

Topic 3

Technical tutorial

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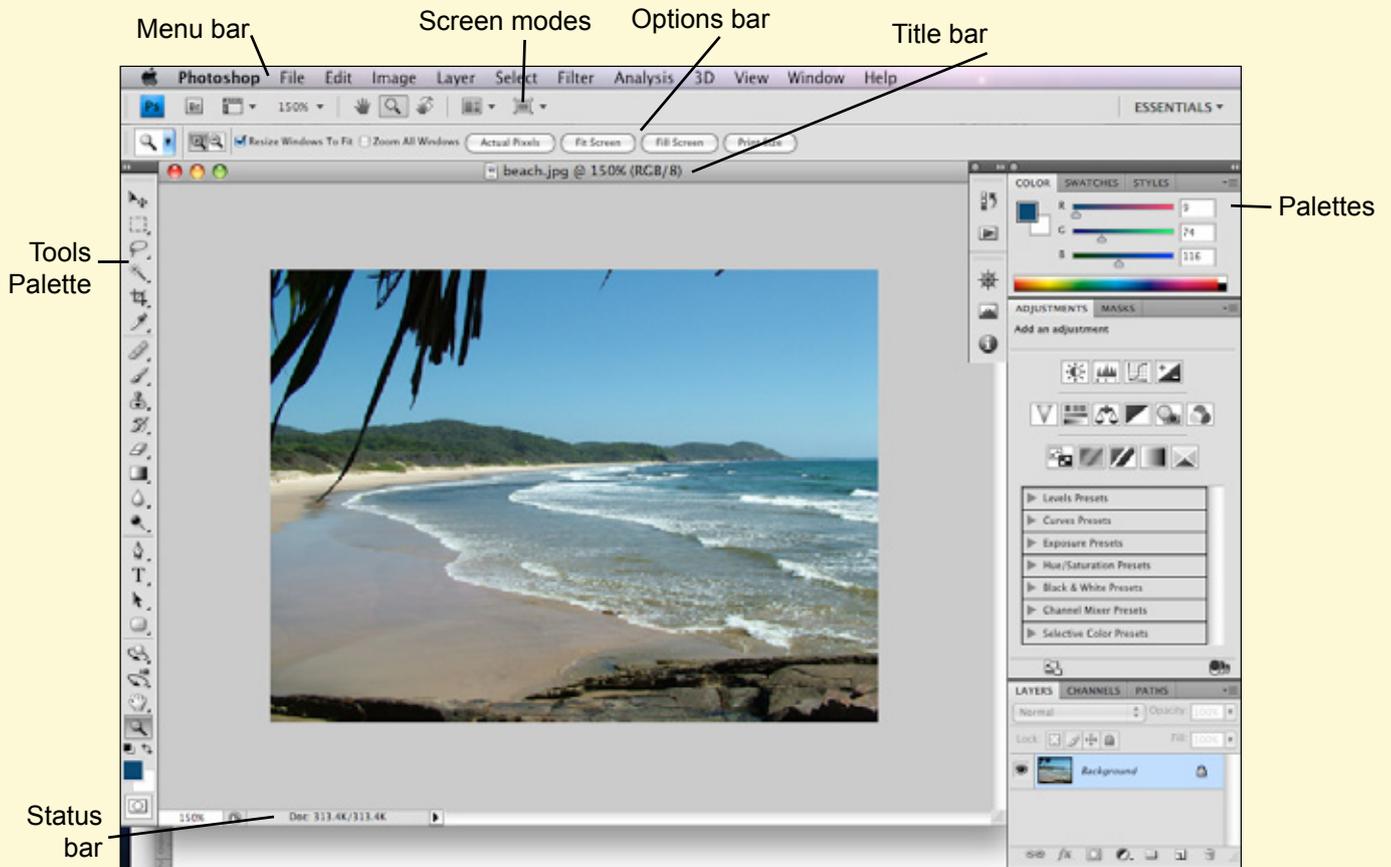
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Image editors are widespread in the computer world as people have been putting heads on human bodies since the dawn of the net. But programs such as Photoshop (the industry standard) and The GIMP (an excellent open source alternative) play the major role in creating and editing images for your favourite websites, magazines and books. At home it also serves a very useful purpose in letting you edit family snaps or projects that require a little tweaking. Your mastery of this software will be most useful in your chosen profession as you may find yourself in a position where you need to create your own graphics for a report or presentation. Large companies have graphics departments or services but, as workplaces are becoming increasingly multiskilled, knowledge of image editing processes is vital.

Photoshop Basics

Unlike Microsoft Word or PowerPoint, we don't instantly get a new blank document (more about this soon). To open our beach.jpg file select File > Open, find your beach.jpg file and select 'Open'.

Let's just have a look at the Photoshop environment.



Menu Bar The menu bar displays the main menu names: File, Edit, View, Insert, Format, Tools, Table, Window, and Help.

Options Bar Use the Options bar to choose settings for the current tool

Title Bar The Title bar shows a tiny thumbnail of the image, the document title, file format, zoom level, current layer, colour mode, and bit depth.

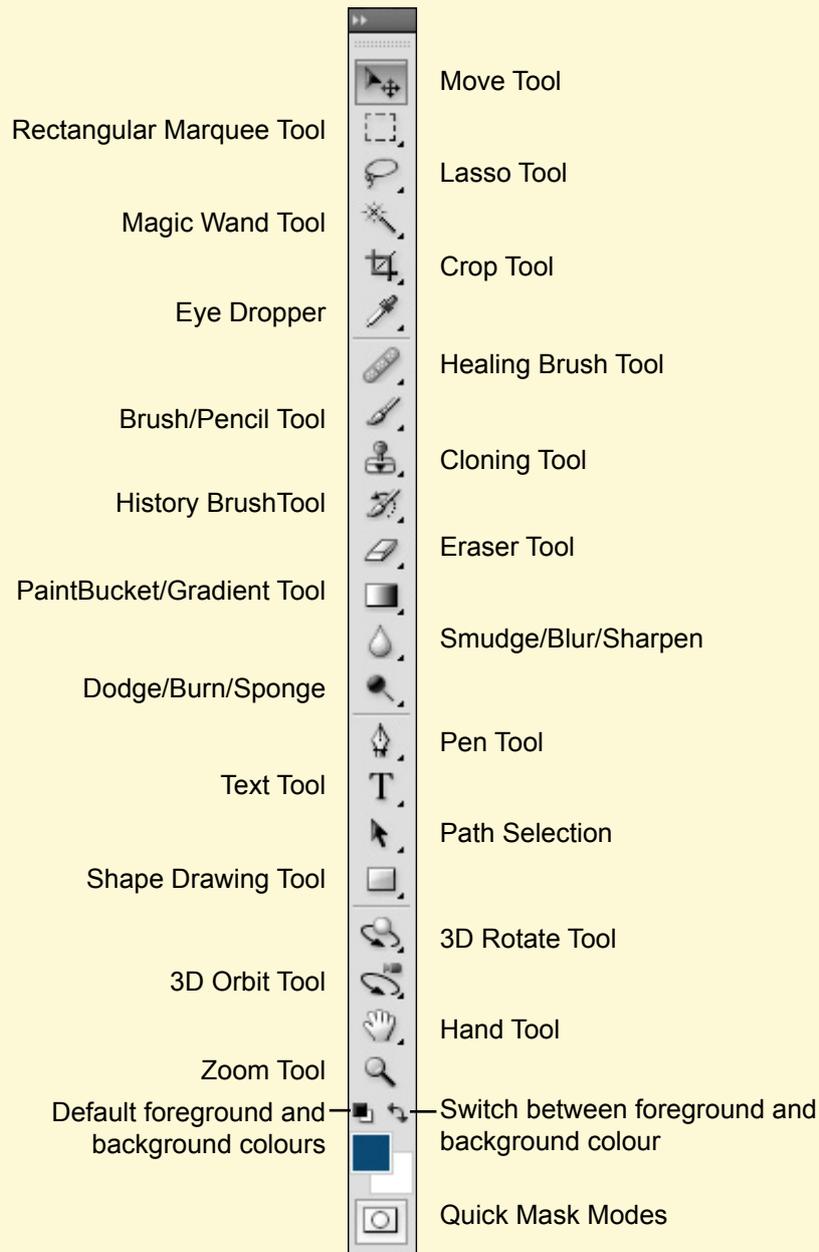
Status Bar Displays different information about the document

Screen Modes Control the onscreen environment behind the image

Tools Palette and other Palettes Photoshop has a number of floating palettes which are mostly used for image editing.

The Tools palette

The Tools Palette is essential for working with Photoshop. If you cannot see it, choose Window > Tools.



You'll notice that some of the tool icons have a black triangle at the bottom right side. This indicates that there are more tools in that slot.

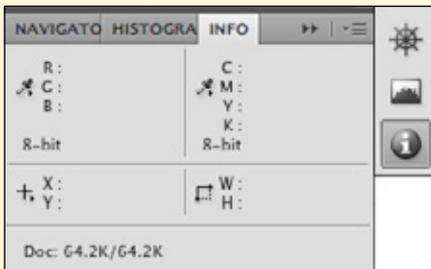
To choose a tool you can either:

- click the icon if the desired tool is visible
- Option>click (Mac), Alt>click (Windows) the visible icon to cycle through related tools in the same slot
- Click the black triangle to choose a related tool from a menu

When you click on a tool in the Tools palette the options for that tool will appear in the Options Bar.

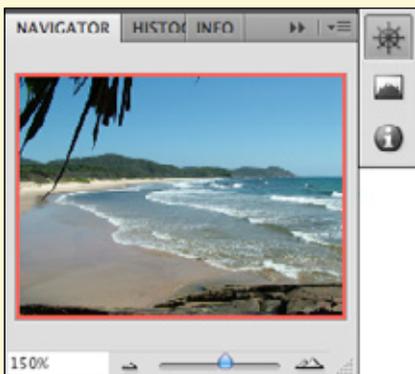
The Palettes

Most edits made in Photoshop require the use of one palette or another. You can show or hide these by clicking on the tab of the palette you require, or via the Window menu. The more important ones you will need to start are:



The **Info** palette:

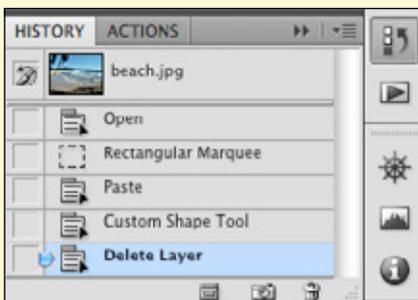
The Info palette shows details of the colour of an object or point under the cursor. It also shows location information such as the point at which the cursor is at and the width and height of the selected object. It is useful for dragging out an exact size with the selection tools.



The **Navigator** palette:

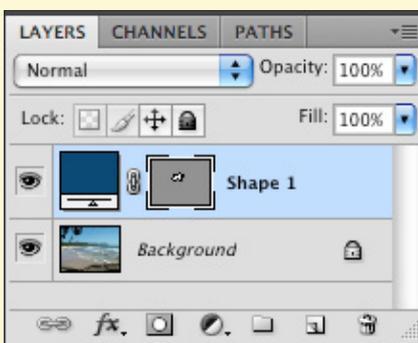
You can use the Navigator palette to move a magnified image in the document window or change the document zoom level. Use the zoom slider at the bottom of the palette to zoom in or out. Drag the red box in the view box to move a magnified image.

You can also change zoom levels by either selecting the Zoom tool in the Toolbar and clicking on the image (by default it zooms in, to zoom out option/click (Mac), alt/click (Windows), or by using the keyboard shortcuts  and the + or - (Mac) or Ctrl + or - (Windows).



The **History** palette:

The History palette contains a step-by-step recording of every action you make on your canvas. At any time you can go back through as many steps as you require. It is very useful for going back to a point where the picture was what you wanted, before you messed it up.



The **Layers** palette:

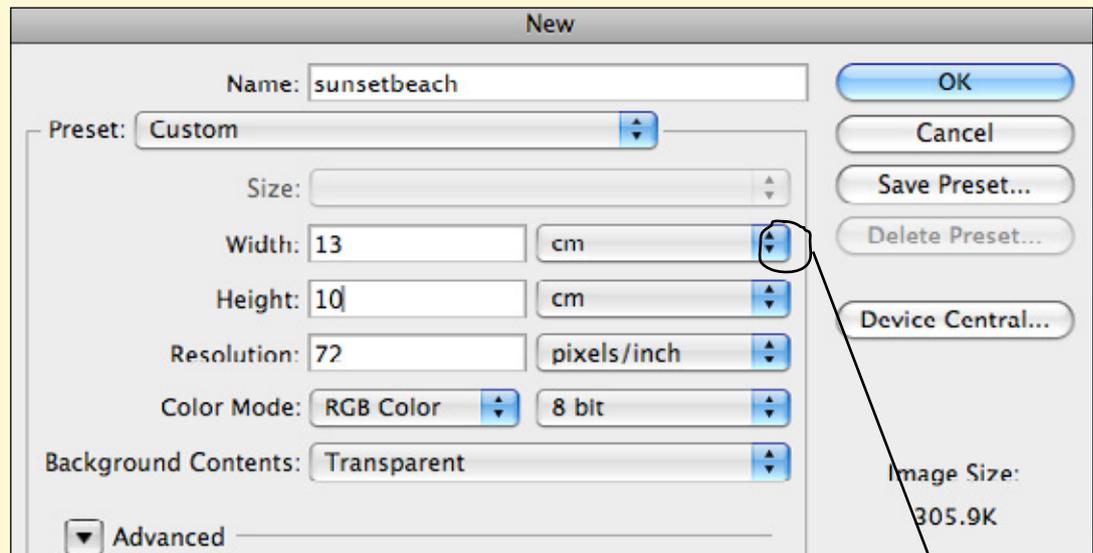
Most of the different components of a picture in Photoshop take place on different layers. This is so you can easily manipulate one aspect of the picture without affecting the rest of the document. Only one layer can be worked on at a time, so make sure you have the right layer selected if your action does not seem to be working. The selected layer is shaded blue. This example also shows a Background which is locked.

Creating a new image

In this exercise, we will use two different images to create one image – using layers and layer opacity and blend modes. Layers are an important part of the functionality of Photoshop.

Creating and saving a new document

1. In Photoshop, create a new document: File > New



2. You can give your document a name here or name it later when you save it.

This is where you give the dimensions of your file.

For this exercise follow the dimensions below:

Width: 13cm

Height: 10cm

Resolution: 72 pixels/inch

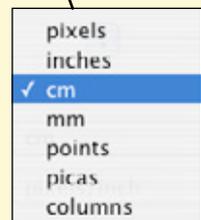
Colour Mode: RGB 8-bit

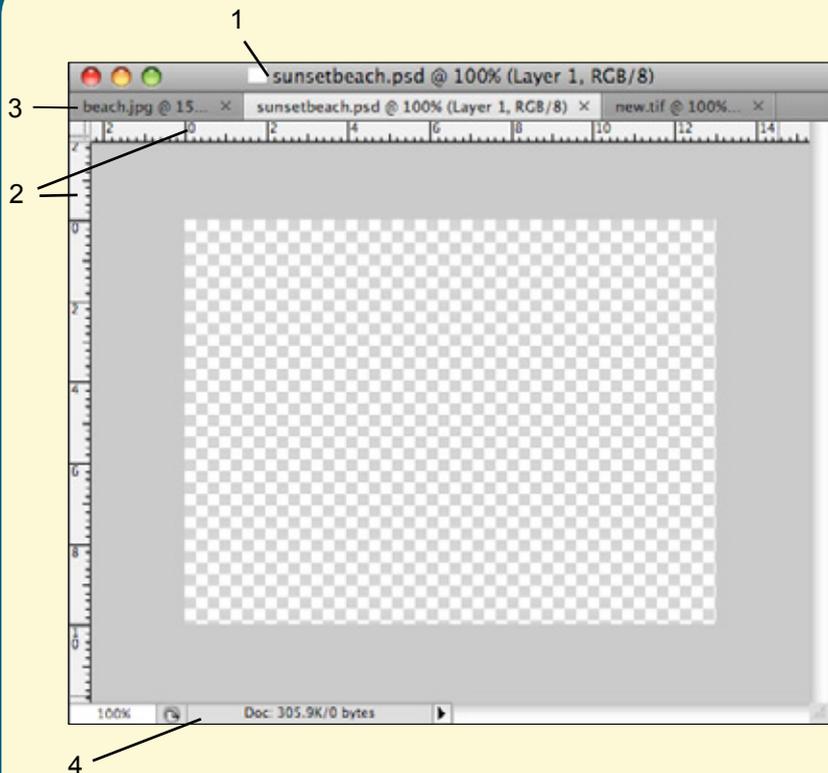
Background Contents: Transparent

If you choose Background Contents: White or Background colour, the bottom most tier of your image will be the Background. The Background, if present is always listed at the bottom and is locked. If you choose Background Contents: Transparent, the first tier will be a layer and the document won't contain a Background.

Note: these colour mode and resolution settings are appropriate for a web image and the image size is 305.9k. We'll come back to resolution in later tutorials, but for now it is important to remember that if you are using more than one image they must all have the same resolution.

If you don't have cm displayed as the unit measurement, click on the arrows (1) and a list of units will appear.





Your new document should look like this.

The canvas background will be chequered indicating the transparent background we selected.

The Title bar (1) shows the title of your document (or untitled), zoom level (100%), current layer (Layer 1), and colour mode and bit depth (RGB/8).

If the rulers (2) are not displayed, go to the View menu and select rulers. You can choose the units you want your rulers to display (eg. cm or mm) by selecting Photoshop in the menu bar and selecting Preferences > Units & Rulers and selecting the unit measurement for Rulers.

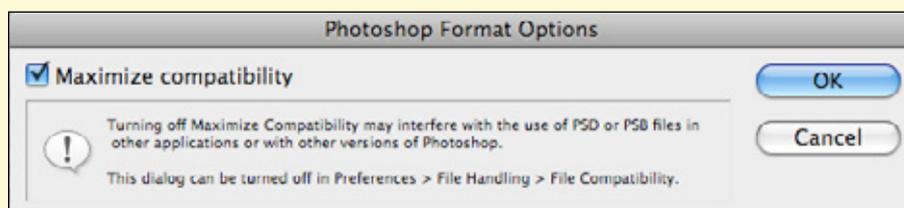
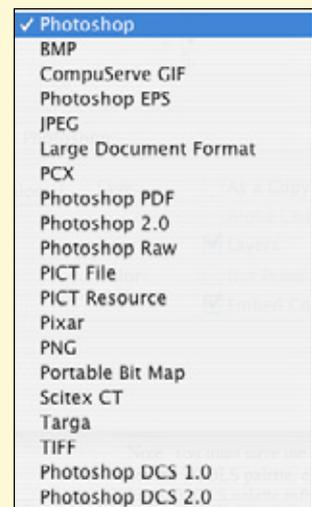
Tabs along the top (3) will indicate what files you have open at one time. Click on the tab to bring up the file you want to work on.

The Status bar (3) indicates the size of the file.

3. Save your document now! File > Save as

- The 'Save As' window appears. If you haven't already named your file, give it a name here, indicate where to save it and the file Format.
- When you click on the arrows next to Format, you get a list of all the different file formats Photoshop can save as. For this task, select Photoshop. This will save your file with the file extension **.psd**.
- The Photoshop Format Options window will appear. This is fine, just hit OK.

For this exercise call your file 'sunsetbeach.psd'.



To open an existing file

4. To open an existing image choose File > Open and open beach.jpg.

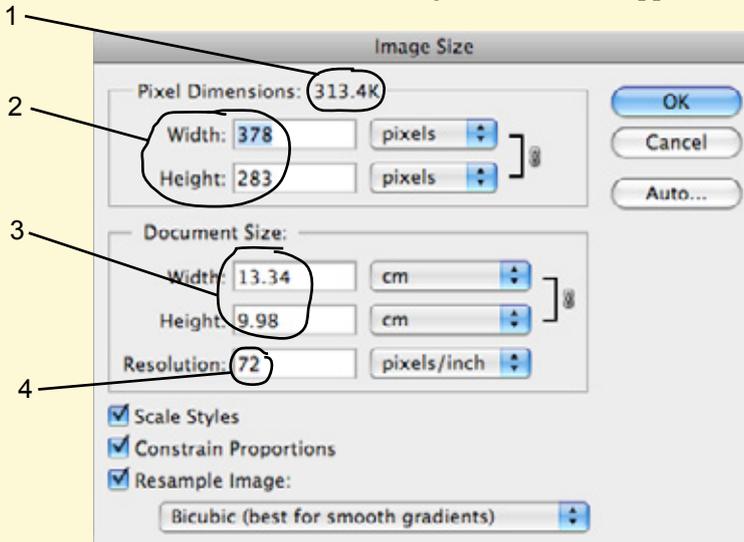
Click on the beach.jpg tab to make this the active file.

Copying an image to another file

5. We are going to copy the beach image into the sunsetbeach file, but before we do this we need to check the resolution of the image we are copying.

- In beach.jpg select Image > Image Size from the Menu bar

The Image Size window appears.



This gives you information about the size of the image such as:

- the size (1)
- the pixel dimensions (2)
- the document size, in this example in cm (3)
- the resolution in pixels per inch (ppi) (4)

As you can see the resolution of the beach image in this example is 72 ppi which is the same as our sunsetbeach file. This means it will be the same size when we copy it. If you need to resize images, this is one way of doing it (see video demo, page 19).

Working with Layers

6. Select the Move tool in the Tools palette.



- Choose Select > Select All, keyboard shortcut cmd-a (Mac)/ctrl-a (Windows)

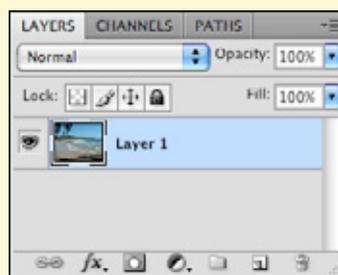
You will see a selection marquee (running ants) around the image

- Choose Edit > Copy, keyboard shortcut cmd-c (Mac)/ctrl-c (Windows)
- Click on the sunsetbeach.psd tab (to make this file active)
- Choose Edit > Paste, keyboard shortcut cmd-v (Mac)/ctrl-v (Windows)

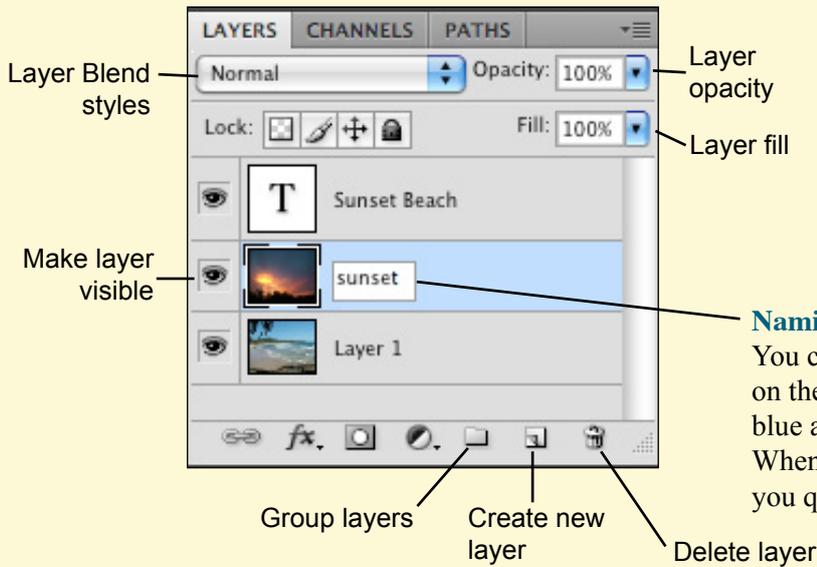
Note: You must have the Move tool selected in the Tools palette to do this. If you cannot see the Tools palette, choose Window > Tools (see page 3 of these tutorial notes for more Tools palette info).



A copy of the image will be pasted into Layer 1 of your sunsetbeach.psd file.



The Layers Palette



Layer Opacity & Fill

The **Opacity** setting controls the opacity of a layer, including any layer effects.

The **Fill** setting controls the opacity of a layer excluding layer effects.

Naming layers

You can rename a layer by double-clicking on the layer name. It becomes highlighted blue and then you can type the new name. When you use lots of layers, this can help you quickly identify a layer.

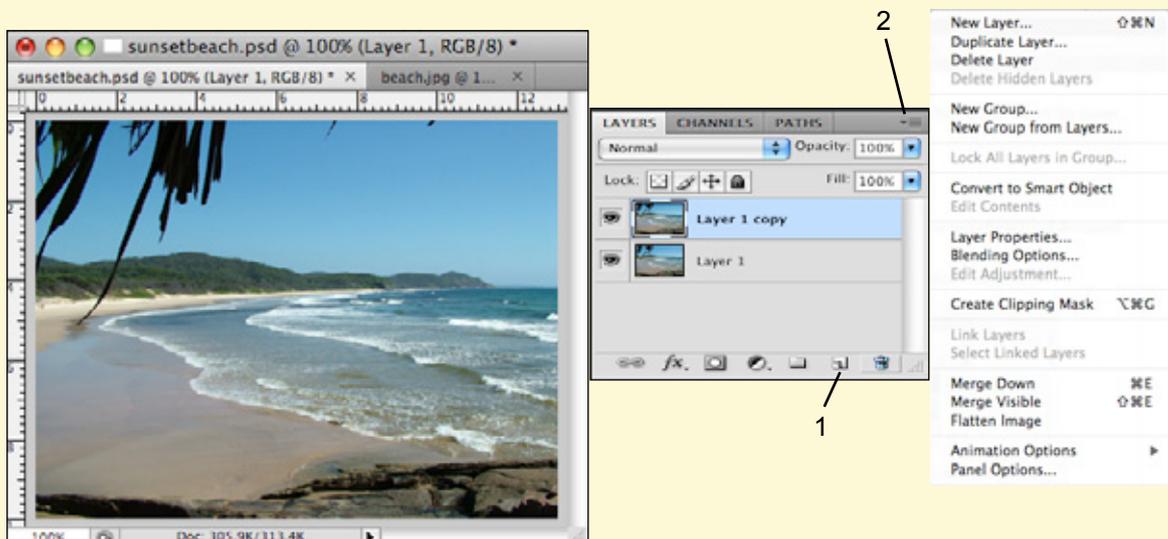
TIP: If you want to know what any of the icons in the palettes are, or what any of the tools are, hold your mouse over the tool or icon (don't click) and the name or function will be shown.

Copying or duplicating a layer

6. You can copy a layer a number of different ways:

- Click on the beach layer and drag it to the 'Create a new layer' icon (1) in the bottom right of your Layers palette, or
- Click on the black triangle in the top right of the Layers palette (2) and select 'Duplicate Layer' from the menu list (make sure the layer you want to copy is selected), or
- Click on the Layers Menu and select 'Duplicate Layer' (make sure the layer you want to copy is selected).

A new layer appears above Layer 1 called 'Layer 1 copy'.



Creating new layers

You can create new layers by clicking on the Create Layer icon at the bottom of the Layer palette, or by clicking on the black triangle in the top right of the Layers palette and selecting 'New Layer' from the menu list, or by clicking on the Layers Menu and choosing 'New > Layer'.

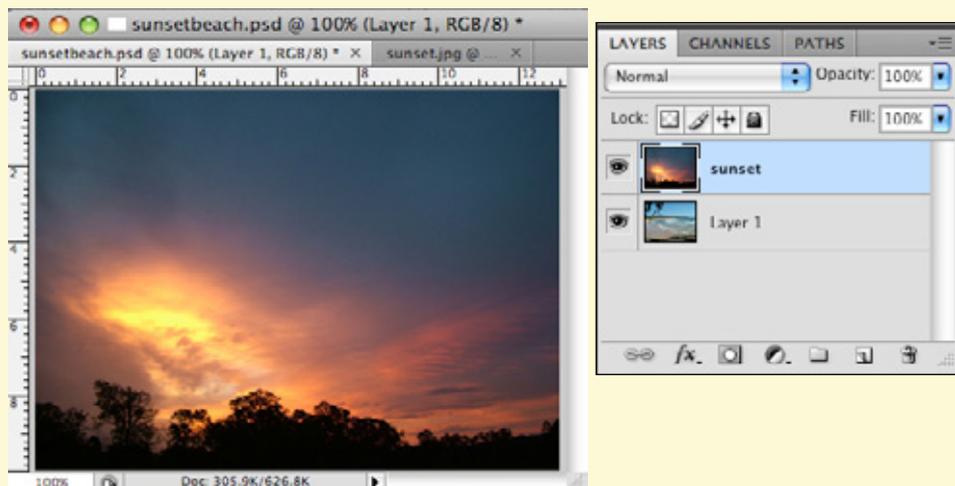
Deleting layers

You can delete layers by using the same menu functions:– dragging the layer to the Trash icon at the bottom of the Layers palette, or by clicking on the black triangle in the top right of the Layers palette and selecting 'Delete Layer' from the menu list, or by clicking on the Layers Menu and choosing Delete > Layer.

- Delete 'Layer 1 copy'
7. Close down beach.jpg image (click on the x to the right side of the name of the file in the tab).
 8. Open the sunset.jpg image (File > open)
 9. Follow the same procedure as with the beach image.

- Select All, copy and then paste into sunsetbeach.psd

A new layer will automatically be created when you do this – Layer 2. I've named this layer sunset.



Changing layer order

Layers are used in Photoshop so you can manipulate items individually without affecting other items. They are 'stacked' in layers on top of each other, with the item on the top of the layers palette list being the top and visible layer. You can click on any layer listed in the layers palette and drag it to a new position in the layer stack.

10. Click on the sunset layer and drag it below the beach layer. You will notice in your document that the sunset is now not visible. It is hidden by the beach layer.

Hiding/Showing Layers

11. Click on the eye next to the beach layer and the layer will no longer be visible. Click on the eye area again, and the layer content will be displayed again.



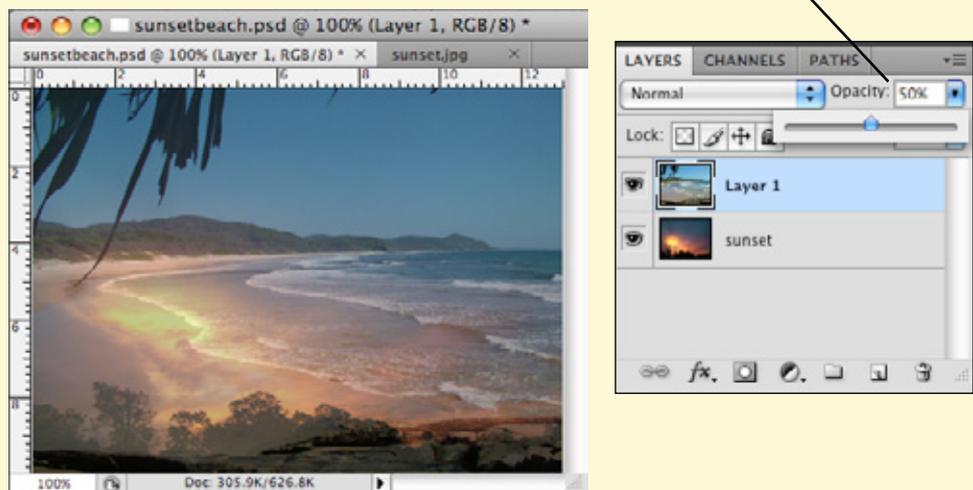
Selecting a Layer

To work with a layer, you must first select it by clicking on that layer in the layers palette. If you are trying to change something on a layer and it does not seem to be working, check that you have the correct layer selected.

We will now experiment with ways of working with layers to create different effects with the layer content.

Changing Layer Opacity

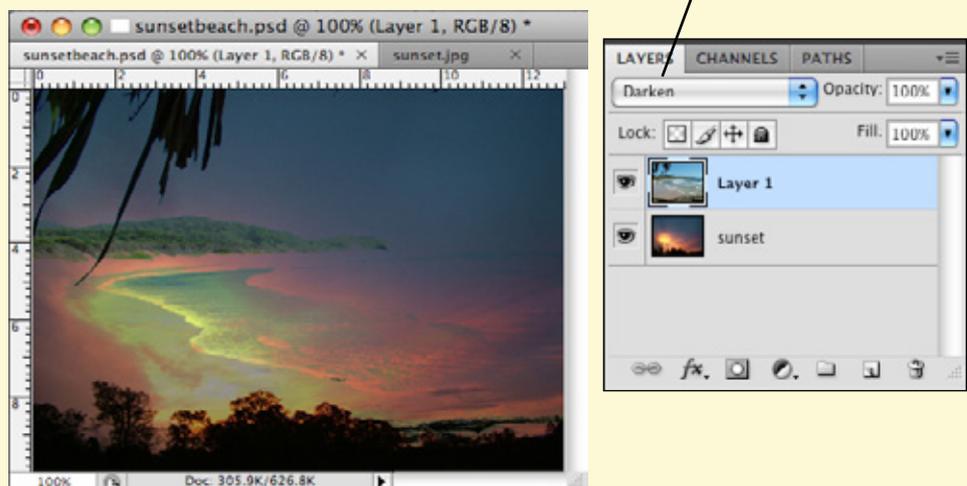
12. Select the beach layer by clicking on it. To be able to see what is underneath this layer, we must make it more transparent. We can do this by changing the 'opacity'.
 - Change the opacity of the layer to 50% by clicking 'Opacity' and moving the slider. The sunset below can now be seen through the sky. Then take the opacity back to 100%.



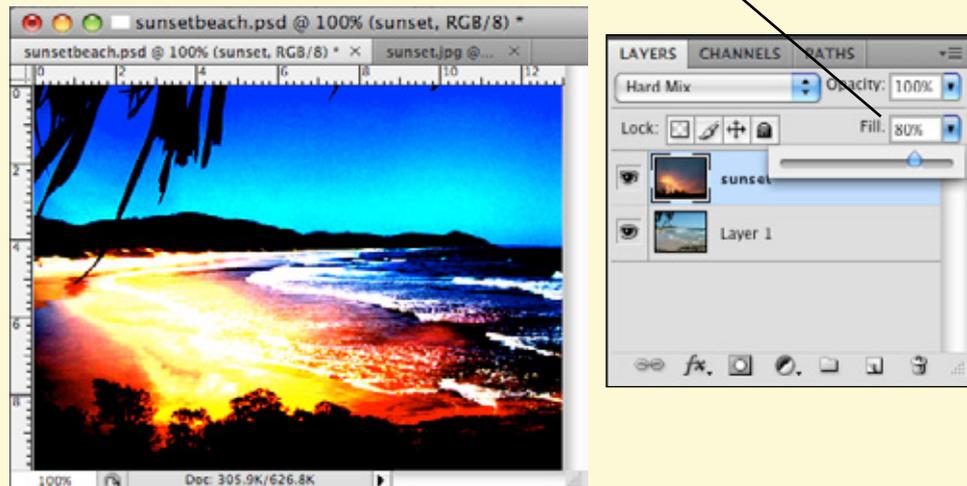
Layer Blend Modes

In the Layer Blend style list, experiment with choosing different blend styles and seeing what the effects of each are on the layer you have selected.

13. First, with the beach layer on top and selected, choose the Darken blend mode



- Then move the sunset layer to the top of the layers palette list and with that layer selected, choose the Hard Mix blend mode and change the Fill to 80%.



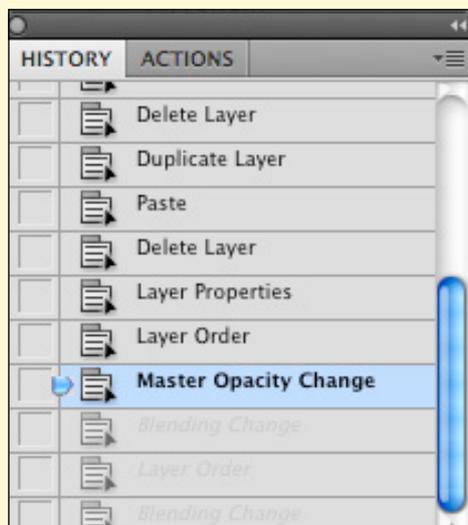
Note the effect on the overall image appearance with each change in blend mode, opacity and layer order.

Experiment with other blend modes until you have a combination you are pleased with.

Don't forget to save your file!

The History Palette

The History palette lists every action you perform while working with a Photoshop document and allows you to step back to any stage of your work. All history is cleared when you close the document. To view the History palette, choose Window>History.



To step back to an action or procedure you have done since opening the document, click on the step/action in the history palette and the document will revert to that state.

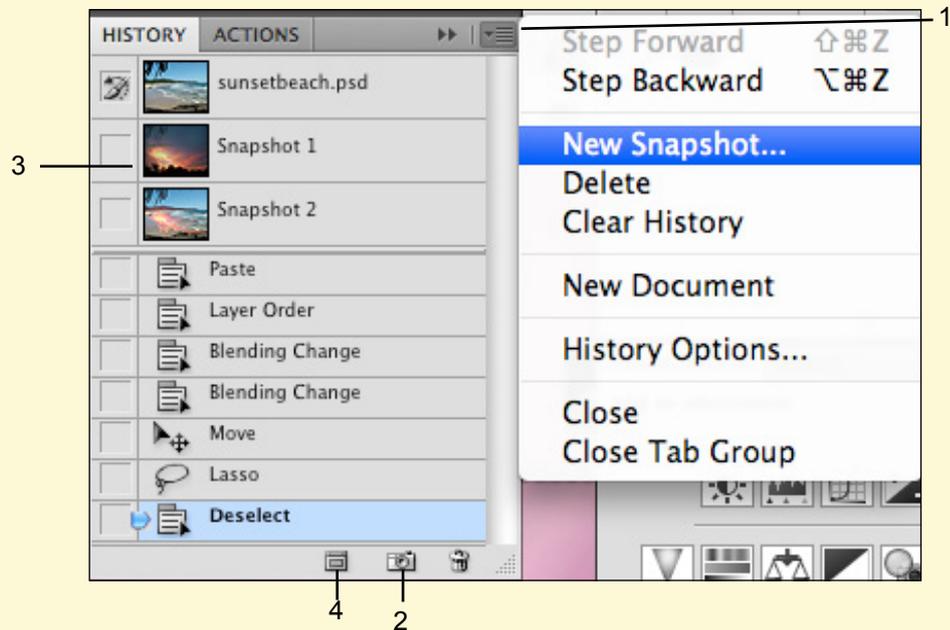
If you continue to work from that state you will lose any changes you made after that step. It is a good idea to create a snapshot before moving to the previous history state so you can choose to work with your document in that state if you decide later you preferred that!

Snapshots

You can also use the history palette to create a snapshot of any of your Photoshop experiments to allow you to compare different versions of your work before deciding which you like best. Try making a snapshot of each graphic combination you experiment with, then review each of them before you finalise your choice!

To make a snapshot

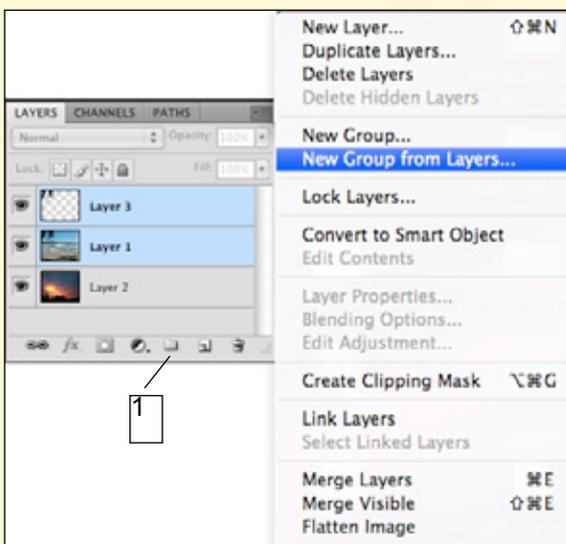
15. To make a snapshot either click on the triangle in the top right corner of the History palette (1) and choose New Snapshot or click on the 'New Snapshot' button (2). You can rename each snapshot as you make them. All snapshots are cleared when you close the document.



- To look at each of your snapshots, just click on them one by one in the top area of the History palette (3) and you will see your work in the stage it was when you made the snapshot. You can then work with the document from that stage again.
- You can also open your snapshots in new documents. To do this click on your snapshot to select it and then click the 'New Document from Current State' button (4). A new document window will open with your snapshot.

Grouping Layers

When you are creating an image using many layers, (ie creating a montage using many different images), it's good practice to group together related objects. When you group layers you can apply effects or move all items in a group of layers as one.



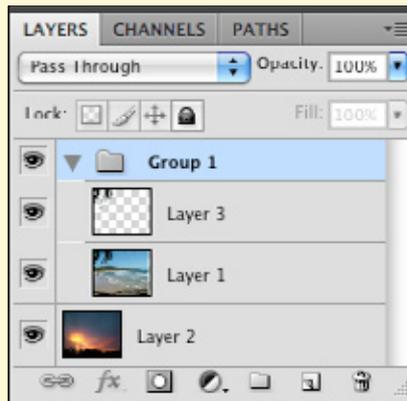
16. You can group layers two ways:—

- Select the layers you want to group by clicking on each layer while holding down the shift key – all selected layers will be highlighted.

Now click on the top right triangle of the layers palette and choose 'New Group from Layers'. You can give the group a name as you create it, or

- Click on the Group layers button at the bottom of the layers palette (1). If you make a layer group this way, you will need to drag and drop any layers you wish to be in this group onto the Group layer folder.

You will notice now that the layers you have selected will appear inside a Group 1 folder.



Saving your photoshop document

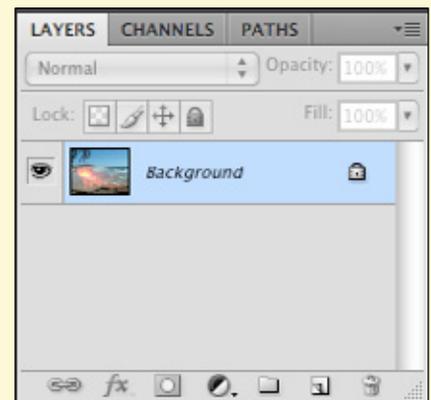
17. Save your completed sunsetbeach.psd document. Save it with all these layers intact as your master document (your **.psd** file) and you will be able to edit it again at a later date, with no loss of picture quality.

Once you have saved your photoshop document, you will now save it as a jpg.

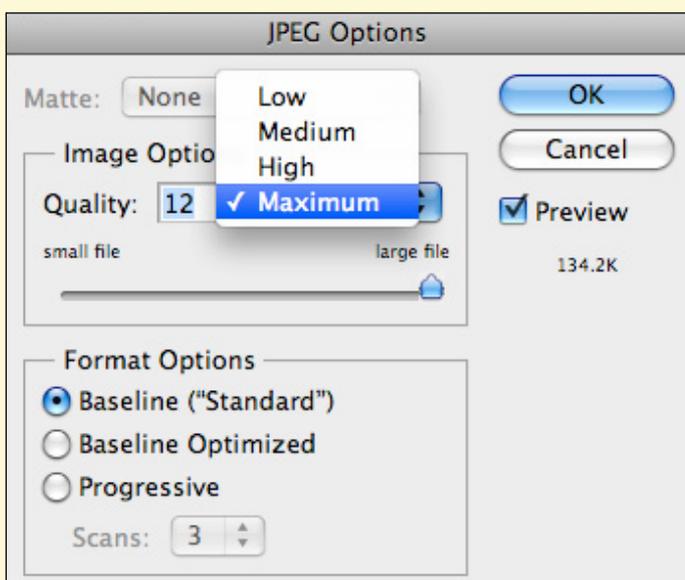
18. Saving as a jpg

- Firstly, flatten your layers – Layer > Flatten Image. Be sure you have saved the .psd before flattening images! It is also a good idea to save more than one copy of your .psd just in case you accidentally flatten it before saving your final changes.

You will notice that your file now has a Background layer only. 'Flatten Image' merges all layers into a Background.



- Choose File > Save as and choose the JPEG format.



- The JPEG Options window will open. You can choose the 'Quality' of the image by choosing a small (Low) or a large (Maximum) file size. The smaller the file size, the more compression will be used on your image, and so the resulting quality will be deteriorated. It is a good idea to experiment with different quality settings if you are trying to achieve a certain final jpg file size – you will need a balance between quality of the image and a reduced file size. A medium setting is often suitable quality. More about this in Topic 8.

TIP: Preserving or Flattening Layers

When using File > Save As, provided the Layers box is checked, the following file formats will save a document with layers intact: **Photoshop PDF, Photoshop, Large Document Format, and Tiff.**

File formats that don't preserve layers flatten them automatically and convert any transparency in the bottommost layer to opaque white.

Also, when switching document colour modes (e.g., from RGB to CMYK), be sure to click **Don't Flatten** or **Don't Merge** if you want to preserve layers.

Photoshop Filters

This is just a short exercise to introduce you to Photoshop's many filters. Depending on which filters you apply and which settings you choose for them, the results can range from barely noticeable to total change. You can apply filters to a whole layer or to a selection on a layer. Most of the filters are applied either through the Filter Gallery or through an individual dialog box; a small handful of filters, such as Clouds and Blur, are applied in one step simply by choosing the filter name from the menu. Just have a play and experiment!

1. Open beach.jpg or one of your own images

If you do choose one of your own images make sure the colour mode is RGB. To check, select Image > Mode. There should be a tick next to RGB. Select RGB if there isn't.

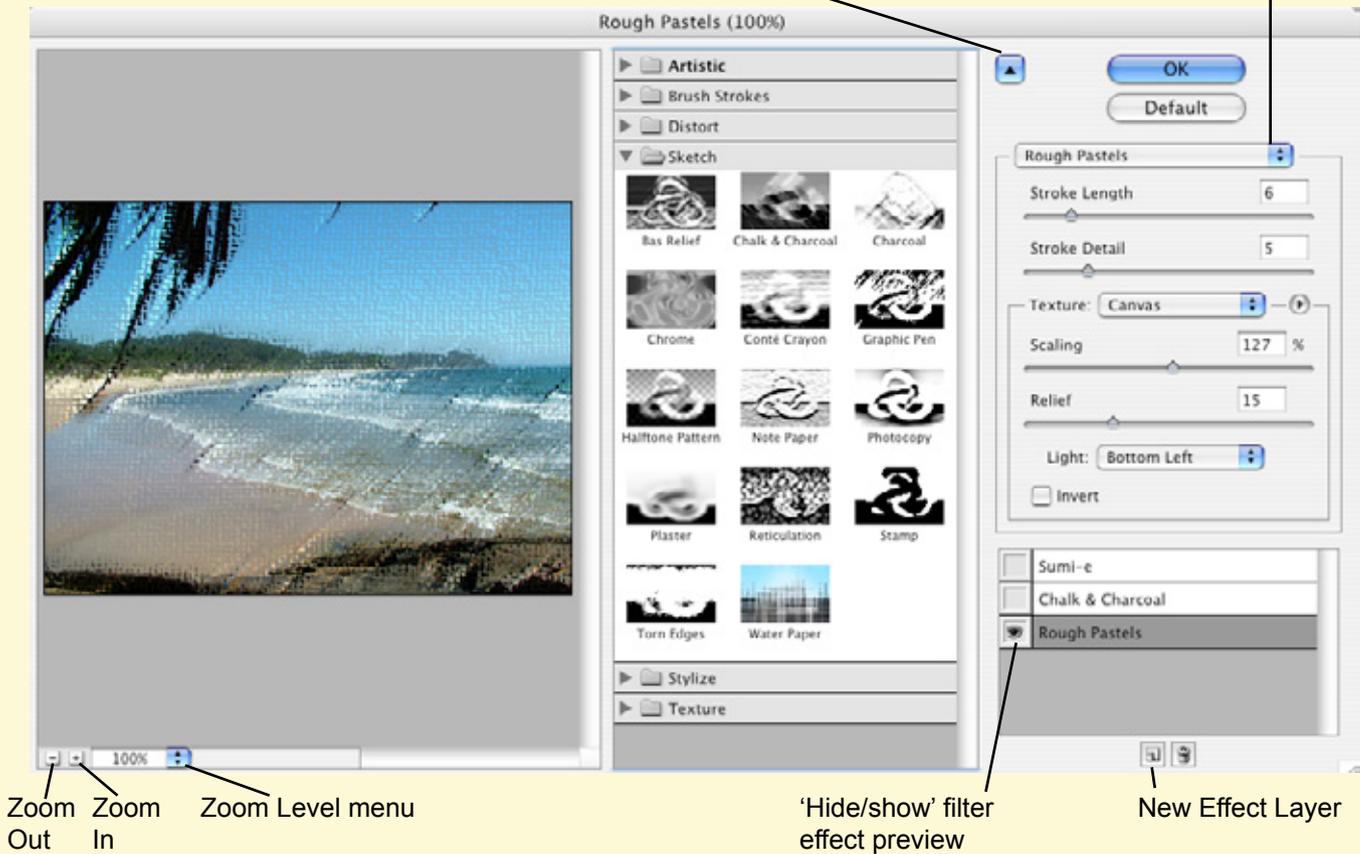


The Filter Gallery

The Filter Gallery dialog box houses most of the Photoshop filters under one roof. To access the Filter Gallery select Filter > Filter Gallery.

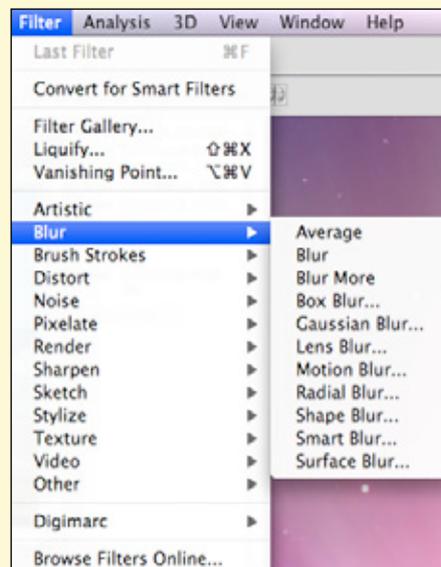
Click this button to hide the thumbnail pane and expand the 'preview' window: click it again to redisplay the thumbnail pane.

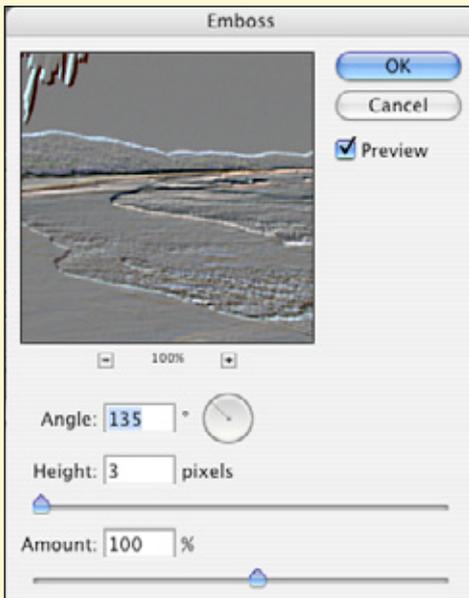
Once you've clicked one filter thumbnail, you can choose 'other filters' from this menu.



The Filter Gallery dialog box has three sections: a preview on the left; filter categories with thumbnails in the middle; and on the right, filter settings and a list of the filter effects you've previewed so far.

You can also access Photoshop filters via the Filters menu. You'll notice there are more listed here than in the Filter Gallery.





Individual filter dialog boxes

Some individual filter dialog boxes have a 'preview' window. Check 'Preview' to preview the effect in both the dialog box and the document window.

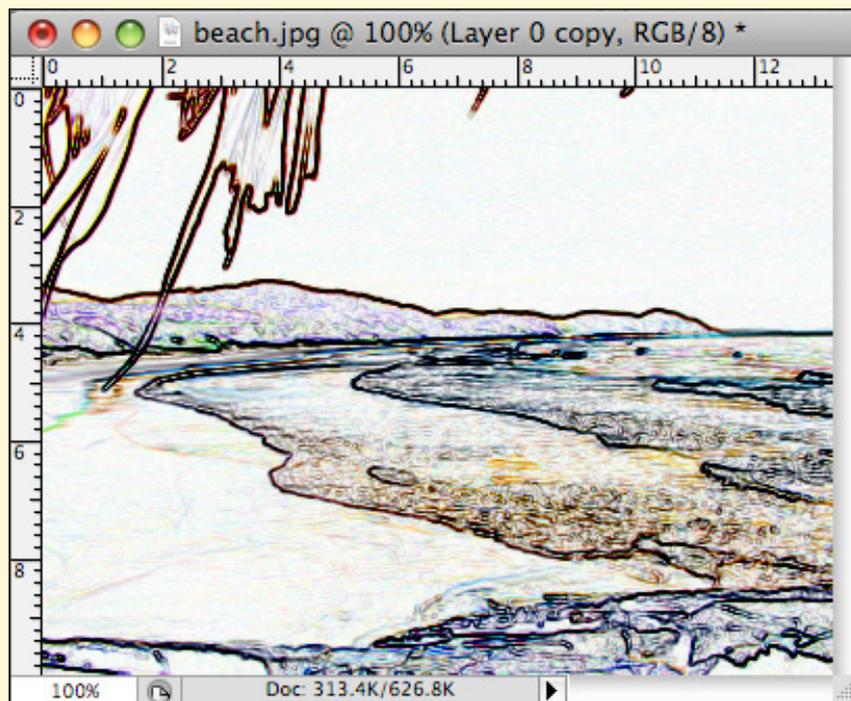
You'll also find different options for different filters, as with the Filter Gallery, where you can experiment to find the desired effect.

These may also give you some ideas for your design.

More techniques

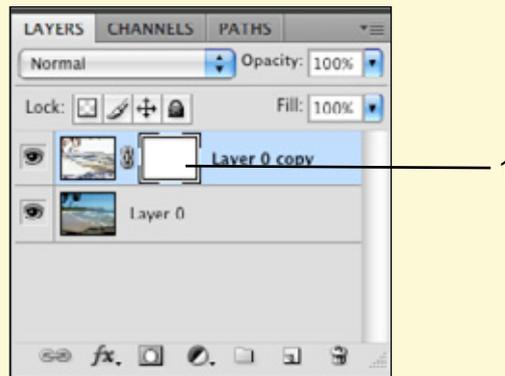
Working with masks

In this exercise we're going to turn an image into a watercolor by reducing the image to lines and then painting on the layer mask.

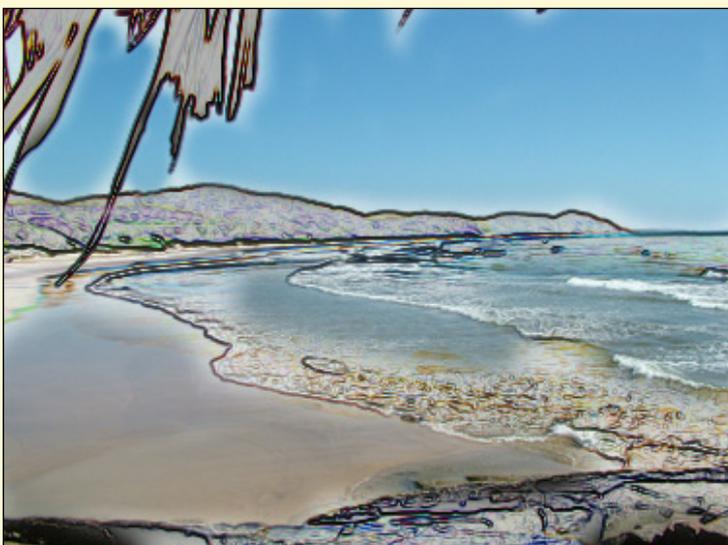
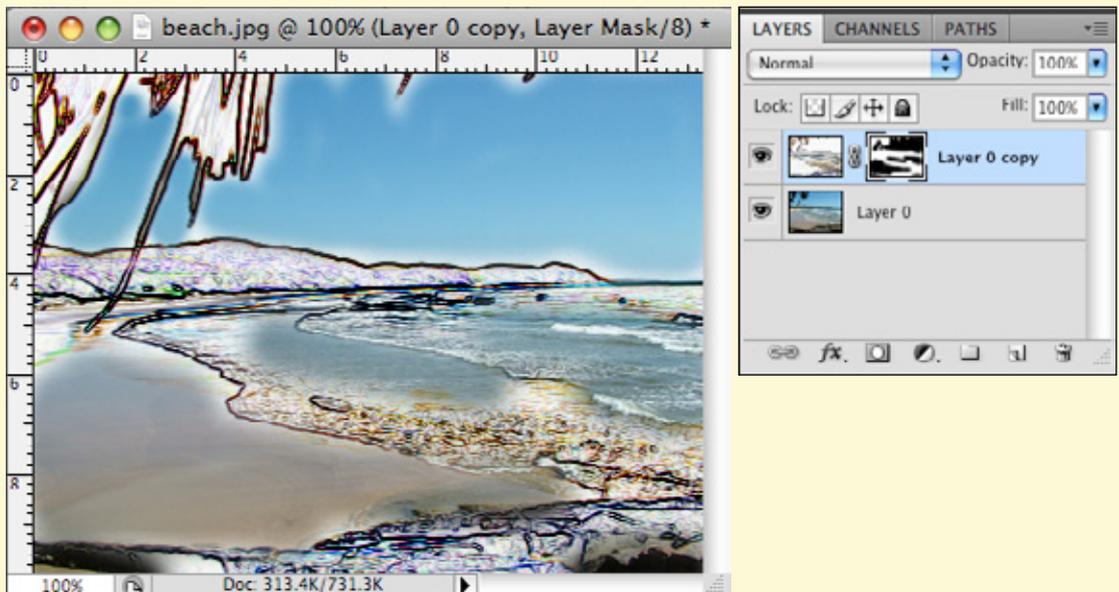


1. Open an image
2. Double-click the Background in the Layers palette to make it a layer
3. Duplicate the layer
4. With this layer selected choose Filter > Stylize > Find Edges

- Click the 'Add Layer Mask' button at the bottom of the Layers palette 
- Make sure the filter mask thumbnail is selected by clicking on it in the Layers palette (1)



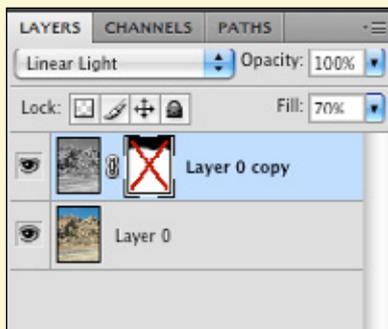
- Choose the Brush tool  (it may be under the Pencil tool), choose a large, soft brush tip, Normal mode, and an Opacity below 100% on the Options bar.
- Press X to make the Foreground colour black, then draw strokes on the image to reveal parts of the underlying layer.



- You can also try lowering the Opacity of the layer with the mask as well.

Blending layers

1. Open an image (I've used mountain.jpg from our tutorial folder)
2. Double-click the Background in the Layers palette to make it a layer
3. Duplicate the layer
4. With this layer selected choose Image > Adjustments > Desaturate
5. Choose 'Linear Light' from the Layer Blend style list
6. Change the Fill to 70%
7. Click the 'Add Layer Mask' button at the bottom of the Layers palette
8. Make sure the filter mask thumbnail is selected by clicking on it in the Layers palette
9. Choose the Brush tool, choose a large, soft brush tip, Normal mode on the Options bar.
10. Press X to make the Foreground colour black, then paint over the sky to reveal the underlying layer in the sky area.



To turn the mask off choose Layer > Layer Mask > Disable.

To turn the mask back on again choose Layer > Layer Mask > Enable.

Choose either 'Delete' or 'Apply' depending on whether you like the result or not.





View some video demos

You can also view these short videos for a demo on some of these tools. Some of these are in CS4 but will still be relevant.

<http://tv.adobe.com/watch/learn-photoshop-cs4/introducing-photoshop-cs4/>

<http://www.youtube.com/watch?v=eBq0TYAiTQo&feature=related> (part 1)

<http://www.youtube.com/watch?v=ePHMAkV4TjE&feature=related> (part 2)

<http://www.youtube.com/watch?v=eIcYWEQH4z4&feature=related> (part 1)

<http://www.youtube.com/watch?v=Ao2CRjk9uEI&feature=fvwrel> (part 2)

Resizing images

http://www.youtube.com/watch?v=k_XZQmOSvAY&feature=related