Options](#)

Selection Basket Details

Selected items: **1**
Download size: **36 KB** (⏪ **min @ 56 Kbps**)
[Review basket](#)

Media Application

Please select the application you want to use.

- Import into Clip Organizer version 2002 or newer
Media files will be stored in your My Pictures\Microsoft Clip Organizer folder.
- Import into Clip Gallery version 5.0 or older
Media files will be stored in your Application Data\Microsoft\Media Catalog\Downloaded Clips folder.

Download Instructions

1. Click the **Download Now** button.
2. If prompted, click the **Open** option.

Note: If you cancel your download, you will lose the clips in your Selection Basket.

By downloading this content, you agree to the [Microsoft Service Agreement](#).

You must have a valid license to a Microsoft Office suite or any of its programs or a software product that includes Microsoft Clip Gallery or Microsoft Clip Organizer to download this content.

[Download Now](#)

Note: When you insert or paste images into Publisher publications, more often than not they are copied on top of the prior image. This is not a problem as you can easily click on the image that you do not want and then press the **[Delete]** key. Or alternatively you can delete the first image before you insert the new image.

Copyright, Designs and Patents Act

Important! Just because images, clip art and multimedia files are available on the web doesn't mean that you have the right to download or copy them — they may be copyrighted. Check the site thoroughly for a copyright statement. If in doubt, do not download or use the file. You should also consider acknowledging the source of the data. Notice how you had to sign a service agreement on the Microsoft Clip Art site to download clip art.

Whenever you decide to create any type of document with graphics included it is important before you use any graphics, images, video clips or files that you check you are not infringing the copyright of that object. Copyright laws exist to protect the people who created the object and their permission must be sought before you can use any piece of text, reference material, image, clip art or video clip in your presentation.

The Copyright, Designs and Patents Act gives the creators of literary, dramatic, musical and artistic works the right to control the ways in which their material may be used. The rights cover: broadcast and public performance, copying, adapting, issuing, renting and lending copies to the public. In many cases, the creator will also have the right to be identified as the author and to object to distortions of their work.

Copyright arises when an individual or organisation creates a work, and applies to a work if it is regarded as original and exhibits a degree of labour, skill or judgement.

Interpretation is related to the independent creation rather than the idea behind the creation. For example, your idea for a book would not itself be protected, but the actual content of a book you write would be. In other words, someone else is still entitled to write their own book around the same idea, provided they do not directly copy or adapt yours to do so.

Names, titles, short phrases and colours are not generally considered unique or substantial enough to be covered, but a creation such as a logo that combines these elements may be.

Types of work covered

1 Literary

Song lyrics, manuscripts, manuals, computer programs, commercial documents, leaflets, newsletters and articles, etc

2 Dramatic

Plays, dance, etc

3 Musical

Recordings and score

4 Artistic

Photography, painting, architecture, technical drawings/diagrams, maps, logos, etc

5 Typographical arrangement of published editions

Magazines, periodicals, etc

6 Sound recordings

May be recordings of works, eg musical and literary

7 Films

Broadcasts and cable programmes

Copyright Notices

It is strongly recommended that you include one on your work, it will:

- ◆ announce that copyright exists in the work
- ◆ make it clear who is the owner
- ◆ deter infringement.

By having a copyright notice you are helping to prevent infringement occurring. For more information on the current Copyright and Patents Act go to: http://www.copyrightservice.co.uk/copyright/uk_law_summary

Protecting Your Computer

When downloading any kind of file from an unsecured source like the internet, you should take precautions. These include:

- ◆ Using firewall software on your computer to filter and check files that are downloaded. A firewall is a system placed between an internal network and the outside world which ensures that all traffic passing from the inside to the outside, or the outside to the inside, must pass through it. Only traffic which is authorised by the security policy is allowed to pass. It is designed to protect a safe and trusted system from a risky and untrusted system.
- ◆ Using anti-virus software to scan the computer's memory and disks to detect viruses. Any viruses detected are then removed or quarantined using the anti-virus software. If you are selecting an anti-virus product then generally the speed of checking is important. This is especially important when downloading files from the internet, which is the main source of viruses spreading to your computer.

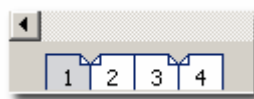
When downloading any kind of image, graphic or multimedia file you should remember these basic rules:

- 1 Always **make use of firewall and anti-virus software** to ensure the file will not damage your computer.
- 2 Always **ensure you have found a statement that says you may download files** as they are copyright free (this statement is not always easy to find).
- 3 Always **ensure you have the permission of the owner of the file to use the file** in your work. Include an acknowledgment of the owner's permission. This could be a footnote in your document.
- 4 Remember if you cannot find a copyright statement, or gain the owner's permission, you cannot use the graphic, image or multimedia file in your documents. You would be breaking the law. So **do not try** to use graphics from games consoles, or from TV, news websites or online newspapers.

Copying Titles from Headlines

| Inside this issue: | |
|--------------------|---|
| Inside Story | 2 |
| Inside Story | 2 |
| Inside Story | 2 |
| Inside Story | 3 |
| Inside Story | 4 |
| Inside Story | 5 |
| Inside Story | 6 |

On the first page of your newsletter there is a Table of Contents for the newsletter. We are going to insert a title from a story on Page 2. To go to Page 2 click on the page 2 'button' at the bottom of the screen.



You should now be on Pages 2 and 3. Look at the upper left corner of Page 2. Click on the **Inside Story** **Headline** and zoom in.

Inside Story Headline

This story was 1120-1200 words.

The headline using your newsletter as a promotional device that you can reuse on other marketing materials, such as press releases, articles, books, and reports.

Think your main goal of distributing a newsletter might be to inform your readers about the success of your business. Making it useful to your readers.

A primary goal is to add value to your newsletter in a timely and interesting way.

Write an article as a member of your newsletter.

You can also research articles on Good 'Tide' articles by using the World Wide Web. You can write about a variety of topics that are interesting to your readers.

Think of the content you put in your newsletter as a key to your success. It is the key to your success in the marketplace.

Be sure you're focused on your main goal.



Caption describing picture or graphic.



Replace this Inside Story Headline text box with a headline: **PC Passport your best method of success.**

PC Passport your best method of success

This story can fit 150-200 words.

coming events or a special offer that pro-

Our headline at the top of Page 2 should look like the one above. We can copy this title to the **Inside this issue Table of Contents** on Page 1.

Click to the left of the title **PC Passport your best method of success** and hold down the left mouse button, moving the cursor over your title. We'll now copy this title to the **Inside this issue Table of Contents** on the first page.



This story can fit 150-200 words

coming events or a special offer that pro-

Now that the text is highlighted we have two choices to copy this text.

First Method: Click on **Edit** in the menu bar and then, in the drop-down menu, click on **Copy**. Then click on the Page 1 button at the bottom of the screen. Move around the screen until you can see the **Inside this issue** box. When you have located the box, highlight **Inside Story** in the top box.

| Inside this issue: | |
|--------------------|---|
| PC | 2 |
| Inside Story | 2 |

Click on **Edit** in the menu bar again, in the drop-down menu that appears click on **Paste**. Some of your headline from Page 2 will now show in this area.

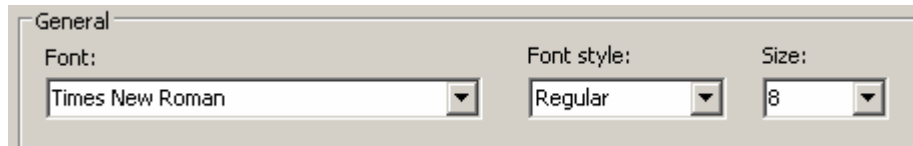
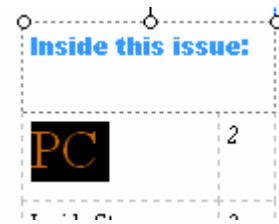
Second Method: Make sure that your headline is highlighted on Page 2, then click on the **Copy** button in the button bar at the top of the screen.

| Inside this issue: | |
|--------------------|---|
| PC | 2 |
| Inside Story | 2 |

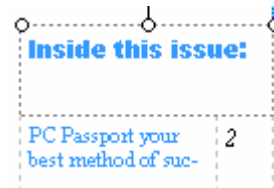
When you return to Page 1, and highlight **Inside Story**, click on the **Paste** button, in the button bar, to paste the title into the text box.



Now highlight your headline in the **Inside this issue** box. The text font size is too big for the box, so we'll have to make the text font smaller. At the top of the screen, on the left, in the button bar, is a font size area.

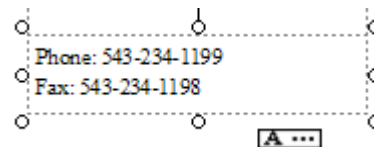


Click the small down triangle on the right side of the font size box and change the font size to 8. Your headline title from Page 2 should now just about fit in this box.



Text Overflow

In any Publisher product, when the text becomes 'too big' to fit in the box where it is being entered, a small overflow indicator will appear.



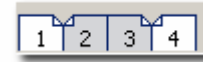
The indicator tells us that there are too many words to fit in the text box we're using. This is called Text Overflow.

When working with newsletter stories you will find that text will flow down a newspaper type column and when it gets to the bottom of a column it will go to the top of the next adjacent column on the right and so on. If you run out of room in any newsletter article you will see the little **A ...** at the bottom of the last column that is included in the story.

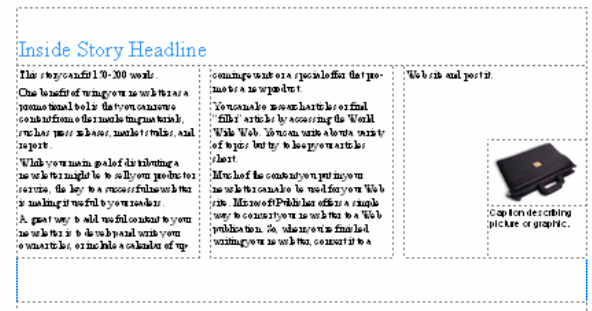
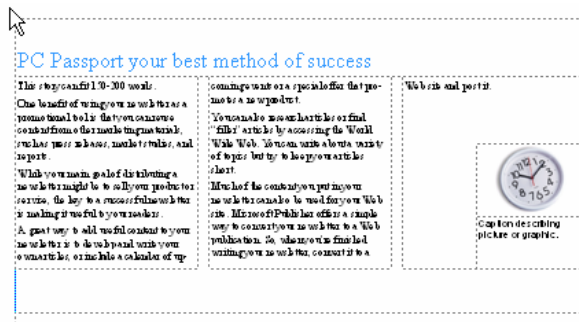
The Publisher 2003 Arcs Newsletter template we are using has various pre-sized groups of columns for your stories. You might have noticed this when you were looking at each page of the newsletter earlier. Now we will look at Text Overflow and text flowing.

To show you how this is accomplished it might be best to be able to 'see' this happen. So, if you are not zoomed out, click the F9 key.

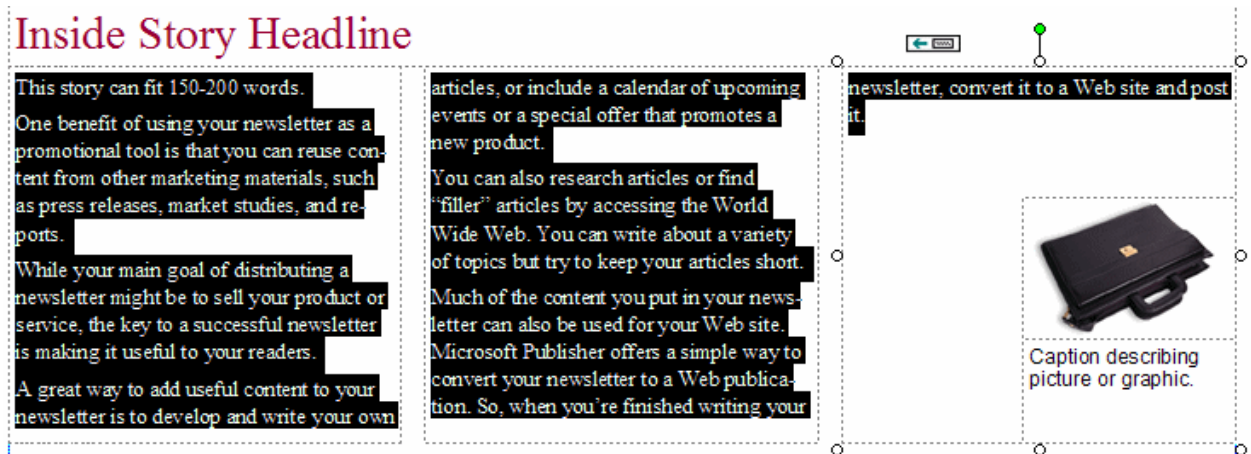
Once you can see the whole newsletter, click on the 2 or 3 page 'button' at the bottom of the screen.



The top of Pages 2 and 3 should look something like those below (your Inside Story Headline may be different from the one showing).



The first thing we'll do is create an area to 'hold' the Text Overflow when it occurs. To begin this process, click in the story area at the top of Page 3. The story at the top of Page 3 should be completely highlighted.



Before we delete this text, to create an area for Text Overflow, notice the little box in the upper right-hand corner of the Inside Story Headline article above. This little box indicates that the text in the third column in the article 'flowed' from the bottom of the second column in this story.

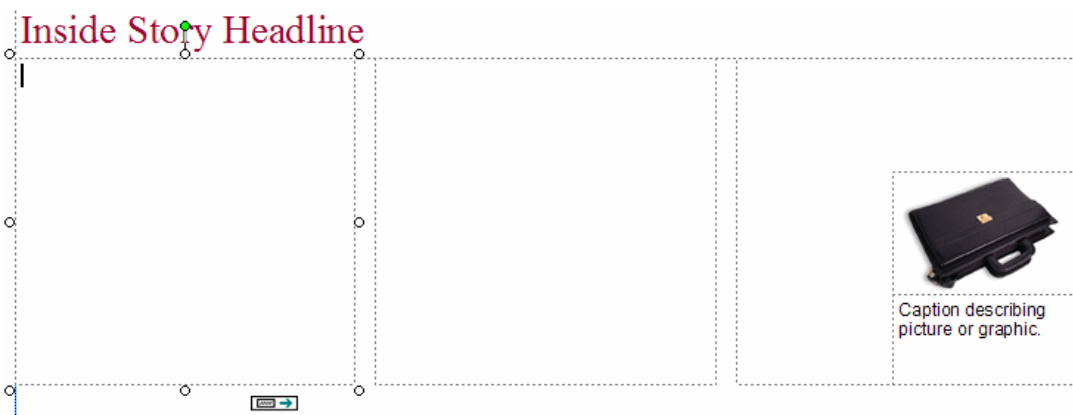


Now carefully click on the bottom of the first column of the Inside Story Headline. You may have to try several times to get the image you see to the left.

This indicates that this story, which begins in the left column, flows from the bottom of the column into column 2 (the middle column).

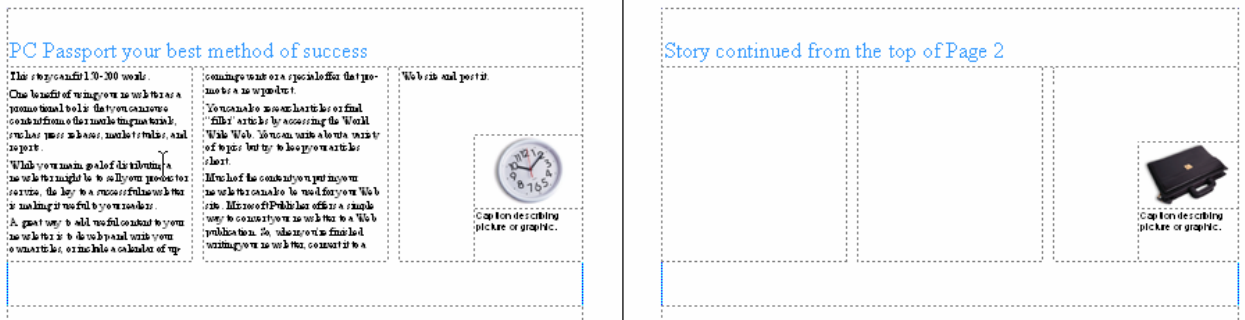
After you have successfully completed the above steps, click again so that all of the text is highlighted in the story at the top of Page 3.

When all the text in the story is highlighted again, press the **[Delete]** key to remove all of the text in this story. Your Page 3 Inside Story Headline should now look like the image below.

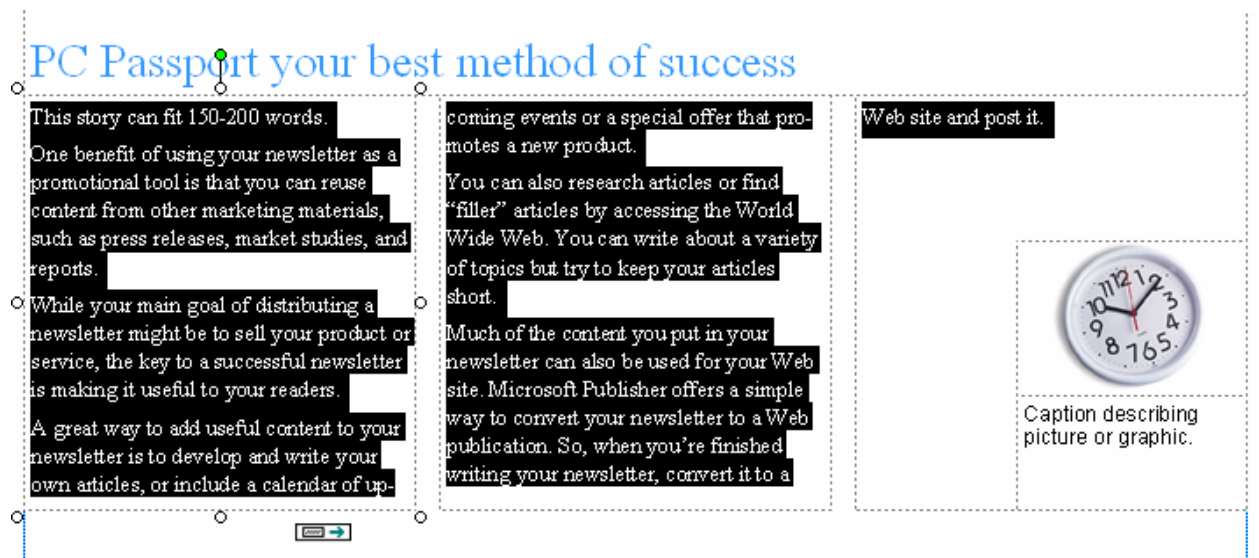


We are going to replace the text at the top of our Page 3 with: **Story continued from top of Page 2**. We can make the font a little smaller since this is no longer a story headline.

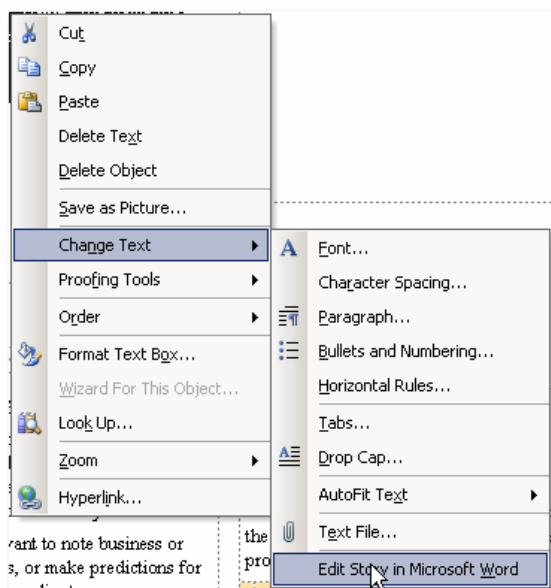
The top areas of Pages 2 and 3 should now look like the next image.



Now click anywhere in the story at the top of Page 2. The entire story should be highlighted in black and look like the image below.



This is the story that we want to edit until it becomes ‘too big’ to fit in the three columns at the top of Page 2. Right-click in the highlighted area at the top of Page 2.



When the drop-down menu appears move down to **Change Text**, and when the **Change Text** drop-down menu appears move down to: **Edit Story in Microsoft Word** and click on this choice. Word will now load. Read the text in this story in Word.

You can type a story in Word, or any word processor, that is about 150 to 200 words long, and copy the story from your word processor into this space at the top of Page 2.

Move to the end of the story, in Word, and type in the following text:

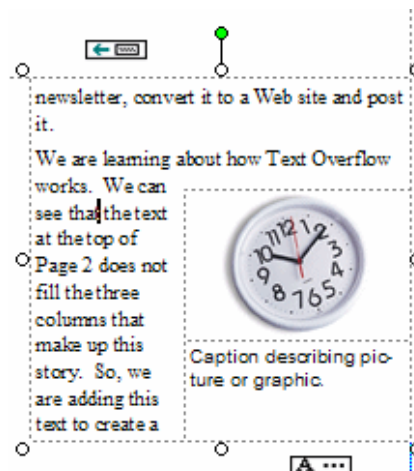
‘We are learning about how Text Overflow works. We can see that the text at the top of Page 2 does not fill the three columns that make up this story. So, we are adding this text to create a Word Overflow condition. We will keep typing until this occurs. Since the tutorial said to type all of this, the author must have a fair idea of how much text it takes to create a Text Overflow condition.’

Now click on **File** in the menu bar above and then on **Save**, then click **Close** and **Return to Newsletter.pub**.

After you have chosen **File**, **Close** and **Return to Newsletter.pub**, you will see that your three text columns at the top of Page 2 are ‘full.’

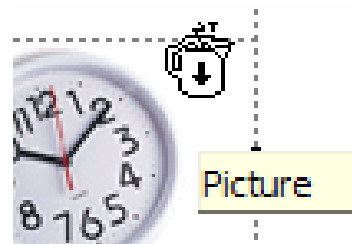
If you click on the third column, and it may take a few tries to do this, you will eventually see the overflow condition.

At the bottom of the column you will see a Text Overflow indicator: **A....** When you can see the indicator a small ‘chain link’ will appear at the top of the screen in the right side of the button bar.



This chain link only appears when there is a Text Overflow condition. Now click the left mouse button on the chain link.

Move the mouse cursor over the text at the top of Page 2. As you move it over you will notice the cursor ‘changes’ to a little measuring cup that seems to be ‘full of alphabet soup’. This ‘full cup’ indicates that it contains all the Text Overflow from the text columns at the top of Page 2.



Anywhere you move on Page 2 the cup will remain upright. Now, carefully move the cup over the empty text area you created at the top of Page 3.

As soon as you move the cursor over this empty area, you will see the cup 'tip' a bit and will see the letters appear to be 'pouring' from the cup (like the cup image on the right). This means that you can 'pour' the Text Overflow into the area at the top of Page 3.



Story continued from top of Page 2

Word Overflow condition. We'll keep typing until this occurs. Since the tutorial said to type all of this, the tutorial author must know how much text it takes to create a Text Overflow condition. We'll now click on File in the Menu Bar above and then on and the click on Close & Return to Newsletter.pub.

To do this, when you see the 'spilling' cup in the Page 3 blank area, click the left mouse button.

As soon as you click the button you will see the first column at the top of Page 3 'fill' with the Text Overflow.

Making Final Adjustments

You are probably looking at the Page 2 and 3 screens so click on the Page 1 button at the bottom of the screen. If you cannot view the whole page, press the F9 key to zoom out.

When we look at the left of the first page of the newsletter there are only two things we have not mentioned. You have, however, already mastered the skills to change them. The first is in the upper right corner, the second is in the lower right corner.

You have already changed the Newsletter Title in the upper left corner, the Title Box in the upper right corner, the 'coffee cup' clip art and caption, and the two stories on the front page of the newsletter.

When we look at the other two 'things,' you will see that you already know how to edit them as well.

Special Points of Interest Text Box

We will look at the lower right text area first. Click on this text box in the lower right corner, and then press the F9 key to zoom in on the box. When you get a closer look at this **Special points of interest** text box you see that it is simply a standard text box, with bullets, which highlight topics in the newsletter. So, as with any text box, all you have to do is change the text to focus on special articles in your newsletter.

Special points of interest:

- Briefly highlight your point of interest here.
- Briefly highlight your point of interest here.
- Briefly highlight your point of interest here.
- Briefly highlight your point of interest here.

Newsletter Date, Volume and Issue

Now move up to the text box above the **Special points of interest** text box. This is another text box which allows you to date your newsletter, and enter the volume and issue numbers.

Newsletter Date

Volume 1, Issue 1

Now let's look at the second and third pages.

PC Passport your best method of success

This story contains 9-200 words.

One benefit of using you as webmaster is you can help help the business owner understand the needs of the market, such as: market needs, market trends, and more.

With you as webmaster, the following are the ways that you can help the business owner, the way to a successful business that is making it useful to you as well.

A great way to add useful content to your website is to add useful content to your website, or include a calendar of up...

Coming up next is a special offer for the people who are interested!

You can make more content for your website by accessing the World Wide Web. You can make a new website or type in the URL of your website.

With you as webmaster, the following are the ways that you can help the business owner, the way to a successful business that is making it useful to you as well.

A great way to add useful content to your website is to add useful content to your website, or include a calendar of up...

We're not just here!

We are looking for how best to help you work. We cannot do the rest of the top of Page 2 due to fill the three columns that make up the page. So, we are adding the rest to create a World Wide Web. We will keep trying until the end of the year.



Caption for describing picture or graphic.

Inside Story Headline

This story contains 100-110 words.

The subject matter that appears in the news is virtually endless. You can choose to write the following content to help you or someone else in your field.

To many also want to see business or economic news, or make predictions for your own business or market.

If the newsletter is distributed internally, you might comment upon a specific issue or improvement to the business. Make figures or earnings will be where you business is going.

Some as webmaster include a column that is updated regularly. For instance, a business column, a local business, a list from the previous year or annual. You can also publish new employees or top business or market.

To catch the reader's attention, place an interesting sentence or quote from the story here.

Inside Story Headline

This story contains 77-111 words.

Following pictures or graphics is an important part of adding content to your newsletter.

Think about you as webmaster and help you as webmaster. This can also be used to help you as webmaster to help you as webmaster.

Check you as webmaster. Make sure you as webmaster. Make sure you as webmaster. Make sure you as webmaster.



Caption for describing picture or graphic.

Page 2

Newsletter Title

Story continued from the top of Page 2

Since the newsletter is type all of the content, the author must have a clear idea of the newsletter's focus. We will be working on this in the future but please wait until we can do the job. Please do not be disappointed if you do not see the newsletter. Please wait for the newsletter. Please wait for the newsletter. Please wait for the newsletter.



Caption for describing picture or graphic.

Inside Story Headline

This story contains 100-110 words.

The subject matter that appears in the news is virtually endless. You can choose to write the following content to help you or someone else in your field.

To many also want to see business or economic news, or make predictions for your own business or market.

If the newsletter is distributed internally, you might comment upon a specific issue or improvement to the business. Make figures or earnings will be where you business is going.

Some as webmaster include a column that is updated regularly. For instance, a business column, a local business, a list from the previous year or annual. You can also publish new employees or top business or market.

To catch the reader's attention, place an interesting sentence or quote from the story here.

Inside Story Headline

This story contains 77-111 words.

Following pictures or graphics is an important part of adding content to your newsletter.

Think about you as webmaster and help you as webmaster. This can also be used to help you as webmaster to help you as webmaster.

Check you as webmaster. Make sure you as webmaster. Make sure you as webmaster. Make sure you as webmaster.



Caption for describing picture or graphic.

Volume 1, Issue 1

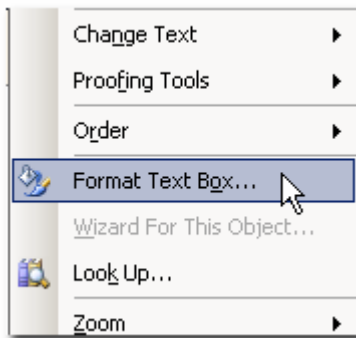
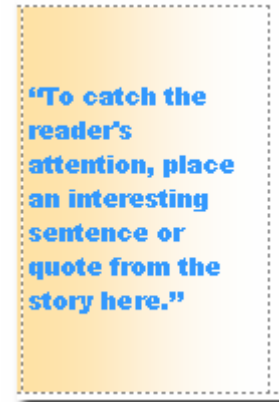
Page 3

Everything on these two pages is an article, captioned clip art, or text box. The only slightly new ‘things’ are the ‘colour shaded’ text boxes above. We will look at the image on Page 2.

Shaded Text Boxes

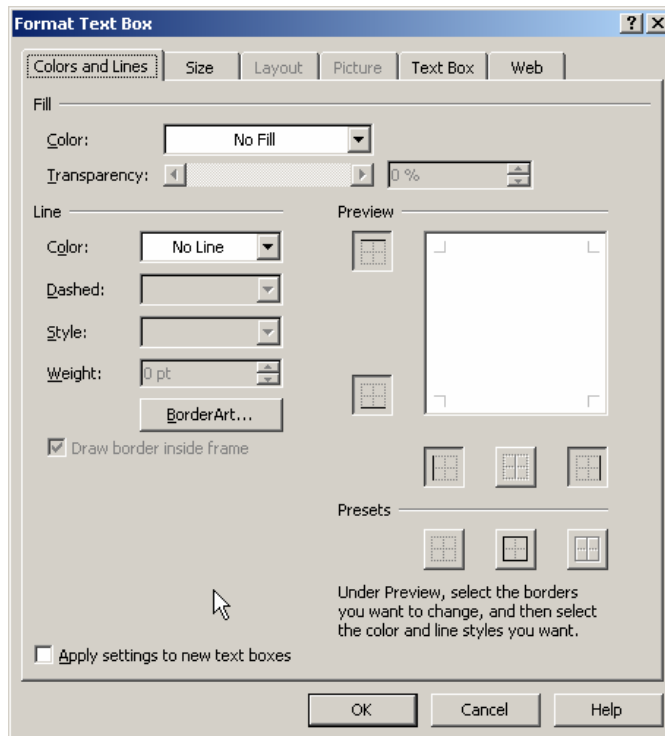
When you look at the text in Publisher the font is coloured in the colour scheme you chose. Editing the text in this text box is easy.

Notice that the text box has ‘shading’ in it.

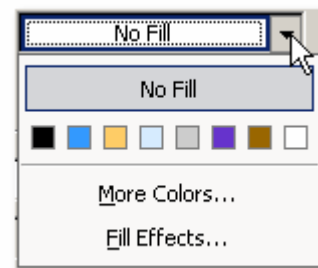


Right-click on the shaded text box, then move your cursor down to **Format Text Box** and click the left mouse button.

The **Format Text Box** menu will appear.

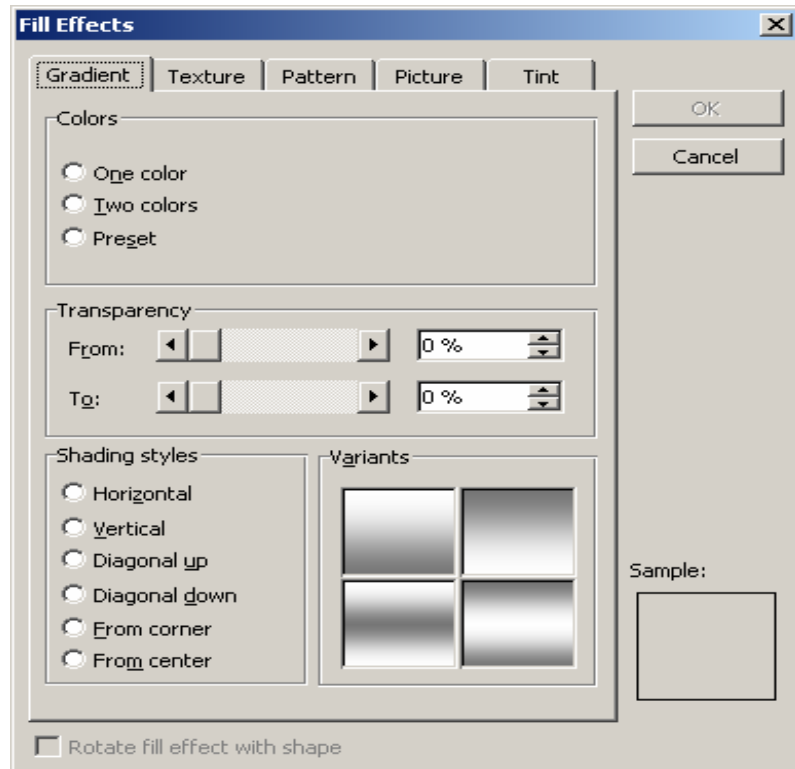


Move your cursor over the small down arrow to the right of **No Fill**. Click on the arrow and the menu screen below will appear.

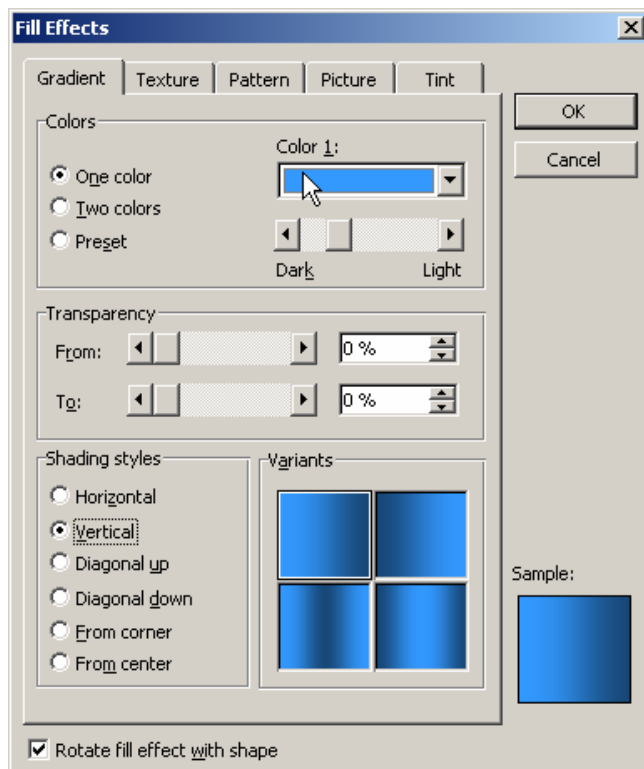


Click on **Fill Effects**. The **Fill Effects** menu screen will appear.

Click in the small circle to the left of **One colour**.



A **Colour 1** 'colour box' will appear to the right of **One colour**. Click on the small down arrow on the right of the **Colour 1** box. You will see the colour menu appear below the box. You can choose any colour you wish for shading your text box.



When you select a colour, the **Fill Effects** menu screen will change to show the colour.

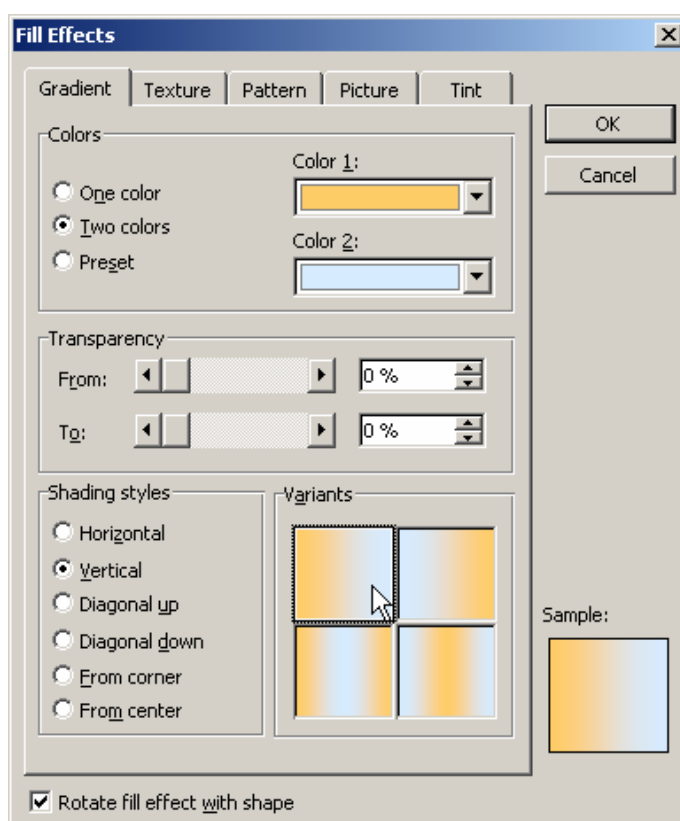
You should also note that the **Variants** area in the lower right corner of the menu screen changed to four variations with your selected colour.

Choose **Vertical** under **Shading styles**.

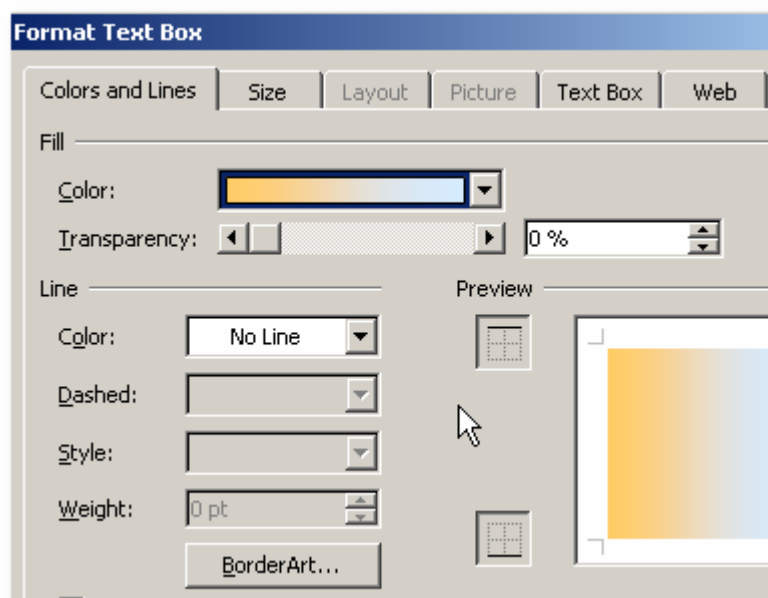
To complete our Fill Effects, under **Colours** pick **Two colours**. Choose any other colour as your second colour.

Under **Shading styles**, select **Vertical**. The four variants appear in the lower right corner of the menu screen.

Click on the variant in the upper left corner of the variant area to check the shading, and then click on the **OK** button.



You should be returned to the **Format Text Box** and the gradient and variant you selected are displayed in the lower area of the box. Click on **OK** again.



You can experiment as much as you wish. Each time you select a different shading style the sample in the lower right corner will show you how your shading will appear in the finished text box.

Also, when you select a different base colour and Colour 2 you will see the effects in the sample area.

Try a few shading styles. When you find one you like, click on the **OK** button.



Exercise 1: Creating a Newsletter

In this exercise you are going to create a new newsletter using the techniques you learnt in the previous pages. Your newsletter should include at least three graphics, two must be ones you have previously created and one can be from a choice of clip art, photo or scanned image, or an image you downloaded legally from the internet. You must use the picture framing facility for the graphics/images.

Your newsletter should:

- ◆ have at least three columns using text flow and text wrap facilities
- ◆ have suitable headings
- ◆ be formatted correctly.

Working with Images and Graphics

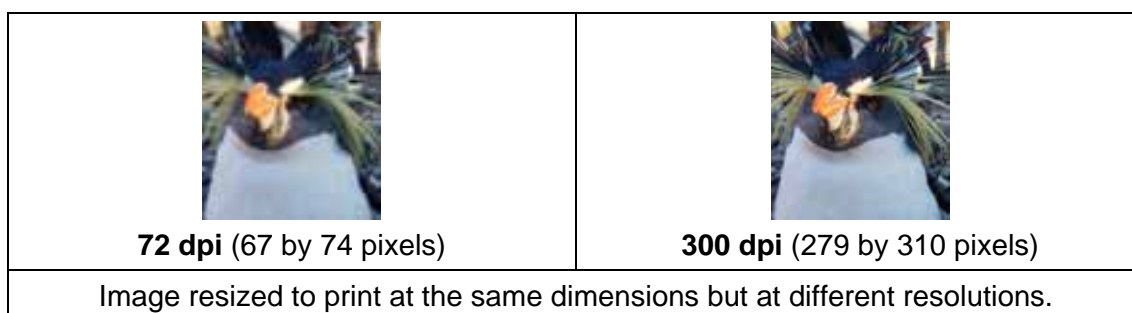
This section provides the basic knowledge to allow you to use an application package to manipulate and create images and artwork.

Resolution

Resolution differences between what you see on screen and what you see in print can cause some confusion. What looks fine on screen may not do so when printed out. This is because screens have a fairly low resolution, especially when compared to a printer (1200 dpi is not unusual on desktop printers).

When viewed within a document on screen a 300 dpi image will look identical to a 72 dpi version of equivalent dimensions. However, a printer needs a lot more information to produce good results, so these two images would look very different when printed out.

The two images below demonstrate this. The print quality of the left-hand image is much lower because it contains much less information. Also, if you were to zoom in on the two images on screen the image on the right would remain sharp to at least 400% whilst the quality of the one on the left would deteriorate more and more.



Tip: A quick visual way of checking that an image contains enough information for print is to zoom in on it within the application. If it is going to produce good quality print it will remain sharp up to at least 400%. If it looks blurry then it is not likely to print out well.

Checking Image Suitability

To achieve good print results the most important thing to ensure is that the original source image contains adequate information to produce the level of detail required. The following procedure can be used to calculate the maximum resolution an image can produce:

- 1 Take the image's pixel width or height.
- 2 Divide this by the width or height you want the image to appear on the page in **inches**.
- 3 The result is the resolution in dots per **inch**.

Anything above 300 dpi will produce good quality print — in fact if it's a lot over 300 then it might be worth reducing the pixel size (see **Reducing file size** below). 150 dpi may give adequate results, but anything less is likely to be fairly poor. If the result isn't high enough, you will either have to print the image out at a smaller size or get a better quality version of the image.

Example

An image that is 900 pixels wide needs to be printed out at a width of 3 inches:

$$900 \div 3 = 300$$

So this image will print out at 300 dpi at the desired size and is suitable for print.

Inserting Images in a Document

Different applications may handle an image's embedded resolution differently. An image which has been resized to print out at a particular size with a certain resolution should be displayed at this size within the document.

However, some applications may ignore the embedded resolution and instead use the screen resolution — or as close to this as possible whilst still fitting the whole image on screen — so the image may look far bigger than intended.

In this case simply resize the image to the intended dimensions within the document. The temptation might be to change the pixel size in a graphics package so that it displays at the correct size on screen, but this would mean the image would be printed at the screen's resolution which would not produce particularly good results.

Note: Unfortunately the Office interface does not provide enough information about images; it does not give the pixel size or resolution of an image, only its 'original size' and even this can be misleading. Use the visual check described in the **Resolution** section to help determine the quality of images without having to open them in Photoshop or your graphical image application.

Images Sourced from the Screen

If the source of an image is some form of screen output (from a web page, a screen grab, etc), and if you want to match the size it appeared on screen in print, you will not be able to get a resolution greater than that used by the screen.

The resulting print quality will very much depend on the type of image involved. A screen grab from an application dialogue box should print out acceptably — strong blocks of colour, letters and so on, scale fairly well in this manner — whereas a photograph taken from a web page is not likely to look as good. Where possible it is better to find a larger version of the image to use for print.

Reducing File Size

When inserting an image into a document the compression and pixel size of the image will have a direct impact on the file size of that document. If the highest possible quality is essential then large file sizes cannot be avoided, but in most cases the file size can be reduced dramatically as follows.

Use a Compressed Format

Save the image in an appropriate compressed format (JPEG, GIF, etc) before inserting it in a document. This will reduce the file size and is unlikely to affect quality unless the compression is set too high.

Example

A 1000 Kb TIF image inserted into a blank Word document produces a 940 Kb Word file. The same image saved as a JPEG is 245 Kb, which produces a 268 Kb Word file.

Don't Store Too Much Information

If an image is capable of producing a resolution far higher than needed you can resize it, setting the appropriate lower resolution, and thereby reduce the pixel and file size.

In this case 300 dpi is a good target resolution but, if reducing file size is essential, reducing the pixel size so it will produce 150 dpi will probably achieve the best balance between file size and print quality.

Example

If an image is 1800 by 2400 pixels and needs to be printed out at 3 by 4 inches then this will give a resolution of 600 dpi: $1800 \div 3 = 600$. In most cases 300 dpi is more than enough; so it can safely be resized to 900 by 1200 pixels, which reduces the file size with no real loss of quality. At 150 dpi it would be reduced to 450 by 600 pixels, making the file size still smaller though at some cost to the quality.

Images for Screen Use Only

If an image will only be used on screen — so print quality is not an issue — resolution becomes irrelevant. The image should simply be resized to an appropriate pixel size to fit on screen. Combined with saving in a compressed format, this will reduce the file size substantially. This is particularly important when images are used on websites or in documents delivered over the web, eg PowerPoint presentations.

Data compression methods vary for reducing the size of graphics files but compressed data can suffer from the 'lossy' effect when decompressing the file retrieves data that may well be different from the original but is 'close enough' to be useful in some way. Lossy data compression is used frequently on the internet and especially in streaming media.

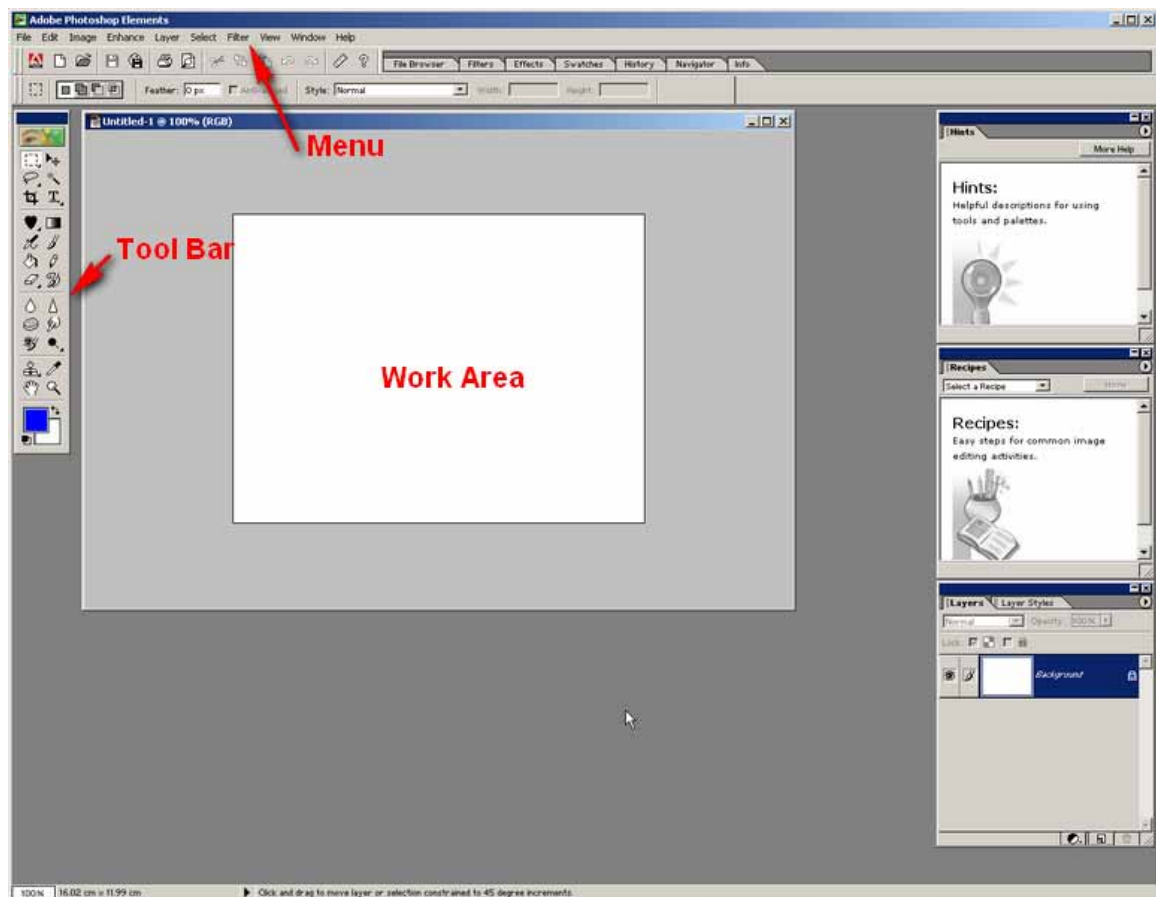
'Lossless' compression allows the exact original data to be reconstructed from the compressed data. For more information about compression techniques look at the following link: http://en.wikipedia.org/wiki/Lossy_data_compression

Image Editing

Photoshop Elements is an image-editing package designed to allow you to edit and improve images acquired from various sources, to prepare them for use on the web, in documents or for printing. It includes many of the tools of its parent package Photoshop, but has a simpler interface and lacks some of the more advanced features. This package is relatively cheap and will usually come free with your digital camera or scanner.

The tools include those necessary to resize, edit and improve image quality, and then save in an appropriate format for use online, or for printing. It should be noted that the quality of an image is dependent, to a large extent, on the original source of that image. It is therefore important to consider the purpose of your image before capturing it, and to ensure you use an appropriate resolution, be it on a scanner or digital camera.

The Photoshop Elements Screen



Menus

These contain the usual options to save, print, copy and paste, change views and access the help. They also contain a large number of Photoshop-specific tools.

Standard toolbar

This contains shortcut buttons for file operations (new, load, save, etc), clipboard functions (cut, copy and paste) and undo.

Toolbar

This is a context-sensitive menu which displays options for the currently selected tool. For example, when the Brush tool is selected it allows you to change the brush size, mode and opacity.

Toolbox



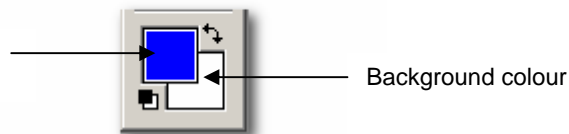
This set of tools allows direct manipulation of an image. The tools are grouped by type and individual buttons may give access to a range of related tools: click and hold on any button with a little arrow in the bottom right corner and a pop-up menu will appear showing the related tools and you can select one by clicking it.

Holding the cursor over a tool will cause a tool tip to appear — this gives the name of the tool and also displays a shortcut key in brackets. Pressing this key on the keyboard will switch to the associated tool. Holding down the **[Shift]** key whilst pressing the key will cycle through the related tools, where applicable.

The bottom part of the toolbox is also used to select colours. The foreground colour will be used by the Brush, Pencil and Paint Bucket tools. The background colour will be used with the Gradient tool (in combination with the foreground colour), and can be selected as the starting colour of a new image and may also be used to replace any area that is deleted from an image.

You can reset the colours to the default black and white and also switch the foreground and background colours around. Note that changing these colours will not have a direct effect on existing colours in an image.

Colour Selection



Status bar

This displays information about the currently selected image (from left to right).

Palettes

There are a wide range of different palettes, any of which can be dragged to or from the Palette Well. They have various functions from selecting colours or fill types to adjusting layers or accessing the document's history.

Layers

Layers are used to separate different elements of an image. You use layers to perform tasks such as compositing multiple images, adding text to an image, or adding vector graphic shapes. You can apply a layer style to add a special effect such as a drop shadow or a glow.

Work Area

This is where the image you are creating or editing is displayed. You can zoom this area out and in depending on the size of the image. The maximum zoom size is 1600%.

Navigating Your Image

When working on an image you may need to zoom in and out to work on detailed areas or to see the entire image, and pan around to different parts of the image if it doesn't all fit on screen.

Zooming

The magnification of an image is shown in various locations, in the Title bar of the image (or the Photoshop Elements program bar if the image is maximised) and in the Status bar at the bottom left. The figure is shown as a percentage with 100% being actual size.



To zoom in and out you can use the Zoom tool on the toolbar. By default this will zoom in when you click on the image. You can also click and drag around the area you want to zoom in on. To zoom out, hold down the **[Alt]** button on the keyboard — the magnifying cursor will change to show a minus sign — and click on the image. If you have a scroll mouse then the middle wheel can also be used to scroll in and out.

View Menu

This has options to zoom in and out as well as:

- ◆ **Fit to Screen** — changes the zoom setting so the entire image is displayed on screen
- ◆ **Actual Pixels** — changes the zoom setting to 100%
- ◆ **Print Size** — displays the image on screen at the size it will appear when printed out


If you are going to use the package extensively it is well worth learning these keyboard shortcuts as they will save you a lot of time:

- ◆ **To Zoom in: Ctrl + +**
- ◆ **To Zoom out: Ctrl + -**
- ◆ **To Fit to Screen: Ctrl + 0**

Panning

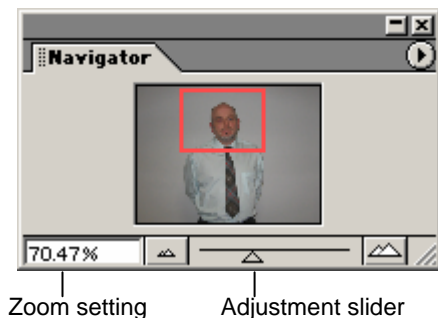
When working with a large image that does not all fit on screen at the same time, or when zoomed in on an image, it is helpful to be able to pan around.

This allows you to move to a part of the image so it is visible in the working area.

 Use the Hand tool (keyboard shortcut: **H**) and click and drag on the image to move it around. Alternatively, whilst any other tool is selected, hold down the Space bar, which will invoke the Hand tool for as long as it is held.

The Navigator Palette

This palette shows a thumbnail of the entire image and a red box which represents the area of the image displayed in the work area. Zoom settings can be entered directly or adjusted with the slider. You can also pan around the image by clicking and dragging the red box to the desired location.



Open it from the Palette Well, or from the menu bar use **Window | Navigator**.

Exercise 2: Using Navigation Tools

- 1 Open the file navigate01.jpg.
 - 2 Try each of the navigation tools: Zoom, Hand and Navigation Palette as well as the keyboard shortcuts.
-

File Formats

Which File Format?

There is a vast array of different graphics file formats and it is important to make sure you save an image in a format appropriate to the task that it is designed for. You also need to consider whether the image needs to be transferred to a different piece of software or to another computer and whether the chosen format will be supported.

There are several file formats used for saving images. The most popular amongst them (especially for web page and publishing images) are GIF, JPEG and PNG. Each format has its own strengths and weaknesses.

The following table outlines some of the differences between these common formats.

| JPG (or JPEG) | GIF | PNG |
|--|---|--|
| Handles millions of colours | Maximum 256 colours | Selectable 2–256 colours, or greyscale, or up to 16.7 million colours |
| Allows 'progressive loading' — the whole rough image appears first, then becomes more detailed as it is downloaded | Has progressive loading, usually called 'interlaced' when applied to GIF images | Allows progressive (interlaced) loading |
| Used for photographs, or pix with fine colour changes | Used for solid colour art — logos, cartoons, etc | Same as GIF |
| Has user-adjustable compression levels | Fixed compression level | Same as GIF |
| Does not support transparent colours | Allows a transparent colour | Allows for transparent colour and also supports semi-transparent colours |
| Does not support animation | Supports animation | No animation yet |
| 'Lossy' compression | Lossless compression | Lossless compression |
| Not proprietary (no-one owns the rights to it) | Compuserve owns the copyrights to the format | Not proprietary |
| Supported by all web browsers | Supported by all web browsers | Just about supported by all web browsers |

Note: There are no fixed rules regarding image sizes in different formats. JPG is sometimes smaller than GIF. GIF is sometimes of a better quality than JPG and vice versa. Size and quality will depend on each image, the compression used and more importantly the opinion of the user about a satisfactory quality. You cannot make statements like JPG is smaller than GIF, but GIF is better quality because in reality each picture will be different.

GIF — Graphics Interchange Format — is a proprietary format owned by CompuServe/Unisys. **Used for vector graphics**, single colour or limited colour line art images such as logos or cartoons. Vector graphics **use the lowest amount of memory when storing computer images**. In a vector graphics program, each object is stored individually with its attributes.

GIFs do not have user-controlled compression, but they do allow transparent backgrounds. This compressed format **allows a palette of up to 256 distinct colours**. GIFs can be animated by stacking a series of changing images in a single file — the images are shown in turn with a slight time delay, giving the illusion of movement.

JPEG (JPG) — Joint Photographic Experts Group — designed for raster graphics, is best for photographs or images with lots of subtle colour changes. The amount of compression can be specified when the image is saved. The more compression used, the more the picture is degraded. Different types of pictures can tolerate more compression than others before visible quality reaches an unacceptable level. Of course, what is 'unacceptable' is a matter of user opinion. The more unique colours there are in a JPG image, the bigger the file size is. As you cannot use transparency with JPG, you can try to obtain the same effect by setting the image's background colour to the same as the webpage it will appear on. However, some browsers have difficulty with this and you tend not to get an exact match.

PNG — Portable Network Graphic — similar to the GIF format, but this is not a proprietary format. (The GIF format is owned by CompuServe/Unisys.) PNG also supports transparency and can produce smaller images than GIF, under some circumstances.

So choosing the best file format for an image is a mixture of knowledge, guesswork and experience. It is generally wise to save an image several times: as a GIF, as a PNG and as a JPG with different levels of compression. You can then compare the resulting file sizes and picture qualities to choose the one that has the best quality and/or size for your needs.

BMP — Bitmap graphics

Bitmap files vary greatly in their details, but they all share the same general structure. Bitmap files consist of a header, bitmap data, and other information which may include a colour palette and other data.

The actual bitmap data usually makes up the bulk of a bitmap format file. The bitmap data is composed of pixel values. Pixels on an output device are usually drawn in scan lines corresponding to rows spanning the width of the display surface. This fact is usually reflected in the arrangement of the data in the file. The bitmap can also be thought of as a sequence of values that maps bitmap data in a file to an image on the display surface of an output device.

Pros and Cons of Bitmap File Formats

Bitmap files are especially suited for the storage of real world images; complex images can be rasterised in conjunction with video, scanning and photographic equipment, and stored in a bitmap format. Some of the advantages and disadvantages are listed.

Advantages of bitmap files include the following:

- ◆ Bitmap files may be easily created from existing pixel data stored in an array in memory.
- ◆ Retrieving pixel data stored in a bitmap file may often be accomplished by using a set of coordinates that allows the data to be conceptualised as a grid.
- ◆ Pixel values may be modified individually or as large groups by altering a palette if present.
- ◆ Bitmap files may translate well to dot format output devices such as CRTs and a wide range of printers which tend to be based on dot format.

Disadvantages of bitmap files:

- ◆ They can be extremely large, particularly if the image contains a lot of colours. You can use data compression to shrink the size of pixel data, but the data must be expanded before it can be used, and this can slow down the reading and rendering process considerably.

- ◆ The more complex the bitmap image (large number of colours and minute detail), the less efficient the compression process will be.
- ◆ The images typically do not scale very well. Shrinking an image by throwing away pixels can change the image in an unacceptable manner, as can expanding the image through pixel replication. Because of this, bitmap files must usually be printed at the resolution in which they were originally stored.
- ◆ Bitmap files can appear 'blocky' when increased in size.

Available Formats

It is not practical to cover all the existing image and graphical file formats. Here are some of the most common formats used which are available in Photoshop Elements and the majority of graphical and image packages.

| Format Name | Extension | Description | Web friendly |
|------------------|-----------|---|--------------|
| Photoshop | .psd | Photoshop proprietary format. Stores transparency, layer information and vector objects (eg text). | No |
| TIFF | .tif | Uncompressed TIFFs are a good choice for storing high quality images and are recognised by many graphics packages and operating systems. They can also support layers, transparency and vector objects. | No |
| BMP | .bmp | Windows OS image format. Not a good choice of format unless the image is being used by the Windows OS, eg as a desktop image. | No |
| JPEG | .jpg | A compressed format ideal for photographic images. Not suitable for images with flat colour. | Yes |
| GIF | gif | Another compressed format. Good for logos with flat areas of colour as well as line art. Not suitable for photographic images. Supports transparency and also animation. | Yes |
| PNG | .png | A relatively new format suitable for both photographic and flat images. Not all features (eg transparency) are supported by all web browsers. | Yes |

Saving in Different Formats

To save an image in another file format:

- 1 Choose **Save As** from the **File** menu (for web formats it is recommended to use **Save for Web**).
- 2 On the **Format** drop-down box select the format you wish to save in.
- 3 Click **Save**.

Depending on the chosen format, you may be prompted to select various other options including the operating system format, compression settings and so on. In the majority of cases the default options are generally the most appropriate.

Useful Note: Saving in a new format creates a copy of the original image. Unless you rename the file the only way to distinguish it will be through the file's extension. When using an image you should ensure that you select the correct file type, for example when putting an image online.



Exercise 3: Saving Files

First you need to make a change to the preferences:

- 1 Go to: **Edit | Preferences | Saving Files**.
- 2 Make sure the **Enable advanced TIFF** save options box is ticked.
- 3 Click **OK**.
- 4 Open the file format01.psd.
- 5 Use **Save As** to save it in BMP and TIFF file formats.
- 6 Close the current file and open the .BMP and .TIFF files to see the effect of saving in different formats.

Selections

Selections serve two major purposes: they are used to select an area to cut or copy from an image to the Clipboard and they are used to limit a tool's effects. Once a selection is made, actions can only be carried out within the selection.

The Select Menu

This menu has various options for working with selections. Some will be greyed out if no selection has been made:

- ◆ **All** — select the entire document
- ◆ **Deselect** — remove any existing selection
- ◆ **Reselect** — restores a deselected selection
- ◆ **Inverse** — invert the current selection so that everything outside it becomes selected

If at any time you find that a tool or effect is not behaving correctly, it may be that you already have an area selected. A simple way to check is to see if the deselect option is available. If it is, there's a selection present — click on deselect to remove it. If you can not see the selection check that **View | Selection Edges** is ticked.

Selection Tools



Marquee

Lasso

Crop



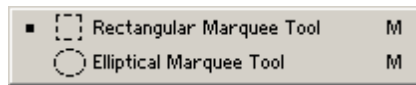
Move

Magic Wand

Type

The Marquee, Lasso and Magic Wand tools are all used to create standard selections. The Crop tool is used to remove all unselected portions from an image. The Move tool is used to move an existing selection or layer element. The Type tool is used to add text to an image.

Marquee Selection Tools



There are two choices of marquee selections available: rectangles and ellipses — these can be constrained to create square and circular selections.

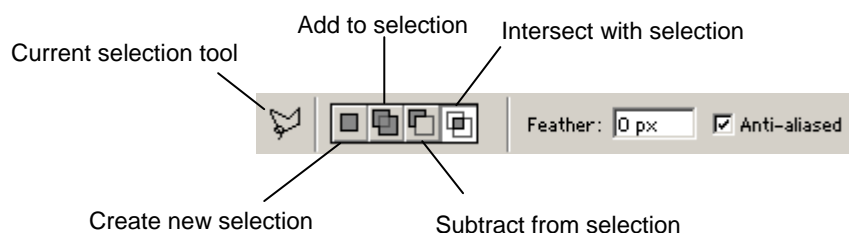
How to Create a Selection

- 1 Select the desired shape from the Toolbox.
- 2 Click at the point where your selection will start and keep the mouse button held down.
- 3 To constrain the shape to a square or circle, press and hold down the **[Shift]** key.
- 4 Drag the mouse to increase or decrease the selection area.
- 5 When you are happy with the selection, release the mouse button.

You should now see 'marching ants' around the area you selected. This area can now be cut or copied to the Clipboard and any effects or tools used on the image will only be applied to this area.

Selection Options

There are various options available when using the selection tools. The general options are shown below:



Create new selection

Each time a new selection is created any existing selection is lost.

Add to selection

Any new areas selected are added to the current selection. Selections do not need to be connected.

Subtract from selection

Select part of an existing selection to remove it. Selecting outside of an existing selection will have no effect unless no selection exists (in which case a new selection is created).

Intersect with selection

Works in a similar way to **Subtract from selection** except that when you select part of an existing selection this will remain and anything outside it will be removed.

Feather

Use this option if you want to give your selection a blurred edge — before making a selection enter a value in pixels. The amount of feather required will correspond to the size of the image. Feathering allows the edges of a foreground image to be softened so that it blends into the background image with less contrast.

Anti-aliased

Switching this on will avoid jagged edges in curved areas of your selection.

Image warp

Image warp is an image function you can use to wrap an image around a shape by stretching, curling or bending the image. Image warp lets you drag control points to manipulate the shape of images, shapes or paths.



Exercise 4: Using Selection Tools

- 1 Open the file selection01.gif.
- 2 Use the Marquee tools to create a selection in the shape of a ☺.
- 3 Use the Brush tool to paint inside the selection.

- 4 Copy and paste the selection into a new document (you will need to set background as transparent).

The Crop Tool

This is used when you wish to select an area of an image and discard everything outside that area. It is possible to achieve this by pasting a selection into a new document, but the Crop tool is quicker.

- 1 Click and drag to select an area (you can only make a rectangular/square crop). Everything outside the selected area will appear darker — this region will be lost when the crop is completed.
- 2 Use the handles on the selected area to resize it. It can also be rotated by moving the cursor towards the outside edge of the selection until it changes to a curved double-headed arrow.
Press the **Escape** button on the keyboard at any time to cancel the crop process.
- 3 When you have finished adjusting your selection, double-click inside it to complete the crop. Everything outside the selected area will be removed.

Crop options

Once you have selected an area to crop, use the following options as required:

- ◆ **Shield** — this option darkens the area that will be lost (on by default)
- ◆ **Colour** — the colour of the shield
- ◆ **Opacity** — the opacity of the shield



Exercise 5: Using the Crop Tool

- 1 Open crop01.jpg.
- 2 Crop the centre of the image, straightening it in the process.

Rotations

The **Image | Rotate** menu contains various useful tools for changing the orientation of an image (or part of an image), most of which are self-explanatory. The first set (from Free Rotate to Flip Vertical) is designed to be used on a selection or layer and will be unavailable if only the background layer is selected.

How to Free Rotate

This allows you manually to rotate the selected area or layer element.

- 1 Move the cursor just inside or outside the corner of the bounding box until it changes to a curved double-headed arrow.
- 2 Click and drag to rotate the image.
- 3 When you are happy with your changes, double-click within the bounding box to apply the changes.

Canvas Custom

This allows you to rotate the canvas (ie the entire image) by a set number of degrees.

- 1 Enter the value and direction in the dialogue box.
- 2 Click **OK**.

The canvas will be enlarged to accommodate the rotated image.

Helpful hint: If you'd prefer to do this visually select the entire image (**Select | All**) and use Free Rotate. You may wish to increase the canvas size before doing this.

(Canvas) 90° Left/Right, 180°

These options will all rotate the selection or canvas in the direction and by the amount indicated.

Flip (Canvas) Horizontal/Vertical

These will mirror the selection or canvas on the horizontal and vertical axis respectively. This is useful when slides have been scanned the wrong way round but should be avoided on images with text as it will become mirrored.

Straighten (and Crop) Image

These tools are designed to straighten an image automatically, for instance one that has been scanned in at an angle, and crop any empty space if desired. It works best if there's empty space around the image and good contrast between the image edge and the background.



Exercise 6: Using the Rotate Tools

- 1 Open the file rotate01.jpg.
 - 2 Rotate it so it is the right way up.
 - 3 Open the file rotate02.jpg.
 - 4 Use Free Rotate or Canvas Custom to straighten the image.
 - 5 Crop the image to remove the empty edges.
 - 6 Open the file rotate03.jpg.
 - 7 Use an appropriate tool to correct the orientation of the image.
 - 8 Revert (**File > Revert**) rotate03.jpg to its original state.
 - 9 Correct the orientation of the text without changing the image orientation.
-

Resolution Re-cap

The resolution of an image is measured in dots per inch (dpi). It is usually dictated by the method used to render the image — most screens display at around 96 dpi whilst printers generally use at least 300 dpi.

A pixel is equivalent to a dot, as in dpi, so an image's physical dimensions can be calculated by dividing the pixel dimensions by the resolution:

Physical size = pixel size/resolution

So when printed at 300 dpi an image that is 1200 by 900 pixels will be (1200 divided by 300) wide and (900 divided by 300) tall = 4 by 3 inches.

When displayed on a screen at 72 dpi the same image will be (1200 divided by 72) wide and (900 divided by 72) tall = 16.7 by 12.5 inches.

This highlights an important point — to print an image with the same dimensions as it appears on screen will require a lot more pixel information. If you try to print an image at the same dimensions without this additional information the printer will basically stretch it out; and the further it has to stretch it, the poorer the quality will be.

Use **View | Print Size** to see the size of the image when printed out at the defined print resolution.

Warning!

Whenever you change the pixel dimensions of an image it is recommended you make a backup of the original. Since pixels comprise an image's data, any change to the number of pixels will mean a change to the original data. Reducing the number of pixels will mean losing data — which it will not be possible to recover.

Increasing the number of pixels will require Photoshop to use existing data to interpolate the additional pixels. This will generally result in a slight blurring of the image and is in no way a substitute for capturing more data in the original image.

Resizing

How Size Is Defined

Image size can potentially refer to different things depending on the context.

File size (measured in bytes)

This defines how much disk space is required to store the image. The more detail stored in the image, the larger the file size.

Pixel dimensions (measured in pixels)

This is the number of pixels used to store the image information. More pixels means more detail can be stored, but also means a larger file size.

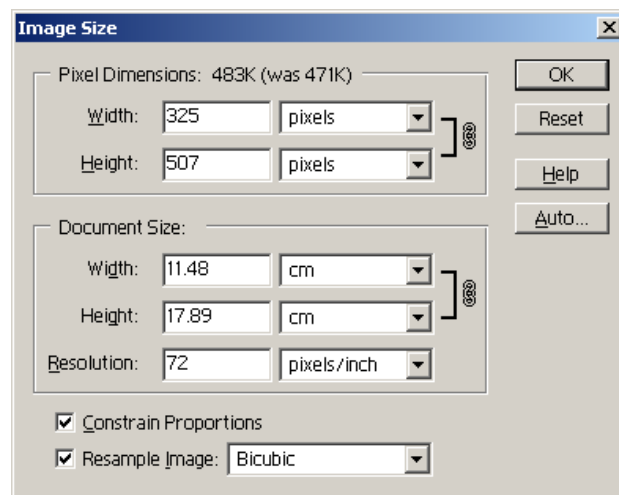
Physical/document dimensions

This is generally measured in centimetres or inches. This is determined by a combination of the pixel dimensions and the resolution of the image.

Resizing an Image

To resize an image from the menu choose **Image | Resize | Image Size**.

Before going any further you need to decide if you want to change the number of pixels in the image. To do this, ensure there is a tick in the **Resample Image** box. If you want to leave the number of pixels unaffected remove the tick from this box.



The Image Size dialogue box

If resampling is switched on, there are three resampling methods available: Nearest Neighbour, Bilinear and Bicubic. The default method is Bicubic — this will result in the smoothest interpolation and is recommended.

Ticking the **Constrain Proportions** box ensures that the image aspect ratio remains unchanged when the width or height is altered.

Changing Document Size/Resolution

When you remove the tick from **Resample Image** the pixel dimension settings become unavailable — you can then change the document's physical dimensions or its resolution:

- ◆ By changing the resolution Photoshop will take the pixel dimensions and calculate the resulting physical dimensions.
- ◆ If you change the physical dimensions Photoshop will calculate the resolution required to render the image at those dimensions with the pixels available.

So changing either the physical dimensions or resolution will automatically result in a change in the other.

The drop-down boxes to the right allow you to change the measurement units being used and also switch between pixels per inch and pixels per centimetre. As dpi is measured in inches it's recommended to leave this on inches.

Hint: It is important to ensure you set the right resolution for the intended task, particularly if the image is to be printed. If you print an image at a low resolution you may increase the size of the print, but this will be achieved at the cost of quality. The best way to get large print sizes is to ensure you have enough pixels in the image from the outset.



Exercise 7: Resizing an Image

- 1 Open the file `resize01.jpg`.
- 2 Open the **Image Size** dialogue box and, without clicking OK, find out the following:
 - ◆ What size will the image print out at if the resolution is set to 300 dpi?
Tip: make sure **Resample Image** is not ticked.
 - ◆ What would the pixel dimensions be if you wanted the image to appear the same size on screen (at 72 dpi)? **Tip:** to find this out you will need to have **Resample Image** ticked.
 - ◆ Now, if you change the pixel width to 482, how wide will the image appear on screen?
- 3 Click **OK**, and then set the image zoom to 100%.

- 4 Now re-open the **Image Size** dialogue box and set the resolution to 300 dpi without resampling and click **OK**.
 - 5 Go to the **View** menu and select **Print Size**. This will show you on screen the size of the image if printed out at 300 dpi.
 - 6 Open the file `resize02.tif`.
 - 7 Enlarge the pixel dimensions by 400%.
-

Changing the Pixel Dimensions

When **Resample Image** is ticked, you will have the option to change the pixel dimensions.

Changes can still be made to the physical dimensions and resolution but they will no longer affect each other, instead the pixel dimensions will be adjusted to achieve the desired physical dimensions or resolution. Alternatively you can change the pixel dimensions directly by entering a number in the appropriate edit box.

The drop-down boxes to the right of the pixel dimensions allow you to switch to percentages so you can alter the size proportionately. So if you wanted to halve the size of your image you could switch it to percentage and put 50 in the box on the left.

Resizing for the Web

When working with images for the web you do not need to worry about document dimensions or resolution, as browsers do not use these values to display images. So all you need to change is the pixel dimensions — doing this will require the image to be resampled.

Changing the Canvas Size

Making changes to the canvas size will simply add a border to the existing image or cut a section of the image away; it will have no effect on resolution, though it will change the pixel and document dimensions.

How to Change the Canvas Size

- 1 From the **Image** menu select **Image Size | Canvas Size**.
- 2 Enter the required dimensions. Use the drop-down boxes on the right to change the measurement units. The dimensions are not constrained, so it is possible to change the aspect ratio in the resulting canvas size.
- 3 Set the Anchor point. If this is left in the centre, a border will be added or subtracted from all sides of the image. Otherwise it will be added or subtracted from the opposite side to those selected.
- 4 Click **OK**.

Note: When reducing the canvas size you will be warned that clipping may occur. This means that some of the existing image will be lost. You will not be able to recover it, so you need to proceed with caution.

Saving for the Web

Before the process of saving an image for the web can begin, there are several preliminary steps to follow.

Resize the Image Appropriately

You should not resize an image within an HTML editor such as Dreamweaver MX, as this does not actually alter the size of the image itself, only the size at which it is displayed, so the file size is not reduced. Instead the image should be set to the exact pixel size required in your site layout.

If you want to display a large image on a website you should consider the likely screen settings of a site's visitors. If the computer screen resolution is set at 800 x 600, the size will be limited to the maximum size of the image, if it is all going to fit on screen at the same time.

Allowing a border of a hundred pixels around the image to take account of the browser's menus etc means your image probably should not be any larger than 500 x 400 pixels.

Decide on the Appropriate Web Image Format

This choice depends on the type of image: any photographic images should be saved in JPEG format, whilst images with large areas of flat colour (for example logos or banner images), or line art, are best saved in GIF format.

If you need to use the same image on several pages with different background colours you could use a GIF and give it a transparent background.

The PNG format is in theory suitable for any image type. However, as it is a relatively new format not all browsers support all of its features. Those that do may not actually display the colours correctly and you will get a blur of colour between the image and the background if they are the same colour.

Helpful Hint: Choosing the appropriate format is vital, as each one is designed to achieve the best level of compression whilst maintaining image quality. Choosing the wrong format may result in loss of quality or unnecessarily large file sizes.

Using Save for Web

From the **File** menu choose the **Save for Web** option.

The resulting dialogue box displays two versions of your image: the original and a preview of the optimised image. Beneath the preview you will see the optimised file size and the likely download time on a particular speed of modem. On the right-hand side are the format and compression options.

You can navigate around your image using the Hand and magnifying tools as in the normal workspace. It is recommended to assess quality adjustments with magnification set to 100%.

Preview Menu

This menu can be used to change the preview display.

Browser Dither will show the image as it will appear in a browser limited to web safe colours. These limitations are now relatively rare and it is fairly safe to assume that most people will not see your image as it appears in this preview.

The colour settings relate to how colours will appear on different platforms and when using colour management.

Size/Download Time will show the predicted download time of your image for the selected connection speed. A sensible setting is 56.6 kbps modem.



Preview In

Clicking this button will preview your image in the selected web browser.

Settings

This drop-down box contains a range of preset options for different file types. You can use one of these as is, or customise it. Alternatively, select an appropriate file format and then adjust compression settings as follows.

JPEG Options

To change the quality setting and compression rate, choose one of the predefined settings from the drop-down box (ie low, medium, high, maximum) or use the slider on the right to increase or decrease the setting.

Look at the optimised view and file size and try to get a good balance between the picture quality and the file size.

Optimised — tick this to achieve slightly better compression (this is not supported by some older browsers).

Progressive — this will result in an image that displays progressively in the browser. A low quality version of the image will appear at first and will gradually reveal to the final image. Useful if you have slow connections as this shows that the browser is actually doing something.

Matte — if your image contains any transparent areas this colour will be used to fill them in, as transparency isn't supported in JPEG images. You will have more control over this if you remove any transparency within Photoshop before saving.

ICC Profile — this stores a colour profile with the image, thereby increasing the file size, and is only likely to be useful with images where colour fidelity is vital and where the viewer's machine has been properly calibrated (this is very unlikely).

GIF (PNG8) Options

To increase the level of compression in a GIF image, you restrict the number of colours used to display it — the fewer colours, the smaller the file size and the lower the quality. Set the number of colours with the Colours drop-down, or enter the number directly in the dialogue box. Photoshop will generate an optimised colour palette, using the best possible range of colours to represent the image.

Interlaced — similar to the progressive option in JPEGs. A low quality version of the image will be displayed while the full version is loading.

You can change how the optimised colour palette is generated by choosing between Selective, Perceptual, Adaptive, Web and Custom. Selective is usually the best option to choose, though you may find it difficult to see any difference except with Web which will only use web safe colours and will likely result in poor quality.

Dither

The default value for this option is Diffusion.

When you reduce the number of colours used in an image, Photoshop will dither the colours to try and maintain fidelity: it will use a pattern of colours to give the impression of more colour being used in the image. The Dither options allow you to change the way this pattern is generated and to what extent it is applied.

Select the desired dither method in the drop-down and, when using Diffusion, the amount (%) it is applied using the slider.

Transparency

Note: Not all browsers support PNG transparency.

Ticking the **Transparency** box will preserve any transparency present in the image.

Matte

If Transparency is unticked any transparent areas of your image will be replaced with the colour selected here. If Transparency is ticked the colour selected here will be used to anti-alias the edges between colour and transparency, resulting in smoother edges. This may, however, result in ghosting when the image is inserted on a page with a different background colour. Choosing **None** will avoid this problem but will result in aliased (jagged) edges.

Animate

Animated GIFs can be created in Photoshop Elements by putting each animation frame on a separate layer. This is not covered in this workbook.



Exercise 8: Saving Images in Different Formats

JPEGs

- 1 Using the **Save for Web** option, save the file web01.tif in the JPEG format. Aim for a file size of around 30 kb. What quality setting is required to achieve this? How long will this take to download on a 56 kbps modem?
- 2 Open web03.tif, choose the JPEG format and get the file size to about 20 kb. Do not save this file!

GIFs

- 1 With the web03.tif file you already have open, switch from the JPEG format to GIF. Adjust the number of colours until you have a file size of around 20 kb.
- 2 Now switch between the GIF and JPEG format to see the difference in quality. Zoom in to 200% if necessary.

GIF Transparency

Save the file web04.psd so that it can be used on differently coloured web pages without creating the halo effect.

Painting Tools

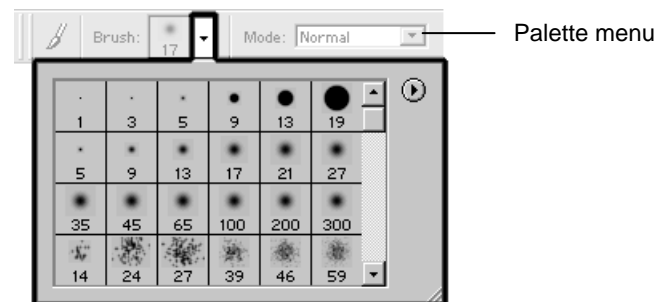
Photoshop Elements includes various tools that allow effects to be painted directly onto an image as well as more traditional painting and drawing tools. The most useful, in terms of improving an already existing image's quality, are detailed here.

Paintbrush

This is a standard paintbrush that applies the foreground colour onto an image, and will be used as an example of the available brush settings. Note that not all these settings are available with all brush types and some brushes have additional settings.

Pop-up Palette

Click on the arrow to open a palette of preset brushes. You can then select one of the existing brushes. The palette menu also allows you to manage how the brush previews are displayed, the set of brushes available, and to create, rename and delete brushes from the palette.



Brush Options

Click the brush preview to open the brush options. These allow you to change:

Diameter — the size of the brush.

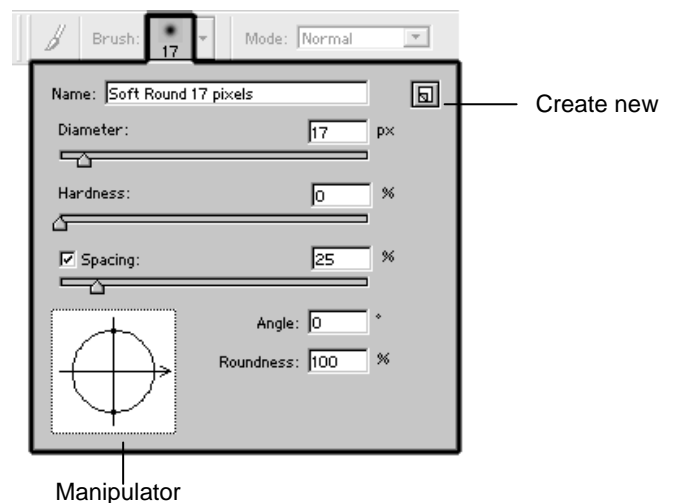
Hardness — relates to the edge of the brush; higher settings will make the edge sharper.

Spacing — if switched on this will determine the spacing between applications of colour: the higher the setting, the more intermittently colour will be applied.

Angle — the angle of the brush will only become apparent if the roundness is set to less than 100%.

Roundness — reduce this to create an elliptical brush.

Create new pre-set — adds a thumbnail of the current settings to the palette.



The angle and roundness can also be set using the manipulator. Click and drag the dots to adjust roundness and the arrow to adjust the angle.

Mode — used to set the mode with which colour is applied. The default of Normal is recommended in the majority of cases. You can experiment with the mode setting. If you require further details then you will need to refer to the Help menu.

Opacity — determines the transparency of the colour being applied: 100% will produce a solid colour; 1% will be virtually transparent and lead to an imperceptible effect.

Wet edges — when switched on, colour will be applied as with a watercolour brush, the edges of the stroke will be thicker and the centre will be slightly transparent.

Other Brush Tools

These brushes do not necessarily apply any colour to the image but may instead alter the values of existing pixels in some way.

Eraser

This brush is used to erase pixels from a layer. Except in the case of background layers, this will result in a transparent area revealing the layer below. Adjusting the opacity of the eraser will change the resulting level of transparency, where 100% is fully transparent and 1% is virtually opaque. There are also two alternative erasers (see below).

Background Eraser

In a similar way to the Magnetic Lasso tool this brush can distinguish edges where there is a reasonable level of contrast. It will only erase pixels if they fall within the tolerance level. By reducing this setting the sensitivity is increased.

Magic Eraser

This uses colour values to determine which pixels to erase. Adjust settings just as with the Magic Wand tool and click on the area you wish to erase. An alternative option is to use the Magic Wand to select an area and then delete it, you can then see the area that is about to be deleted.

Blur/Sharpen

These tools blur or sharpen the area the brush stroke is applied to. Increasing pressure in the Options bar will increase the amount of blur or sharpness applied with each stroke. Note that excessive sharpening can highlight compression artefacts in compressed file formats.

Sponge

This allows you to increase or decrease the saturation of the pixels you apply it to, making colours look more vibrant or reducing them towards greyscale. Choose between Saturate (to make colours more vivid) and Desaturate (to remove colour) and set an appropriate pressure.

Smudge

This smudges the existing pixels in the direction of the brush stroke. The Mode can be used to determine which pixel properties are 'smudged'. The Finger Painting option will apply the Foreground Colour and then smudge it.

Dodge/Burn

These two tools lighten and darken the pixels they are applied to. Use Range to restrict which shades will be affected and Exposure to adjust how much the effect is applied with each stroke.

Clone Stamp

This brush uses the image, or another image, as the source for the colour values it applies. This means you can select one part of an image and paint it onto another. This is very useful when you need to repair textured areas of an image (eg in an old photograph) as it allows you to use existing texture and paint it directly over the damaged portion.

- 1 Hold the **[Alt]** key and click at the point on the image that you wish to use as the source. This does not have to be the image you are painting on — simply open the source image alongside the original and select the source point.
- 2 The brush size and settings can be altered as with other brushes — using a soft edged brush (ie with low hardness setting) will make it easier to blend in with the existing texture. Aligned determines whether the source of each brush stroke remains relative, or starts again, from the point selected in step 1.

Eyedropper

Whilst this is not actually a brush it deserves mention. This tool allows you to take an existing colour from an image and set it as the foreground colour.

Change the Sample Size as follows:

- ◆ **Point Sample** — uses the colour of a single pixel to determine the colour
- ◆ **3 by 3 Average** — uses an average of 3 by 3 pixels to determine the colour
- ◆ **5 by 5 Average** — uses an average of 5 by 5 pixels to determine the colour

Exercise 9: Using Other Tools

- 1 Use the Brush tool to paint a picture in a new document. Experiment with colour, size, hardness, angle and opacity settings.
- 2 Open clone01.jpg. Use this image to experiment with the other Painting Tools: Eraser, Blur/Sharpen, Sponge, Smudge, Dodge and Burn. Do not bother to save the changes to the image.
- 3 Use **File | Revert** to go back to the original image. You can now use the Clone Stamp tool to fix the sky.

Advanced Selections

Whilst marquee selections have their uses, they are relatively limited — most subjects are not rectangular or elliptical! Photoshop Elements includes several powerful tools for generating complex selections. You should remember that you can refine selections using the add/subtract/intersect selection options — and that you can switch between selection methods whilst doing so.

As with the geometric selection tools you can access several types of freeform selection tool:

| Name | Advantages | Disadvantages |
|----------------------|---|---|
| Lasso Tool | Smoothly curved selections | Fiddly — needs a steady hand! |
| Polygonal Lasso Tool | Easier to use | Not as good at creating smoothly curved selections |
| Magnetic Lasso Tool | Combines ease of use with smooth selections | Requires good contrast between background and area to be selected |

How to Use the Lasso Tool

The Lasso tool is a freehand selection tool which is good for making rough selections, or where speed is more important than accuracy. This really requires a steady hand and preferably a graphics tablet.

- 1 Click on your image at a point where you wish to begin your selection and keep the mouse button held down.
- 2 Move the mouse to 'draw' the selection around the desired area, returning to the point at which you began.
- 3 Release the mouse button to close the selection. If you don't return to the starting point a straight line will be used to connect to it.

How to Use the Polygonal Lasso Tool

This works like 'join the dots' and makes it easier to create complex selections without the need for a steady hand.

- 1 Click on your image at a point where you wish to begin your selection. Release the mouse button. This anchors your selection to that point.
- 2 Click and release at the next point along the area to be selected — the selection will now be anchored to this point.
- 3 Continue in this way all round the desired area. Use more clicks on those areas with more detail or to create smoother curves. If you misplace an anchor point, the Backspace or Delete key can be used to remove it.
- 4 Either return to the start point or double-click to close the selection.

How to Use the Magnetic Lasso Tool

This is a semi-automatic method of creating selections that works well on areas with good contrast.

To adjust the 'magnetic settings':

- 1 Click on your image at a point where you wish to begin your selection. Release the mouse button.
- 2 'Draw' around the desired area — the selection will automatically 'anchor' itself to the edge of the area, so long as it contrasts sufficiently with the background colour. You can manually set an anchor point by clicking the mouse button. You can delete anchor points by pressing the Backspace or Delete key on your keyboard.
- 3 Return to the start point or double-click to close the selection.

Colour-based Selections

Previous selection methods have required the user to manually trace the area to be selected. Photoshop also includes selection methods that work by using the colour values of pixels to automatically create a selection.

Magic Wand

This tool creates selections based on the colour values of pixels within the image. It will achieve best results when the area to be selected contains a large area of fairly uniform colour that contrasts well with surrounding colours. To make a selection click on the colour in the image that you want to use as the basis of your selection — for example if you want to select the sky you would click on the blue colour that is most prevalent.

Options

- ◆ **New/Add/Subtract/Intersect** — these have been considered previously.
- ◆ **Tolerance** — this controls the sensitivity of the selection process. The lower the number, the more similar a pixel has to be to the initially selected colour for it to become part of the selection. Higher numbers will include more and more pixels in the selection, with 255 as the maximum — equivalent to **Select | All**.
- ◆ **Anti-aliased** — if ticked this will avoid aliasing in curved portions of the selection (recommended).
- ◆ **Contiguous** — if ticked the selection process will spread outwards from the point clicked, searching for all adjacent pixels within the tolerance range. When not ticked the selection process will select pixels across the whole image that fall within the set tolerance.
- ◆ **Use all layers** — Tick this if the selection should be made across several layers, otherwise it will only use the currently selected layer.

Select Menu — More Advanced Options

Feather

With some selection tools it's possible to set the amount of feathering before making a selection. This renders the borders of the selection gradually more and more transparent so the selected area will, for example, blend with the background of any image it is pasted into. The size of the feathering is set in pixels — the amount entered will depend on the pixel size of the image being worked on as well as the amount of blending that is required.

The Feather option in the Select menu allows you to apply feathering to an already existing selection. Simply enter the pixel value required. **Note:** This is a one-way process; it is not possible to reduce the amount of feathering once it has been applied.

Modify

- ◆ **Border** — takes the current selection and creates a feathered selection bordering it. Set the width of this bordering selection in the dialogue box.
- ◆ **Smooth** — removes stray pixels from selections (ie resulting from using the Magic Wand). It will also result in a slight loss of sharpness at the edge of selections.
- ◆ **Expand** — enlarges the selection by the number of pixels entered in the dialogue box.
- ◆ **Contract** — shrinks the selection by the number of pixels entered in the dialogue box.

Grow

This uses the colours of pixels within an existing selection as the basis for a contiguous Magic Wand selection. So it will use all the colours within the current selection and expand the selection outwards finding all adjacent pixels that match these colours, within the tolerance value set.

- 1 Switch to the **Magic Wand** and enter the desired tolerance in the **Options** toolbar.
- 2 Apply the **Grow** command from the **Select** menu.

Similar

This uses the colours of pixels within an existing selection as the basis for a non-contiguous Magic Wand selection. So this will take the colours within the current selection and select all instances of these, within the tolerance value set, wherever they appear in the image.

- 1 Switch to the **Magic Wand** and enter the desired tolerance in the **Options** toolbar.
- 2 Apply the **Similar** command from the **Select** menu.



Exercise 10: Using the Lasso Tools

- 1 Open selection01.jpg.
- 2 Try using the various **Lasso** tools to select the sky.
- 3 Use **Select | Deselect** to remove previous selection.
- 4 Now try selecting the sky with the '**Magic Wand**'.
- 5 Use **Select | Inverse** to select the foreground.
- 6 Cut and paste the selected foreground — this will place it on a new layer.
- 7 Save the file as Selected.psd (Photoshop format).

Transformations

The Transform tools (**Image | Transform | ...**) can be used to make various changes to a layer or selection. When working on a Background layer they can only be used on a selection.

Whichever tool is chosen, a rectangular manipulation box will appear around the selection or layer element. This has various control points which are used to manually apply the desired transformation.

The simplest transformation is to change the position of the selected object. To do this click and drag inside the manipulation box. Some changes can also be applied by altering the values in the dialogue boxes that appear in the Options bar.

Note: Transformations can result in loss of quality, for example enlarging an element will have the same effect as using the resize tool. This will lead to a blurring of the enlarged element.

Options Bar

Anchor point — only applies when a rotation is being performed. Defines the point around which the selected object rotates (by default the centre). Click on any point to make that point the centre of rotation.

Width and height — percentage values can be entered to resize the element. Click the chain icon in the middle if you wish to retain the same aspect ratio.

Rotation — enter a value between -180 and $+180$ degrees.



Use these buttons to restrict transformations to rotating, resizing and skewing respectively.



Once a transform tool has been launched you will not be able to continue editing the image, or in fact save it, until you have either accepted or rejected the transformation. Use these buttons to accept or reject the changes. Alternatively double-click on the object or press Enter to confirm and use Escape to cancel.

Free Transform

This tool allows you to resize and rotate the selected element.

- ◆ **Rotate** — move the cursor outside of the manipulation box; it will change to a curved, double-headed arrow. Click and drag to rotate.
- ◆ **Resize** — click on one of the corners and drag the mouse. Hold the **[Shift]** button down to retain the same aspect ratio.
- ◆ **Stretch** — click on either side or the top or bottom control handles and drag to stretch the element in that direction.

Skew/Distort/Perspective

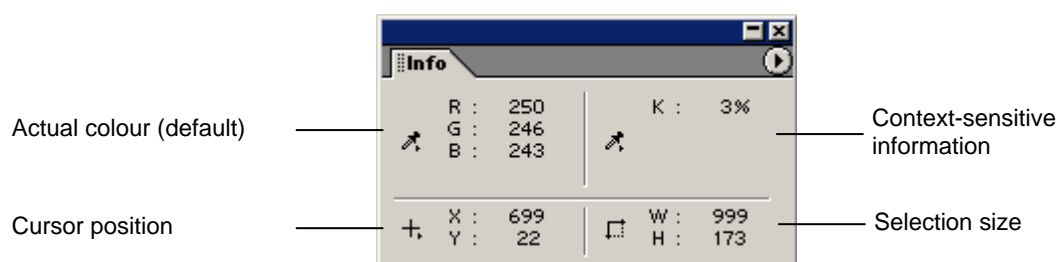
These three tools all allow you to distort the shape of the element but restrict changes in specific ways:

- ◆ **Skew** — use the middle handles to apply a slant to the element
- ◆ **Distort** — use the corner handles to distort the element
- ◆ **Perspective** — use the corner handles to give the illusion of perspective, or to correct existing perspective effects (eg convergent lines in images of buildings).



Colour Correction

The Info Palette

When using colour correction tools it is often useful to know the colour values of pixels within an image. The Info palette will, by default, display the actual colour (as an RGB value) of the pixel under the cursor.



It also displays the position of the cursor, the size of a selection and context-sensitive information, which can also be used to display colour values in an alternate format.

Click on the Eyedropper icons  to change the colour format displayed. Click on  to change the scale used for the cursor position. The context-sensitive information will change depending on which tool is currently selected.

The Enhance Menu

Auto Levels

Applies the Levels command (see Brightness/Contrast below) and makes adjustments automatically based on existing pixel values. This can lead to unwanted changes in colour balance and is not recommended.

Auto Contrast

Automatically adjusts the brightness and contrast of the image, making adjustments based on existing pixel values.

Adjust Backlighting

Adjust the slider to compensate for over-exposure. Photoshop will attempt to automatically identify over-exposed areas and reduce their brightness.

Fill Flash

Adjust the slider to compensate for under-exposure. Photoshop will attempt to automatically identify under-exposed areas and brighten them.

Colour Cast

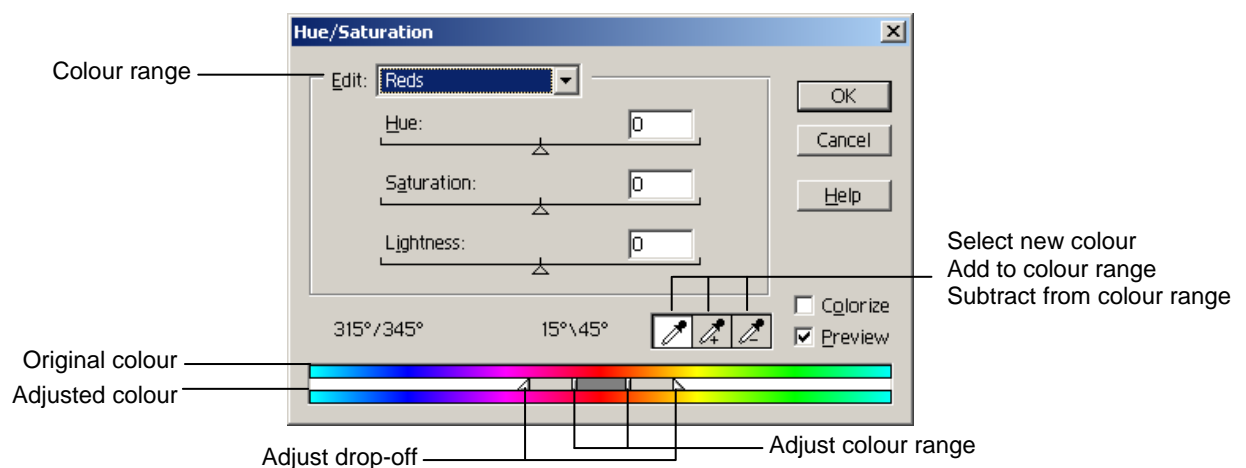
Different lighting conditions can affect the way a camera captures colour, making the picture look as though it has been tinted. For example, fluorescent lighting often gives images a yellow or green tint. This tool is used to correct these 'colour casts', but also has the potential to create them so should be used with care.

- 1 Click on a colour in the image that you know should be black, white or a neutral grey.
Any of these three colours should contain an equal amount of red, green and blue, so Photoshop will use the selected pixel to determine which colour is causing the cast and adjust all pixels appropriately.
- 2 If necessary click on another pixel to apply a subsequent colour adjustment. You also have the choice to click on **Reset** to reset the colours to their initial state and start from scratch.
- 3 Click **OK** when you are happy with your adjustments.

Note: You can often tell what colour the colour cast is by eye alone and pick a pixel that will compensate appropriately by checking the Info palette. So, for example, if you know there is too much blue in the image, find a pixel that has matching values for red and green and a larger amount of blue. Clicking on this pixel will make Photoshop reduce the blue values in all pixels.

Hue/Saturation

This can be used to adjust colour values across the entire image (choose **Master** from the drop-down) or can be restricted to a range of colours. The two colour bars at the bottom of the dialogue box represent the original colour and the output colour after changes have been made to the hue.



They are also used to display the range of selected colours.

How to Choose a Colour Range

- 1 Choose **Master** or a **Colour range** from the drop-down box.
- 2 If necessary adjust the range:
 - ◆ Use the Eyedropper tools to select a new colour, or to add or remove colours from the range. Note that you can only select a contiguous range of colours. So, if you initially selected reds and added green, the affected colour range would also include yellows.
 - ◆ Move the sliders to select the colour range and drop-off (colours within the drop-off will be partially affected by any changes made).
- 3 Make adjustments to Hue, Saturation and Lightness as required. The main effect of these sliders are described below.
- 4 Click **OK**.

Hue

Moves all existing colour values, or those within the selected colour range, around the colour wheel. Look at the colour bars at the bottom to see the effect.

Saturation

Adjusts the strength of the colour — decreasing saturation will reduce colour intensity, whilst increasing it will make colours appear stronger and more vibrant.

Lightness

Used to adjust the shade of the colour values.

Colourise

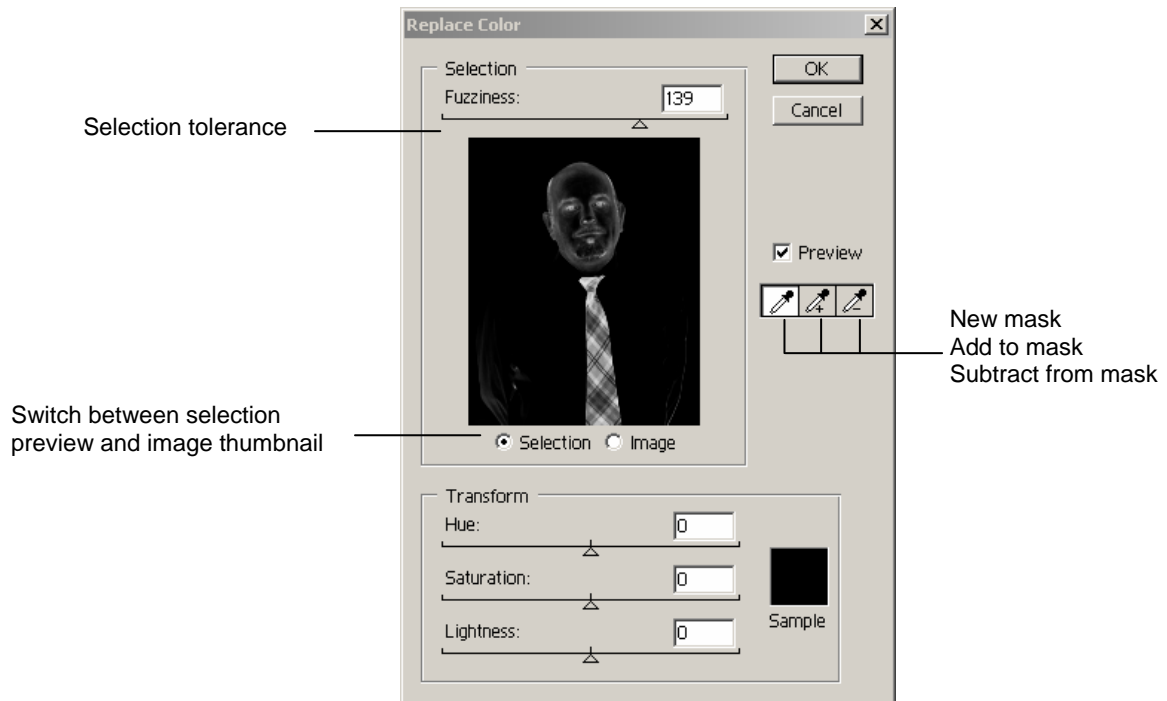
This is designed to tint greyscale images with colour. Ensure the image is in RGB mode (**Image | Mode | RGB Colour**).

Remove Colour

Replaces all colour in an image with an appropriate shade of grey, but does not change the image mode. If the image is to remain in greyscale you can reduce file size by switching the image mode to Greyscale (**Image | Mode | Greyscale**).

Replace Colour

This tool achieves similar results to the Hue/Saturation tool but uses a colour-based mask to select the pixels to affect. The main advantage of this is that, unlike the Hue/Saturation tool, you can adjust non-contiguous groups of colours.



So you could select all red and green sections of an image and adjust these without affecting any yellow sections.

How to Use the Eyedropper Tools

- 1 Use the eyedropper tools to select, add or subtract colours from the mask. You can click either on the image directly in the work area, or by selecting **Image** in the dialogue box and clicking on the thumbnail.
- 2 Set the Fuzziness to adjust the tolerance of the selection — the higher the number, the more pixels will be included in the selection (this is similar to the tolerance setting on the Magic Wand tool).
- 3 Click on **Selection** in the dialogue box to see a visual representation of the selection.
- 4 Make adjustments to Hue, Saturation and Lightness as required.
- 5 Click **OK**.

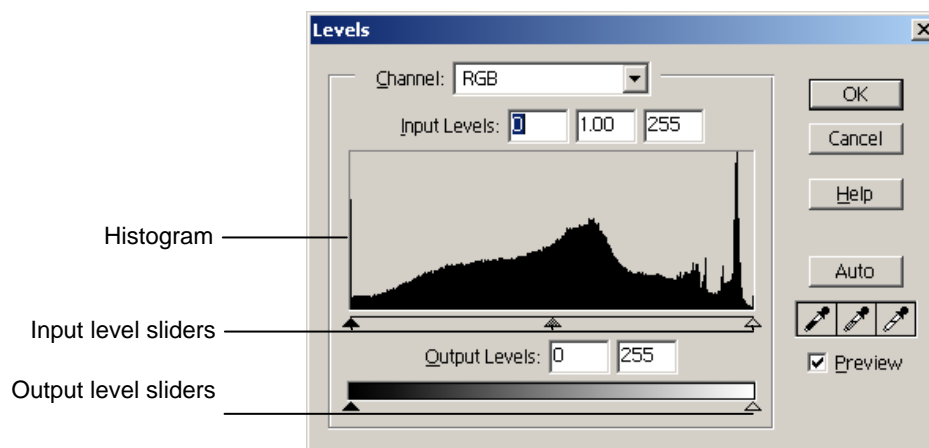
Brightness/Contrast

This option is useful for minor changes to brightness and contrast, though the Levels tool is recommended if you need more control over the effect.

- 1 Use the sliders to adjust brightness and contrast.
- 2 Click **OK**.

Levels

Levels are without doubt the best option available when adjusting the tonal range of an image. They allow you to alter the values of shadows, midtones and highlights independently of each other, rather than adjusting across the board as happens with the Brightness/Contrast tool.



They are also the more complicated option, not least as it's possible to use different methods to achieve the same result and it's also possible to apply changes to individual colour channels.

The Histogram

The histogram in the middle of the dialogue box represents the distribution of colour shades across the entire image, current layer or selection. In most photographs that don't contain large amounts of white or black the ideal histogram will be a bell curve, not dissimilar to the one in the screenshot above. If the curve is centred towards the left then the image/selected area is likely to be under-exposed (too dark). If it is towards the right then it has probably been over-exposed (too bright).

Input Levels

The input levels can be adjusted to make shadows darker, highlights lighter and make midtones either darker or lighter.

- ◆ To darken shadows increase the value in the first Input Levels box, either by entering a figure directly, or by dragging the black slider to the right.
- ◆ To lighten highlights decrease the value in the third Input Levels box, either by entering a figure directly, or by dragging the white slider to the left.
- ◆ To adjust midtones change the value in the second Input Levels box, either by entering a figure directly or by dragging the grey slider to the left or right.

Generally speaking, the shadow and highlight values should correspond to the beginning and end of the curve, but can be pushed beyond this as required. Excessive adjustments can lead to loss of detail or clipping as well as unrealistic results.

Output Levels

These can be used to reduce the amount of contrast in an image or avoid unrealistic levels of black and white. Generally speaking, areas are unlikely to appear totally black or white in real life. Increasing the shadows or highlights, however, can create areas of pure black or white.

- ◆ To lighten shadows increase the value in the first Output Levels box, either by entering a figure directly or by dragging the black slider to the right.
- ◆ To darken highlights decrease the value in the second Output Levels box, either by entering a figure directly or by dragging the white slider to the left.

Channel — Fixing Colour Casts with Levels

The default setting for Channel is RGB. By switching the channel to one of the three colour channels (Red, Green or Blue) the histogram changes to display the output for that individual colour channel, ie the amount (not shade) of that colour in the image.

With an individual colour channel specified in this way, adjustments in the Levels dialogue box no longer affect the shade of colours but instead alter the amount of that colour present in each pixel of the image (or selection). This gives a certain amount of control over colour tints within the image and allows manual correction of colour casts.

In order to make effective use of this functionality you need to know that each colour channel has an opposite colour associated with it — by decreasing the value of one of the channels you automatically increase the values for the ‘opposite’ colour and vice versa. So, for example, if you reduce the Red output you also increase the output of Cyan (see chart below). So to fix a colour cast you need to identify the colour of the cast (the info panel can be useful here), switch to the appropriate colour channel and make adjustments as necessary.

| Channel | | Opposite | |
|---------|---|----------|---|
| Red |  | Cyan |  |
| Green |  | Magenta |  |
| Blue |  | Yellow |  |

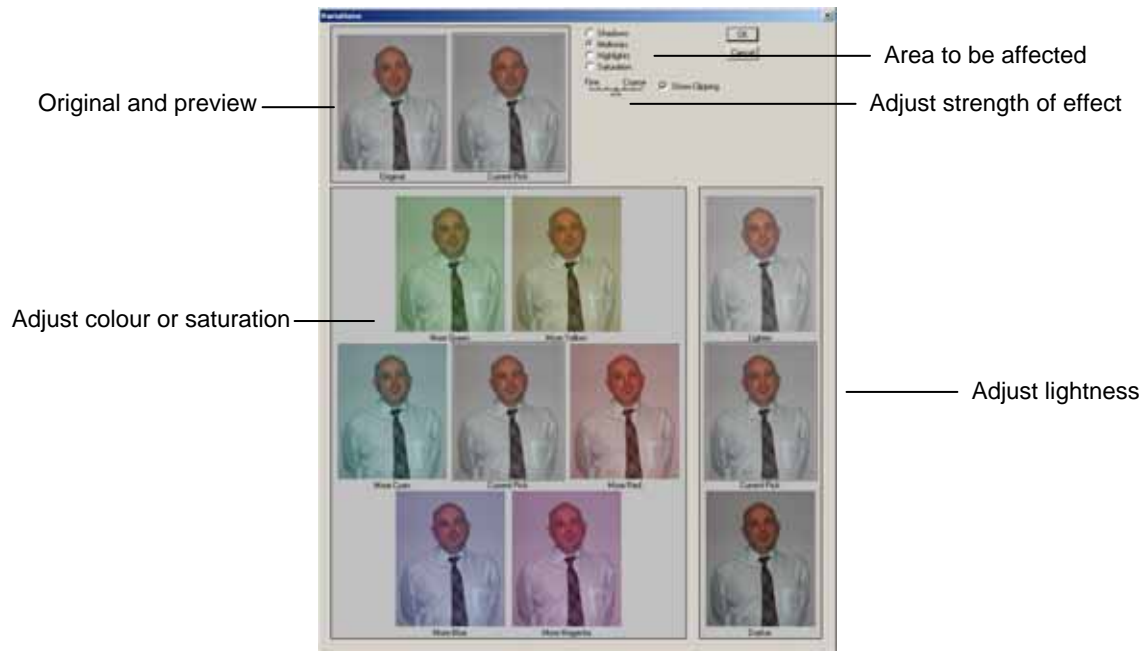
Variations

This is a visual tool for changing colour, contrast and saturation in an image.

- 1 Chose what you wish to affect with your alterations:
 - ◆ Shadows, Midtones or Highlights — changes will affect the colours that fall within the specified range of shades
 - ◆ Saturation
- 2 Select the intensity of the effect using the Fine/Coarse slider.
- 3 Click on the thumbnail that matches your requirements — the Current Pick thumbnail will be updated to reflect your changes.
- 4 When you’re happy with all your adjustments click **OK**.

Show Clipping

Changes in saturation, colour values and contrast can potentially lead to a loss of detail in the image (where separate colours merge into one), particularly in the Shadows and Highlights. This is known as clipping. Ticking the **Show Clipping** box will display a visual representation (neon highlights) on the thumbnails of those areas where clipping will occur.



Filters

To apply a filter chose the required filter from the **Filter** menu. Some of the selected filters will require you to make adjustments in a dialogue box, whilst others will be applied immediately.

There are a huge range of filters available for Photoshop and other graphics packages. Many are included in the default installation of Photoshop Elements and more can be bought, downloaded and installed as required. As there are so many it is not practical to go through all of them in detail so the most useful, in terms of improving image quality, are described.

Blur/Blur More

These filters require no user input. They apply blur across the entire image by averaging adjacent pixel values. On large images the blurred image may look indistinguishable from the original, especially when using just Blur.

Gaussian Blur

This blur method is more useful than the previous two, especially on larger images, as it gives more control over the amount of blurring.

- 1 Set the Radius — the larger the number, the more blur will be applied.
- 2 Click **OK**.

Smart Blur

This filter gives even more control than Gaussian blur as it allows you to apply the blur selectively based on levels of contrast within the image.

- 1 Set the Radius. This is the area used to determine the effect. Generally, images with larger pixel sizes will require a larger radius; small images (eg those resized for screen use) are not likely to need a radius setting greater than 1 or 2.
- 2 Set the Threshold. The higher the value, the greater the contrast required on an edge for it to remain unaffected by the blur.
- 3 Set the quality setting to Low, Medium or High. High may take longer but will produce better results.
- 4 The Mode options can be used to give visual feedback on which edges will remain sharp and which areas will be blurred.
 - ◆ Normal: no visual feedback — switch to this to apply the effect when finished making adjustments.
 - ◆ Edge Only: areas in black will have the blur applied — white edges will remain sharp.

- ◆ **Overlay Edge:** overlays white lines on those edges that will remain sharp.

5 Click **OK**.

Noise

The Noise filters can be used to add noise to an image as well as to remove noise artefacts.

Add Noise

This can be used to add noise (graininess) to an image. This can be surprisingly useful, for example as a means of removing banding in gradient fills.

Despeckle

This removes specks and grain from an image. Depending on the size of the image, Dust and Scratches or Smart Blur may be more effective.

Dust and Scratches

This is similar to the Despeckle filter but gives more fine grain control over how it is applied.

Median

This reduces noise based on the brightness of pixels.

Sharpen/Sharpen More

These sharpen an image to a lesser or greater extent. As with the Blur and Blur More tools they may not have a very strong effect on large images.

Sharpen Edges

This sharpens only areas of high contrast in the image — useful in increasing definition without highlighting artefacts or grain within flat areas of an image.

Unsharp Mask

This is the Sharpening equivalent of the Smart Blur. It gives you more control over how much sharpening is applied. It is best to make subtle changes to the settings in this tool as otherwise it can result in very unrealistic results.

- 1 Set the Amount. Higher values will increase the amount of sharpening.
- 2 Set the Radius. As with the Blur tool this is the area used to determine the effect.
- 3 Set the Threshold. Higher values will limit sharpening to those areas with higher contrast.
- 4 Click **OK**.

Note: The Sharpen tools are not suitable for use on low quality JPEGs as they will accentuate the pattern used to compress the image.



Exercise 11: Using the Filter Tools

- 1 Open blur01.jpg.
- 2 Use **Filter | Smart Blur** option to remove the speckled effect in the sky.
- 3 Open noise01.jpg.
- 4 Use **Filter | Noise | Add Noise** option to make the image look old and grainy.
- 5 Open sharpen01.jpg.
- 6 Use **Filter | Sharpen | Unsharp Mask** option to reduce the blurring on the image.

Finally

The candidate should (after consultation with their tutor) be able to do the assessment for this Unit.

This completes all the learning Outcomes for the PC Passport Artwork and Imaging subject. Photoshop Elements is one of a range of artwork and imaging software packages that could be used to achieve the same results.