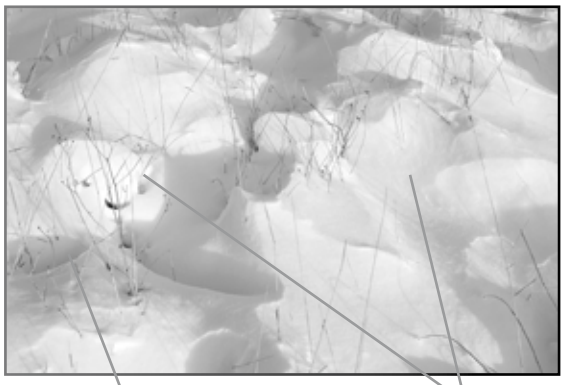
Tone Control: The Basics

The two examples below point out the basic problem of tone control. The snow image is predominately high key, using values at the far right of the gray scale. Measured with the spot meter, there is a range of only two stops between the sunlit snow and the open shadows. To the eye or to the meter, it lacks contrast.

The portrait is predominately low key, with the exception of the cat's fur and the stripes on the boy's shirt, which make the entire image a very full scale from darkest black to pure white. It is a struggle to fit such an extreme range onto either film or a digital sensor without giving up something important, so exposure for this image is critical.

If you stand away from this page and squint your eyes, you will understand the problem at a glance.



Neither image would look right if it had been exposed at the middle gray reading given by an averaging light meter, whether hand held or in a camera. Both are good examples of subjects that require interpretation. And to interpret the tonal values of these images you must start with a basic level of tone control. Here is where to start.

There is an old adage that goes "Expose for the shadows, develop for the highlights." Like most quaint sayings, this one contains truth if you know enough truth to begin with. Understand that it was good advice when all film was black and white negative film. A modern equivalent would not have the same ring, but would get you much closer to the truth— *Expose for the thinnest part of your image.*

If you are using negative film, B&W or color, that would be the shadow area. If you are using transparency or direct digital capture, that would be the highlight area. You are interested in keeping important detail where it is needed, and although dense film or noisy digital shadows are not ideal, absolutely nothing can come from clear, blank shadows on a negative or hollow highlights on an overexposed transparency.

Threshold Exposure Test

Start by testing to see whether the combined errors of you exposure meter, lens aperture dial, and shutter give you a result that you can live with. There is a wealth of knowledge about how to map subject reflectance exposure to negative to print. It's a fascinating process, but life is short and if this is not what floats your boat, here is a quick way to see if you know what you need to know about your exposures.

Focus on this page, then take a light reading from a blank sheet of white paper with the same reflectance. (The back of this page will do fine.) *Apply an extension factor* to your exposure as noted below. Expose two sheets of film, one at the setting you just read and one at a setting three stops darker. Process your film normally and check your results. You are looking to see where the thin black line dissappears. On the first (normal) exposure you should be able to see the line all the way to the end of the thinnest part of the scale. If you can't, repeat the test with a lighter exposure. (The markings along the side of the scale are approximatly one stop apart.)

The underexposed negative acts as a check against overexposure—the scale should dissappear entirely somewhere near its mid-point. If it doesn't, repeat the test at a darker exposure.

Bellows Extension Factor

The f numbers on your lens are calibrated to the focal length of the lens when focused on infinity. When working closer, the lens is farther from the film, the light falls off, and exposure diminishes. For small extensions the change in didtance is not significant, but the closer you focus, the more significant the correction. At 1:1 the correction is 2 fstops! Here is the formula to apply:

$$(\text{Lens to Film Distance} / \text{Focal length})^2$$