Histograms

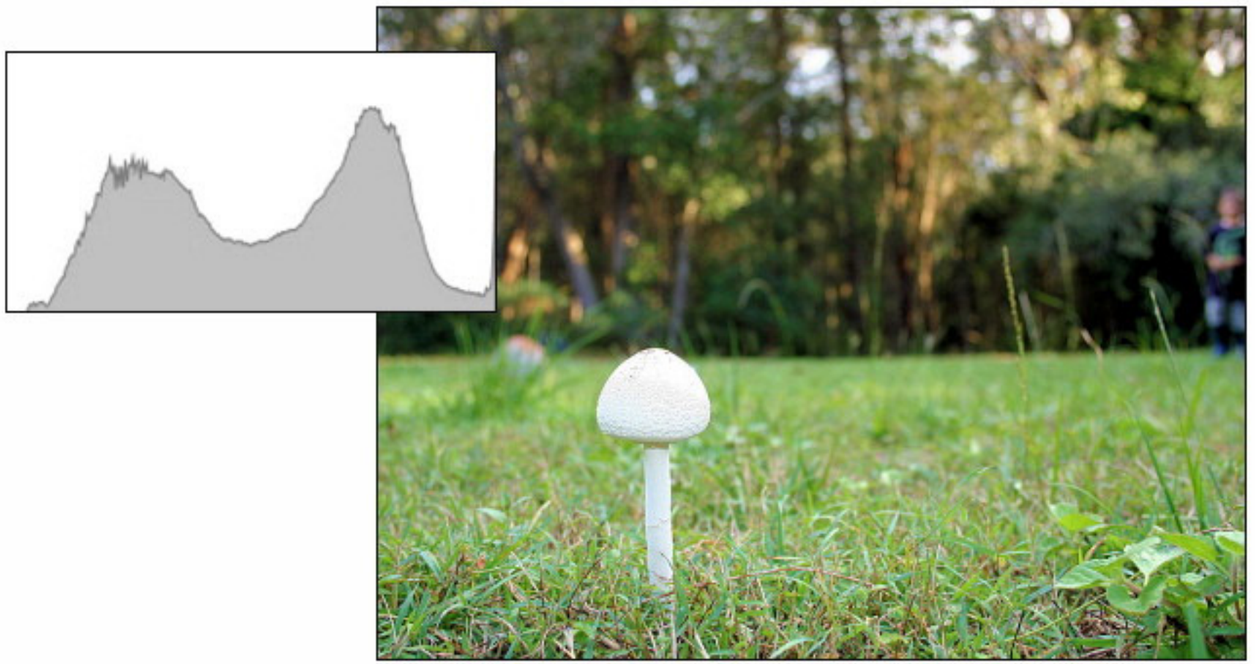
In this lesson, we'll be taking a look at
Histograms.

Estimated Completion Time: **8 minutes.**

Histograms

Histograms, quite simply, are a graphical representation of the brightness of colors in your photograph.

They are used to determine if a photo is underexposed, or overexposed - and look something like the image below.

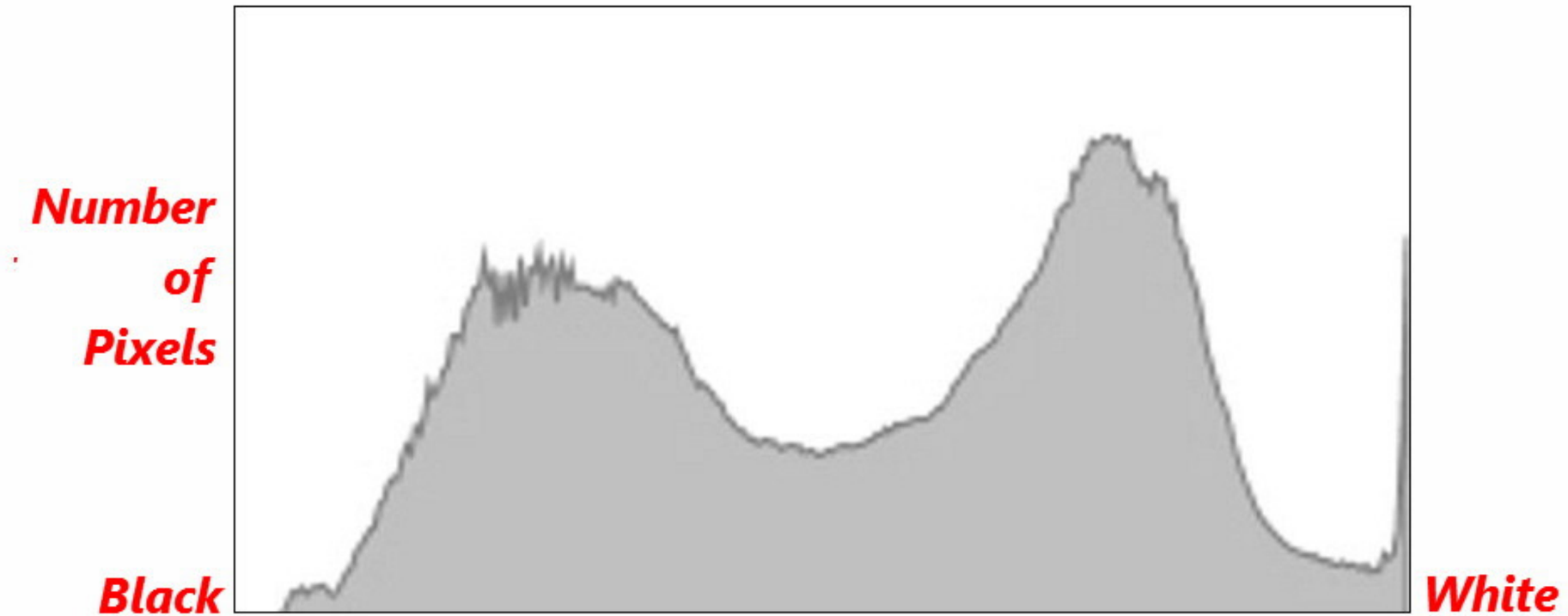


The histogram above represents the brightness range of the image on the right.

Histograms

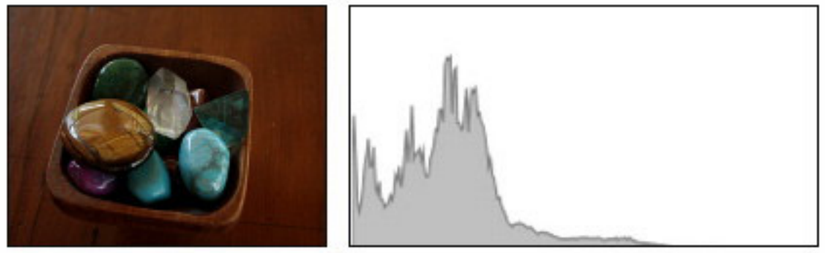
The histogram has an x and a y axis. The x axis represents the spread of brightness of colors, from black on the left, through to white on the right.

The y axis reflects the number of pixels in that region.

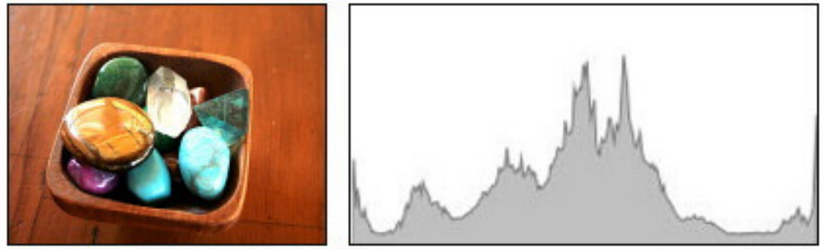


Histograms

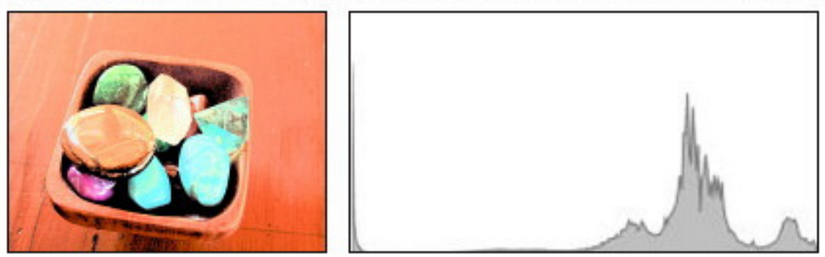
The darker an image is, the more the colors will be clustered towards the left hand side.
The lighter it is, the more they appear towards the right.



This image is dark, so the histogram shows most action in the left hand side, or darker side.



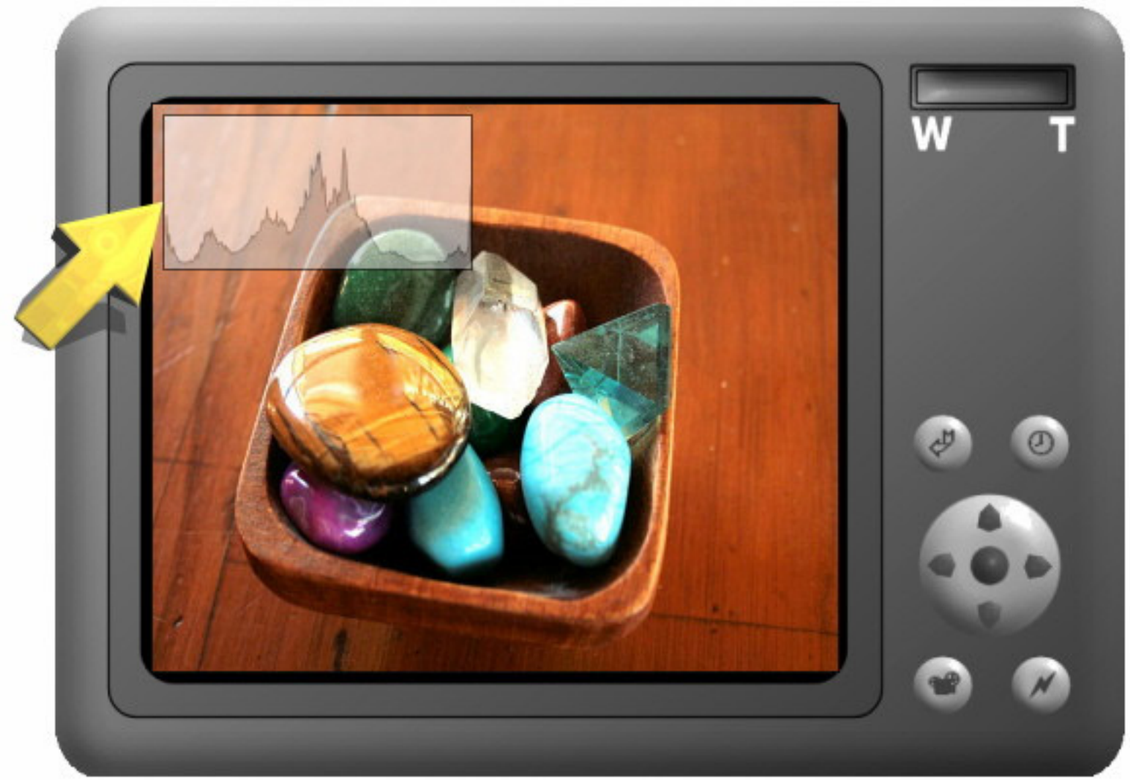
This image is well exposed, so the histogram shows a good spread of color.



This image is too light, so the histogram shows most action in the right hand side, or lighter side.

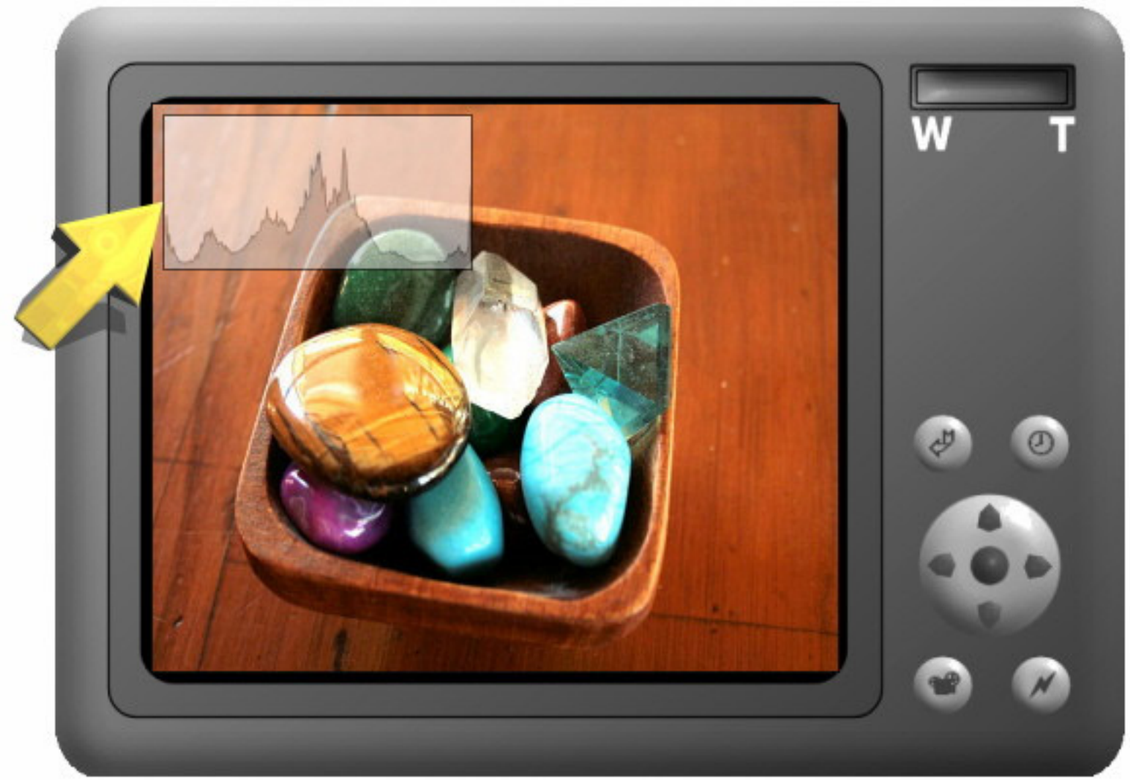
Histograms

Many cameras allow a mode, as the shot is being composed (i.e. before you actually take it) which illustrates a histogram of the composed shot. This lets you know beforehand what the exposure, or brightness range of the photo will be.



Histograms

Every photo will have a unique histogram. As you move the camera around, the histogram will continually update to reflect the new color range. This allows you to reframe, or add light, or change position, and see if you can get a nice even spread on the histogram.



Histograms

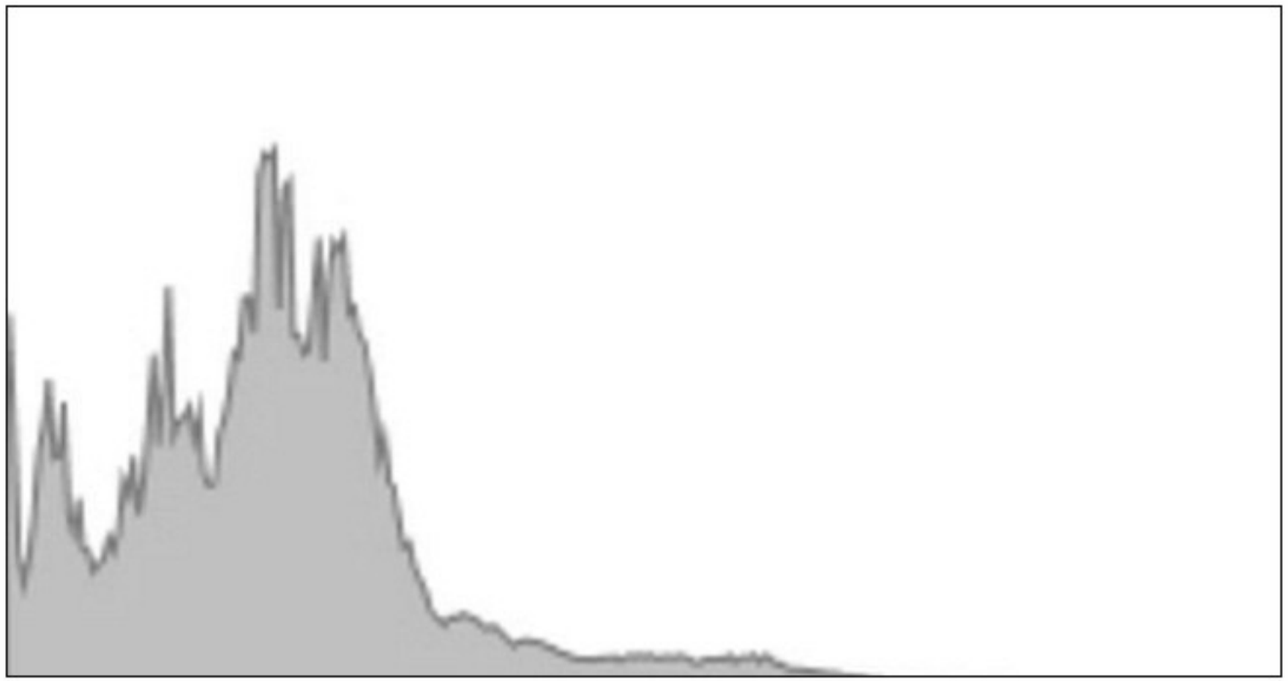
Ideally, for most images, you'll be looking for most bars in the histogram to be higher in the middle, and less at either side.

You can display a histogram on most cameras after you've taken the shot as well. This can be helpful, because quite often the small camera display area, plus perhaps some bright light outdoors, can make it hard to get a true idea of the how the image will turn out when back on the computer.

If you see a histogram like this on your camera, you know you will have a pretty well exposed shot.

Histograms

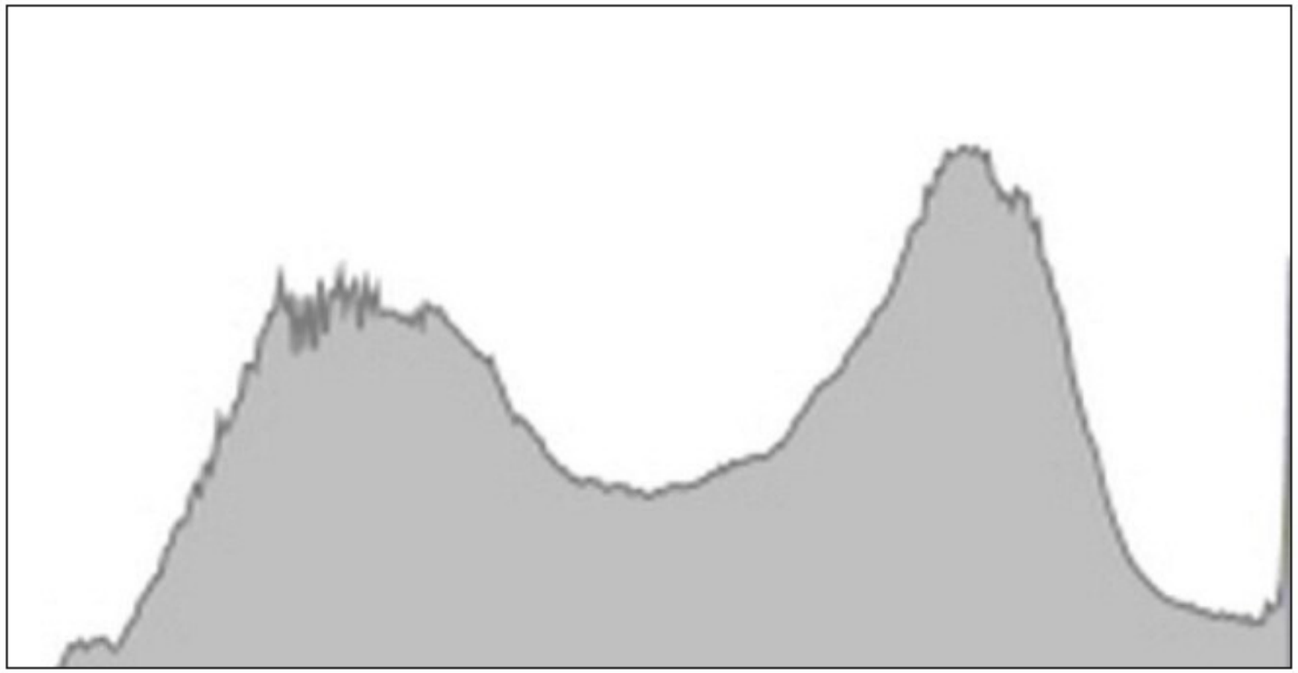
If on your camera you see a histogram like the one below, it probably indicates that the shot has been underexposed. At the very least, take another shot at a higher exposure to be sure.



The bars in this histogram are right up against the left hand side of the histogram. This is a giveaway that at least some area of the image is going to be underexposed, forcing the camera to 'clip' the contrast of some areas of the photo.

Histograms

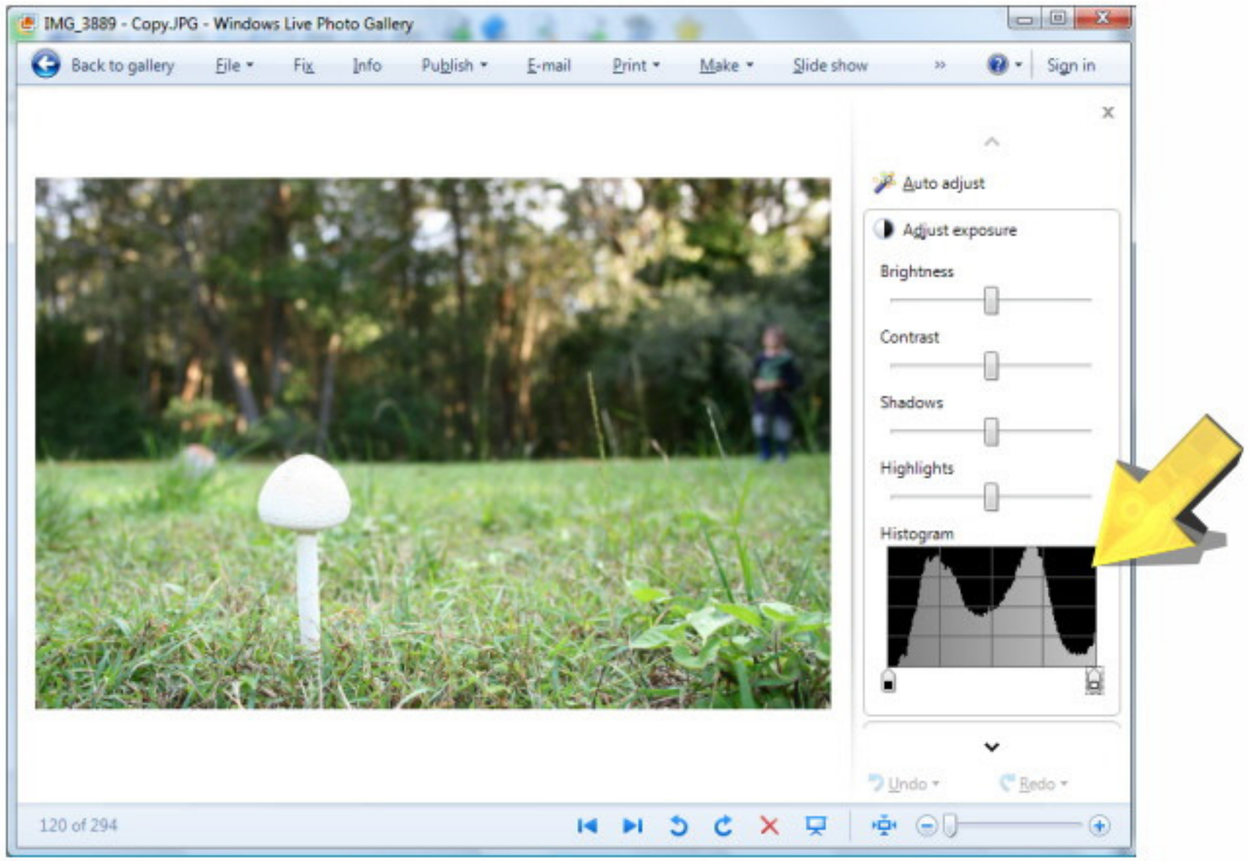
The histogram below shows a fairly well exposed image - but - have a look at the right-hand side. This does indicate some over-exposure. When an image is overexposed, or underexposed, you will lose detail that may not be able to be restored after the photo is taken.



Some bars in this histogram are right up against the right hand side of the histogram. This indicates some areas of the image are over exposed.

Histograms

In many graphics programs, including Windows Live Photo Gallery, you can view a histogram, and use the histogram to adjust brightness and contrast until the histogram looks better.



Histograms

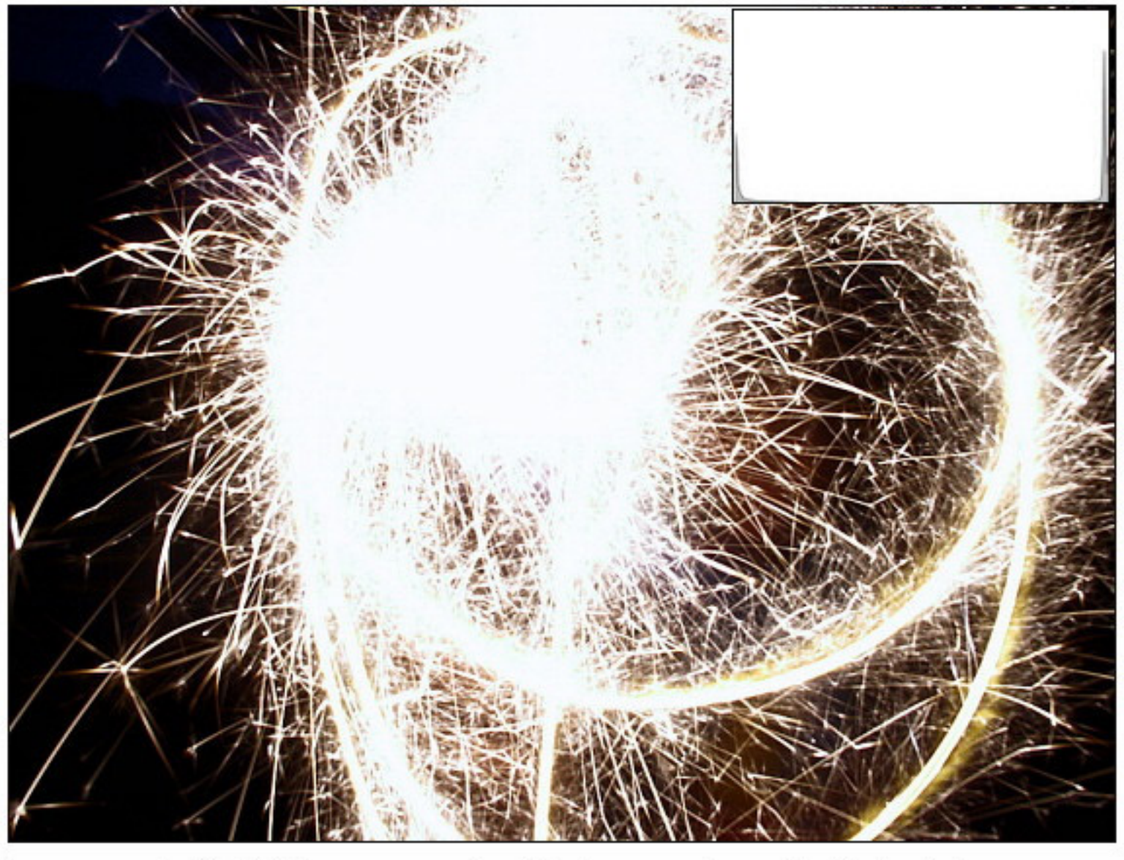
So how important is the histogram? It is a good guide, but the real issue is how good the photo looks.

If you have a photo that looks great, but the histogram does not really agree, go with how it looks over the histogram.

This histogram is not really that flattering - it shows a lot of darkness in the image. But in this case, the image works, even with the dark areas.

Histograms

Your image may include a lot of dark, or a lot of light, or some other intentional effect that does not make a flattering histogram.



Once again, a none too wonderful histogram - but it does not really take into account the subject matter.

Histograms

You've now completed this lesson.

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Histograms.