

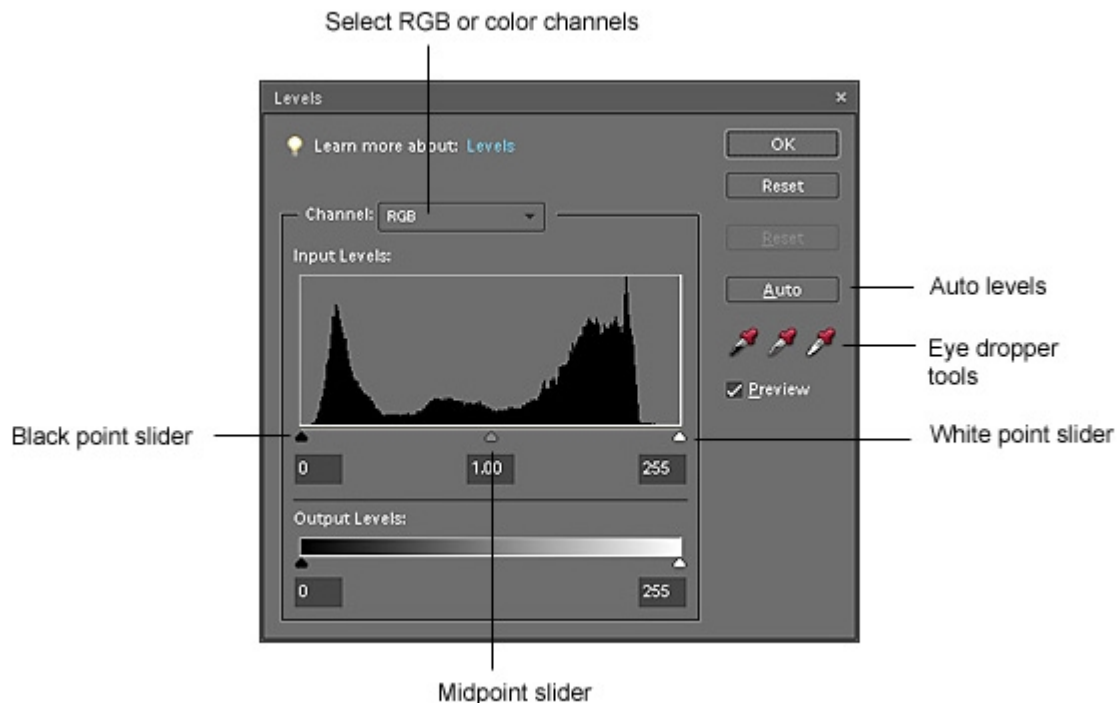
Improve Contrast and Colour with a Levels Adjustment.

I see many pictures that are sent in for the Monthly Competition that could, with a little practice, have been corrected and improved with one of the simplest tools in the graphic software armoury..... **Levels Adjustment and Correction.**

You can - and almost invariably should - use the Levels command to quickly improve the contrast and colour in your photos at the same time.

To adjust the levels in your photos in Photoshop Elements (full Photoshop is similar but uses the 'Image' menu, other programs have the same controls but you'll need to find them) do **one** of the following:

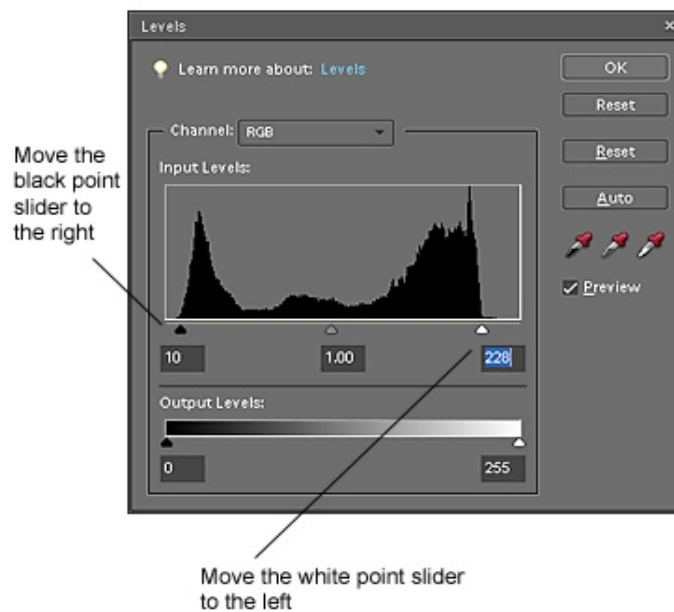
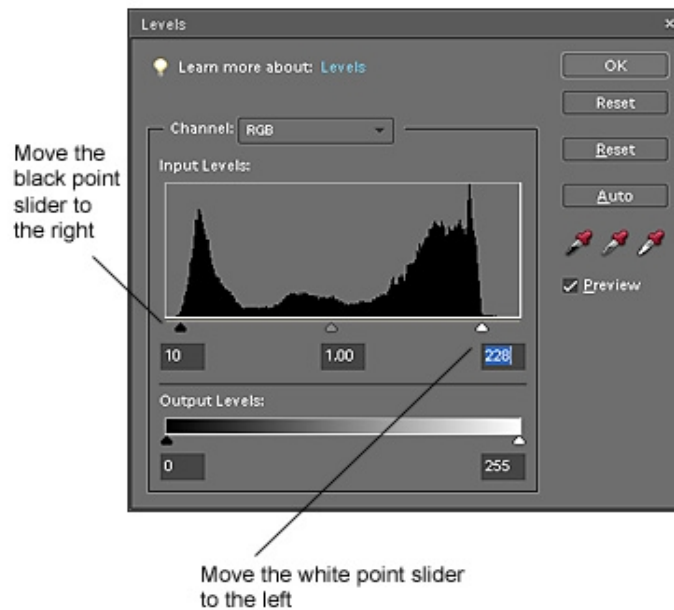
- From the **Enhance** menu, select **Auto Levels**. Photoshop Elements will automatically apply a levels adjustment to your photo. The Auto Levels command works well and, if you are satisfied with the results, you may not need to use the Levels window.
- From the **Enhance** menu, select **Adjust Lighting**, then **Levels**. The Levels window opens where you can view the [histogram](#) and make your corrections.
- In the Layers palette, click the **Adjustment Layer** icon and select **Levels**. A new adjustment layer is created and the Levels window opens. This is the most versatile option because you can make changes to your settings at any time, or remove the adjustment or reduce its effect by lowering its opacity.



Quick Fix

In the Levels window, the quickest way to fix your photo is to do the following:

1. Drag the black point slider to the right until it reaches the place in the histogram where the dark pixels start to increase in density.
2. Drag the white point slider to the left until it reaches the place in the histogram where the light pixels start to increase in density.
3. Click **OK**.



Note that the **Auto** button will 'fill-in' tones for you but it will not adjust the input levels. However, give it a go - it will sometimes give an even better adjustment, but it's better done on an image that has already been 'Levels-Corrected'.

Before



After

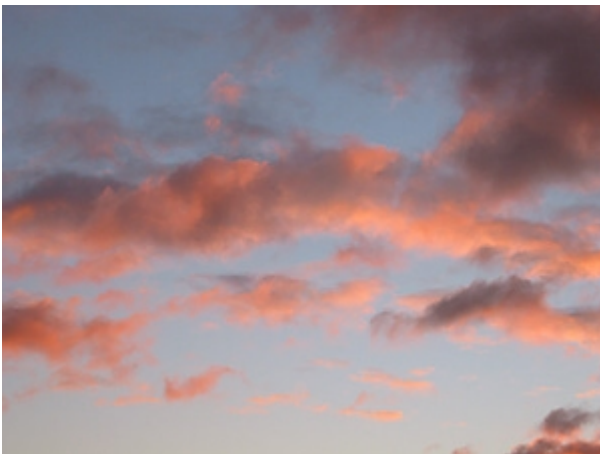


As you can see, that rock is still dark - so consider making selections of your original and applying different Levels Adjustments to the different areas.

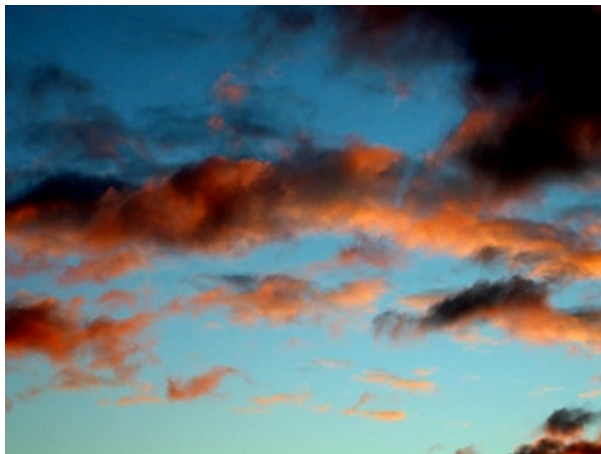
Adjusting Each Colour Channel

In the Levels window, you can work on the Red, Green, and Blue channels and the RGB channel individually. Sometimes, if the quick fix doesn't produce the desired result, working on each colour channel will - and can produce some dramatic results.

Before



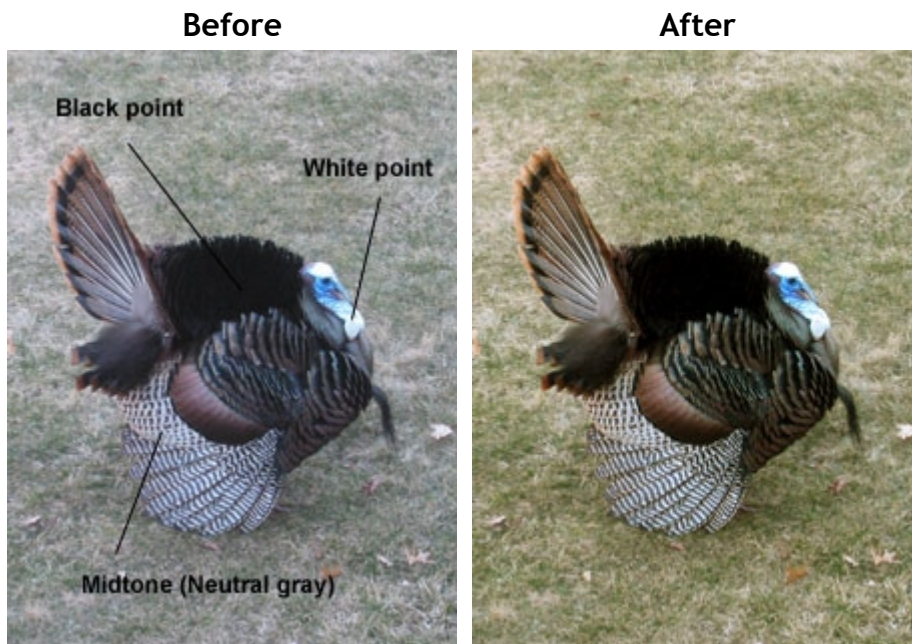
After



Using the 'Eyedroppers'

Another way to adjust the levels is to use the eyedroppers to find the darkest, lightest and midpoint grey pixels in the image. This comes in handy sometimes when adjusting for colour casts.

1. Select the left eyedropper (black point) and click on an area of the photo that is supposed to be black.
2. Select the right eyedropper (white point) and click on an area of the photo that is supposed to be white.
3. Select the middle eyedropper (midpoint) and click on an area of the photo that is supposed to be neutral grey. (In the image below, it was among the feathers.)

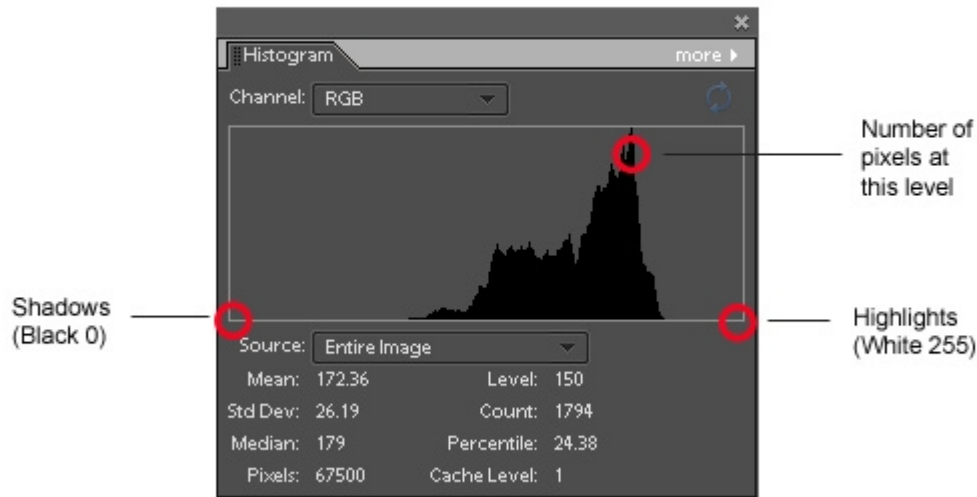


The Histogram

We've just looked at the histogram used in the Levels Adjustments in software. The histograms in your graphics program and in your digital camera can be very useful tools to help you take better photos and improve the contrast and colour in the photos you've taken. The histogram describes the range of tones in your image from black (0) to white (255). (Think of the range of tones as the brightness levels of the image from back to white.)

- The x-axis represents the tone (brightness level) from 0-255.
- The y-axis represents the number of pixels at that tone (level).

Histogram Shows Tonal Range (Levels) from 0-255



Reading the Histogram

The histogram looks like a curve. On the curve, the dark areas of your photo are on the left side of center and the light areas are on the right side of center.

- A photo that is **too dark (underexposed)** will show more pixels on the left of the curve than on the right. If there are spikes at the extreme left, it indicates that many pixels are pure black.
- A photo that is **too light (overexposed)** will show more pixels on the right of the curve than on the left. If there are spikes at the extreme right, it indicates that many pixels are pure white.
- A photo that has weak **contrast** will show pixels bunched up in the middle of the histogram with few pixels to the left and right. The tonal range is limited, but you can expand the range and correct this with a Levels adjustment.

Note: A pattern of spikes to the extreme left or right of the histogram is called **clipping**. If the shadows are clipped, many pixels are pure black and detail is lost in the dark areas of the photo. If the highlights are clipped, many pixels are pure white and detail is lost in the light areas of the photo.

Histogram Example

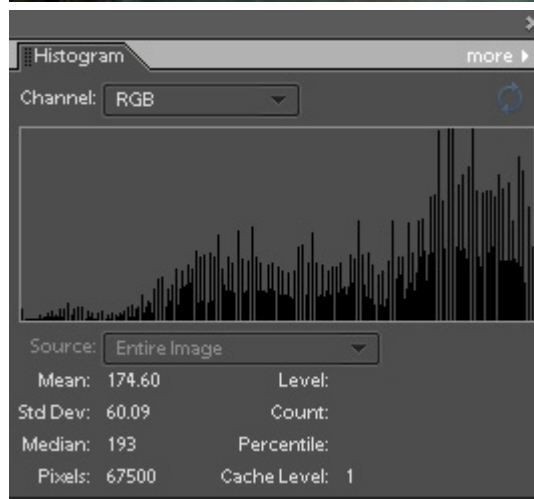
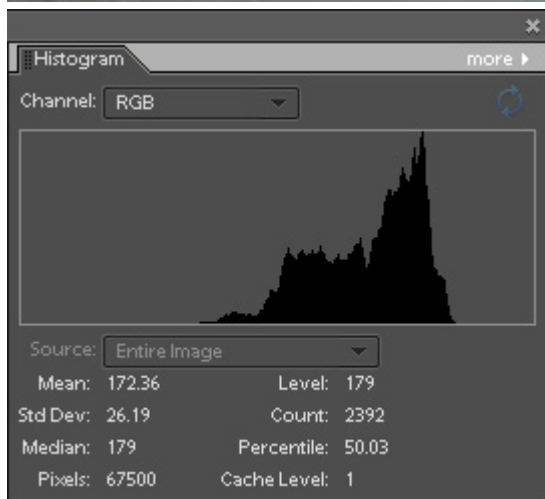
The following example shows a photo taken in mist that has weak contrast.

- In the "Before" photo, the histogram shows that the bulk of the pixels are bunched up in the middle tones.
- After a Levels adjustment is made to the photo, the "After" photo shows much more contrast and color and the histogram has spread to cover the entire tonal range.

Misty Photo Before



Misty Photo After



Using the Histogram

Display the histogram in your digital camera to determine if you need to adjust your camera settings to adjust for underexposure or overexposure. Most cameras can be set to show the histogram for each picture after it's shot or in the playback/review.

To view the histogram in Photoshop Elements, press **F9** or select **Histogram** from the **Window** menu. This tells you a lot but you cannot do much with it.... so check the Histogram in the Levels Adjustment.