

FIVE ESSENTIAL BLEND MODES FOR PHOTO EDITING

When it comes to learning Adobe Photoshop, believe it or not, there's really only a handful of things you absolutely, positively need to know. Sure, Photoshop is a massive program that only seems to get bigger and bigger with each new version. But do you really need the latest and greatest version of Photoshop with all its bells and whistles in order to complete most of your day-to-day photo editing tasks? Adobe would like you to think, "Yes, absolutely!", but chances are, more often than not, the answer is no. With just a little knowledge and a few basic skills, you can usually accomplish most of what you need to do. Even though each new version of Photoshop comes with new features, new options and new toys for us to play with, the core skills you need to have are the same in Photoshop CS3 as they were back in Photoshop 3 when Adobe first introduced layers into Photoshop.

So what are these core skills? Knowing how to make basic selections is one of them. Knowing how to use and work with layers in Photoshop is definitely one of them. Understanding how layer masks work is very important. And knowing how and when to use **layer blend modes**, which just happen to be the topic of this discussion, is absolutely essential.

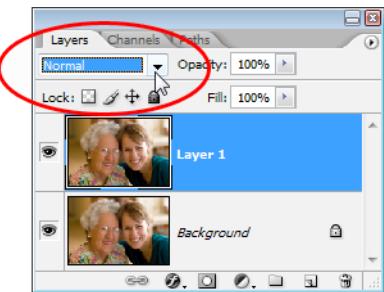
What Are Layer Blend Modes?

Quite simply, layer blend modes give us different ways for a layer to interact with, or "blend" with, the layer or layers below it. Without layer blend modes, the only real way we have of blending layers together is by reducing the opacity (or fill) of a layer, which usually doesn't give us very interesting results. But with blend modes, not only do they unlock a world of creative possibilities, especially when we combine them with layer masks, they can also be extremely helpful when it comes to editing, retouching and restoring photos, and they can save us a whole lot of time!

Of course, as with Photoshop itself, you don't need to know everything there is to know about layer blend modes in order to use and benefit from them in your daily work. As of Photoshop CS2, there were 23 blend modes in total (including the default "Normal" mode), and Photoshop CS3 adds two more to the list for a whopping 25 blend modes to choose from! With names like 'Dissolve', "Color Dodge", "Linear Burn", "Difference", and "Exclusion", it's enough to leave anyone scratching their heads wondering what does what and when to use which.

Here's a little secret. Okay, so it's not really a secret, but let's pretend it is since you seemed to perk up a little bit there when you thought I was about to tell you something no one else knows. As I just mentioned, you don't need to know everything there is to know about all the different blend modes. In fact, when it comes to day-to-day photo editing work, there's really only five blend modes you need to know. That's right, not 23 or 25, just 5! What are they? **Multiply**, **Screen**, **Overlay**, **Color**, and **Luminosity**. Understand how and when to use these five blend modes and your life of photo editing with Photoshop becomes a whole lot easier.

Where To Find The Layer Blend Modes



The Layer Blend Modes drop-down box in the top left corner of the Layers palette.

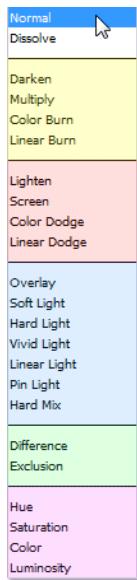
Before we get into what each of these five blend modes does and why they're so important, we should probably learn where to find them. If you think they're under the Layer menu at the top of the screen, well, good guess but no. Actually, that would be a bad thing, since you'd always be dragging your mouse up to the Menu Bar any time you wanted to change the blend mode of a layer. Fortunately, Adobe realized we're all a bit too lazy for that so they made things very easy for us. You can access all of the blend modes from a drop-down list in the top left corner of the Layers palette. By default, the "Normal" blend mode is selected:

One important thing to note here is that if you look at the screenshot above, you'll notice that I've gone ahead and made a copy of the original Background layer (by pressing **Ctrl+J** (Win) / **Command+J** (Mac)) and that I currently have the copy, named "Layer 1", selected. That's because Photoshop treats the Background layer differently from all other layers and it

doesn't allow us to change the blend mode for the Background layer. If you're following along on your own and notice your blend mode drop-down box is grayed out, it's most likely because you only have one layer in your Layers palette and it's named "Background". To access the blend mode list, you'll need to either make a copy of the Background layer or you'll need to rename the Background layer.

When you click on the small, down-pointing arrow beside the word "Normal" and the drop-down menu appears showing you a list of all the blend modes, it may seem at first like there's no rhyme or reason to it, especially when you're not sure how each of them works. I'm using Photoshop CS2 here which has 23 blend modes to choose from, and as I mentioned earlier, Photoshop CS3 adds two new ones for a total of 25. If you look closely though, you'll see that the blend modes are actually divided up into different groups. The top two - "Normal" and "Dissolve", make up the first group. Below them, "Darken", "Multiply", "Color Burn", and "Linear Burn" make up the second group, and so on. There's six groups in total, and you may get the impression that the reason certain blend modes are grouped in with other blend modes is because they have something in common, and you'd be correct!

Well, you'd be correct *except* for the first group at the top. The "Normal" and "Dissolve" blend modes have absolutely nothing to do with each other, even though Adobe chose to group them together. You could easily go your whole life never using the "Dissolve" mode, since it's pretty much useless, especially when it comes to photo editing, whereas "Normal" is the default blend mode that all layers are automatically set to unless you change it. So the first group at the top isn't really a group at all, unless you want to think of it as the "We Have Nothing To Do With Each Other" group. The rest of the blend modes, though, are grouped together because they most definitely have something in common with each other. Here's a breakdown of the various groups:



Darken Modes

As we can see in the CCFC (Color Coded For Convenience - yes, I just made that up) diagram on the left, the "Darken", "Multiply", "Color Burn", and "Linear Burn" blend modes are the **Darken** modes. Why? Because each one of them has the effect of making the image darker. Notice that the **Multiply** blend mode is included in the Darken group. If you remember, it's one of the five blend modes you absolutely need to know and one of the modes we'll be taking a closer look at in a moment.

Lighten Modes

Next, the "Lighten", "Screen", "Color Dodge", and "Linear Dodge" modes make up the **Lighten** group. Each one of them has the effect of lightening the image. Notice that the **Screen** blend mode is included in the Lighten group, another one you need to know and one of the ones we'll be looking at.

Contrast Modes

Below that, the "Overlay", "Soft Light", "Hard Light", "Vivid Light", "Linear Light", "Pin Light", and "Hard Mix" modes make up the **Contrast** group. Each one both darkens and lightens the image, boosting contrast. Notice that the **Overlay** mode, another one you need to know and one we'll be looking at, is part of the Contrast group.

Comparative Modes

Composite Modes

Next up is a group we're not going to be looking at in this discussion, the **Comparative** group, made up of the "Difference" and "Exclusion" blend modes. Both of these modes are for comparing pixels between layers and neither one of them is used very often, especially in photo editing. Very rarely would you have a use for the "Difference" mode, and you'll use "Exclusion" almost as much as you use "Dissolve", which is to say pretty much never.

Finally, we have the **Composite** group, also known as the **HSL** group, which stands for "Hue, Saturation and Luminosity", which just happen to be the names of three of the four blend modes included in this final group, along with the "Color" mode. The blend modes in this group all have something to do with either the color or luminosity (lightness) values in the layer, and the **Color** and **Luminosity** modes make up the last of the five essential blend modes you need to know when it comes to editing photos and images in Photoshop.

So far, we've seen that even though the number of layer blend mode choices we're given in Photoshop can seem a bit

overwhelming, there's really only five main types of blend modes. There's ones that darken the image, ones that lighten the image, ones that both lighten and darken at the same time to boost contrast, ones that compare pixels between different layers, and finally, ones that affect either the color or luminosity values of an image. Already, we've managed to take up to 25 seemingly different blend modes and break them down into only five main types (which the exception of "Normal" and "Dissolve", which we're not going to concern ourselves with). Not bad for starters, but we can break things down even further than that because out of those five main types, there's really only five blend modes you need to know when it comes to photo editing - one from the Darken group, one from the Lighten group, one from the Contrast group, and two from the Composite group.

The first one we need to look at is **Multiply**, and as we saw in the diagram on the previous page, it's found in the Darken group, so right away, we know it has something to do with darkening an image. In fact, it's the only blend mode from the Darken group you really need to know, and it also happens to be the most widely used blend mode of all.

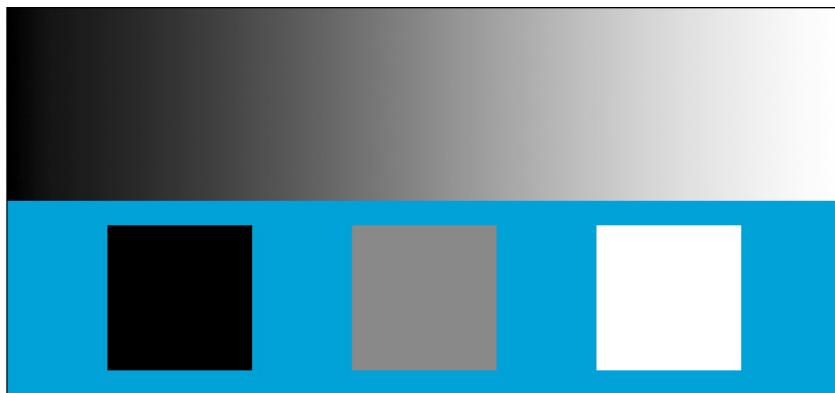
Darkening Images With The "Multiply" Blend Mode

As we've learned, each of Photoshop's layer blend modes, with the exception of "Normal" and "Dissolve", falls into one of only five main groups (Darken, Lighten, Contrast, Comparative, and Composite), and each group is responsible for giving us a specific result or effect. The first group, Darken, is made up of the Darken, Multiply, Color Burn, and Linear Burn blend modes, and each of these blend modes will darken the image to a certain extent, with the Darken mode having the least impact on the image while Color Burn and Linear Burn have the greatest impact.

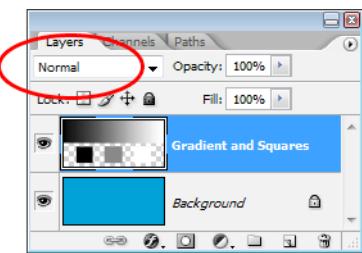
However, of the four blend modes in the Darken group, one of them stands high above the others, and that's the **Multiply** blend mode. The Multiply blend mode is one of the most important and widely-used blend modes in all of Photoshop, whether you're doing traditional photo retouching work or creating some wild and crazy special effect. It's unique among all the blend modes in that it's the only one named after the actual math that Photoshop performs behind the scenes when you have the Multiply mode selected. Photoshop takes the colors from the layer that's set to the Multiply blend mode and multiplies them by the colors on the layer(s) below it, then divides them by 255 to give us the result.

Of course, you don't need to be the slightest bit interested in math to use blend modes in Photoshop, and most people use the analogy of a slide projector when remembering how the Multiply mode works. Imagine that your photos were on slides and you held two of them up to the light one in front of the other. Since the light would have to travel through two slides, not just one, the resulting image would appear darker.

Let's look at a basic example of how the Multiply blend mode works in Photoshop. Here, I have a very simple document I've created using two layers. I've filled the Background layer with a solid blue color, and on the layer above it, I've added a horizontal gradient going from pure black on the left to pure white on the right, along with three squares. The square on the left is filled with black, the square on the right is filled with white, and the square in the middle is filled with 50% gray (in other words, the shade of gray that falls directly in between black and white):



A simple two-layer Photoshop document.



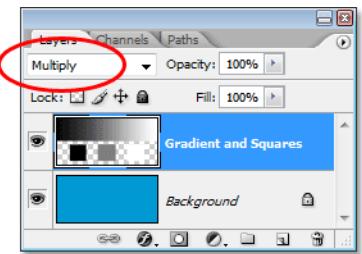
If we look at my Layers palette, we can see things more clearly, with the Background layer filled with solid blue and the gradient and squares on the layer above it. Notice that the “Gradient and Squares” layer is currently set to the Normal blend mode:

The Layers palette showing both layers, with the top layer set to the “Normal” blend mode.

Currently, we’re seeing everything in the Photoshop document exactly the way we’d normally expect to see it, with the gradient and squares completely blocking the solid blue color on the Background layer from view, and that’s because the blend mode of the “Gradient and Squares” layer is set to Normal. When we set the blend mode of a layer to Multiply though, things change. Any areas on the layer that are pure white completely disappear from view, while everything else becomes darker. The only exception is that any areas that are already pure black remain black, since obviously you can’t make pure black any darker than it already is. So anything white completely disappears, anything black remains black, and everything else becomes darker.

Watch what happens when I change the blend mode of the “Gradient and Squares” layer from Normal to Multiply. Based on what I just said, the white square on the bottom right, along with the white area on the right of the gradient, should completely disappear. The black square on the bottom left, along with the black area on the left of the gradient, should

remain black. The 50% gray square, along with the rest of the gradient, should blend in with the solid blue layer below them and become darker. Let’s see what happens. First, I’ll change the blend mode of the “Gradient and Squares” layer to **Multiply**:



Changing the blend mode of the “Gradient and Squares” layer to Multiply.

And now if we look at my Photoshop document, we can see that sure enough, everything has happened exactly as we expected. The white square and white part of the gradient are no longer visible, the black square and black part of the gradient remain untouched, and the 50% gray square, along with the rest of the gradient, are blending in with the solid blue color below them to give us a darker result:



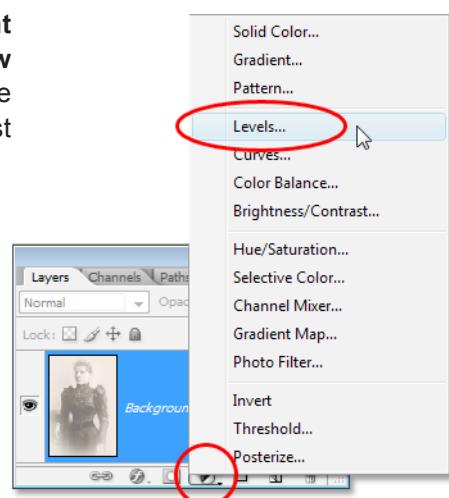
The Photoshop document after changing the blend mode of the “Gradient and Squares” layer to Multiply.

Real World Example of the Multiply Blend Mode

In photo retouching and restoration work, one of the most common uses for the Multiply blend mode is to easily darken photos that have faded over time. Here we have an antique photo that could use some help. The dark shadows have faded into a lighter gray, reducing not only the contrast in the photo but also some of the details (next page):

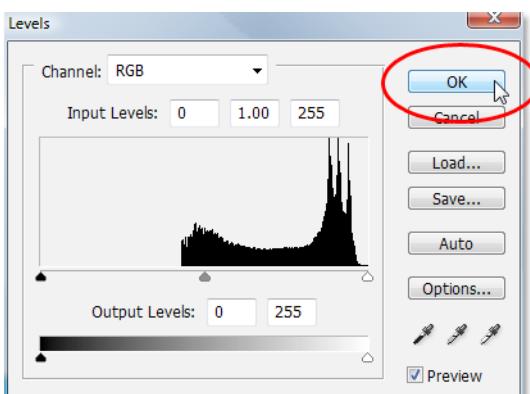


I'm going to add a simple **Levels adjustment layer** to my document by clicking on the **New Adjustment Layer** icon at the bottom of the Layers palette and choosing **Levels** from the list of adjustment layers that appears (right):



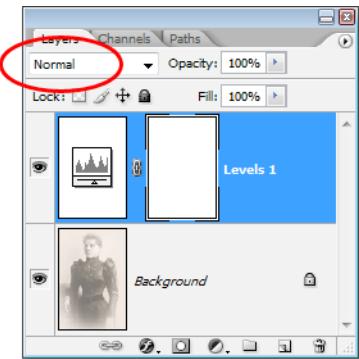
Click on the "New Adjustment Layer" icon and choose "Levels" from the list.

When the Levels dialog box appears, I'm simply going to click **OK** in the top right corner to exit out of it. There's no need to make any changes. All we need is the adjustment layer itself:

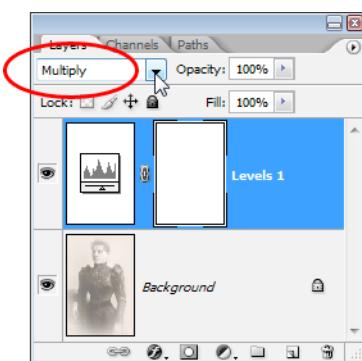


Click OK to exit out of the Levels dialog box.

We can now see in my Layers palette that I have my original faded image on the **Background** layer, and my **Levels** adjustment layer has been added directly above it. By default, the adjustment layer's blend mode is set to **Normal** (right):



The Layers palette now showing the Levels adjustment layer, set by default to the **Normal** blend mode, above the original image on the **Background** layer.



Changing the blend mode of the Levels adjustment layer to **Multiply**.

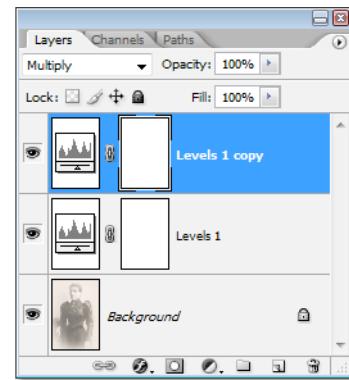
So far, nothing has changed in my document window since all I've done is added a **Levels** adjustment layer without actually making any changes inside the dialog box. My image is still just as faded now as it was before adding the adjustment layer. But watch what happens when I change the blend mode of the **Levels** adjustment layer to **Multiply**:



Simply by adding a Levels adjustment layer above my image and changing its blend mode from Normal to Multiply, I've darkened the shadows in the image and restored much of the contrast and detail:

With the Levels adjustment layer set to the Multiply blend mode, the shadows and details in the antique photo are restored.

If I wanted to darken the image even further, I could do so simply by duplicating the Levels adjustment layer (by pressing **Ctrl+J** (Win) / **Command+J** (Mac)). I now have two Levels adjustment layers above my Background layer in the Layers palette, both set to the Multiply blend mode:



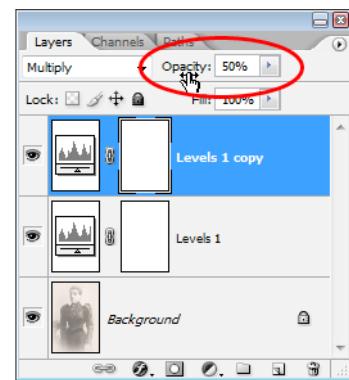
The Layers palette now showing the original Levels adjustment layer along with the copy of it above, both set to the Multiply blend mode.

Unfortunately, this has made my image a little too dark now:



The image now appears too dark after duplicating the Levels adjustment layer.

To fine-tune the darkening effect, all I need to do is lower the **opacity** of the new adjustment layer. I'm going to lower mine down to about 50%:



The Layers palette showing the work done so far using two Levels adjustment layers set to the Multiply blend mode.



The shadows and image details have now been restored.

Here's my image after lowering the opacity of the second adjustment layer to reduce the overall darkening effect (left):

You can use this exact same technique to darken and restore details in an overexposed photo. Simply add a Levels adjustment layer and change its blend mode to Multiply. Duplicate the adjustment layer if necessary to increase the darkening effect, or fine-tune the effect by lowering the opacity of the adjustment layer.

So far, we've seen how the Multiply blend mode, which is part of the Darkening group of blend modes, can easily be used in photo editing to restore dark areas in an old, faded image, and I mentioned that it can also be used to restore detail in an overexposed photo. These are just a couple of examples of how powerful and useful the Multiply blend mode is and why it's one of the five must-know blend modes in Photoshop.

The only problem with my photo above is that even though we've managed to darken and restore the shadow details, it now seems to be lacking any highlight information. The entire photo is now much darker than it was originally and it could use a boost in the highlights. This leads us into our very next topic and our second essential blend mode in Photoshop, **Screen**, which is the exact opposite of the Multiply mode!

Lightening Images With The “Screen” Blend Mode

So far on our journey through the essential blend modes for editing, retouching and restoring photos in Photoshop, we've learned that all of Photoshop's blend modes, with the exception of "Normal" and "Dissolve", fit nicely into one of five main categories - Darken, Lighten, Contrast, Comparative, and Composite, and that in these five categories, we find five layer blend modes that are absolutely essential for working in Photoshop. We've looked at the first of the five, Multiply, which darkens the image and is very useful for restoring dark areas that have faded over time, as well as restoring detail in overexposed images. This time, we're going to look at our second essential blend mode, **Screen**.

If you recall from the beginning, the Screen blend mode is found in the **Lighten** group, along with the Lighten, Color Dodge and Linear Dodge blend modes, so we know that it lightens the image in some way. Screen is actually the exact opposite of Multiply, and while the Multiply blend mode gets its name from the math that goes on behind the scenes when we set a layer to the Multiply mode, Screen gets its name from its real world analogy. Imagine once again that your photos are on slides. If you were to take two of them, place each slide in a separate projector and shine both projectors onto the same screen, the combined images on the screen would appear lighter than either image would appear on its own.

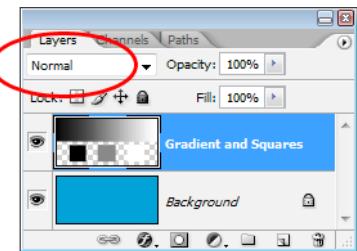
Let's look at how the Screen blend mode works in Photoshop. Once again, we'll start with my two-layer document that we first used on the previous page when we looked at how the Multiply mode works. On the bottom Background layer we have a solid blue color, and on the layer above it, we have a gradient going from pure black on the left to pure white on

the right, along with a black square, a white square, and a square filled with 50% gray:



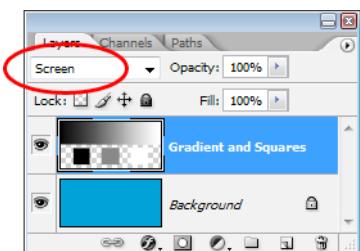
Our simple two-layer Photoshop document once again.

Again, if we look at my Layers palette, we can see things more clearly, with the Background layer filled with solid blue and the gradient and squares on the layer above it. The top layer, cleverly named "Gradient and Squares", is currently set to the Normal blend mode, which means that we're seeing everything exactly as we'd normally expect. The gradient and squares are completely blocking the solid blue color underneath them:



The Layers palette showing both layers, with the top layer set to the "Normal" blend mode.

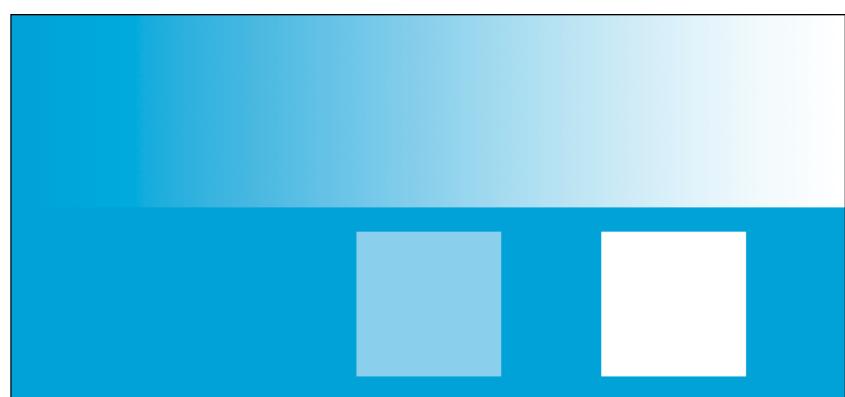
If you recall from our look at the Multiply blend mode, when we changed the "Gradient and Squares" layer to Multiply, what happened? The white square, along with the white area of the gradient on the right, completely disappeared from view, the black square, along with the black area of the gradient on the left, remained unchanged, and the 50% gray square, along with the rest of the gradient, blended with the solid blue color below them to give us a darker result. The Screen blend mode works exactly the opposite. With Screen, anything on the layer that's pure black will disappear from view. Anything that's pure white will remain unchanged, and any shade of gray between pure black and pure white will become lighter.



What should happen, then, when I change the "Gradient and Squares" layer to Screen? Based on what we just learned, the black square on the left, along with the black area of the gradient on the left, should completely disappear. The white square on the right, along with the white area of the gradient on the right, should remain unchanged, and the 50% gray square, along with the rest of the gradient, should blend in with the solid blue color below them and give us a lighter result. Let's see what happens. First, I'll change the blend mode of the "Gradient and Squares" layer from Normal to Screen:

Changing the blend mode of the "Gradient and Squares" layer to Screen.

And now if we look at my Photoshop document, we can see that everything has happened exactly as we expected, and exactly the opposite of the Multiply blend mode. The black square and black area of the gradient are now hidden from view, the white square and white area of the gradient remain unchanged, and the 50% gray square and the rest of the gradient are blending in with the blue color on the Background layer below them, giving us a lighter result:



The Photoshop document after changing the blend mode of the "Gradient and Squares" layer to Screen.

Real World Example of the Screen Blend Mode

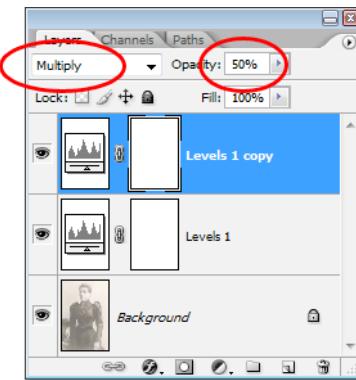


Since the Screen blend mode is so good at lightening images without lightening the darkest areas (areas of pure black or close to it), one of its most common uses in photo editing, retouching and restoration is to brighten images that have had their highlights fade over time, or images that suffer from underexposure.

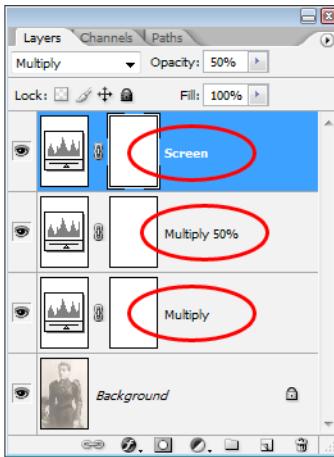
Let's look at my antique photo once again as we left it from the previous section. If you recall, we used the Multiply blend mode to darken the shadows in the image, but it left us with a photo that was lacking any highlights:

The image appears too dark.

And here's our Layers palette showing what we've done so far. The original, faded image is on the Background layer. We added a Levels adjustment layer above it and set its blend mode to Multiply which instantly darkened the shadows in the image. To darken them either further, we duplicated the Levels adjustment layer, making sure it was also set to the Multiply blend mode, and then fine-tuned the amount of darkening by lowering the opacity of the duplicate layer to 50%:



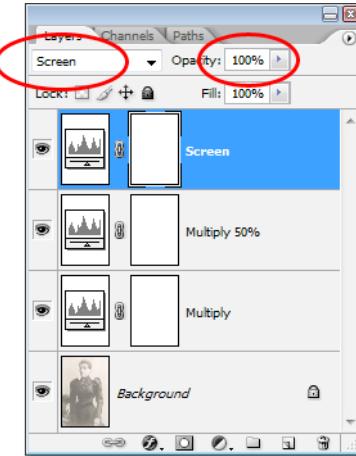
The Layers palette showing the work we've done so far to restore the shadows in the image.



We can use the Screen blend mode, along with yet another Levels adjustment layer, to easily restore the highlights in the image without affecting the shadows. With my "Levels 1 copy" layer currently selected, I'm going to press **Ctrl+J** (Win) / **Command+J** (Mac) to duplicate it. This will give me yet another copy of my Levels adjustment layer, this time named "Levels 1 copy 2". Of course, names like "Levels 1 copy 2" don't really help us much, so I'm going to rename the new layer to "Screen". While I'm at it, I'm also going to rename the original Levels adjustment layer to "Multiply", and I'll rename the one above it to "Multiply 50%" since we reduced the opacity of that layer to 50%. This makes it much easier for us to see and remember what we're doing as we work (left):

Duplicating the Levels adjustment layer once again and renaming it to "Screen". The two previous adjustment layers have also been renamed.

Whenever we duplicate a layer, the blend mode and opacity settings from the original layer are automatically copied over to the duplicate, and if we look at the Layers palette above, we can see that even though I've renamed the new layer to "Screen", it's still set to the Multiply blend mode and the opacity level is at 50%. That's because the layer I copied was set to Multiply at 50%. I'm going to increase the opacity back up to 100% and, since we want to use this layer to lighten the image and bump up the highlights, I'm going to change the blend mode to **Screen**:



Changing the blend mode of the top adjustment layer to Screen and raising the opacity back up to 100%.

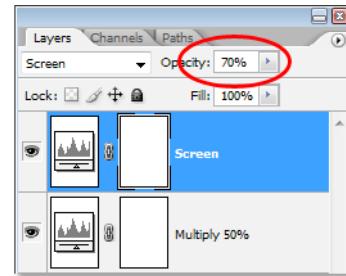
And now, look what's happened to our image. Simply by adding another Levels adjustment layer and changing its blend mode to Screen, we've managed to brighten the highlights in the image without brightening the shadows, giving it much better contrast:



The image now appears with brighter highlights after changing the blend mode of the adjustment layer to Screen.

If I thought the image could use even more brightening, I could easily duplicate the adjustment layer once again, making sure the duplicate is also set to the Screen blend mode, and then I could fine-tune the brightening by lowering the opacity value, just as we did when darkening the shadows with the Multiply mode.

In this case though, I think the image may be a little too bright already. I can see that some of the highlight details have been blown out, especially in the top right corner of the photo and in the woman's face, so I'm going to lower the opacity of the "Screen" layer down to about 70% (right):



Adjusting the brightness of the image by lowering the opacity of the "Screen" layer.



The image after restoring some highlight detail by lowering the opacity of the "Screen" layer.

This restores the highlight details that were being blown out a moment ago. Here, after lowering the opacity of the "Screen" layer, is the final image, now with much brighter and more visually pleasing highlights thanks to the Screen blend mode:

As I mentioned earlier, the Screen blend mode is also very useful for instantly brightening underexposed images, using the exact same techniques we just looked at. Simply add a Levels adjustment layer and change its blend mode to Screen. To brighten the photo even further, duplicate the adjustment layer, or to fine-tune the amount of brightening, simply lower the adjustment layer's opacity value.

So far, we've looked at two of the five essential blend modes for editing photos in Photoshop. We've seen how the Multiply mode darkens images and how the Screen mode lightens them. Next, we're going to look at our third essential blend mode, **Overlay**, which both multiplies and screens images at the same time!

Boosting Contrast With The “Overlay” Blend Mode

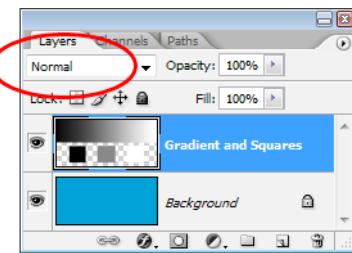
We've looked at the Multiply blend mode which darkens images, great for restoring shadows and fixing overexposed photos. We've looked at the Screen blend mode which lightens images, perfect for brightening highlights and fixing underexposed photos. Next up in our look at the essential blend modes for photo editing in Photoshop is a blend mode that both multiplies dark areas and screens light areas at the same time, the **Overlay** mode. As we saw at the very beginning of our discussion, the Overlay mode is part of the **Contrast** group of blend modes, along with other blend modes such as Soft Light, Hard Light, Vivid Light, Linear Light, and so on. Each of these blend modes is designed to boost the contrast in an image, but the Overlay mode is by far the most popular and often used, and one you most definitely need to know.

Let's use our simple two-layer document once again, this time to see how the Overlay mode works. Again, we have the Background layer filled with solid blue, and directly above it, we have a layer containing a horizontal black to white gradient along with a black square, a white square, and a square filled with 50% gray:



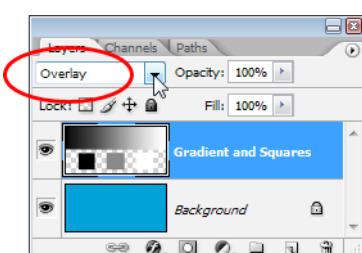
Our two-layer document.

Of course, as we've said before, everything looks the way it does right now because the top layer, named “Gradient and Squares”, is currently set to the Normal blend mode:



The Layers palette showing both layers, with the top layer set to the “Normal” blend mode.

Just to quickly recap, we've seen that by changing the “Gradient and Squares” layer to the Multiply blend mode, everything became darker. The white areas disappeared from view, the black areas remained unchanged, and everything else blended in with the solid blue color on the Background layer to give us a darker result. When we set the layer to the Screen blend mode, everything became lighter. The black areas disappeared, the white areas remained unchanged, and everything else blended in with the solid blue color to give us a lighter result.



The Overlay blend mode both multiplies dark areas and screens light areas at the same time, so dark areas become darker and light areas become lighter. Anything on the layer that is 50% gray completely disappears from view. This has the effect of boosting image contrast, which is why one of its most common uses in photo editing is to quickly and easily improve contrast in badly faded images. Let's see what happens when I change the blend mode of the “Gradient and Squares” layer to **Overlay**:

Changing the blend mode of the “Gradient and Squares” layer to Overlay.

Based on what we just learned, with the “Gradient and Squares” layer set to Overlay, the 50% gray square, along with the area in the middle of the gradient directly between black and white, should completely disappear from view. Anything darker than 50% gray should become even darker, and anything lighter than 50% gray should become even lighter. Let’s look at our document and see what’s happened:



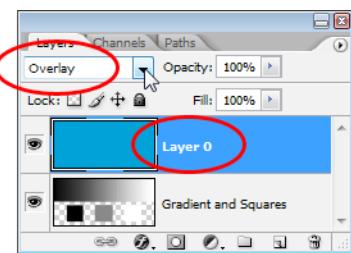
The Photoshop document after changing the blend mode of the “Gradient and Squares” layer to Overlay.

Sure enough, the 50% gray square, along with the area in the middle of the gradient, has disappeared, while everything left of center in the gradient has blended with the blue color underneath to become darker, while everything right of center in the gradient has blended with the blue color to become lighter.

What’s strange here, though, is that you probably expected the black and white squares, along with the black and white areas of the gradient, to remain unchanged, with black remaining black and white remaining white, since I said that the Overlay mode multiplies the dark areas and screens the light areas. When we looked at the Multiply blend mode, the black areas remained black, and when we looked at the Screen blend mode, the white areas remained white. It would make sense then that anything black should still be black and anything white should still be white. Yet we can see in our document above that this is not the case. The black square and black area of the gradient on the left have actually lightened a little to become a dark blue, while the white square and white area of the gradient on the right have darkened a little to become a light blue. What’s up with that?

What’s up with that is a little thing called “favoritism”. That’s right, favoritism isn’t something that only happens with your family or co-workers. It’s also alive and well inside Photoshop. With the Overlay blend mode, Photoshop actually favors the underlying layer or layers, as opposed to the layer you’ve set to the Overlay mode. In other words, in our case here, Photoshop is giving less importance to the “Gradient and Squares” layer, which is the layer that’s set to the Overlay mode, and more importance to the solid blue Background layer below it. That’s why the blue color has “won out”, so to speak, over the black and white colors we were expecting to see.

Watch what happens if I switch the order of the layers in the Layers palette so that the “Gradient and Squares” layer is on the bottom and the solid blue color is above it. Now, Photoshop doesn’t actually allow us to move the Background layer, so I’ll need to rename it first. To do that, I’ll simply hold down my **Alt** (Win) / **Option** (Mac) key and **double-click** directly on the word **Background** in the Layers palette, which tells Photoshop to rename the layer to “Layer 0”. Now that the layer is no longer named “Background”, I’m free to move it. I’ll go ahead and move “Layer 0”, which is our solid blue layer, directly above the “Gradient and Squares” layer. I’m also going to reset the “Gradient and Squares” layer back to the Normal blend mode, and this time, I’ll set the solid blue layer to **Overlay**:



The solid blue layer is now above the “Gradient and Squares” layer, with the “Gradient and Squares” layer set back to the Normal blend mode and the solid blue layer set to Overlay.

This time, since it's the solid blue color that's set to Overlay, Photoshop is going to favor the "Gradient and Squares" layer underneath it. This should mean that the black and white areas on the "Gradient and Squares" layer should remain black and white. Let's see how it looks:



The black and white areas on the "Gradient and Squares" layer now remain black and white, since Photoshop is now giving less importance to the solid blue layer above it.

Sure enough, that's exactly what's happened. The black areas are still black and the white areas are still white, while the 50% gray areas are still hidden from view. The Overlay mode seems to have a much stronger effect now with a much more obvious boost in contrast, all because we switched the stacking order of the two layers. We're still using the exact same Overlay blend mode, but because we learned that Photoshop always favors the layer or layers below the layer that's set to Overlay, we were able to enhance the contrast effect even further.

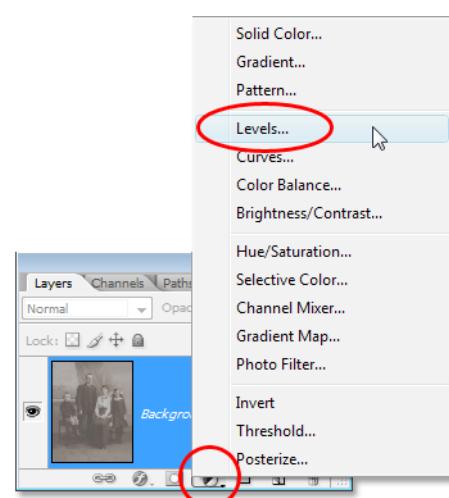
In most cases, this whole "favoritism" thing with the Overlay mode won't be an issue, but it's still good to know.

Real World Example of the Overlay Blend Mode

Let's look at how easily the Overlay blend mode can be used to improve contrast in an image. Here we have another old photo, this one badly faded in both the highlights and shadows:

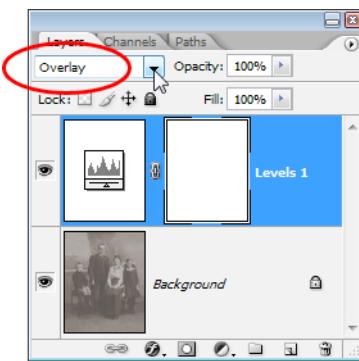


An old photo that's faded in both the highlights and shadows.



Just as I did when we looked at both the Multiply and Screen blend modes, I'm going to add a Levels adjustment layer above the image by clicking on the **New Adjustment Layer** icon at the bottom of the Layers palette and choosing **Levels** from the list:

Adding a Levels adjustment layer above the image.



Again, there's no need to make any changes inside the Levels dialog box, so when it appears, I'll simply click **OK** to exit out of it. Photoshop goes ahead and adds a Levels adjustment layer above the Background layer. As we know, by default, Photoshop sets all new layers to the Normal blend mode, so I'm going to change the blend mode of my Levels adjustment layer to **Overlay**:

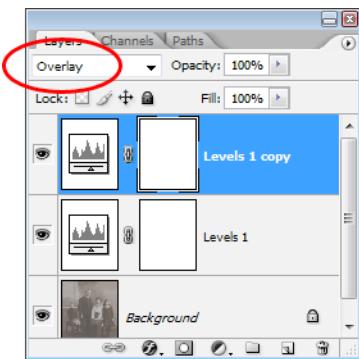
Changing the blend mode of the adjustment layer to Overlay.



The contrast in the image is improved after changing the blend mode of the adjustment layer to Overlay.

I think we can improve the contrast even more, and we can do that simply by duplicating the adjustment layer, which I'll do by pressing **Ctrl+J** (Win) / **Command+J** (Mac). This gives me a duplicate of the Levels adjustment layer and,

because my original adjustment layer was set to the Overlay blend mode, the duplicate is automatically set to Overlay as well (left):

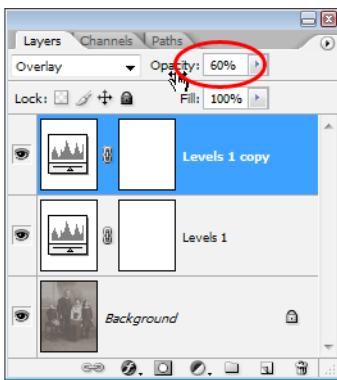


The Layers palette showing the duplicate of the Levels adjustment layer, also set to the Overlay blend mode.



And now if we look at the image again, we can see that the contrast has been increased even further. Actually, it's too strong at this point with that second adjustment layer. We're starting to lose some detail in the brightest and darkest areas:

The contrast is now a little too strong after duplicating the adjustment layer.



Lowering the opacity of the duplicate Levels adjustment layer.

To fine-tune the contrast, I can simply lower the **opacity** of the duplicate adjustment layer. I'll lower it down to about 60%:



The final result after restoring the highlights and shadows in the image with the Overlay blend mode.

And that's how easy it is to restore shadows and highlights in a photo and boost image contrast using nothing more than a Levels adjustment layer (or two) and the Overlay blend mode. This brings us to the end of our look at the third essential blend mode for editing, retouching and restoring photos in Photoshop. Next up, we'll look at our fourth essential blend mode, one that has nothing to do with shadows, highlights or contrast - **Color**!

Adding Or Changing Colors With The “Color” Blend Mode

Every layer blend mode we've seen so far in our look at the essential blend modes for photo editing in Photoshop has been about darkening images, lightening images, or both. The Multiply blend mode ignores white areas and makes everything else darker. The Screen blend mode ignores black areas and makes everything else lighter, while the Overlay blend mode ignores areas that are 50% gray and makes dark areas darker and light areas lighter, improving image contrast.

Our fourth essential blend mode in Photoshop has nothing to do with shadows, highlights or image contrast and everything to do with color. In fact, by no sheer coincidence, it's named the **Color** blend mode, and if you remember, it's found in the **Composite** group of blend modes along with the Hue, Saturation and Luminosity modes.

The Color blend mode is actually a combination of the first two modes in the Composite group, Hue and Saturation. When you change a layer's blend mode to Color, only the color (that is, all of the hues and their saturation values) from the layer is blended in with the layer or layers below it. The luminosity (lightness) values of the layer are completely ignored. The Color blend mode is perfect for when you want to add or change the colors in an image without changing the brightness values. As we'll see on the next page, Color is actually the exact opposite of our fifth and final essential blend mode, Luminosity, which ignores all color in the layer and blends only the lightness values.

Real World Example of the Color Blend Mode

One of the most popular uses for the Color blend mode is to colorize black and white images. This allows you to add color to the image without affecting the lightness values. Simply add a new blank layer above your image and set the blend mode of the layer to Color. Select your Brush Tool from the Tools palette, choose the color you want to paint with, and begin painting on the layer to add your color.

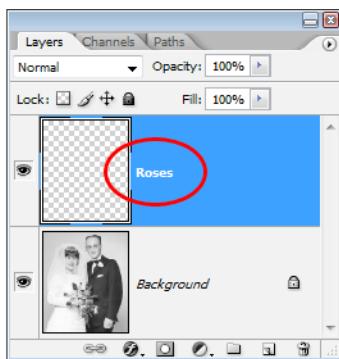
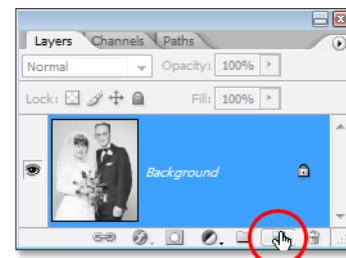
Here I have another old photo, this time of a wedding couple:



An old black and white photo of a wedding couple.

Let's say we want to keep the overall image black and white but to add more interest to the photo, we want to make the roses in the bride's bouquet red. The Color blend mode makes it easy. First, we'll need to add a new blank layer above our photo, so I'll add one by clicking on the **New Layer** icon at the bottom of the Layers palette:

Clicking on the "New Layer" icon.

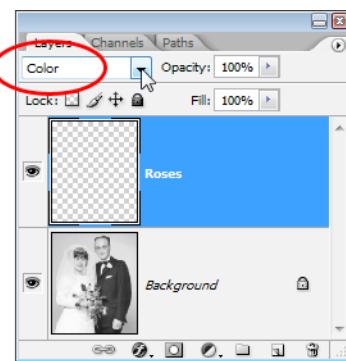


This adds a new blank layer above the Background layer. By default, Photoshop names the new layer "Layer 1", but since we'll be using this layer to colorize the roses, I'll **double-click** on the layer name in the Layers palette and rename it to "Roses":

The Layers palette showing the new blank layer, "Roses", above the Background layer.

If we were to simply begin painting on this layer with the Brush Tool, we'd be covering up the photo underneath, and that's because the new layer's blend mode is currently set to Normal. Since we want to add color to the image without affecting the tonal information, we need to change the layer's blend mode to **Color**:

Changing the blend mode of the "Roses" layer to Color.



Now I'll choose my **Brush Tool** from the Tools palette, and with red as my Foreground color, I'll zoom in on the roses and begin painting over them. Notice how we can still see the light and dark areas of the roses underneath the color we're painting thanks to the Color blend mode's ability to blend our new color with the image below:

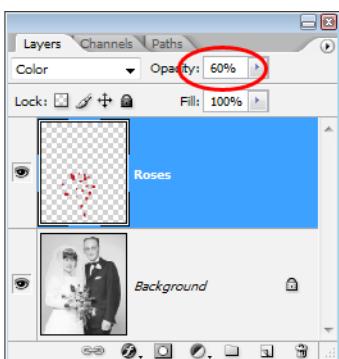


Painting with red inside the roses.

I'll continue painting over the rest of the roses. Here's the image after painting all the roses with red:



The roses have now been colorized red.



The color is a bit too intense, so I'll simply lower the **opacity** of the "Roses" layer down to about 60%:

Lowering the opacity of the "Roses" layer been colorized red.



The image after lowering the opacity of the "Roses" layer.

Now the color is much more subdued and the red seems to blend in nicely with the rest of the photo:

If we wanted to, we could continue colorizing the rest of the image, but I like the effect of having just the roses in color. Of course, this is just one example of how useful the Color blend mode is, and it's certainly not limited to restoring old photos. The Color mode is just as handy for changing colors in your new digital photos.

To change someone's eye color, for example, simply select the person's eyes, add a **Hue/Saturation** adjustment layer, drag the Hue slider left or right to select the color you want, and then change the blend mode of the Hue/Saturation layer to Color.

We've now looked at four of the five essential blend modes for photo editing in Photoshop. Up next is our fifth and final blend mode, **Luminosity**, which is the exact opposite of the Color mode!

Maintaining Colors With The “Luminosity” Blend Mode

In the previous section, we looked at Photoshop's Color blend mode which blends the color information (hue and saturation) of a layer with the layer or layers below it while ignoring the lightness values. As we saw, this makes the Color mode perfect for such things as colorizing black and white photos, and it's also great for more common tasks like changing someone's eye or hair color. The Color blend mode allows us to add or change colors in an image without affecting the image's tonal information.

Our fifth and final essential blend mode for photo editing in Photoshop is **Luminosity**. Like the Color mode, Luminosity is found in the **Composite** group of blend modes along with Hue and Saturation, and is actually the exact opposite of the Color mode. Whereas the Color mode blends the colors of a layer while ignoring lightness values, the Luminosity mode blends the lightness values while ignoring the color information!

In photo editing, changing the blend mode of a layer to Luminosity is often a final step. For example, a very common photo editing technique is to use either a Levels or Curves adjustment layer to improve overall contrast in an image, and in many cases, this works perfectly. The problem you can run into, though, is that Levels and Curves affect not only the lightness values in an image, they also affect color. By increasing image contrast, you're also increasing color saturation, especially in reds and blues, and sometimes you'll even see a shift in colors. Too much color saturation in a photo can wipe out important image details. By changing the Levels or Curves layer to the Luminosity blend mode, we easily avoid the problem by telling Photoshop to ignore the color information completely.

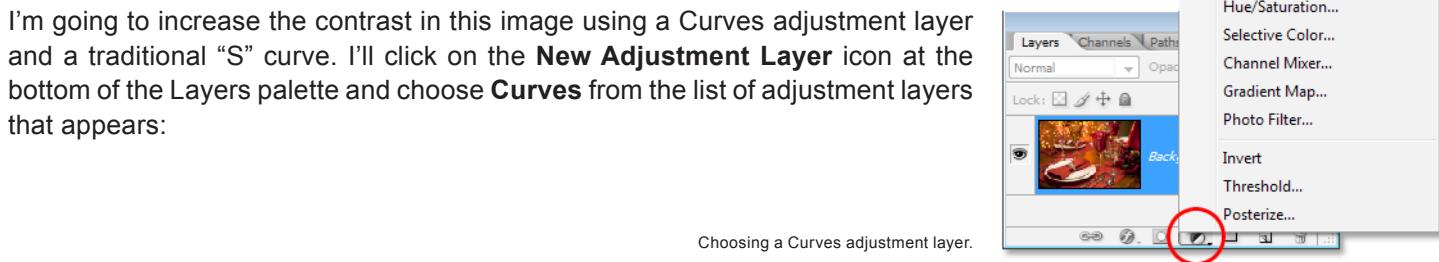
Real World Example of the Luminosity Blend Mode

Here we have a photo of a nice holiday table setting, full of reds, oranges and yellows:



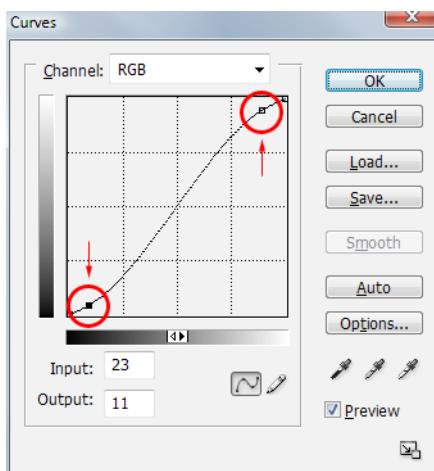
A holiday table setting.

I'm going to increase the contrast in this image using a Curves adjustment layer and a traditional "S" curve. I'll click on the **New Adjustment Layer** icon at the bottom of the Layers palette and choose **Curves** from the list of adjustment layers that appears:



Choosing a Curves adjustment layer.

Inside the Curves dialog box is a large 4x4 grid, with a diagonal line running through it from the bottom left to the top right. To change the shape of the diagonal line into a traditional "S" curve, I'll click on the line near the top right corner to add a point, then I'll nudge the point up a little by pressing the Up arrow key on my keyboard a few times.



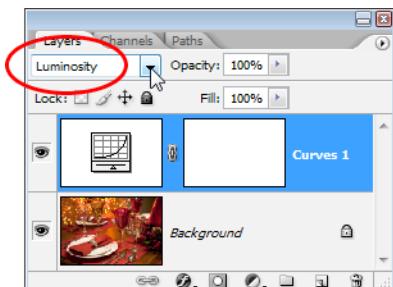
Increasing contrast in the image by reshaping the diagonal line in the Curves dialog box into an "S" curve.

I'll then click on the line near the bottom left corner to add another point, then nudge the point down a little by pressing the Down arrow key on my keyboard a few times. This reshapes the line into something resembling a letter S (sort of, anyway), which is why it's known as an "S" curve:

I'll click OK to exit out of the dialog box. The "S" curve lightens the highlights in an image and darkens the shadows, which increases contrast, and as we can see in my image now, the contrast has been increased. Notice also, though, that the colors now appear more saturated as well, since the Curves adjustment layer affected not only the shadows and highlights but also the color saturation:



Both contrast and color saturation have now been increased after applying the Curves adjustment layer.



To have the Curves adjustment layer affect only the contrast and ignore the color information, all we need to do is change the blend mode of the adjustment layer from its default Normal to **Luminosity**:

Changing the blend mode of the Curves adjustment layer to Luminosity.

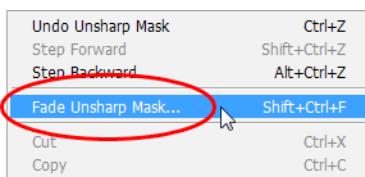
Now that the blend mode is set to Luminosity, the Curves adjustment layer is no longer concerned with the color information in the image. The contrast is still increased, but the color saturation has returned to normal:



The color saturation has now returned to normal after changing the blend mode of the Curves adjustment layer to Luminosity.

It may be a bit difficult to see the difference in the screenshots here, but try it on your own, switching between the Normal and Luminosity blend modes, and the difference will be easier to see, especially if your photo contains lots of reds and blues.

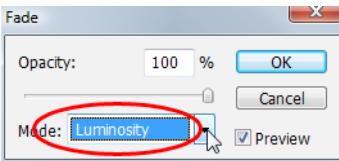
Another common use for the Luminosity blend mode is when it comes to sharpening images. Most people use Photoshop's classic **Unsharp Mask** filter to sharpen their photos, and there's certainly nothing wrong with using it. The only problem is that the Unsharp Mask filter sharpens both the lightness values and the color information, and this can lead to a more noticeable "halo" effect around people and objects in the image. We can use the Luminosity blend mode, along with Photoshop's Fade command, to limit the effects of the Unsharp Mask filter to just the luminosity values, ignoring the color.



Immediately after applying the Unsharp Mask filter, go up to the **Edit** menu at the top of the screen and choose **Fade Unsharp Mask**:

Go to Edit > Fade Unsharp Mask.

When the Fade dialog box appears, change the **Mode** option at the bottom (which is short for "blend mode") to **Luminosity**:



Change the blend mode in the Fade dialog box to Luminosity.

This effectively changes the blend mode of the Unsharp Mask filter you just applied to Luminosity, which means the filter is now safely ignoring the color information in the image and is sharpening only the lightness values. Add this extra step any time you apply the Unsharp Mask filter to give you better sharpening results!

And there we have it! Even though Photoshop comes with up to 25 different layer blend modes, depending on which version of Photoshop you're using, we've narrowed things down to only five blend modes you absolutely need to know. The Multiply blend mode darkens images, the Lighten blend mode lightens images, Overlay both darkens and lightens to improve contrast, Color allows us to add or change colors in an image without affecting lightness values, and finally, Luminosity allows us to make changes to the lightness values of an image without affecting color.

Learning just these five blend modes can save you a tremendous amount of time and make editing, retouching and restoring photos in Photoshop a whole lot easier!

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