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Grey Card Tutorial



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1.1 What is a grey card?

Easy. It's a card, usually 8x10, which has a white side and a grey side. The grey side has an 18% reflectance value and the white 90% reflectance.

Why 18%? It represents the middle grey in the camera world. This will be really important once we get into image correction later in Photoshop.

Can I use grey construction paper? Umm, no. Construction paper isn't calibrated to an 18% reflectance value. It is just a colour.

You can get more information about grey cards from Wiki. (http://en.wikipedia.org/wiki/Grey_card)

1.2 Using a grey card with a point and shoot camera

1.2.1 Lighting

Lighting is very important to get the best picture possible. You can use all natural light or all incandescent (regular bulbs) or tungsten (available in photography stores) or all fluorescent (I suggest the daylight ones). Whatever light source you choose keep it consistent! Do not mix your light sources as it will cause colour shift issues. This means you have to make sure all overhead lights are off, curtains closed, etc.

If you can, photograph your painting before you put it under glass.

You can use standard Luxo lamps (<http://luxo.com>) or some of the better units you can pick up in a photography store. (Image from <http://www.kerrisdalecameras.com>)

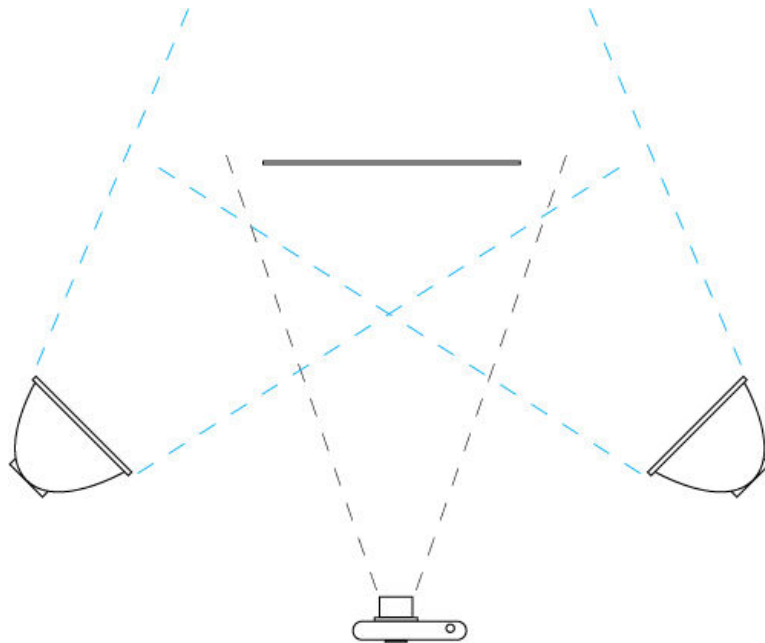


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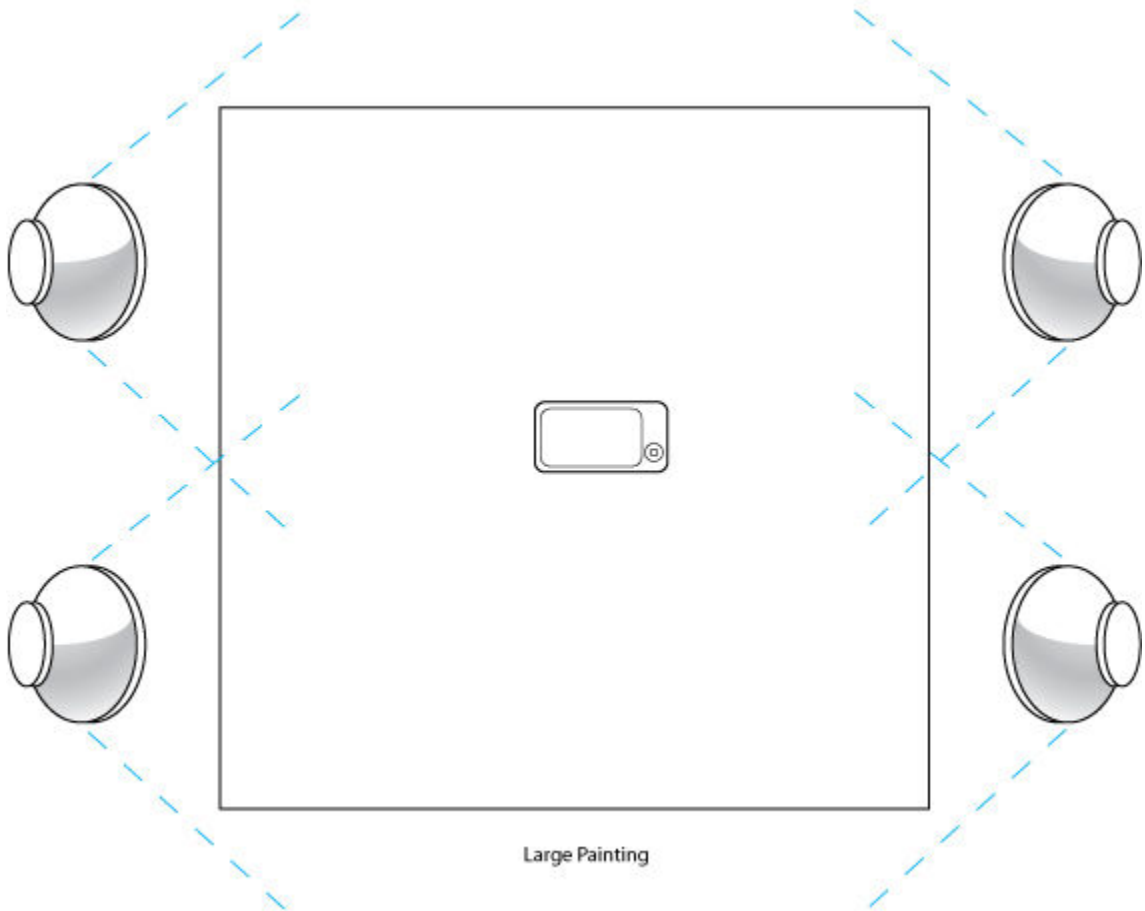
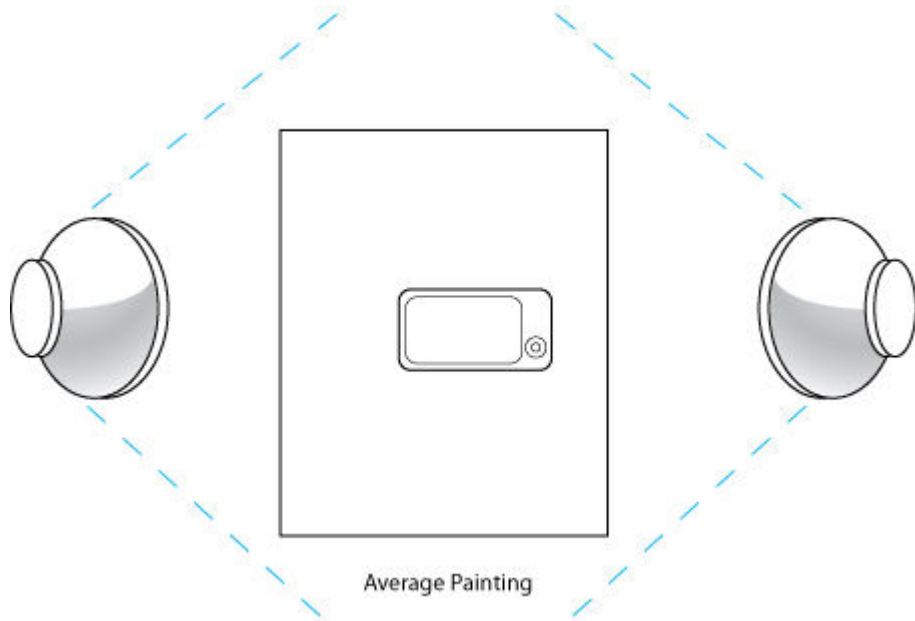
I like the above lights as they will reflect much more light than your standard Luxo lamp and are easier to position. There is also a clamp version available.

Below is my preferred setup for lighting. Two lights that are positioned 45 degrees to your painting to minimize glare and any possible reflections. If you have a really large painting you may need to use four.



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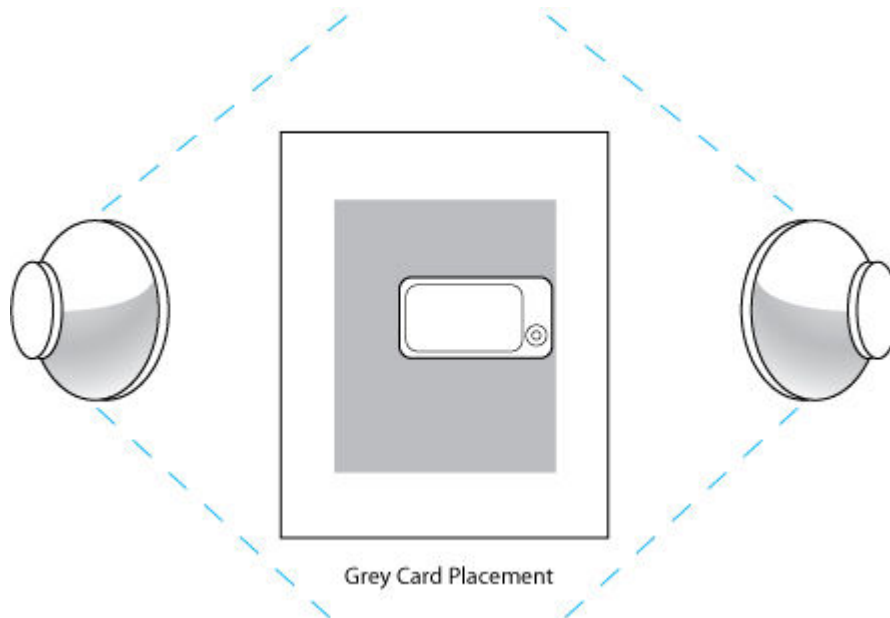


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1.2.2 How to place the grey card

When placing the grey card make sure that it is perpendicular to the camera lens as if you were photographing the painting itself. You can have someone else hold the grey card in front of the painting if it makes things easier.



With the grey card in place go ahead and take a photo. Please, NO FLASH!!!!!!

If your point and shoot camera wants to use a flash you may need more light and will have to buy larger wattage bulbs. For now just turn the flash off and take your photos.

1.2.3 Taking Photographs of your Artwork

Now that you have that important photo of a grey card, remove it from your camera view and take a couple photos of your painting. Concentrate on getting a crisp, focused photograph. I suggest using a tripod and the self timer feature of your camera to illuminate any possible shake.

Place another painting up and take a couple shots of it, repeat as necessary. You only need the one shot of the grey card.

Now that you have your photos skip to section 1.4.



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1.3 Using a grey card with a digital SLR camera

1.3.1 Review of lighting and placement

You use the same light setup as previously discussed. Nothing changes here.

1.3.2 Using the grey card for the right exposure the first time

Your camera light meter usually works very well. But when shooting art it doesn't work well, especially if you have a lot of lights or darks in your painting.

To use the grey card to properly set your light meter, place the card in position as talked about previously and set your DSLR to manual mode. Adjust your aperture to F8 or F10 and you will be using your shutter speed to adjust your light meter.

For the next step it will be best to adjust your light meter when the grey card takes up 100% of the viewfinder. Take a reading off the grey card using your camera light meter by pressing the shutter button down half way. Chances are the meter will be to the far right or far left. Adjust your shutter speed to align the meter bar to the center. You now have proper light metering. Place your camera back on your tripod for a stable shot.

NOTE: If you do NOT have a tripod set your shutter speed to 1/60 sec then use the aperture to adjust the light meter.

Before you remove the grey card, take a picture of it in front of your painting for reference. We will be using it later in Photoshop.

Remove the grey card and you will see the metering shift, in some cases dramatically. Not to worry, your camera is lying to you. Don't believe it!!! ☺

1.3.3 Bracketing

I always bracket my shots up to one half stop up and down by adjusting the shutter speed just to make sure I get the correct exposure.

I have always done this from my days of shooting regular film and it is still a good habit to get into, even with digital.

Phew, that takes care of taking the photos, now onto the good stuff.



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1.4 Now that I have used the grey card what can it do for me?

1.4.1 Making your life easy

So, you spent all this time with proper lighting and taking a photo of a piece of grey cardboard. Will this really do anything for me?

Absolutely!!! Image editing programs of today will take the photo(s) you just took and can correct the colour and lighting to the way the painting actually is.

1.5 Correcting your images in Photoshop or Gimp

Photoshop is software you have to purchase; either the full version or Photoshop Elements will do just fine. As of this writing there is a free online version of Photoshop called [Photoshop Express](#) that is being released. Not sure if it can adjust levels or curves as I have not tested it out yet. It is only in beta form right now.

Gimp is a freeware program that you can get here >> <http://www.gimp.org/>

1.5.1 Using Levels to correct image

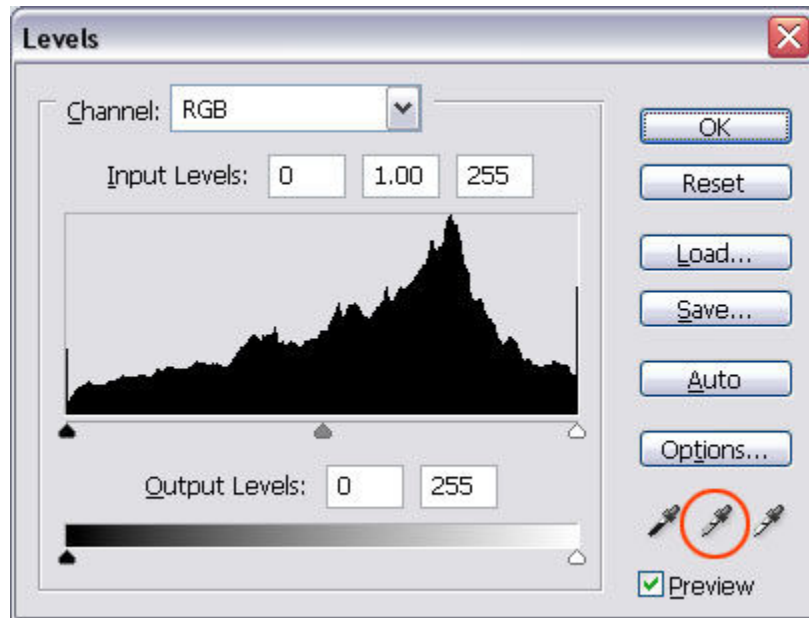
‘Levels’ is a tool that adjusts the image histogram by having control over the lights, darks and mid-tones of an image. If that doesn’t make sense, don’t worry about it. The beauty of ‘levels’ is it allows you to set the mid grey value of the image – thus the use of the grey card.

Open the photo of your painting with the grey card into Photoshop.

Now select Image>Adjustments>Levels (CTRL+L) and you will get a dialog box that looks like the one below.

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Notice I have highlighted an eyedropper with a red ring. This eye dropper represents the mid grey value. Click on this icon then click on the grey card in your image. PRESTO!!! Everything has changed. See below for an example.

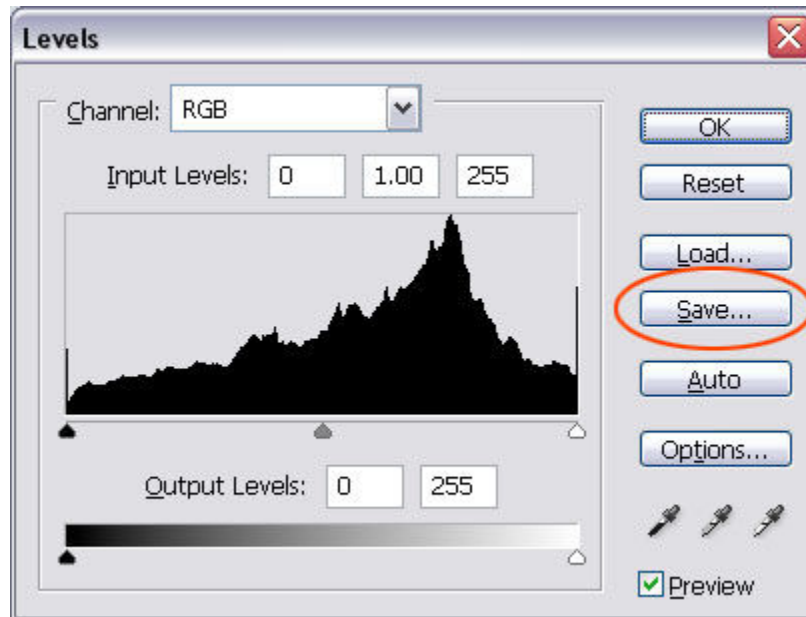


As you can see the difference is dramatic!

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1.5.1.1 Saving profiles for later use

Before you click OK, you can SAVE that profile to easily adjust any more photos you took during the photo session.



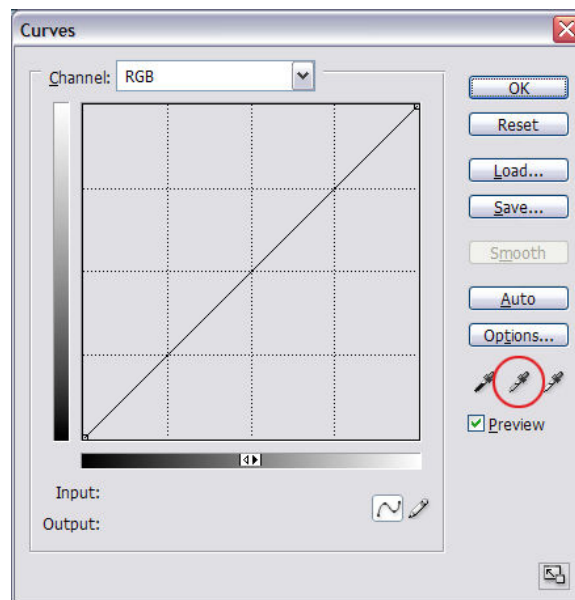
NOTE: Use this 'saved profile' for the other photos that you took in this last photo shoot by clicking the "load" button and selecting the profile you saved. If you take a new set of photos of more paintings at a later date save a new profile to use.

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1.5.2 Using Curves to correct image

Curves act much like the level dialog box but is a little more advanced. Not to worry we will use the curve tool much like the level tool.

After opening your image in Photoshop, go to Image>Adjustments>Curves (CTRL+M) and you will get a dialog box that looks like this.



Notice, again, I have highlighted an eyedropper with a red ring. This eye dropper represents the mid grey value. Click on this icon then click on the grey card in your image. PRESTO!!! Everything has changed. See below for an example.

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As with the levels feature you can see the difference with these image. In fact the results are the same. It all comes down to which tool you prefer to use.

1.5.2.1 Saving profiles for later use

Before you click OK, you can SAVE that profile to easily adjust any more photos you took during the photo session.

NOTE: Use this saved profile for the photos that you took in this last photo shoot. If you take a new set of photos of more paintings at a later date save a new profile to use.

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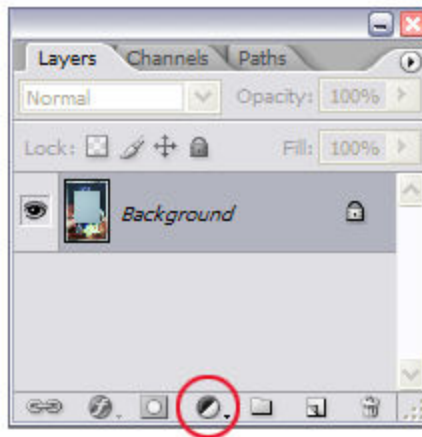
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1.5.3 Photoshop CS2 and CS3 specific (making correcting multiple images easy)

With the new versions of Photoshop you can create either a 'levels' or 'curves' layer.

The layer feature is great as it is non-destructive (does not destroy the original image) and it allows the user to easily transfer the specific changes to other images in one motion.

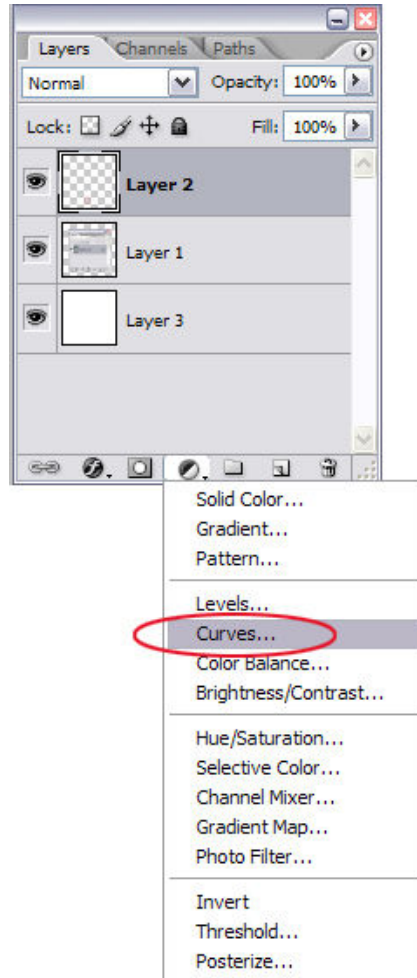
To create either a 'level' or 'curves' layer look at the bottom of your 'layers' palette.



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When you click on the highlighted icon you are presented with a list.

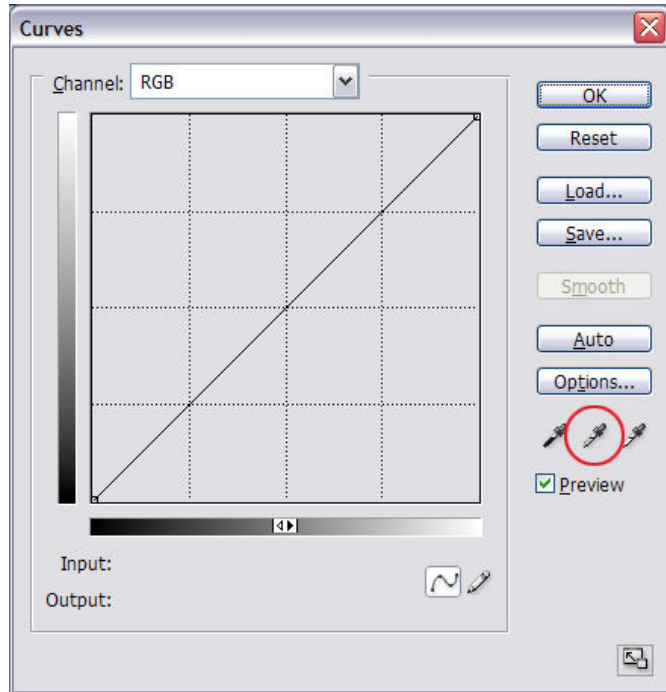


In this instance I am selecting 'curves'.

The same dialog box appears as before and you complete the process the same as was done previously. Select the grey value eye dropper and then select the grey card. No need to 'save' at all, just hit OK.

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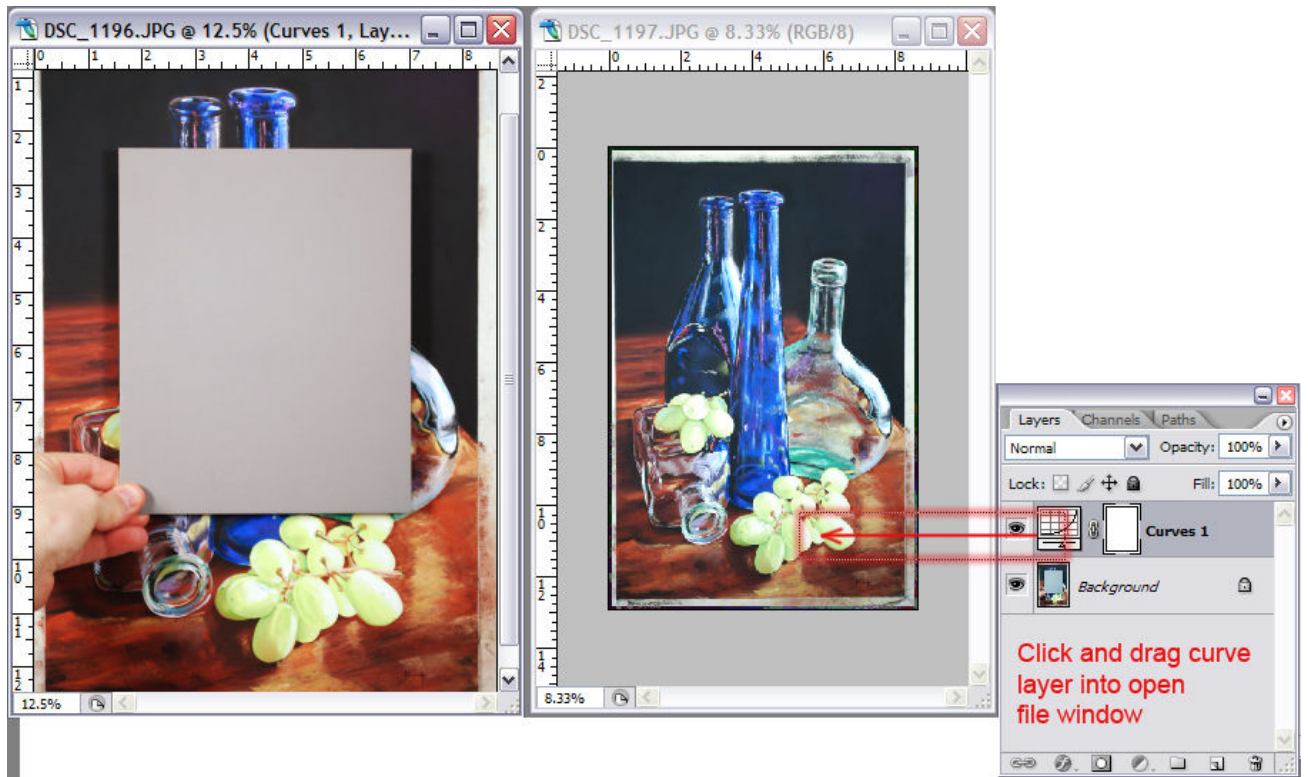


The parameters are applied in a layer and will be applied to ANY layer below it.

Now the easy part. Open a new photo from the shoot. Go back to your altered image with the curve layer. Make sure you can see both image windows on your screen.

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Simply drag the curve layer (click and hold) over to the new image window. PRESTO, the curve layer is now applied to the image.

Easy as pie. Below represents a more 'true colour' version of my painting especially compared to the original photo out of the camera (seen below corrected version). Blacks are blacker, browns and reds have more life and the blue is crisper.

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A handwritten signature in black ink, consisting of a stylized 'K', a period, and the word 'King'.

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1.6 Conclusion

I hope this will help you with your photography of your paintings for reference and for entering into competitions.

I think you'll find that the transformation will give you colour that is true to your painting instead of the washed out images that most of us get.

Best of luck.

Michael