

These exercises are used in Academic Computing's workshops on digital image basics.

Screen shots and menu commands are from Adobe Photoshop CS2 but can easily be adapted to other photo editing software such as Photoshop Elements, iPhoto or MS Office Picture Manager.

Handouts on Photoshop, iPhoto and Picture Manager are available on the OIT tutorials and handouts page:

<http://oit.umass.edu/workshops/tutorials/>

Image Editing Exercises

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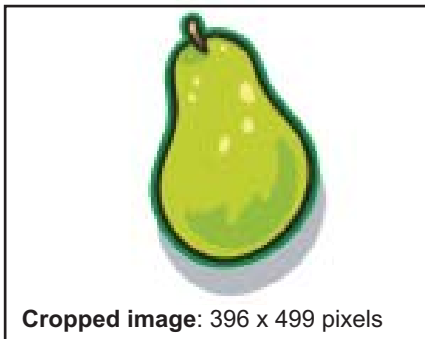
July 2007

Exercise 1: Put a GIF on a Web Page

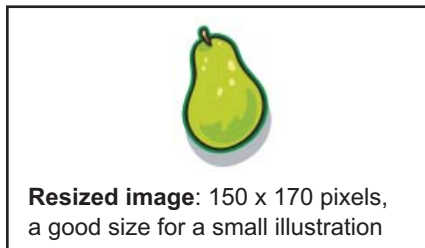
Crop and Resize the image in Photoshop



TIFF artwork: 1476 x 1185 px
(way too large for a Web page!)




Cropped image: 396 x 499 pixels

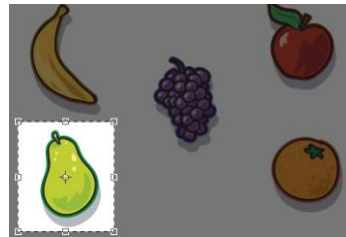


Resized image: 150 x 170 pixels,
a good size for a small illustration

As long as "Constrain proportions" is checked, you only have to enter one dimension (height or width). The other will adjust automatically to preserve proportions

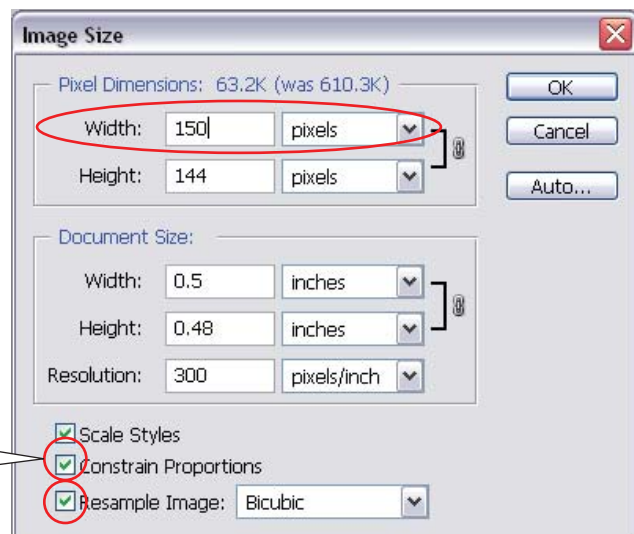
1. In Photoshop go to **File > Open**.
Locate and open the sample image from the workshop folder named **fruit.tiff**.
There are four drawings of fruit in the image. This exercise involves cropping the image to show only one piece of fruit, resizing the cropped image, and finally, placing it on a Web page using Dreamweaver.

2. Go to the tool bar and choose the **Crop tool**. 
Hold down the mouse button and **drag** the tool across one piece of fruit then release the mouse button.
The part of the image that will be removed will be shaded. To adjust the crop outline, drag on the boxes at the corners or sides of the shaded box.



Once the crop is setup, press **Enter** on your keyboard to make the crop.

3. Select **View > Actual pixels**.
This will adjust the magnification to show the image at the size it will display on a Web page.
In our example at the left, it is still too large (396 x 499) for a typical web page illustration.
4. Go to **Image > Image Size**.
Working from the bottom of the window, up:
 - Check the *Resample image* check box.
 - Check the *Constrain proportions* check box.
 - Adjust the *Width* to 150 pixels



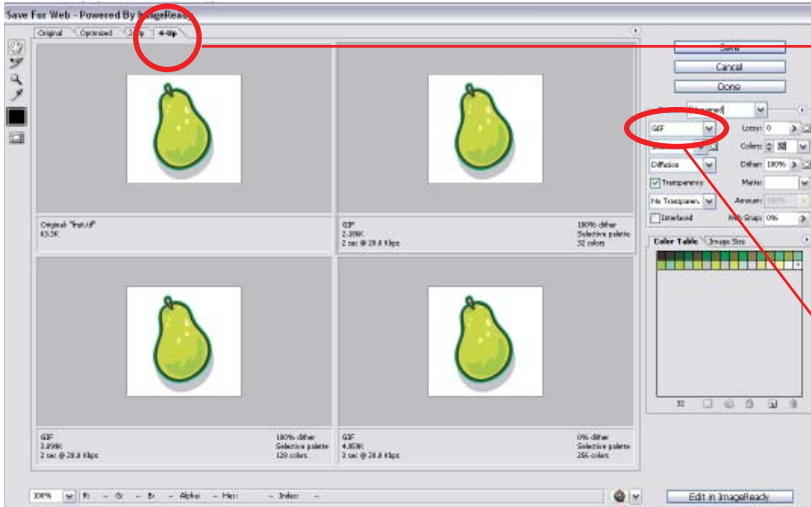
5. Click **OK**. **Do not save the image yet:** you do not want to overwrite the original large TIFF file! The next step will be to save the file in a Web friendly file format. (Continued next page)

Exercise 1: Save for Web, continued...

Optimize and Save for Web

1. Go to **File > Save for Web**.

Your goal on this step is to make the file size as small as possible but still look good. This is called “optimization.”



Photos are best saved in the JPEG file format.

Solid-colored artwork such as our drawing above is best saved in the GIF file format.

- a. Click on the 4-Up tab:

You'll see four versions of the image. The top left shows the uncompressed TIFF version. The other three will preview what a compressed GIF or JPEG will look like on a Web page.

- b. Click on each of the 4 preview windows in turn, adjusting the settings in the right column.

Start with the **file format** option:

Each file format has distinct settings:

- JPG files are compressed by “quality”: 20% or low quality will be smaller but may look very gritty. 100 % or high quality will be nearly indistinguishable from the TIFF, but the file will be large.
- GIF files are compressed by limiting the number of colors: The fewer the colors, the smaller the file. You should find that a GIF with 32 colors or less does well for our example file.
- PNG format combines compression advantages of both GIF and JPG: PNG would be a great choice for any graphic except that not all Web browsers commonly in use can handle the PNG format (not yet-- it's the future).

- c. Click the **Preview** window with the best GIF settings, then click **Save**.

2. After you save your file, you will be presented with a second *Save Optimized As* window where you will name the file and choose the folder where you wish to save it.

- Name the file something like “fruit.gif” (by default, Photoshop will add the file extension “.gif”).
- Do not use spaces or special characters in the file name.
- Navigate to the location in the *Workshop* folder where you wish

to save the file and click **Save**.

(Continued next page)

Exercise 1: Save for Web, continued...**Insert the image on a Web page using Dreamweaver**

If you are unfamiliar with Dreamweaver, you may want to skip this section or adapt it to a Web editor with which you are familiar.

Launch Dreamweaver.

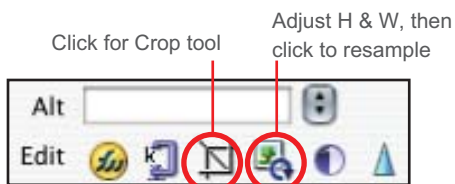
1. Create a new the Local site definition
(**Site > Manage Sites > New...**)
2. Make the local root folder be the folder into which you just saved your Web image from Photoshop.
3. In the *Files panel*, right-click on the root folder to create a new file: **> New File.**
4. In the *Files panel*, double-click on the file icon to open the new file.
5. Select **Insert > Image** (or click on the insert image button) then browse for the image file you just saved.
(Or, just drag the image out of the site files onto the page.)
6. Newer versions of Dreamweaver will prompt you to provide an *Alt* (alternative text) attribute for the image. Enter a short description of the image, or if the image is decorative, choose the [empty] option in the *Alt* pop-out menu.

ALT tags are not optional if you want all visitors be able to access your content, including those who have a visual or cognitive impairment, or anyone using a mobile device such as a phone or PDA.

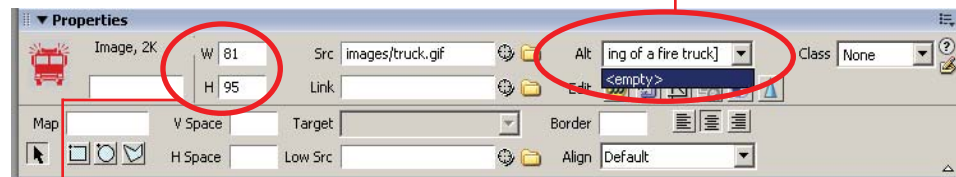
Resizing images in Dreamweaver

Dreamweaver does allow you to permanently resample and even crop an image that is already inserted in a Web page. However, it is best for fine tuning, and is not a substitute for a graphics editor such as Photoshop.

- It can't convert file types, for instance, from TIFF to GIF or JPG
- It doesn't provide compression options (it keeps the compression already set in the image on the page).
- The changes it makes are permanent, so be sure to have a backup of the image file saved elsewhere.



For more on working with images in Dreamweaver, see our handout, "Working with images in Dreamweaver" which can be downloaded from:
<http://www.oit.umass.edu/workshops/tutorials/index.html>



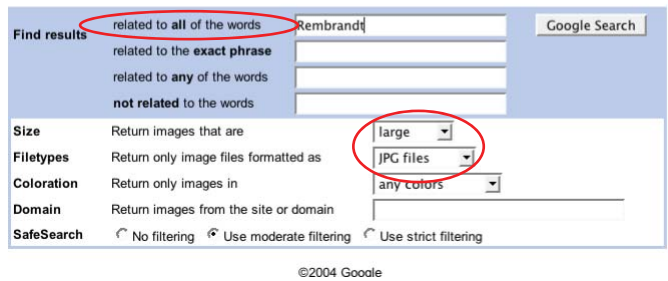
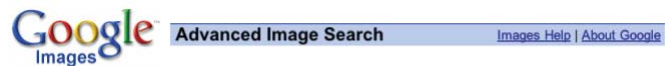
If you were not prompted to provide an *Alt*, enter a description of the image, or choose <empty> in the *Alt* field of the *Properties* panel.

7. Keep the original height and width for the image.
If an image needs to be resized, it may be best to redo it in Photoshop.
Changing the *Width* and *Height* attributes in the *Dreamweaver Properties Inspector* without actually resizing the file degrades image quality and may cause download or printing problems. (See sidebar to left.)
8. **Save** the Web page.

Exercise 2: Download a Large JPEG off the Web and Add it to a PowerPoint Presentation

Use the "advanced" Google image search

1. Open a browser window and go to <http://www.google.com>.
2. Click **Images**.
3. Click **Advanced Image Search**.
4. Search for a topic of interest to you. Limit the search to **JPG** in the *File type* field, and **large** in the *Size* field.



Good sources for large images include:

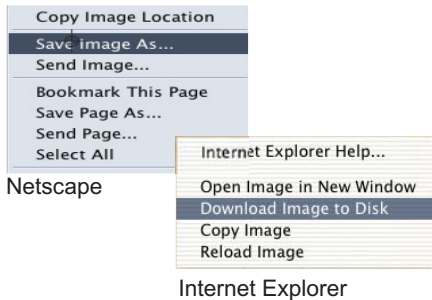
- NASA
 - www.nasa.gov
 - www.jsc.nasa.gov
 - www.jpl.nasa.gov
- LIBRARY OF CONGRESS
 - www.loc.gov
 - memory.loc.gov

You can also limit the search to a specific domain (e.g., umass.edu).


5. Once you find a JPG you want to download, make sure you are looking at the large version (click link to **See full-size image**).

Image has been scaled down. [See full-size image.](#)

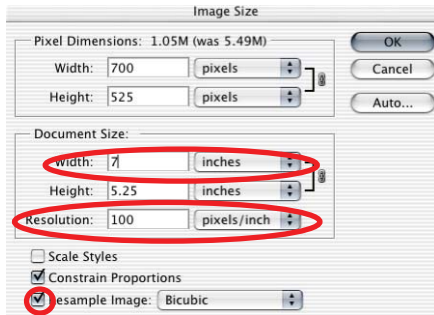
6. Right-click (hold down mouse on Mac) and select **Save Image As...** (Netscape), or **Save Picture As...** (Internet Explorer). Save the JPG into the workshop folder.



Crop and/or shrink the image in Photoshop (if needed)

1. In Photoshop, use **File > Open** to open the image you just saved.
2. If you need to crop the image:
 - a. Go to the tool bar and choose the *Crop tool*. 
 - b. Hold down the mouse button and **drag** across the image. The part of the image that will be removed will be shaded. Click and drag on the boxes at the corners or sides of the crop outline to adjust the crop.
 - c. Once the crop is setup how you want it, press the **Enter** key on your keyboard to make the crop.

(Continued next page)

Exercise 2: Insert a Google image in PowerPoint, continued...

3. Select **Image > Image Size**.
 - a. Check the *Resample* check box.
 - b. Set the resolution to **96 dpi** (the typical screen resolution).
 - c. Inspect the dimensions in inches:
A PowerPoint window is 10 inches wide by 7.5 inches high. The image should not exceed the PPT window dimensions, in fact, lets make this image small enough to have a large margin all around, if it would not already.
 - d. Make the image no more than 7 inches wide, and no more than 6 inches high. (If constrain proportions is checked, you can type a value into just dimension and proportions will be maintained).
 - e. Click OK.

Four reasons to use Highest Quality JPEGs in PowerPoint...

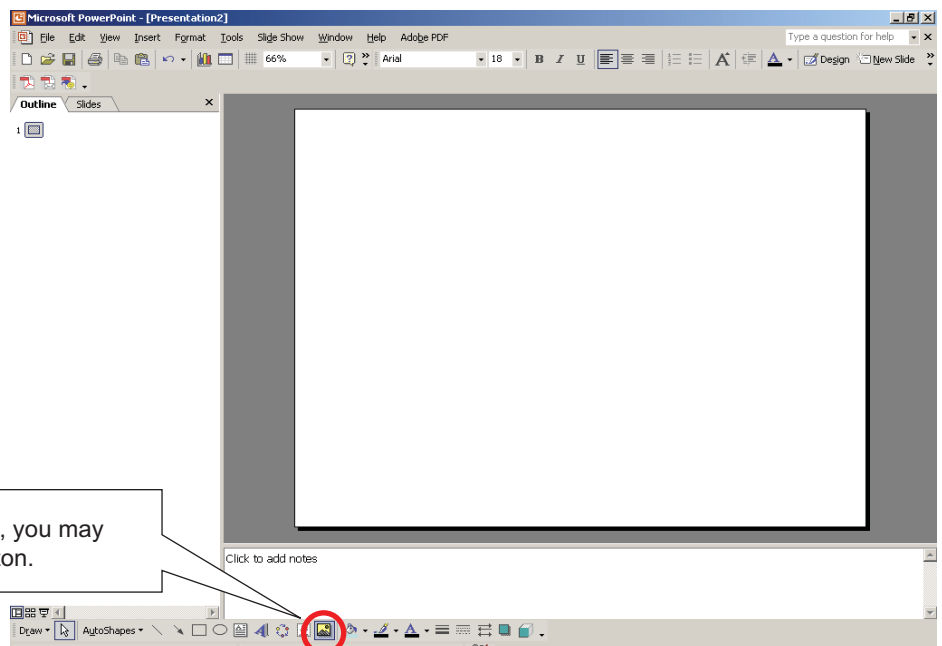
1. Lower quality (highly compressed) JPGs have more artifacts (worse image quality).
2. The JPG off the Web was already compressed once—recompressing will make artifacts even worse.
3. Even when saved at highest quality, the JPEG will be significantly smaller in size than in a non-compressed format such as TIFF
4. JPEG images paste into PPT at the expected resolution, whereas TIFF files may paste in appearing very large and often need to be scaled down in PPT.

Save a Copy for your presentation

1. Go to **File > Save As**.
 - a. In the *Save* window:
Give the file a new name.
Choose the **JPG** file type.
Click **Save**:
 - b. The JPEG options window opens.
Choose to save the file at the *maximum* or highest quality.
Click **OK**.

Insert the image into a PPT presentation

1. Open a new presentation in PowerPoint.
2. On a blank slide go to **Insert > Picture > From File...** or click the **Insert Picture** button in the bottom toolbar (PC) or left side toolbar (Mac).
3. Click and drag to position the image on the slide.



Depending on the version of PPT, you may see an insert picture from file button.

(continued next page)

Exercise 2: Insert a Google image in PowerPoint, continued...

JPG files should come in the expected size, but GIF and TIFF files may need to be manually resized:

To scale an image on the PowerPoint screen: click on the image, then use the “handles” (the small boxes or dots at the corners of the image) to manually resize the image. Drag the image to reposition it on the slide.

Note, in PowerPoint images are saved within the PPT file

Unlike on a Web Page, you do not need to keep a copy of each image file along with the PPT file: When an image is inserted into a PPT presentation, it will be saved inside the presentation file.

If you use audio or video in a presentation, this will *not* be the case. Audio or video files must be kept along with the PPT file in order to appear in the presentation.

- Use PowerPoint’s Text tool (**Insert > Text box**) to draw boxes for a header above the image, and a caption (smaller) below the image.
- To test the quality of your PPT slide, run the slide show. (Select **Slide Show > View Show**. Press ESC to stop the show.)
- As an extra experiment, inset the GIF you saved if you did exercise #2, or resize and save a few other files of your own to insert.

How to resample images from within PowerPoint (Windows only)

In order to avoid presentations with huge file sizes, we recommend resizing images before inserting them on a PowerPoint slide.

Typically, as described earlier in this tutorial, we resize our images and choose our file type at the same time in Photoshop. In Windows (sorry, not on the Mac) you can also resample images from within PowerPoint itself. In fact, if you wait until you have completed inserting images in the presentation you can *resample all the images at once*.

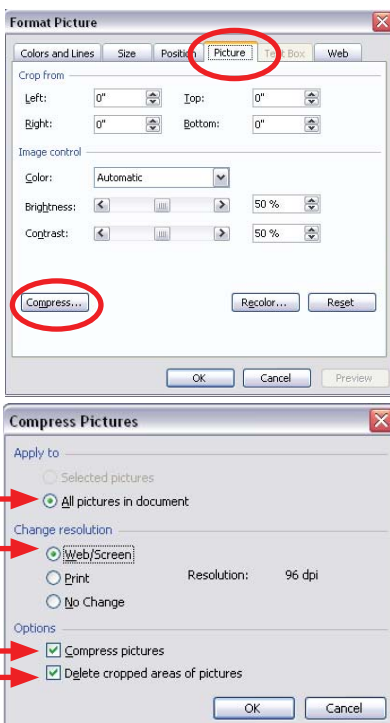
Note: this command is permanent! If you aren’t sure about how you have cropped or scaled your images, save a copy of the file BEFORE you compress.

To compress all the images in a presentation at once:

- Right-click on an image, and choose **> Format Picture ...**
- In the Format Picture window, click on the **Picture** tab, then click the **Compress** button.
- In the Compress Pictures window make the following choices:
Apply to: All pictures in document
Change resolution: Choose *Web* (96 dpi) or *Print* (200 dpi)
Options: For maximum optimization of file size, check *Compress pictures* and *Delete cropped area*

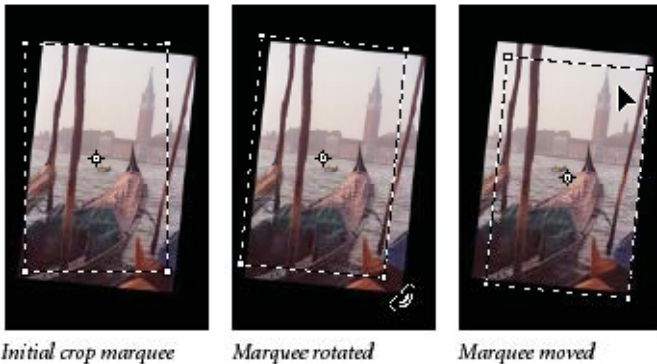
- Click **OK**.
If you get an alert asking if you are sure, click **Apply**.

- You’ll be returned to the Format Picture window:
To return to your presentation, click **OK**.



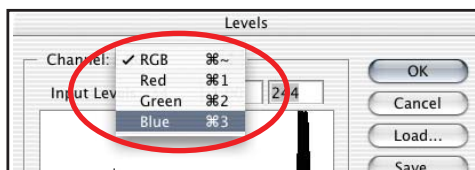
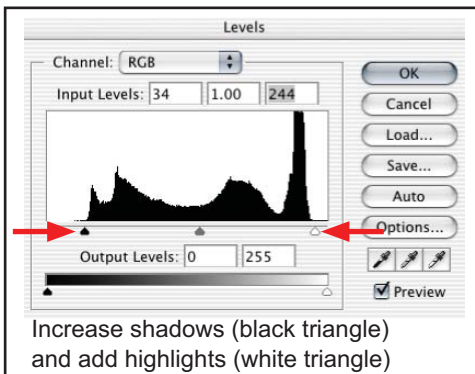
Exercise 3: Fix up an Image in Photoshop

Crop & adjust size



1. Open a sample image (*to_crop.psd* is shown here).
2. Select the *Crop tool* and drag from the upper left to the lower right of the part of the image you want.
 - Adjust the size of the selected area by dragging the “handles” at the corners of the selection.
 - Rotate the selection by dragging outside the selected area (good for straightening crooked scans.)
 - To complete the crop press the **Enter** key on the keyboard.

Adjust contrast and tonal range



1. Select **Image > Adjustments > Levels**
This interactive graph, or “histogram” shows how many pixels there are of each level of brightness. Often, scans only have pixels in the grey middle with no deep shadows or bright highlights. A full range of tones, from black (on the left) to white (at the right) usually improves the image.
2. Drag the black and white markers inward to the edges of the charted pixels. Check the preview and click OK. (Photoshop will adjust the overall tone scale. If you open the Levels window again, the histogram will stretch across the entire range.)

This adjustment improved the contrast, but you can improve both contrast and color balance by using this same command in a slightly expanded fashion:

1. Select **Edit > Undo Levels**.
2. Return to **Image > Adjustments > Levels**, but this time use the pop-out channel menu to individually adjust each channel (red, green and blue). As you did in step 2, pull the black and white markers in to the “toe” on each end of the histogram for each channel.

Removing Unwanted Objects

Look carefully at the picture. Pick something in the image you would like to remove. You will erase it by “cloning” an area that matches what would show “behind” the object if it were not in the picture.



1. Select the *Clone Stamp* tool.
2. Position the cursor over the “background” area that you will use to “paint out” the unwanted object. Hold down the **Alt** key (**Option** key on a Mac) and click to “load” the *Clone stamp* tool.
3. Now, release the **Alt** key, and drag the cursor over the unwanted object to clone the sampled image content.

TIP: Use short brush strokes, make frequent samples, and don't sample from too close to the object you want to erase.

For instance, if you are using our sample image, sample from the water to erase the boat, or from the sky to erase the tower.

Extra credit: Change Brush Size

With the Clone stamp selected, go to the *Photoshop Options* bar and change the brush size for more refined drawing...

