Image Terminology

In this lesson, we'll be taking a look at **Image Terminology.**

Estimated Completion Time: **8 minutes.**

Image Terminology

A lot of photos require editing on a computer after being taken. It is almost par for the course for the best results.

Shortly, we take a look at graphics editing programs. In this lesson, we'll take a look at some of the terms and techniques most commonly used to improve a photo on your computer - simple techniques that are common to almost all photo editing programs.

Here we are going to look at the some of the terms and techniques used when fixing or improving images.

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Your graphics editing software will let you do a lot more than we show you in this lesson.

Here we'll be looking at the basics - the things that most commonly need to be performed to tweak your photographs.
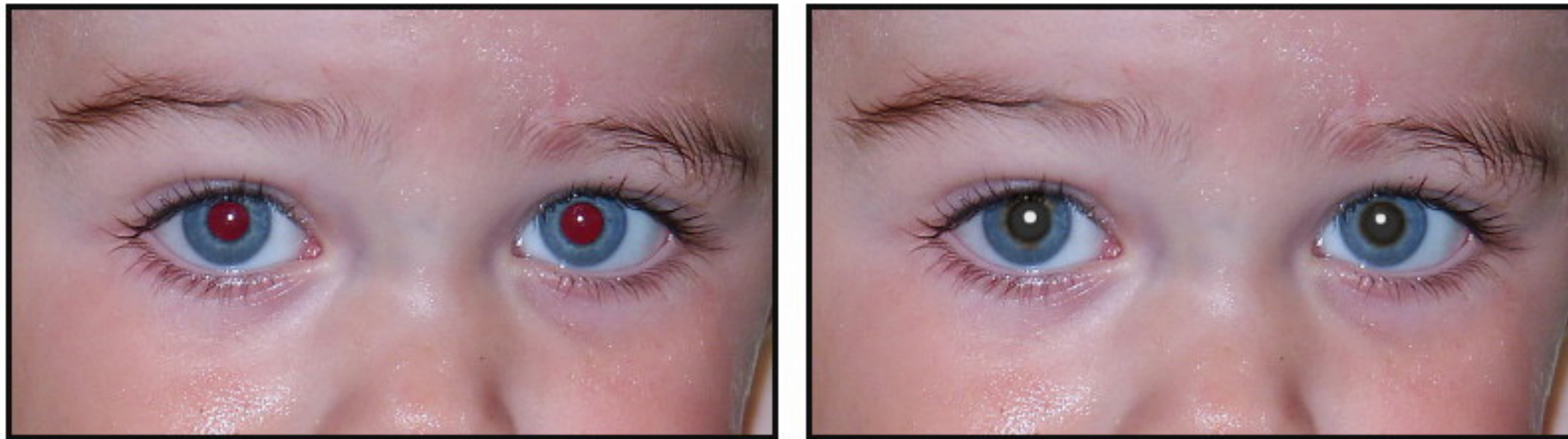
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Red-eye. Red-eye occurs when a flash from a camera reflects of the eye - giving the familiar red-eye seen in so many photos. This can be reduced using red-eye reduction flash - where the flash fires once or more before the shot is taken - but it may still sneak through.
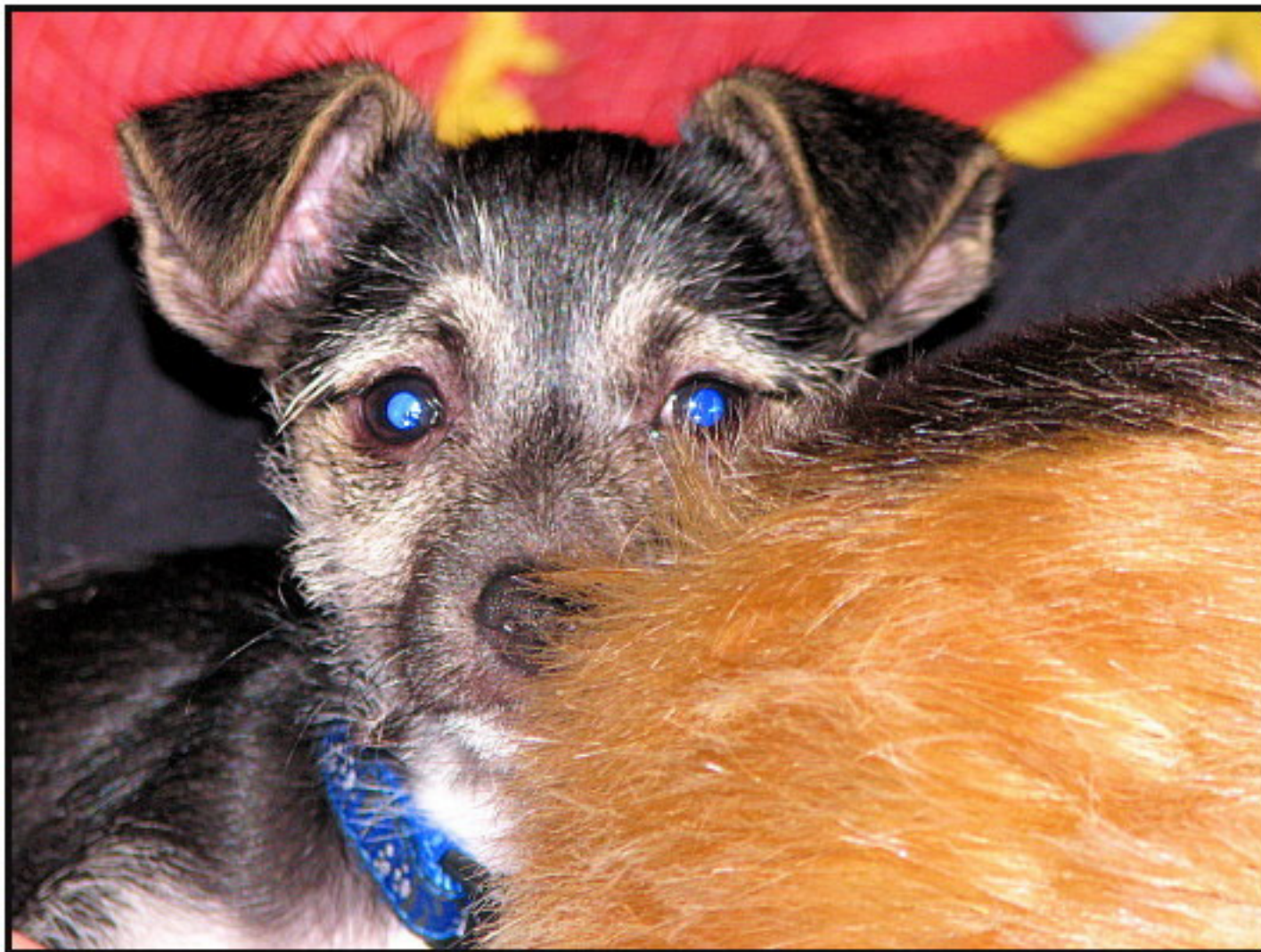
Red-eye occurs normally when the flash is used in near darkness, when the human iris is fully dilated. Increasing ambient light can reduce red-eye.

It is easy to fix in almost all graphics editing software.

On the right, red eye has been corrected.

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When flash reflects off an animal eye, it does not necessarily come out red - it may be another color, depending on the animal and the eye color. This sort of 'red-eye' is not as easy to fix - although many programs can do it, because it is not actually red.

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Straightening. Sometimes when taking a shot, you are so fixed on the foreground - or take the photo so quickly, that you only realize later that the camera was tilted, or the horizon offset.

Straightening an image is a simple process used to correct this error.

On the right, the image has been straightened.

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Brightness / Contrast. If the light in your photo did not come out quite right, you can easily adjust this in a graphics editing program.

There is a limit to what can be fixed, but if the brightness is not out too far, it should be fairly easy. Note that brightening an image may increase noise - which we cover later in this lesson.

On the right, the image has had been brightened a little.

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Shadows/Highlights. You can even get more specific these days when changing image brightness, with the ability to target shadows or highlights in an image.

Above, we've darkened the highlights in this image - allowing us to darken just the clouds and leave the green area alone.

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Exposure/Saturation. Quite often, in fact, most often, an image from a digital camera will require some sort of exposure adjustment.

Generally, this means increase the color saturation a little, as well as perhaps adjusting the brightness or contrast. All graphics editing software allows you to do this.

On the right is the image after we increased the saturation.

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Sharpening. Despite all your best efforts, some shots just come a little blurry. As long as they are not too blurry, you can use graphics editing software to sharpen the image. Some (compact) cameras will give results that are just not perfectly sharp no matter how well you focus.

Note that sharpening also has its limits. Too much sharpening can increase the noise in an image (covered shortly), as well as giving the image a really harsh appearance.

Have a close look at the eye in both images, below. Almost all graphics software allows you to sharpen images.

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Original Image

Sharpened Well

Sharpened too Heavily

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Sharpening Options. Many graphics programs allow you to sharpen in at least two ways - normal sharpening, and a technique called **Unsharp Mask.** Other techniques, such as **High Pass Sharpening** may also be available.

Traditional sharpening sharpens the whole image, where **Unsharp Mask** concentrates on sharpening edges. Most programs allow sharpening at customizable rates - how much is required is really up to you.
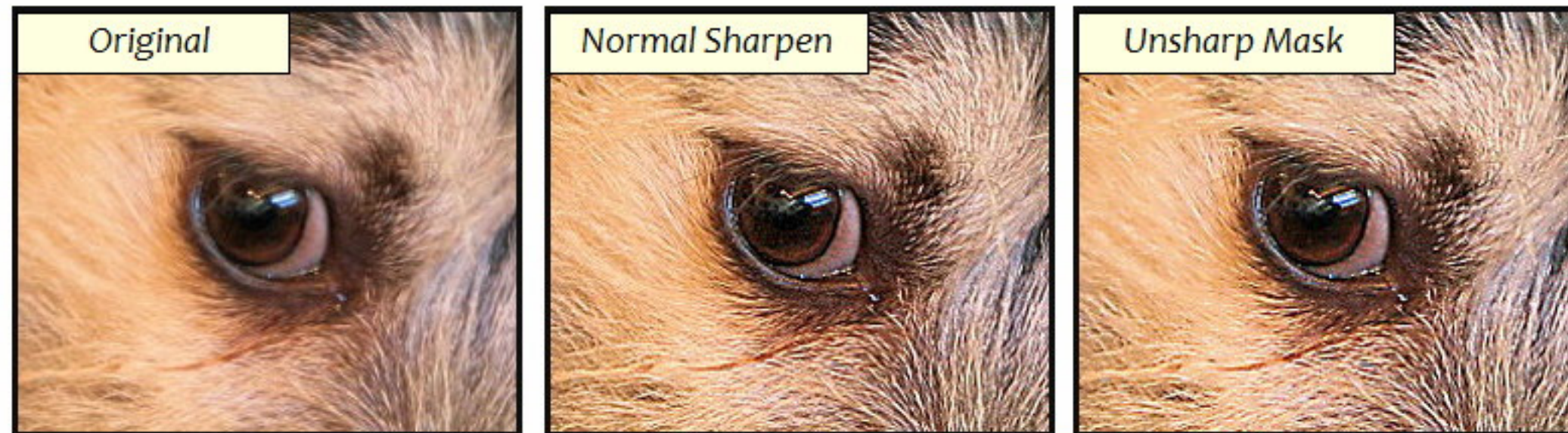
*The original was a little blurry. So we tried two differing sharpening techniques. Sometimes we use one, sometimes we use another - it can depend on the photograph itself. Note that the **Unsharp Mask** example has slightly more defined edges, while in this case, the normal sharpen gives the best results.*

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Cropping. In order to achieve good framing, or to remove unwanted regions, or simply as a means to 'zoom' in on your subject, you can crop images.

All graphics editing software will allow you to crop images. JPEG images will only allow rectangular cropping.

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Irregular Cropping. We mentioned that photos can only be cropped in a rectangular shape. Well, that's not *quite* true.

You can use programs like Photoshop to crop irregular shapes, and save the result in a different format, say 32-bit PNG format. This saves the image with transparent and/or semi-transparent areas.


On the left, the original image.
In the middle, we've used specialized graphics tools to crop in an irregular shape.
On the right, we pasted this fire cutout onto a new image.

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Noise Reduction. Depending on how much light is available when you took your photo, plus the ISO used to capture the photo , plus the quality of the camera, your image may have extra **noise** - giving the image a dotty appearance. Sometimes noise is introduced when you brighten, or sharpen photographs.

Noise reduction can improve images where this is an issue, and can be performed in almost all graphics editing software.
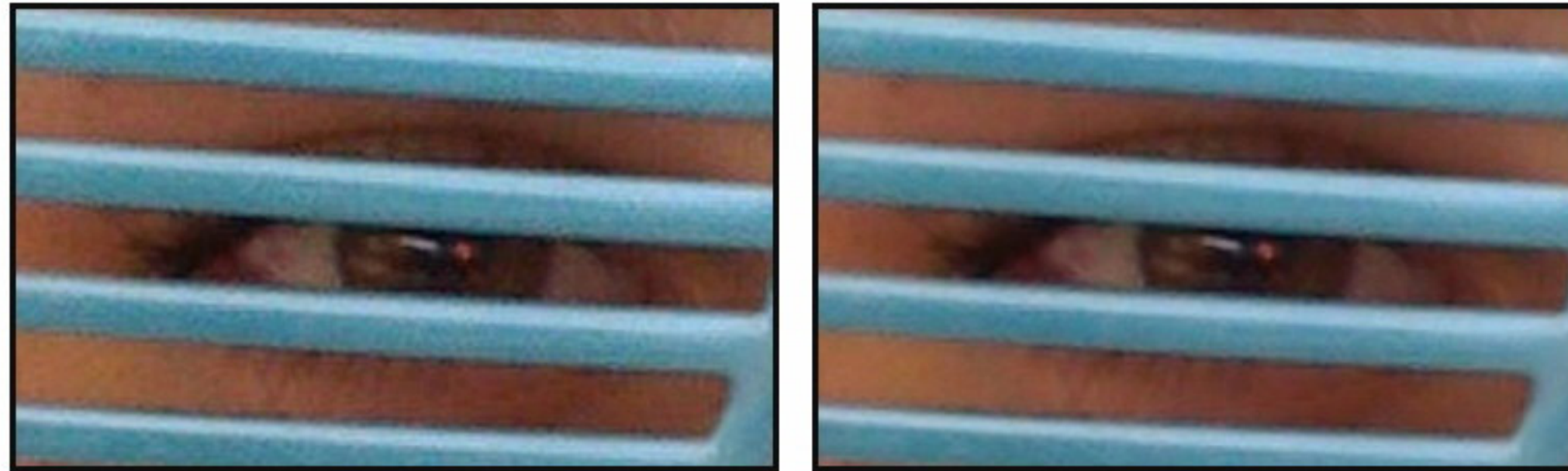
Don't expect miracles with noise reduction, but you can certainly improve some images dramatically. Note that noise reduction can sometimes result in some loss of detail.

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Other Noise Reduction. There are a number of noise reduction techniques you can use in dedicated graphics editing software. Standard noise reduction will remove those stray, colored dots that often appear.

Corel Photo Paint Pro, for example, contains another filter called a *Salt and Pepper* filter. This is great for removing such things as spots, dust, even scratches.
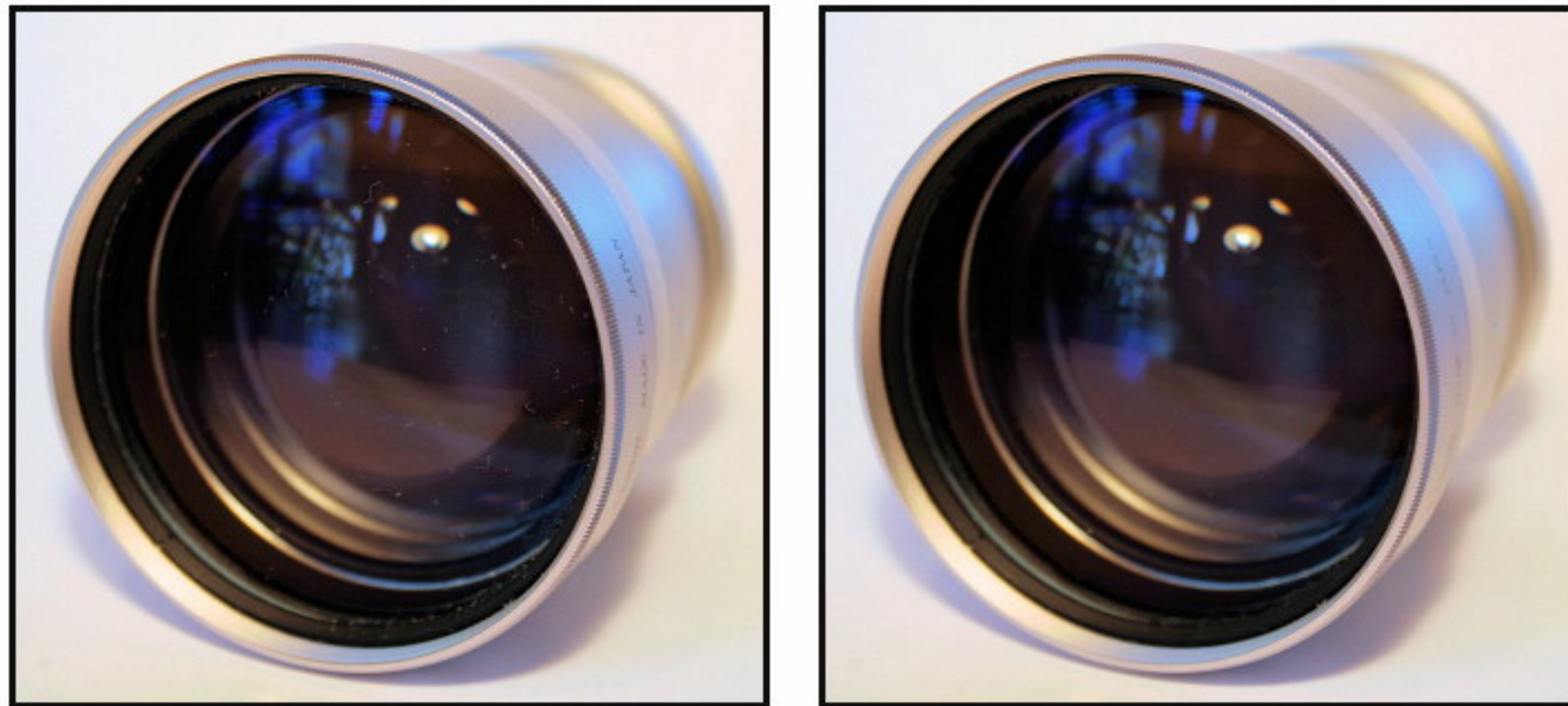
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More Noise Reduction. In dedicated graphics programs, you will find even more noise reduction techniques – like scratch removal, smoothing, JPEG artefact removal, moire pattern removal, and more.

The image on the left was actually a scanned, traditional, negative. Quite often, spots and scratches appear on the image. We applied some scratch removal to this image.

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White Balance. In an up and coming lesson, we discuss white balance in more detail. Essentially, white balance refers to the *temperature* of light available when a photo is taken. It may make this easier to understand as the type of light - sunlight, candlelight, flashlight, etc.

All cameras will set white balance automatically (most also allow manual adjustments), but don't always get it right. Where the color is 'wrong' it can generally be fixed using graphics editing software.

On the left, poor white balance. This was a white background. On the right, we've corrected this.

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You've now completed this lesson. In this lesson, we took a look at **Image Terminology.**