

Photographic Terms

In this lesson, we'll be taking a look at **Photographic Terms**.

Estimated Completion Time: 18 minutes.



Photographic Terms

Throughout these lessons, we'll be referring to certain terms related to photography. Some of these are explained in detail in their own lessons, so we won't be covering them here.

The examples on the following steps will illustrate what some of these terms mean.



Photographic Terms



SLRs / DSLRs. Digital cameras broadly fall into two categories - compact, or pocket cameras, and DSLRs (or SLRs). The main difference is that DSLRs tend to be more expensive, and have interchangeable lenses.

Because DSLRs are aimed at the real enthusiast/professional, features and quality of photos is better with DSLRs - for a number of reasons - better workmanship, bigger internal sensors, larger lenses, etc.

Photographic Terms



Saturation. **Saturation** is a term that refers to the intensity of colors in a photograph. A photograph with poor **saturation** will appear as a black and white image. Poor saturation can occur in poor light, or based on certain camera settings.

On the left is a photograph with poor color **saturation**. On the right, we've used simple photograph editing tools to enhance the **saturation** of the same shot.

Photographic Terms



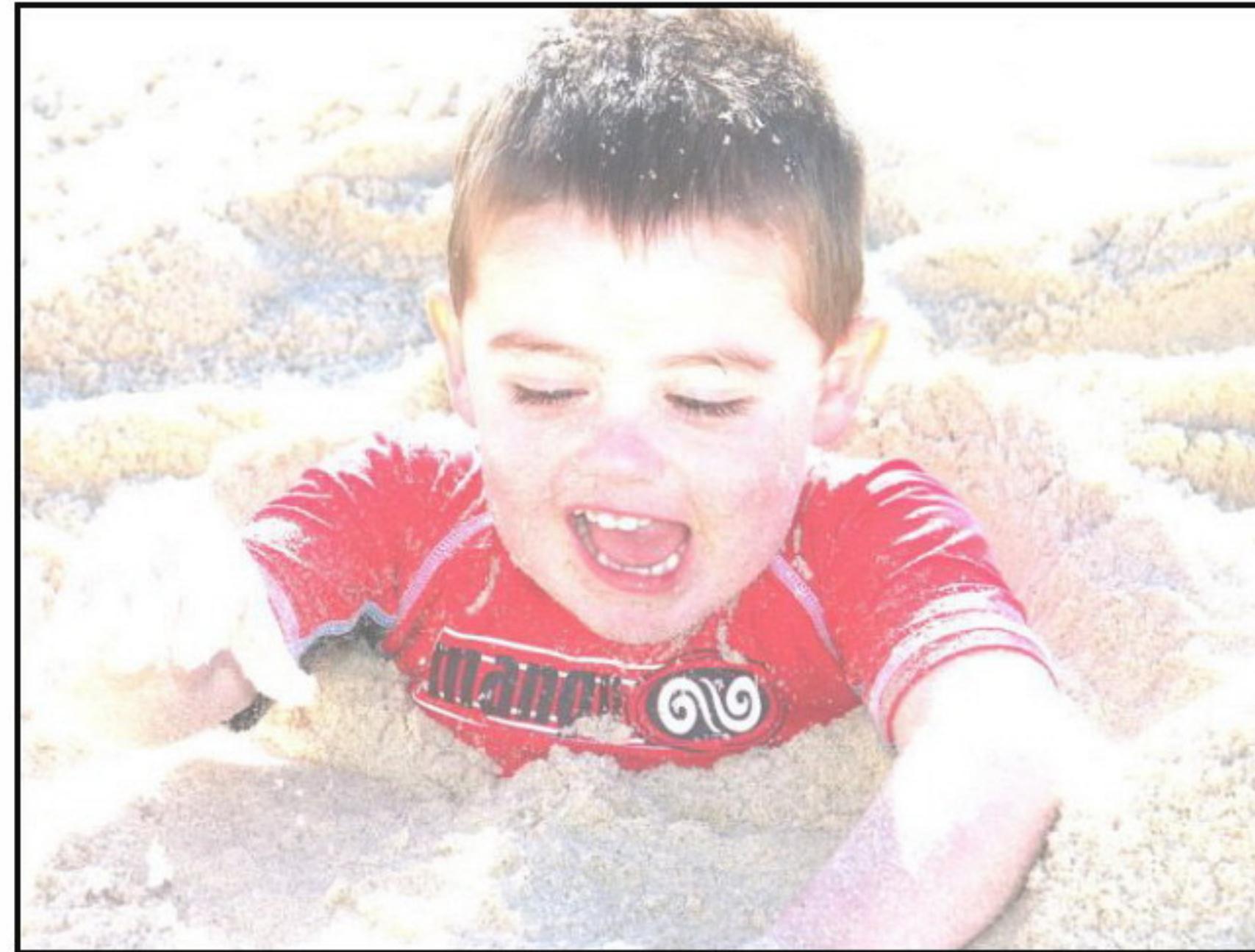
Exposure. This term refers to the light in an image. A well exposed image has a good balance of light - nothing too unintentionally dark, and nothing too unintentionally light.

Photographic Terms



Underexposed Photographs. This term refers to photos that are simply too dark. This is normally as a result of simply not enough light being available, or incorrect settings on the camera.

Photographic Terms



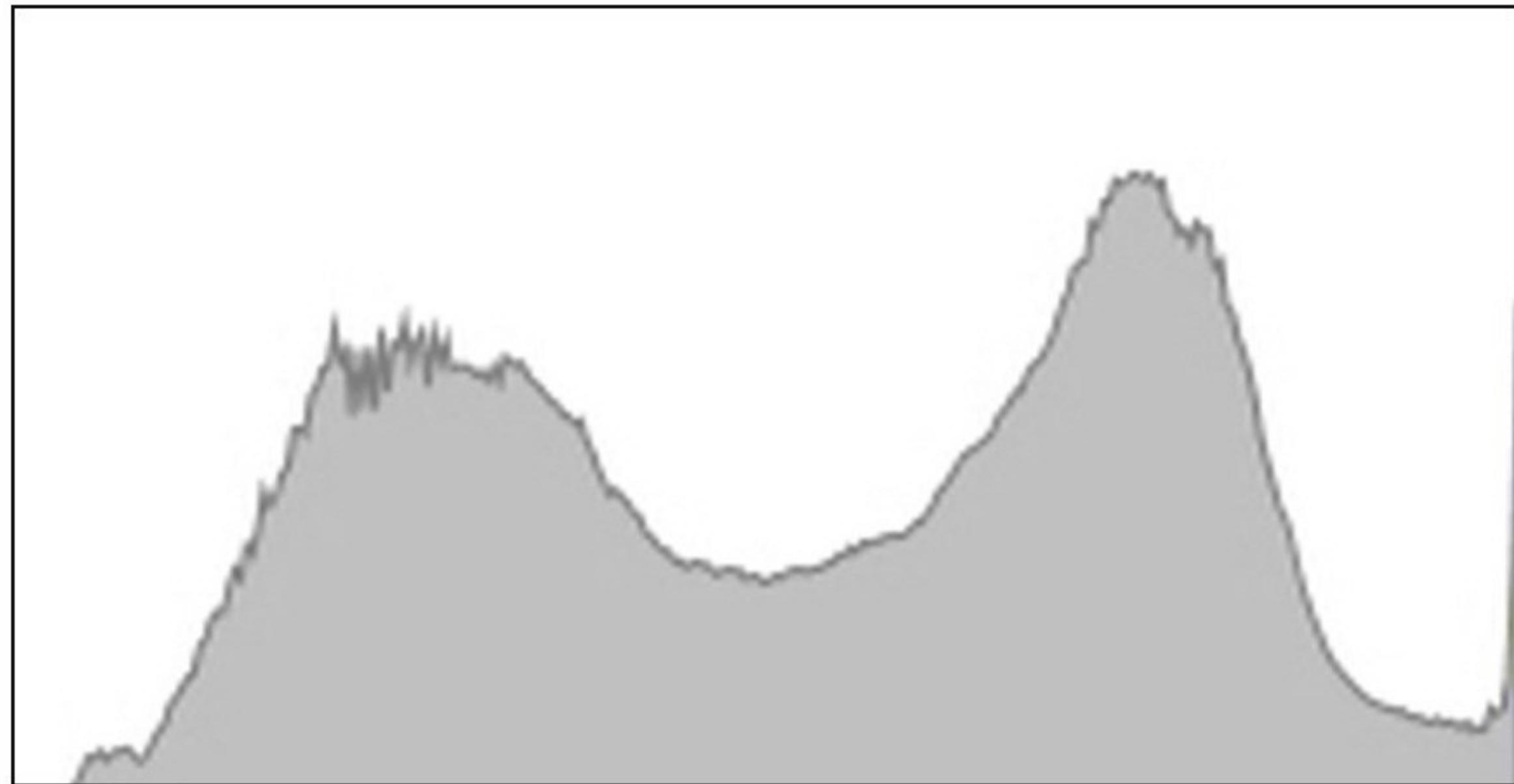
Overexposed Photographs. This term refers to photos that are simply too light. This is normally as a result of incorrect settings on the camera.

Photographic Terms



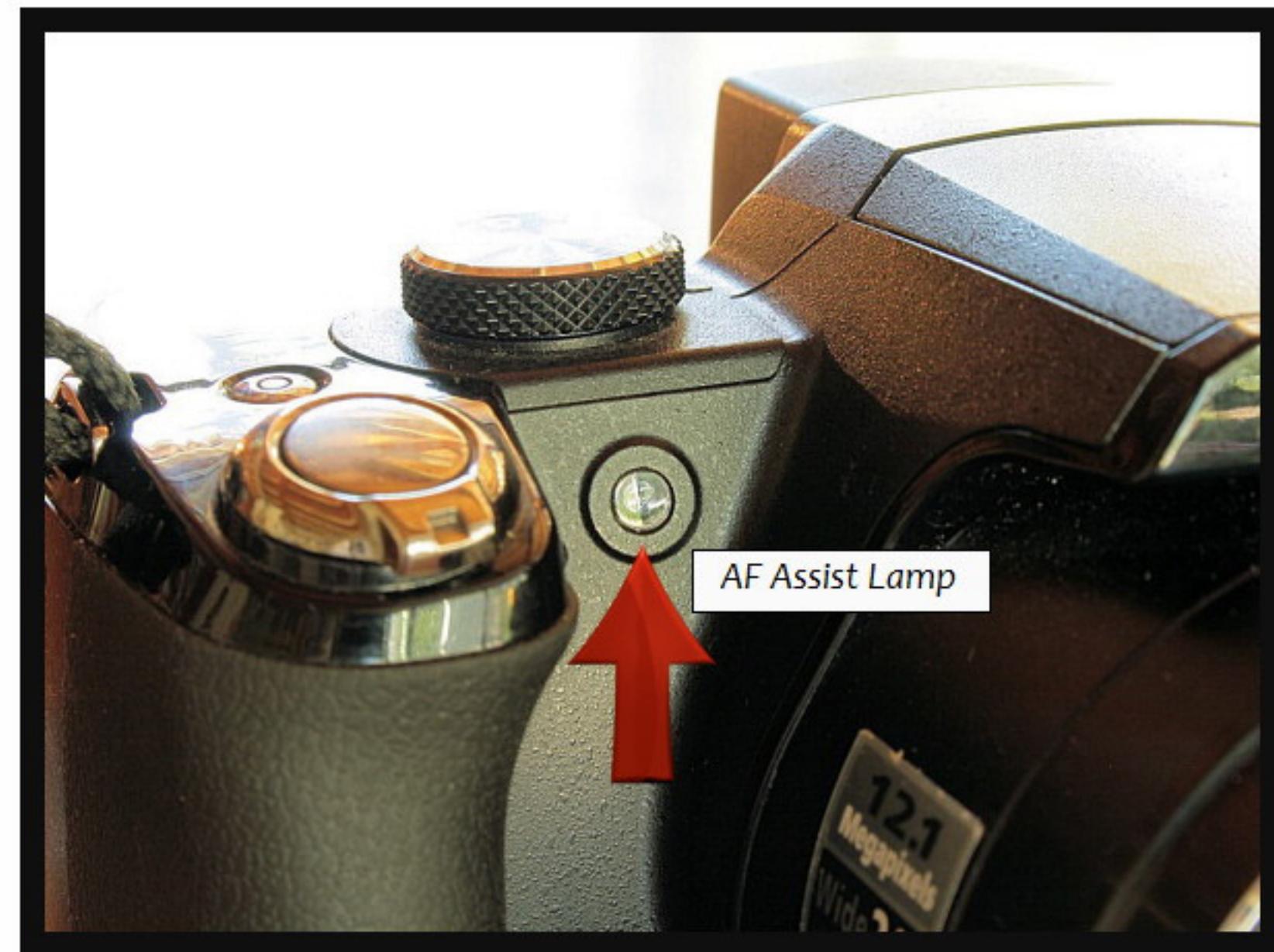
Pixels. All images are made up of pixels. Each pixel, in a JPEG image, can be one of 16,777,216 colors.

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Histogram. Histograms, quite simply, are a graphical representation of the color, or color range, of your photograph. The histogram has an x and a y axis. The x axis represents the spread of colors, from black on the left, through to white on the right. The y axis reflects the strength of the colors in that region.

Photographic Terms



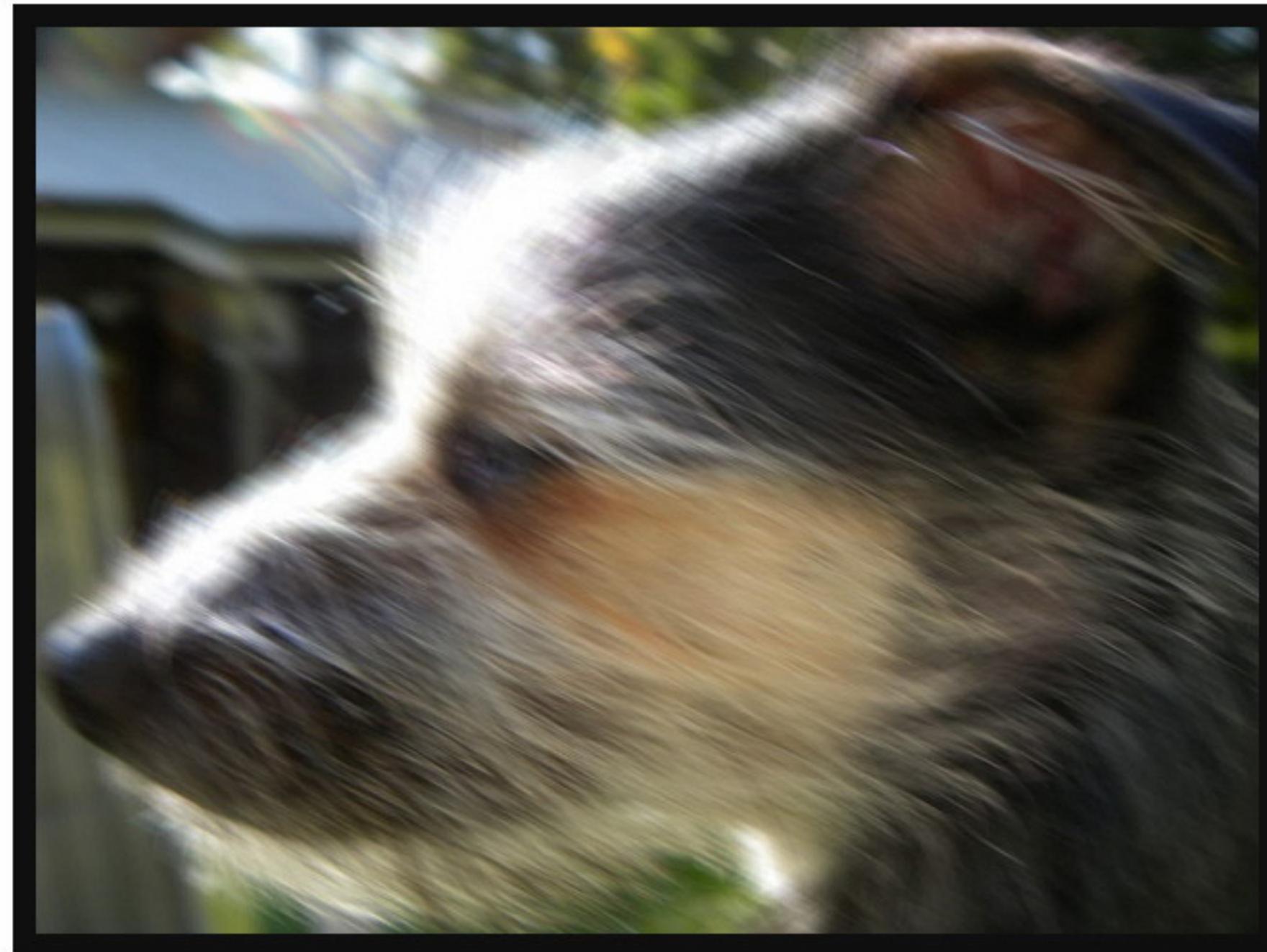
AF Assist / AF Assist Lamp. When a camera tries to set focus in low light, it uses a small projected light - normally red - aimed at the subject, illuminating it somewhat, so that focus can be set. You'll often see this red light taking a photo in low light.

Photographic Terms



Framing. This term refers to where the subject of the photograph sits in the photograph. Above, we would consider this poor framing - most of the subject's face is missing.

Photographic Terms



Blurring. Some blurring can be deliberate - in this case, not. Blurring can occur as a result of camera movement while taking a shot, or the wrong settings on the camera.

Photographic Terms



Noise. Noise can be seen in the image on the left. It normally appears as though there are a lot of colored dots over the image. Noise occurs on cheaper cameras, and can be based on how the photograph is taken. One way, covered in another lesson, is where the ISO setting is too high. Excessive noise can be reduced after a photograph is taken, using simple photo processing tools, but nothing beats a noise free image from the start (on the right).

Photographic Terms



Panoramic Photos. **Panoramic** photos are those that are much wider than they are high. Some cameras have a special **panoramic** mode, and the same effect can be manually achieved by cropping an image on your computer.

The **panoramic** setting on your camera may be referred to as aspect ratio.

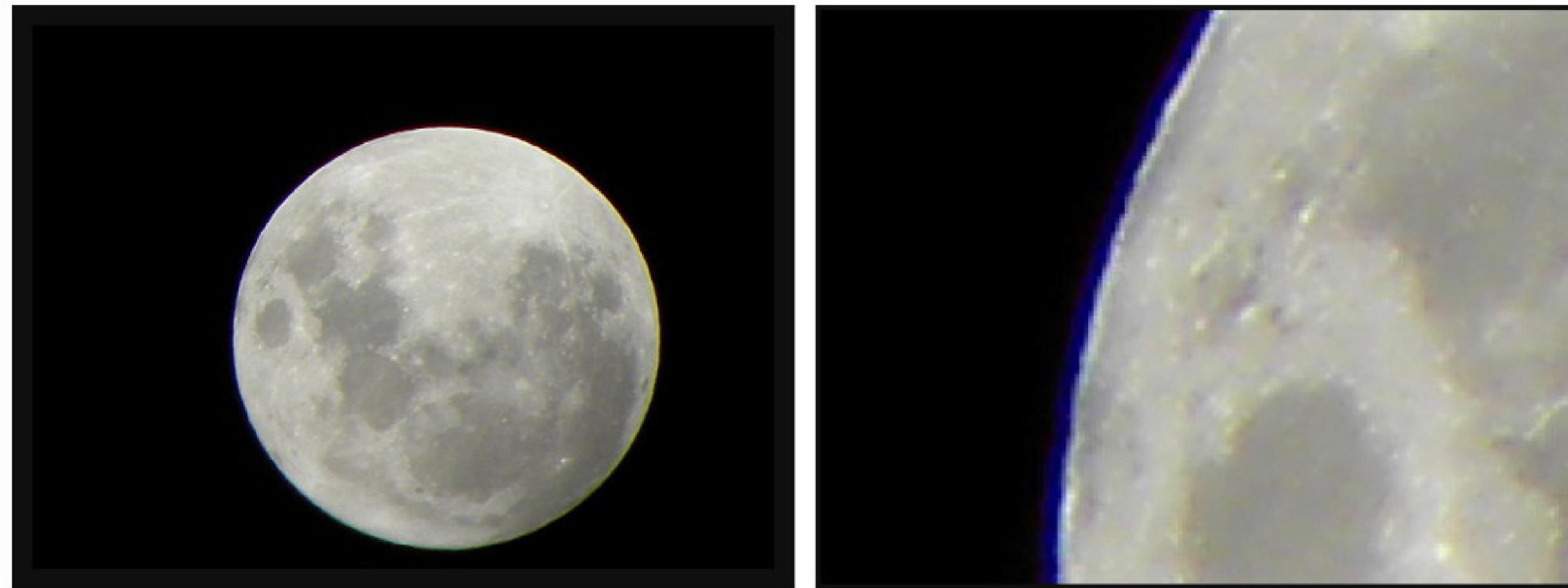
Photographic Terms



Cropping is the term for removing areas of the image, normally unwanted areas. It allows you, in effect, to reframe your images after taking them.

This is another reason why having more megapixels than you think you need can come in handy.

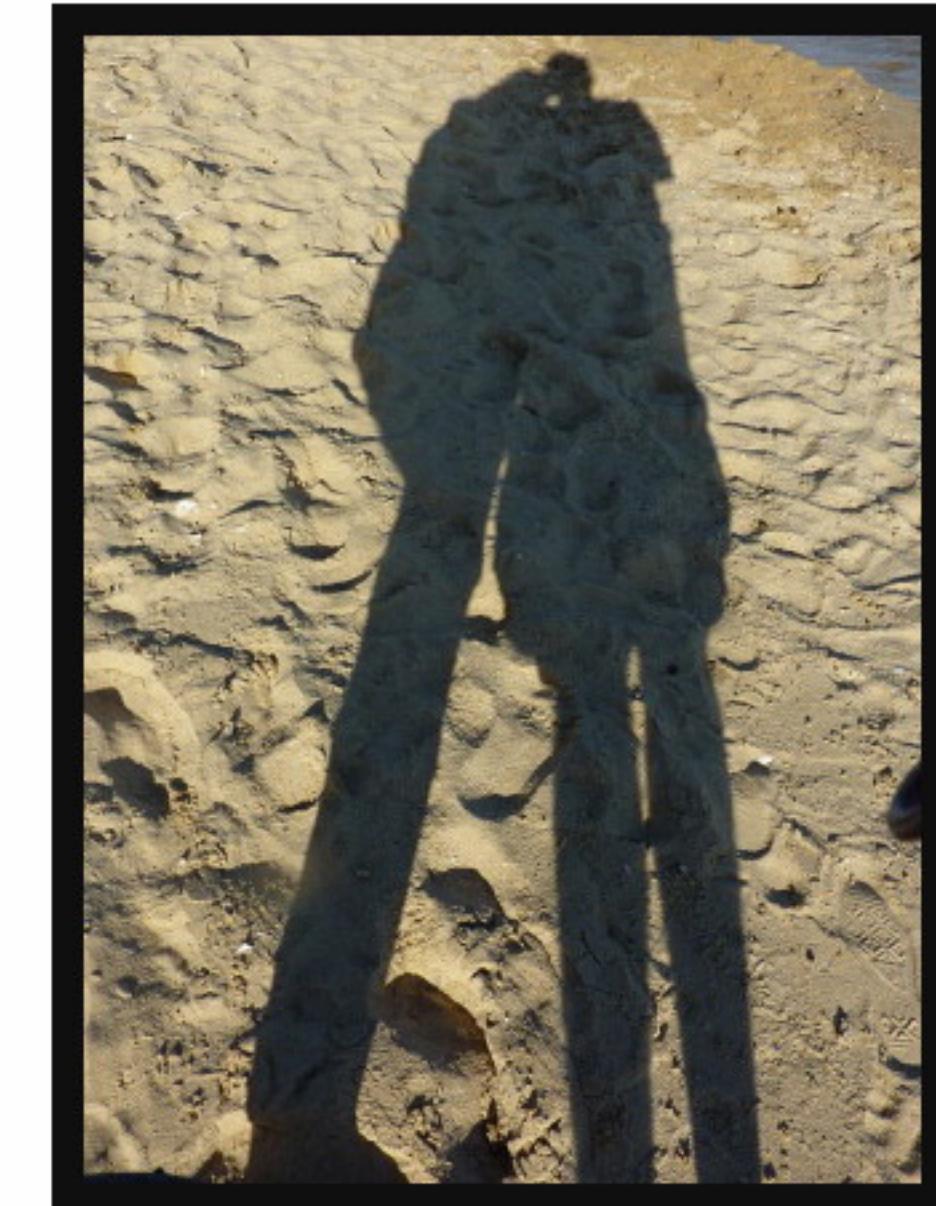
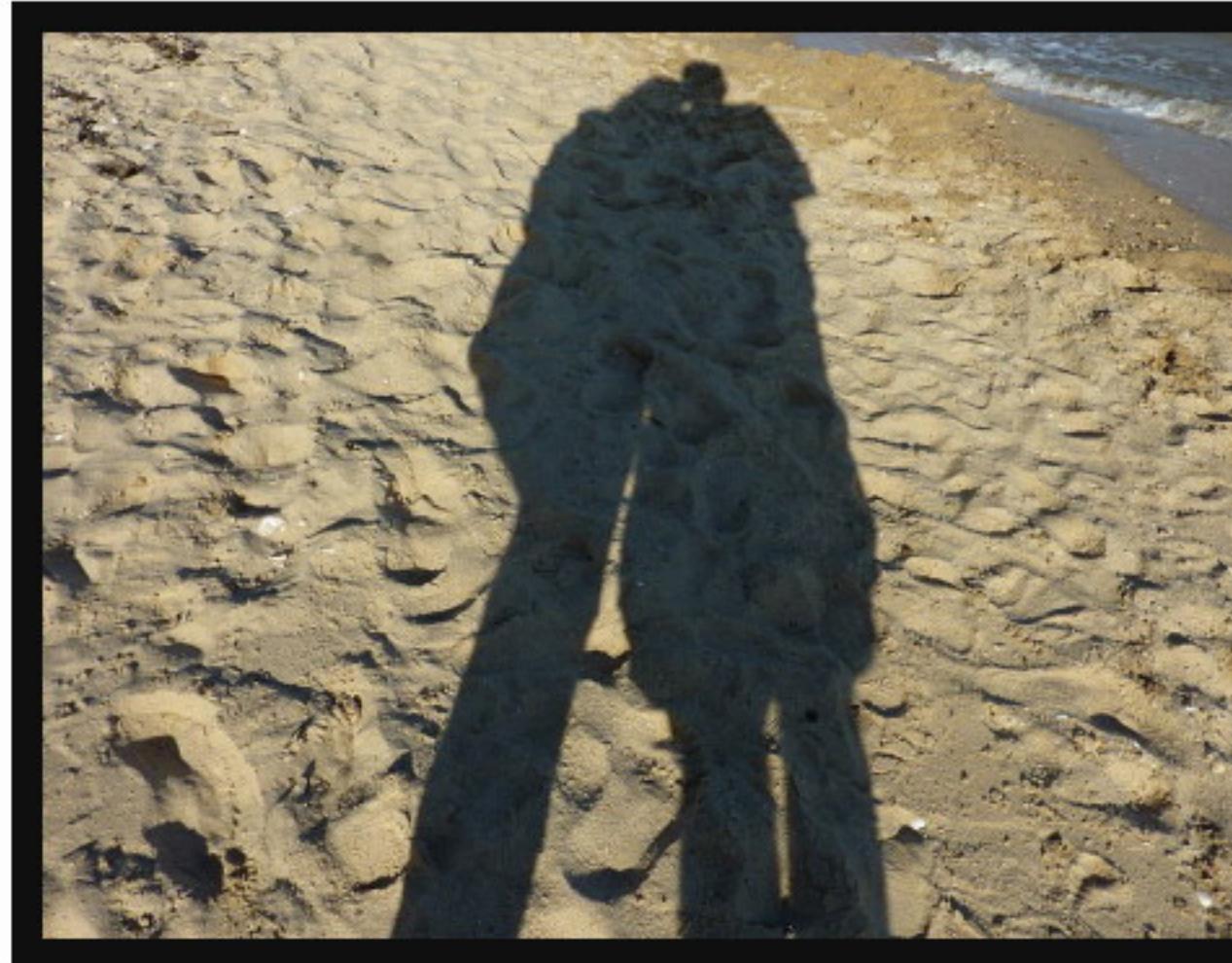
Photographic Terms



Chromatic Abberation is a term that describes color fringing along the edge of subjects, most noticeable where a light subject appears on a dark background, or vice versa. There are very technical reasons why it can happen - relating to light wavelengths, etc. but the important thing is that it can happen.

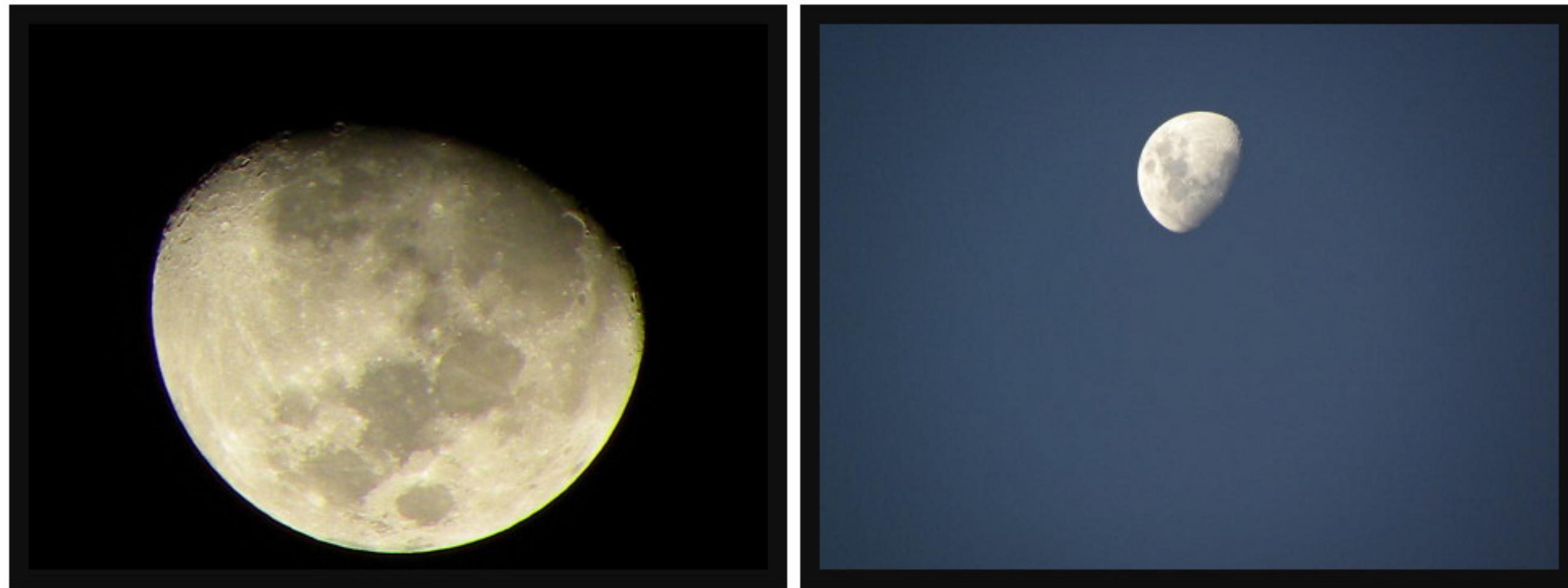
The image of the moon here has chromatic abberations around the edge - very noticeable (when we zoom in, anyway).

Photographic Terms



Landscape and Portrait. Like printed pages, photographs can be taken in landscape and portrait orientation. On the left, is a landscape oriented image, and on the right is a portrait image.

Photographic Terms



Focal Length. The **focal length** used to take a photograph is simply how far you have 'zoomed' in. Traditionally, this is measured in mm. The shot on the left was taken with a focal length of 440mm, while the shot on the right was taken at a focal length of 110mm.

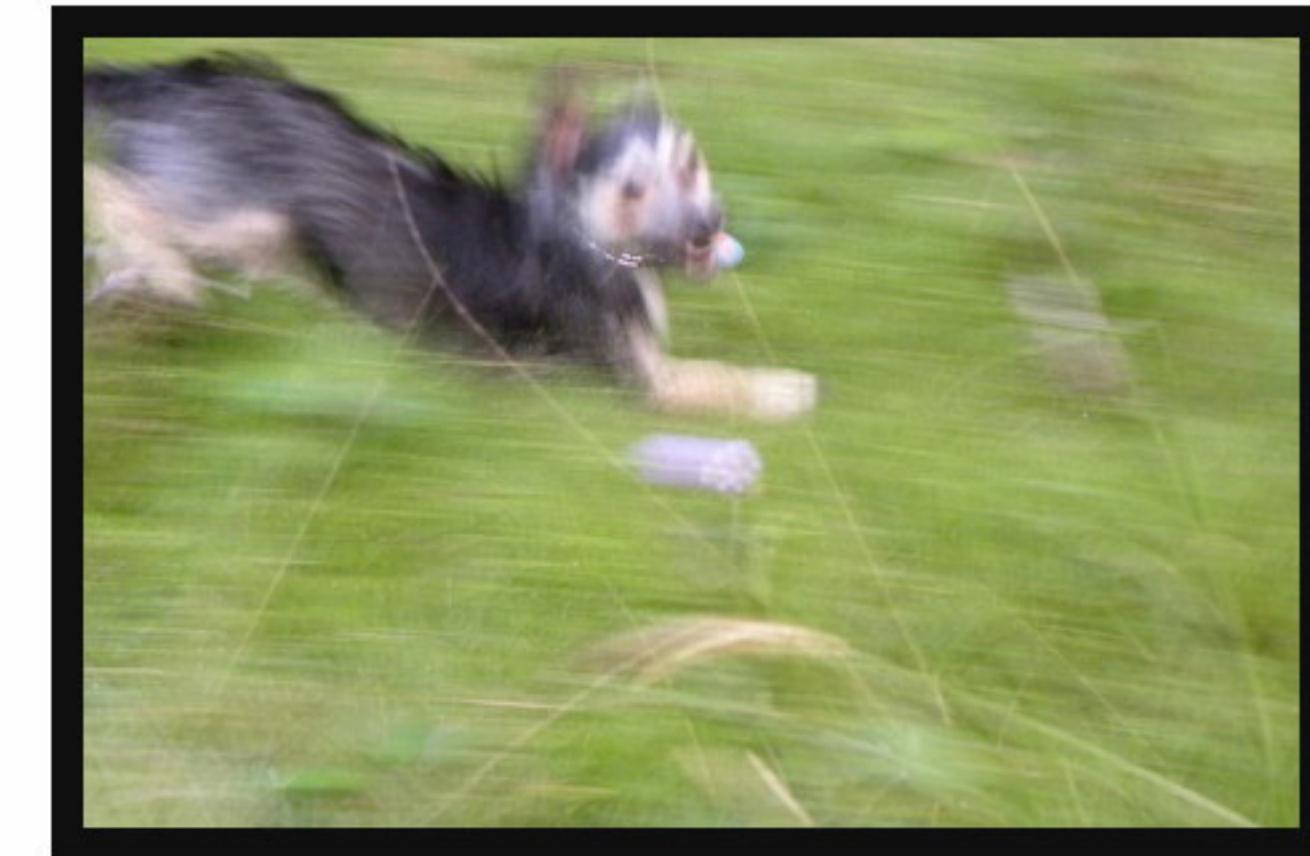
Almost all, at least the compact digital cameras, refer to focal length as a times (x) setting. So, you set the focal length at 2x, or 3x or 4x, or 20x, for example. These don't necessarily relate exactly with a mm setting. It does not matter which technique you use to refer to, or measure, **focal length**.

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ISO. The **ISO** settings on a camera are used to set how sensitive the camera is to light. The higher the setting, the more sensitive the camera is to light. The range on most cameras will be 64-100 at the low end, and up to 1600, 3200, or even 6400 at the high end. Higher **ISO** settings allow you to take photographs without a flash in low light. However - the higher the **ISO** setting, the more **noise** will appear in a photo. It is a tradeoff.

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Shutter Speed. The **shutter speed** is the amount of time the camera shutter is opened to take a photo. This is measured in hundreds of a second, or fractions of a second, and can range from around 1/4000 of a second in many cameras at the fastest, up to 30 seconds or more at the slowest.

Faster **shutter speeds** can really freeze the action (above left), but require a lot of light (because the shutter opens so briefly). Slower **shutter speeds** (above right) let in more light, but this can lead to blurry photographs if the camera or subject moves while the photo is taken.

Photographic Terms



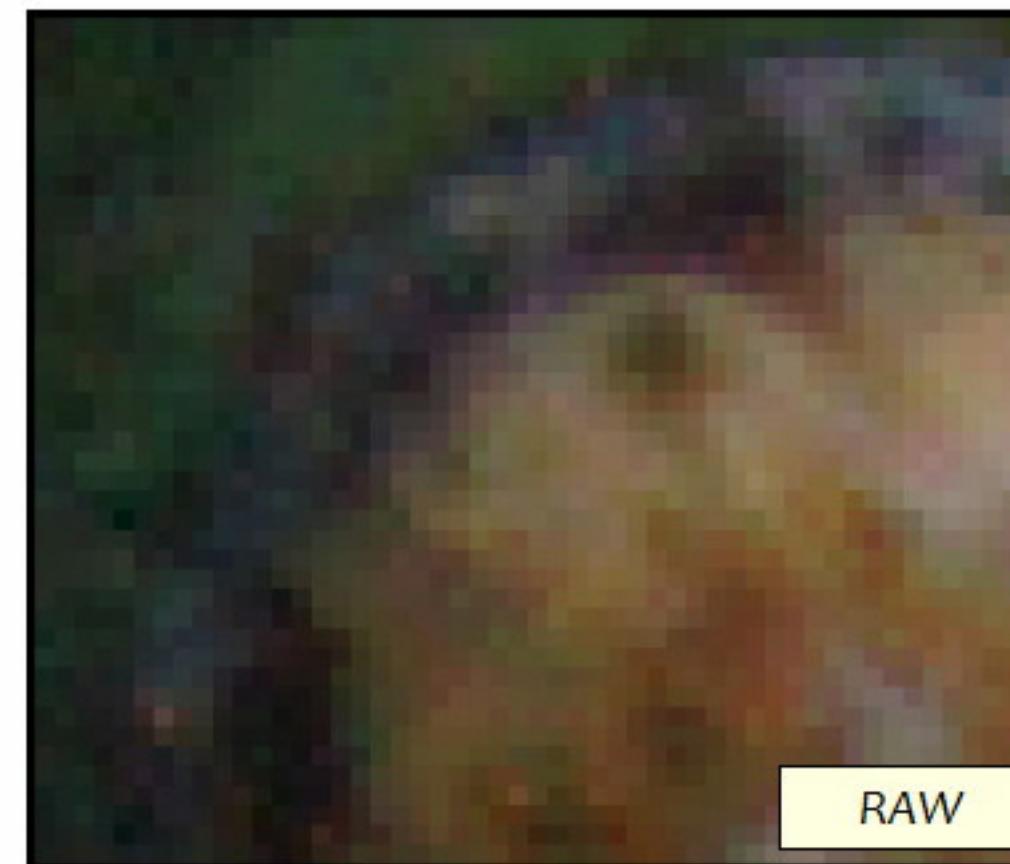
Bulb Settings. If your camera has a bulb setting, this allows you to open the shutter for as long as you hold down the shutter button. This means you could take a photo for half an hour if you wish. This sort of setting is only used for shots taken in extreme darkness. It requires a shutter release cable to use effectively, which allows you to keep the shutter button held down without actually touching the camera.

Photographic Terms



JPEG format. All cameras store images in JPEG format (an exception is **RAW**, next slide). JPEG format is one of the most widely used formats for photographs in the world. Almost every photo you see on the web is stored in JPEG format. JPEG files almost always have an extension of **.jpg**.

Photographic Terms



RAW

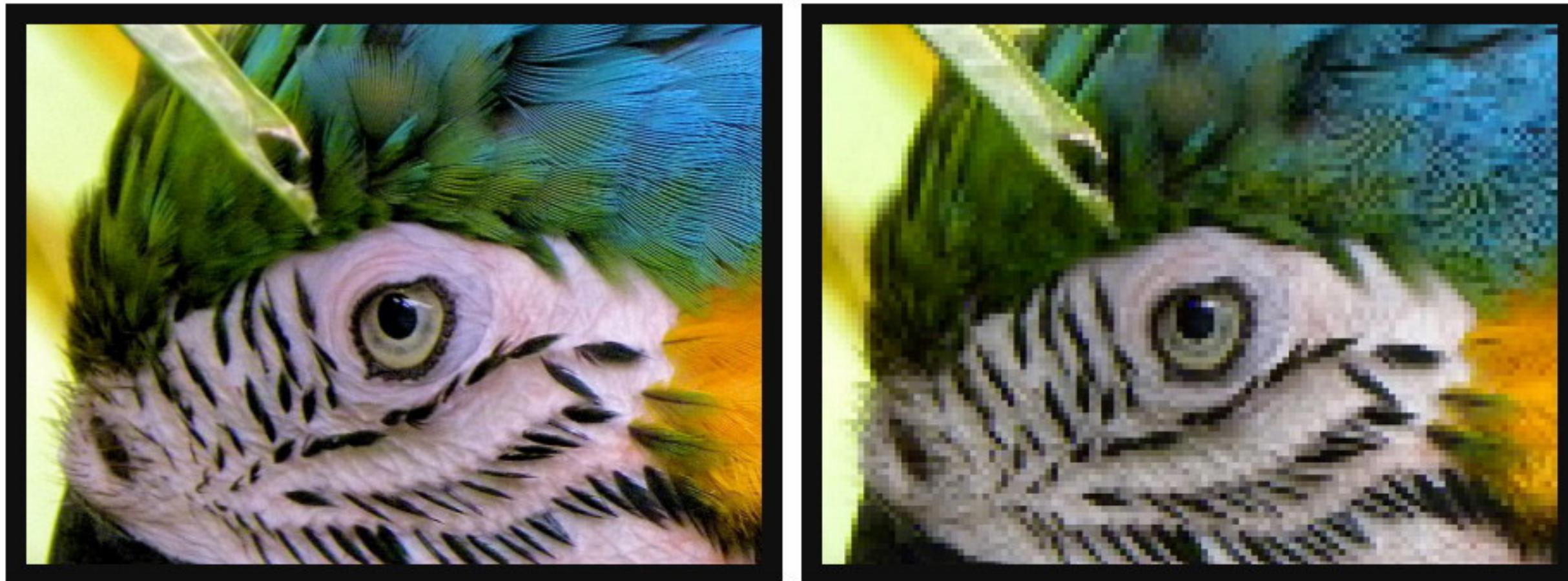


JPEG

RAW format. Most DSLR cameras will give you the option to save your photos in RAW format. RAW photos are saved without any compression. While RAW does mean the photos will be of the best quality, unless you are a professional, you are **unlikely** to need it.

RAW files are not stored in JPEG format. So much color information is saved with a RAW file (16 bits per channel), that this is more than a JPEG file can store (maximum 8 bits per channel). In fact, this is more color information than can be displayed on most monitors.

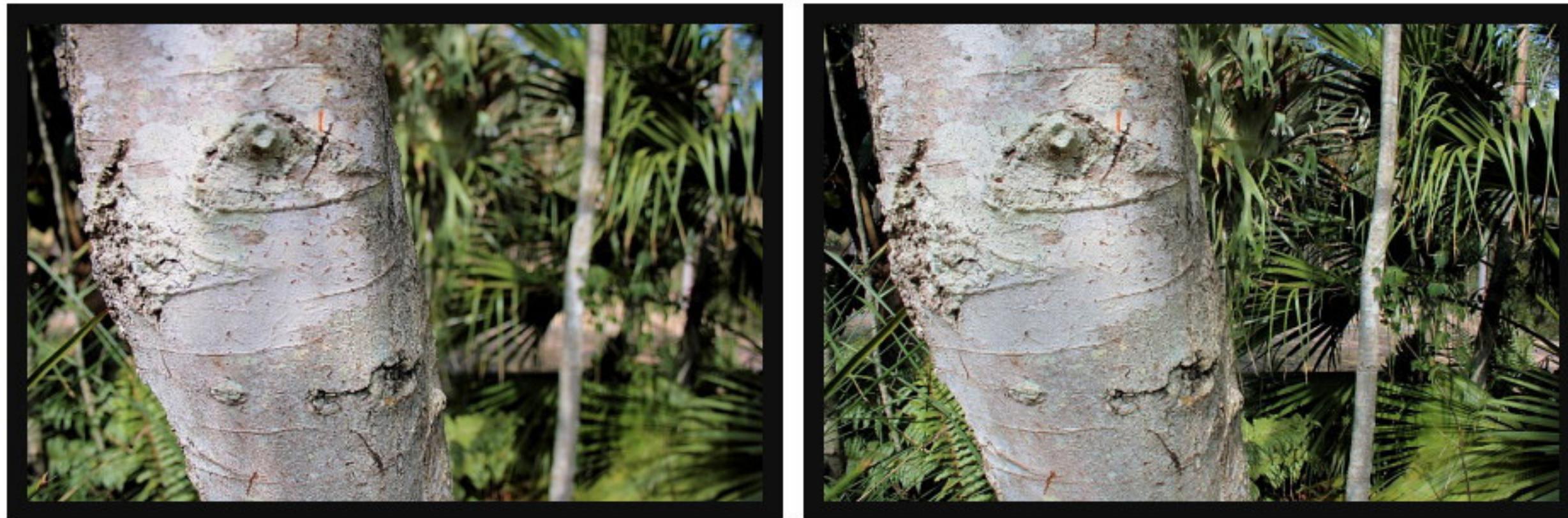
Photographic Terms



Digital Zoom. There is a simple rule about digital zoom. Don't use it. Ignore it. It will reduce the quality of photographs. If your camera has the ability to turn digital zoom off, set it off. What you do want to use is what is referred to as **optical zoom**. This zoom is achieved via the lens, and not via computer tricks that compromise quality.

Above, the image on the left represents **optical zoom**. The image on the right represents the sort of effect you'll get with **digital zoom**.

Photographic Terms



Aperture. **Aperture** refers to how wide open the camera shutter is when a photograph is taken. **Aperture** is measured in f stops. A camera, or more specifically, a lens, is capable of achieving certain f-stops, some as low as F1, right through to more than f20. The lower the f-stop, the less the shutter opens, and the less light enters the camera.

Above, on the left, we took a shot at F3.5. On the right, the identical shot was taken at F22. Note that the depth of field increases as the F-Stop goes up. In the F22 shot, nearly everything is in focus - whereas in the F3.5 shot, only the tree is.

Photographic Terms



White Balance. **White Balance** refers to how the camera adjusts to different lighting conditions. Sunlight, fluorescent light, tungsten light, diffused light all need to be adjusted by the camera. White balance is important, but most cameras do a great job of setting this manually. Above, you can see a series of different white balance settings, and how they can affect a photograph.

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Wide Angle. Wide angle is a mode whereby the camera is 'zoomed' as little as possible - essentially taking in as much of a scene as is possible. Different cameras and lenses have different wide angle capabilities. Most compact cameras will have a wide angle starting at around 28mm or so. SLR cameras will be able to use wide angle lenses that begin at less than 10mm.

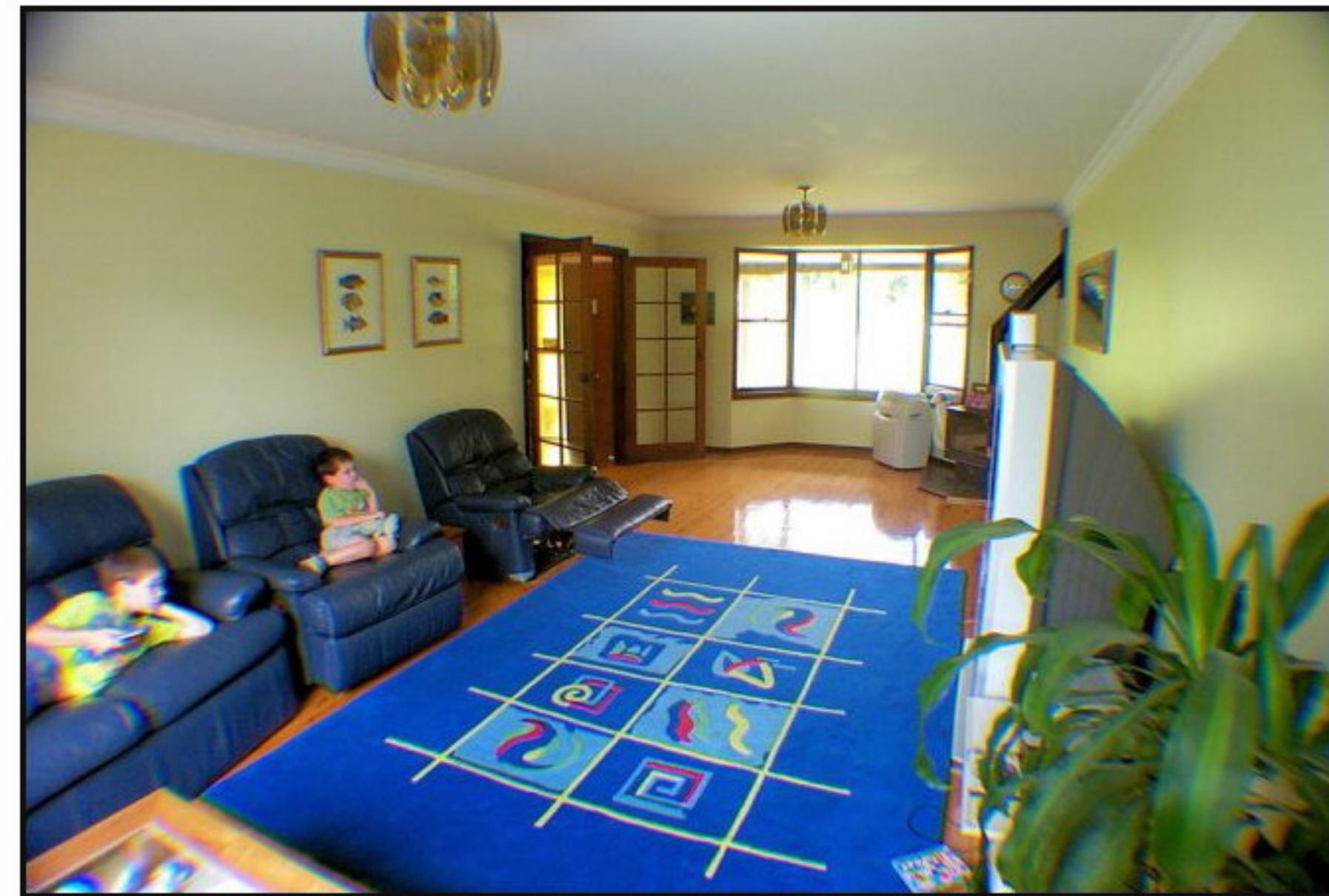
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External Lenses. All DSLR lenses are changeable. This means you can remove the lens totally, and replace it with another, specialized lens. This may be a macro lens, a telephone, a zoom, a fisheye, or a wide angle lens - or one of a range of others. Some compact cameras can also take lens attachments.

On the left, you can see some lens attachments for compact cameras. On the right is 100-300mm zoom lens for a Canon DSLR camera. Most lenses are specific for a brand, like Canon, Nikon, etc, or perhaps even specific to a certain camera model.

Photographic Terms



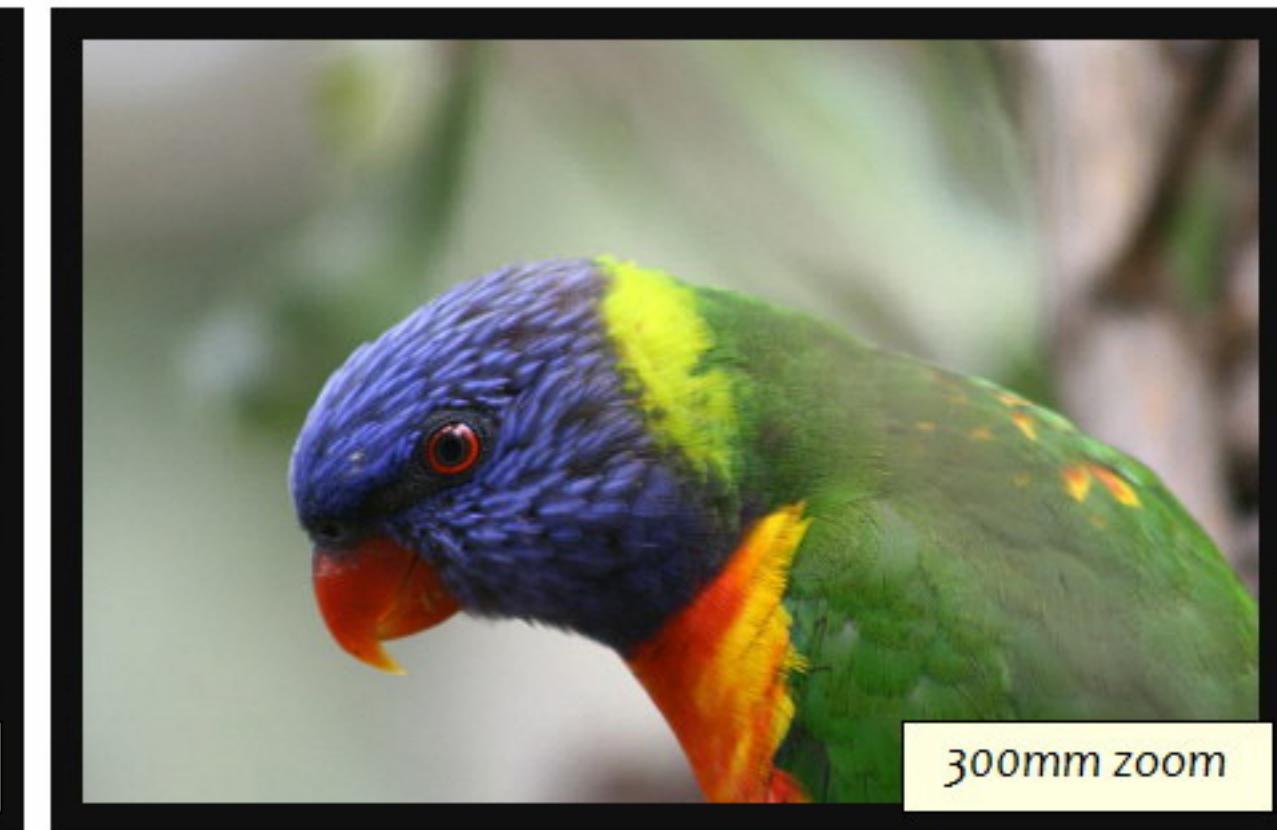
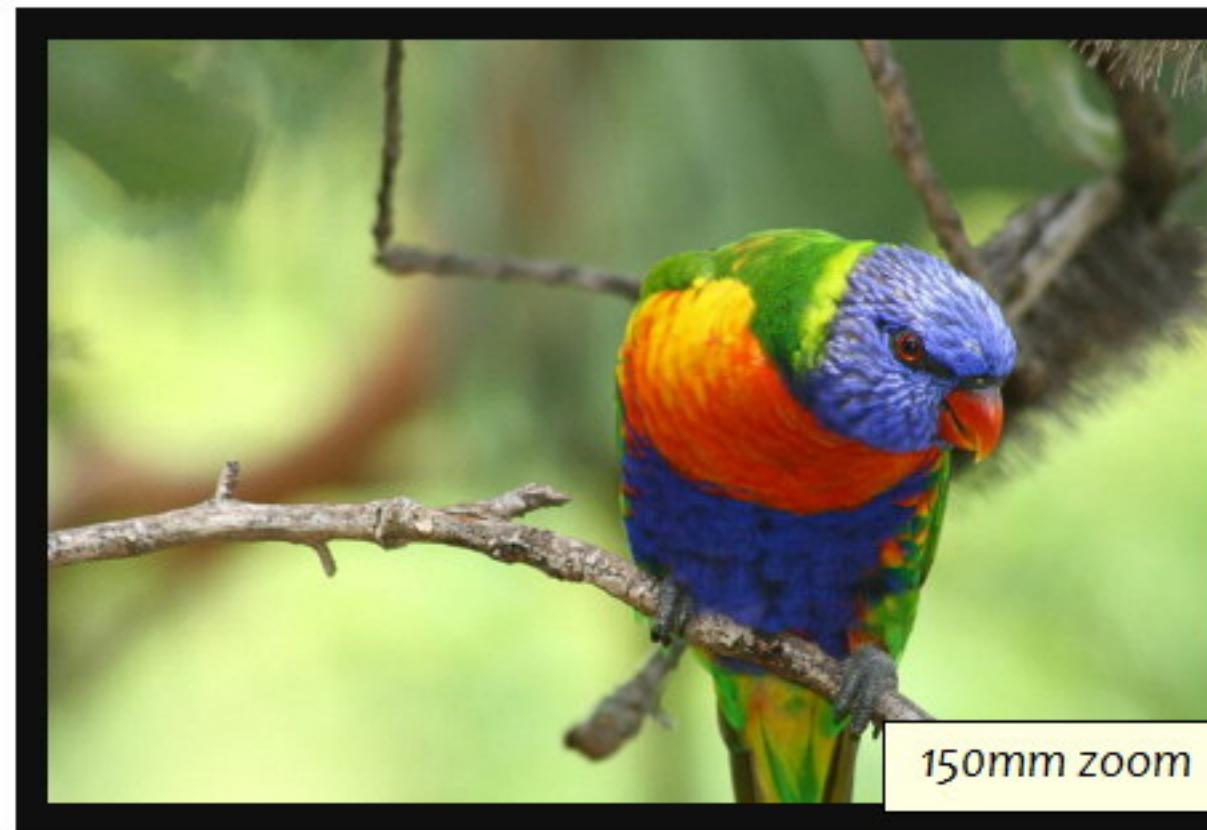
Wide Angle Lenses. A true wide angle lens does more than just 'zoom out'. As you can see in the image above, it actually distorts the image a little to enable the photograph to take in more information. This sort of lens is often used in real estate photography to make areas appear larger than they really are.

Photographic Terms



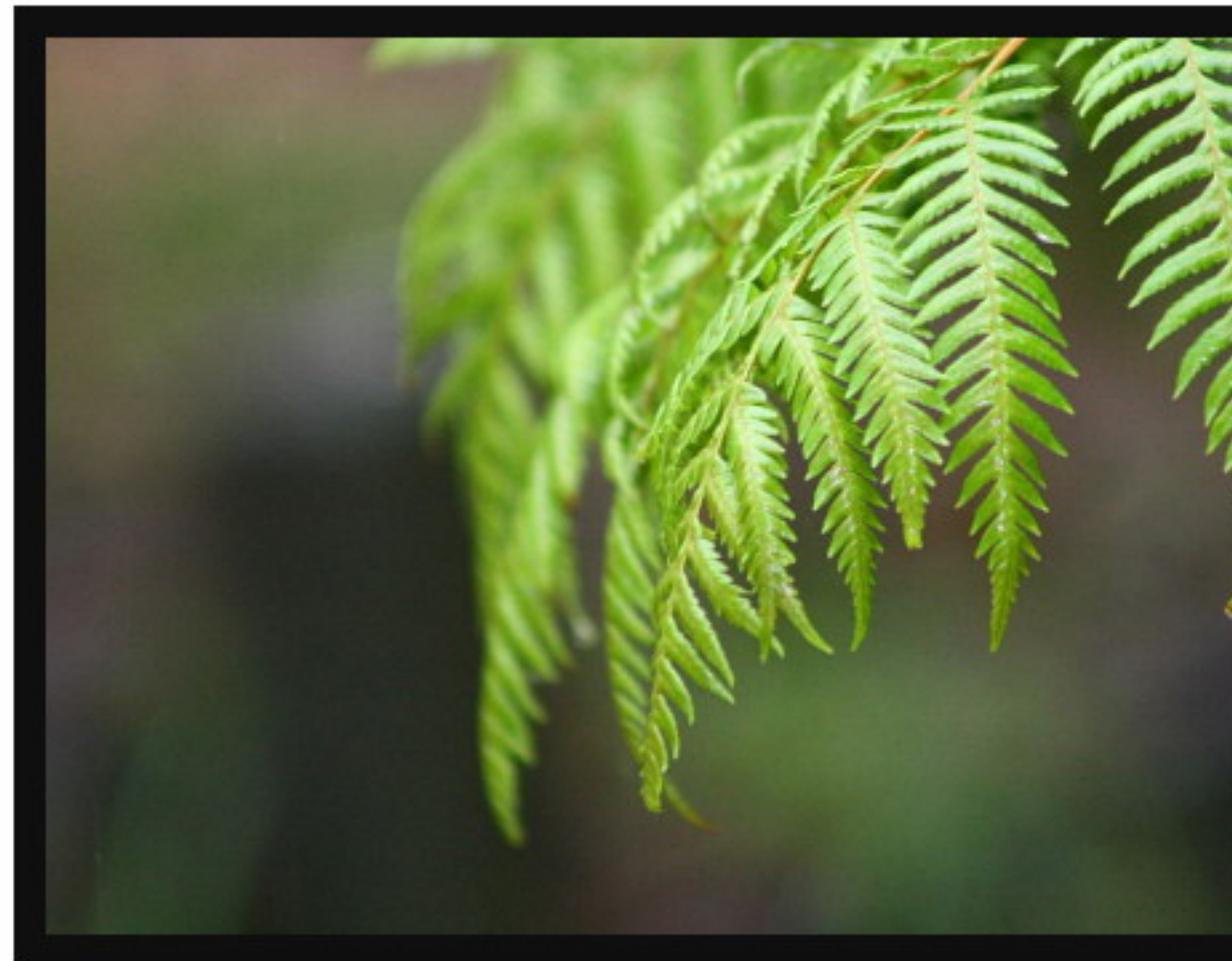
Macro. Macro refers to getting in very close - up to 1cm or so from the subject for some cameras. Not all cameras have macro capability, and some require special lenses to get in really close. Check your camera manual - or give it a try - and see how close you can get to a subject and still keep it in focus.

Photographic Terms



Telephoto/Zoom. These terms are these days interchangeable. It refers to the ability of a camera to zoom in from a distance. Traditionally, it is measured in mm - a lens, for example, may have the specifications of 28mm to 300mm. The wider the range, the more useful the lens/camera can be. In compact cameras, zoom ability is generally referred to as 2x or 3x, or 10x, or 20x. This does not relate directly to the old mm settings, but still gives you a good idea of how far you'll be able to zoom in. Traditionally, a telephoto lens is one that was fixed at one focal depth. It could not be altered. A zoom lens, on the other hand, could zoom in and out.

Photographic Terms

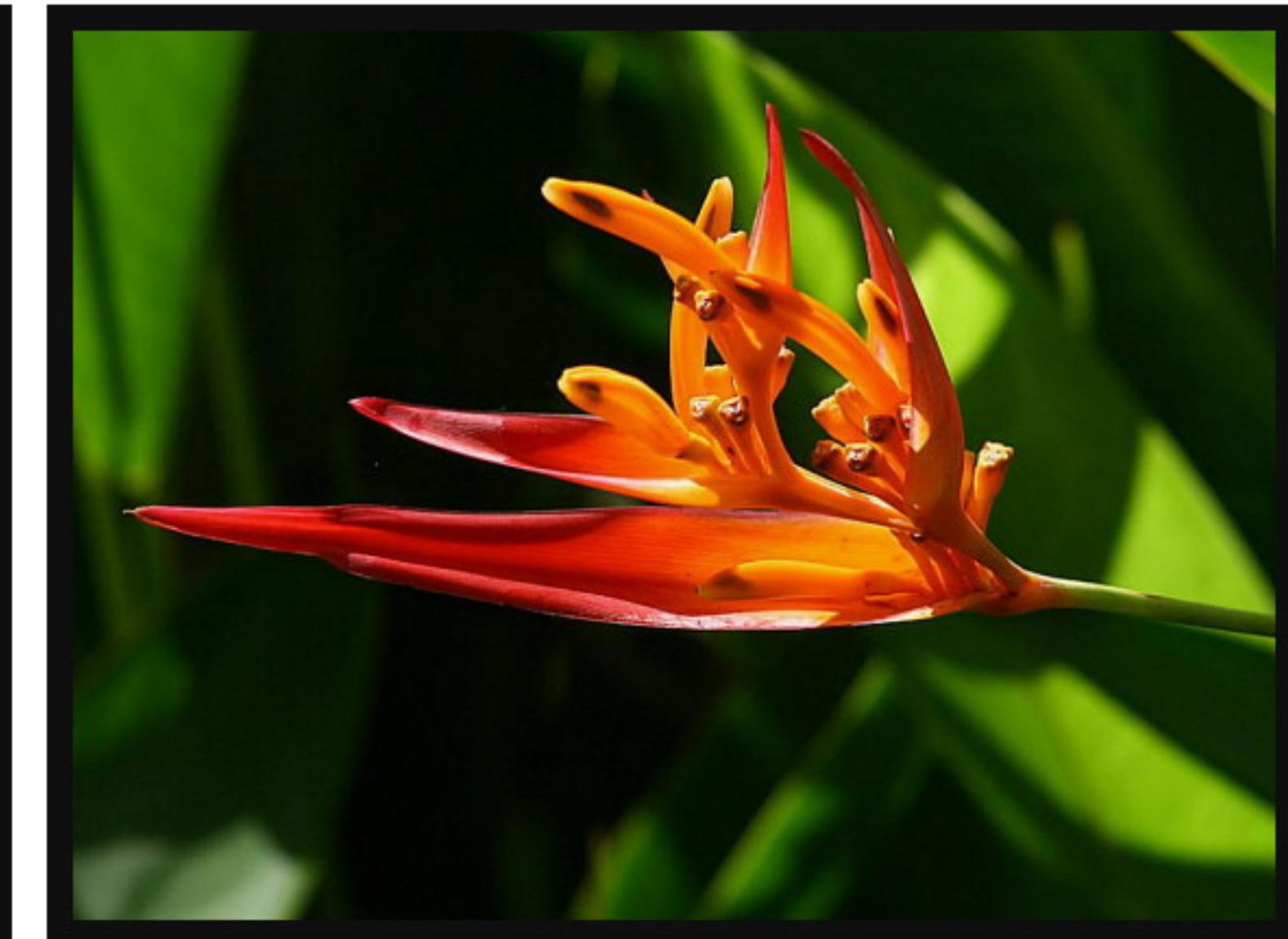
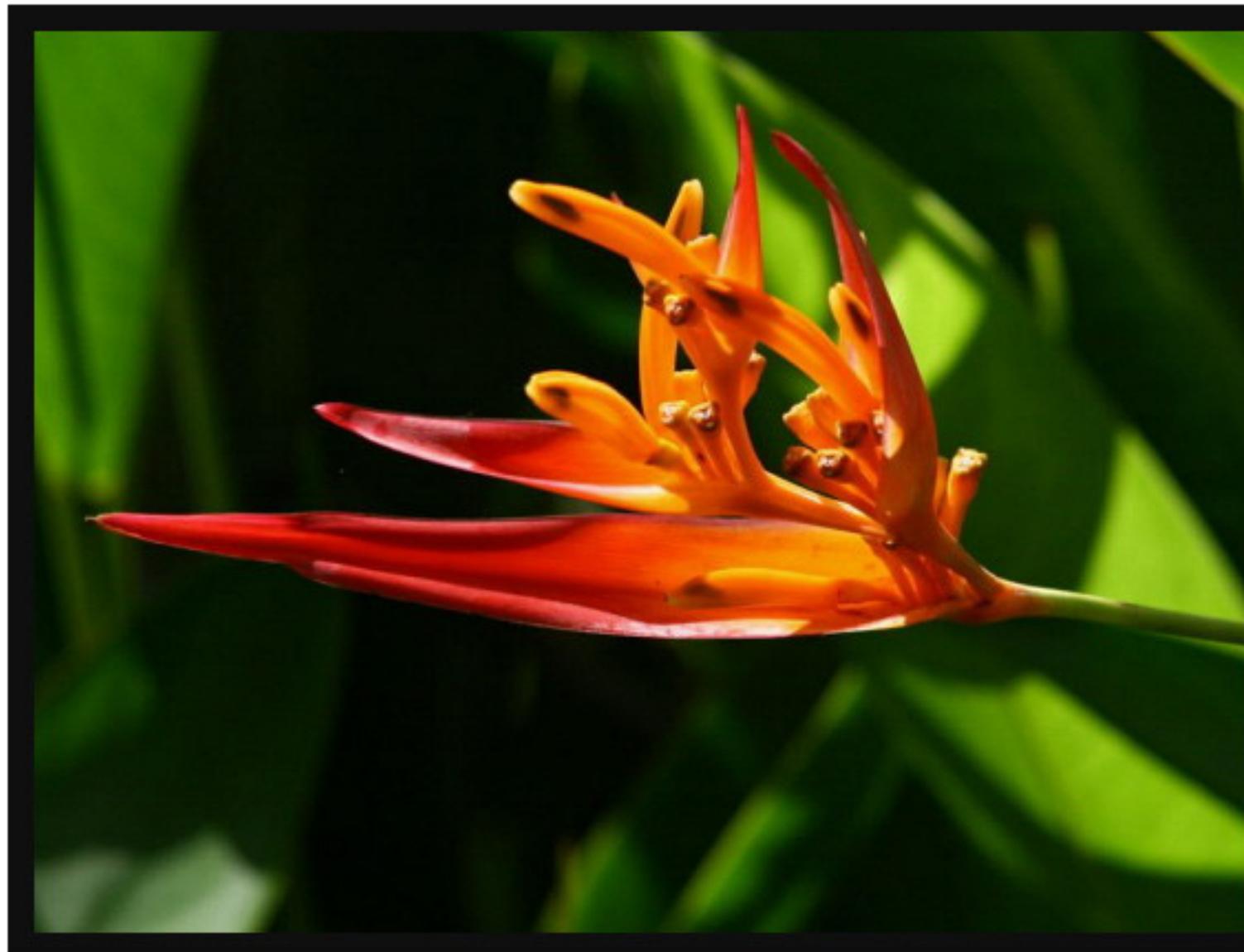


Depth of Field. **Depth of Field** refers to that part of the image that is in focus. It is narrow, wide, or somewhere in between.

The depth of field is determined by several factors - sometimes a combination of them. Main factors are aperture, and focal length.

The image on the left has a very narrow depth of field. Very little is in focus. On the right, this image has a wide depth of field - everything is in focus.

Photographic Terms



Sharpness. Sharpness, or the processing sharpening, refers to exactly that - how sharp the image appears. It is the opposite to a blurry image.

The image on the right has been sharpened more than the image on the left.

Photographic Terms



Distortion. Many cameras, especially when at full wide angle, or full zoom, will slightly distort an image, called pincushion or barrel distortion. Above, have a close look at the horizon - it appears curved, rather than straight.

Photographic Terms



Burst Shooting. **Burst Shooting** refers to the ability of a camera to take a series of photographs over a very quick period - normally while you hold the shutter down, rather than continuously clicking...

Photographic Terms

You've now completed this lesson. In this lesson, we took a look at
Photographic Terms.

