



Model Photography

By

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PCR Regional Convention, Fremont, CA

April 2009

Copies of this presentation can be found at

<http://www.markschutzer.com>

Clinic Overview



Model Photography

- This clinic will discuss how to take photographs of models and other railroad scenes.
- My rules for taking good model photos.
- Topics including lighting, composure, focus, exposure, and depth of field will be discussed.
- The histogram is your friend, learn how to use it.
- The digital darkroom, learn simple techniques to process your photos, correct photos that are too dark or too light.

Acknowledgements



Acknowledgements

I would like to thank Dave Adams for his wonderfully photogenic Durlin Branch which served as the source for most of the photographs in this presentation. Dave's beautiful scenery makes it easy to take great model photographs.

My Rules



My Rules

- Never use a flash, don't set the camera on Auto.
- Adjust custom white balance to available light.
- Always use a tripod or camera support.
- Use a remote shutter trigger or timer delayed shutter.
- Set equivalent exposure speed to ISO 100 for minimum noise.
- Set camera in aperture priority mode and set to F/8 or higher for wider depth of field.
- Use histogram and exposure compensation to get the correct exposure. If in doubt underexpose by -0.3 to -0.5 F stops.
- Shoot from ground level.
- Mind your background / backdrop.

- If available use supplemental light to set scene.

Flash Issues



Flash Problems

- A flash exposure is only correct at one distance. Objects in foreground are overexposed and the background is underexposed
- As the flash is from the same direction of the camera it lights the scene in a very unnatural way.
- Flash exposures result in very stark and unrealistic shadows.
- When set on Auto mode the flash will fire because of the low light levels in most layout rooms.

Flash exposure example



Issues

- Uneven lighting
- Stark unrealistic shadows
- Not natural

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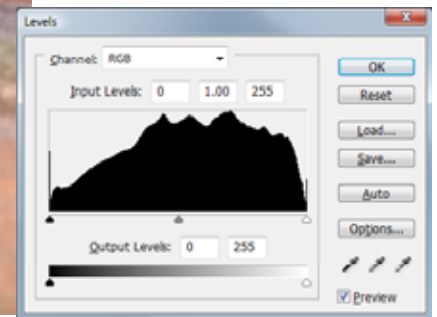
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Flash exposure



Issues

- Uneven lighting
- Stark unrealistic shadows
- Not natural



Flash exposure



Issues

- Uneven lighting
- Stark unrealistic shadows
- Not natural



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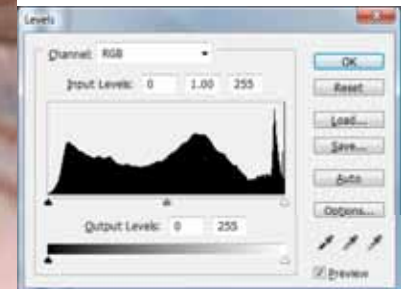
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Flash only exposes correctly at one distance



Issues

- Uneven lighting
- Foreground tree overexposed
- Background dark



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Ambient Light, Custom White Balance



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White Balance



White Balance

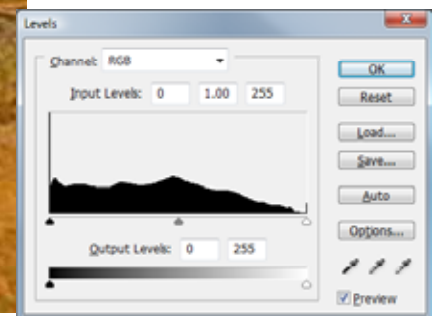
- Digital cameras have the ability to set their white level to adjust to different kinds of lighting conditions
- Equivalent to changing film types such as daylight or tungsten film.
- Most cameras have built in white balance settings for auto, daylight, cloudy, fluorescent (several types) and tungsten light
- Better cameras also allow custom white balancing based on measuring a “white card” under the ambient light conditions
- Auto white balance setting rarely works well under artificial light.
- Use custom white balancing, re-balance frequent and often as layout lighting often varies in different scenes.

Ambient Light, Auto White Balance

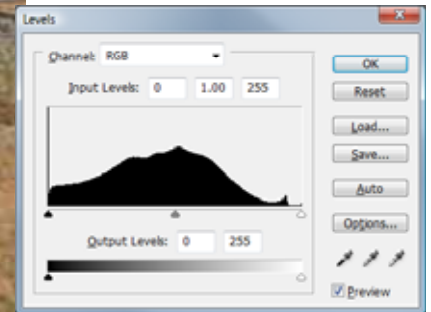


Issues

- Color shift



Ambient Light, Custom White Balance



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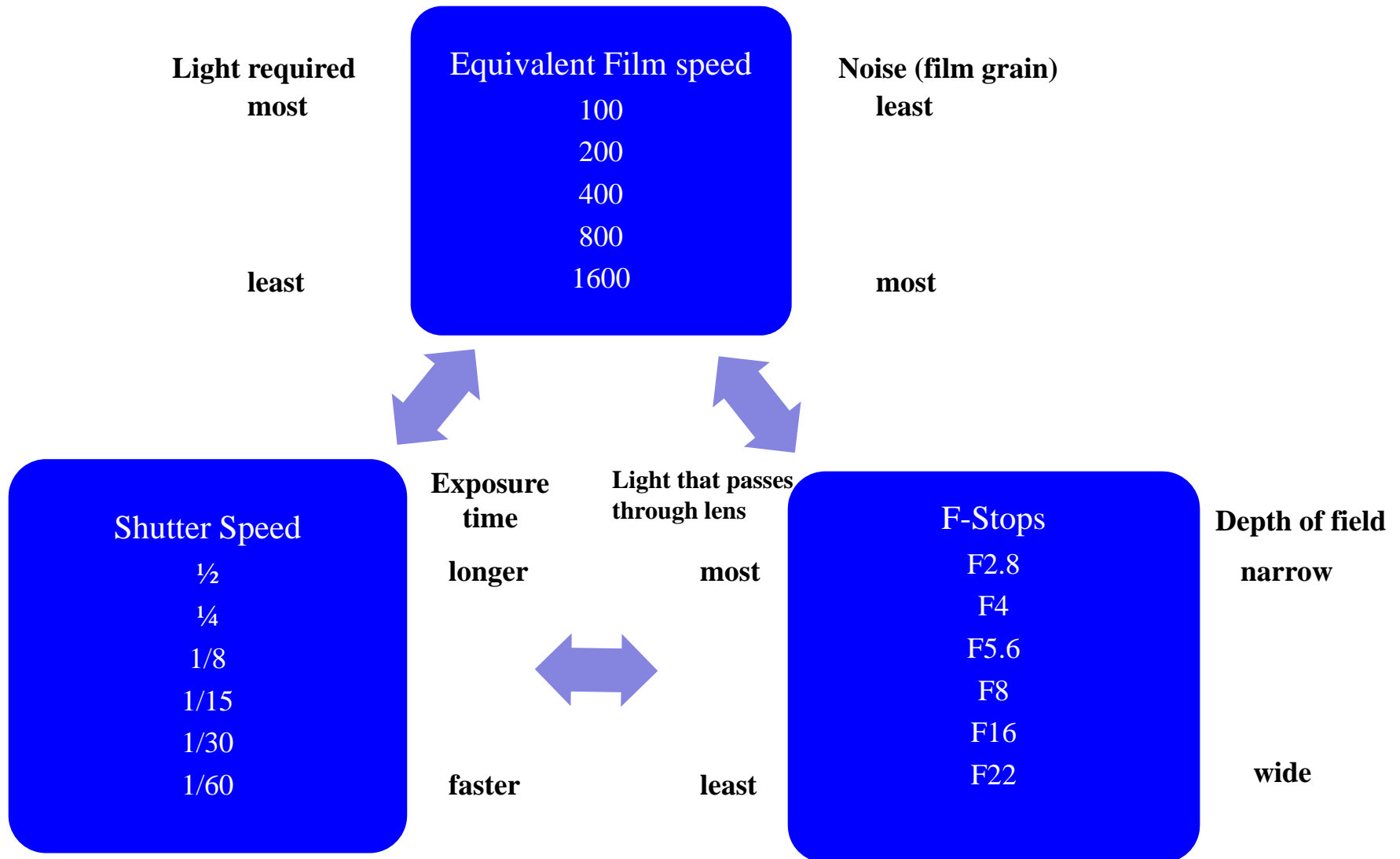
Exposure



Exposure

- Correct exposure is required for good photographs
- Affected by shutter speed, equivalent film speed, and lens opening (F-stop) setting.
- Settings are a trade off, see next page...

Exposure



Exposure



Recommended Settings

- Use ISO100 equivalent speed for lowest noise (least grain).
- Stop lens down to F8 or more for wider depth of field.
- The combination of these settings and low indoor light levels result in long exposure times (1/2 second to 2 seconds).
- A camera support (tripod, bean bag) is required to prevent motion blurring.
- Use a time delayed exposure or a remote shutter trigger to prevent camera motion.
- Use center weighted exposure metering.
- Use center focus area target only.

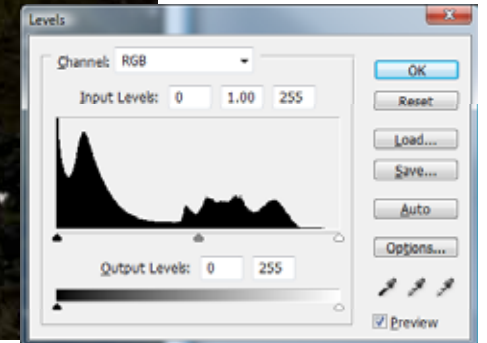
Exposure Metering



Exposure Metering

- Exposure meters adjust the exposure to a 18% gray weighted across the metered area.
- This works well for the “average” photographic scene.
- If the scene has a lot of white in it (such as a snow scene) the exposure meter will adjust the white to 18% gray and the scene will be dark.
- If the scene has a lot of black in it (such as a steam loco portrait) the exposure meter will try and adjust the black to 18% gray and the scene will be over exposed.
- You must learn to use your camera’s exposure compensation control to adjust the exposure for light and dark scenes.
- Learn to use the Histogram as it tells you exactly how your photo is exposed.

Donner Snow Scene – Underexposed on Auto



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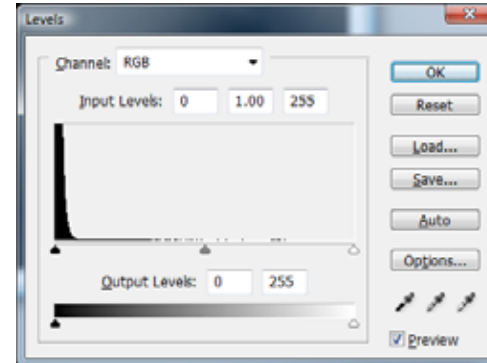
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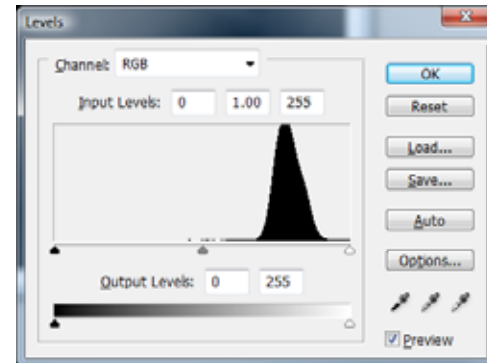
How a Histogram interprets brightness



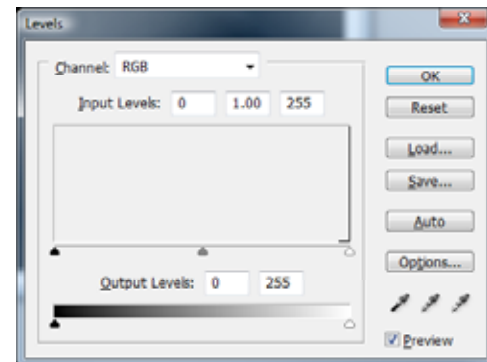
Black



18% Gray



White

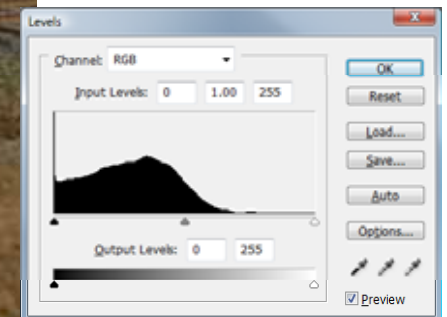


No Flash, Custom White Balance - Underexposed



Issues

- Underexposed

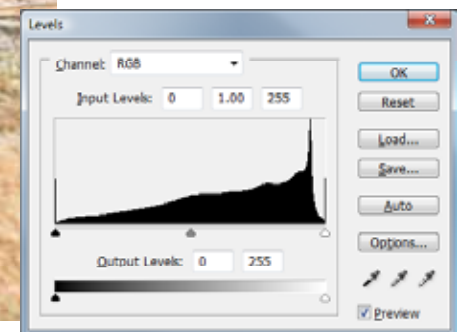


No Flash, Custom White Balanced - Overexposed



Issues

- Overexposed

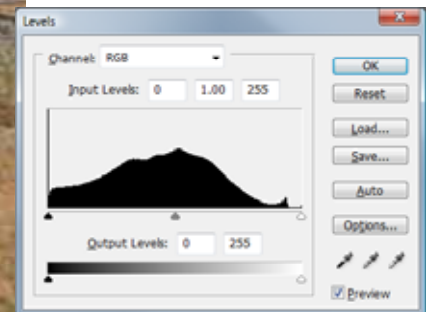


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No Flash, Custom White Balance – Correct Exposure

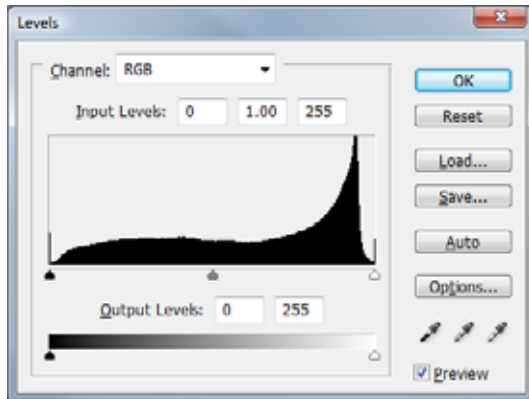


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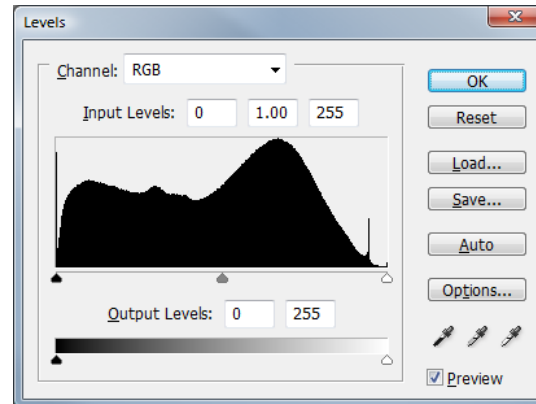
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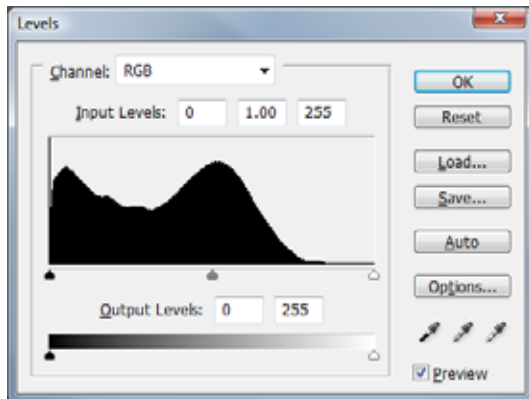
Histogram Test



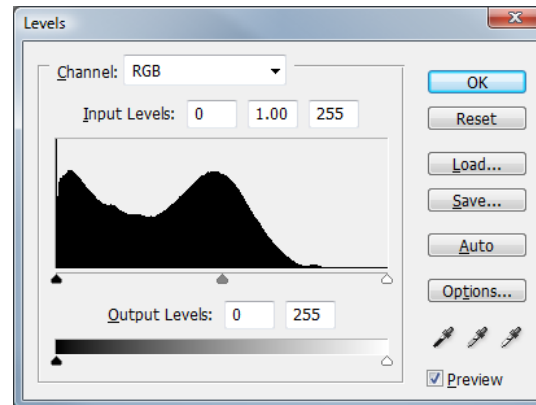
1



3



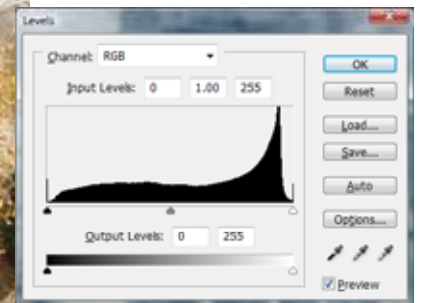
2



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Which histogram shows a correct exposure?

Histogram #1, overexposed

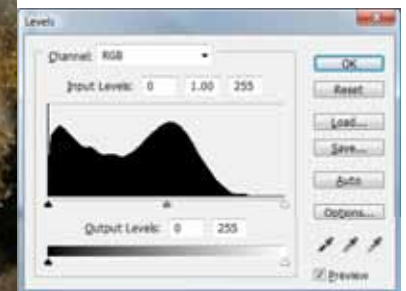


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Histogram #2, underexposed

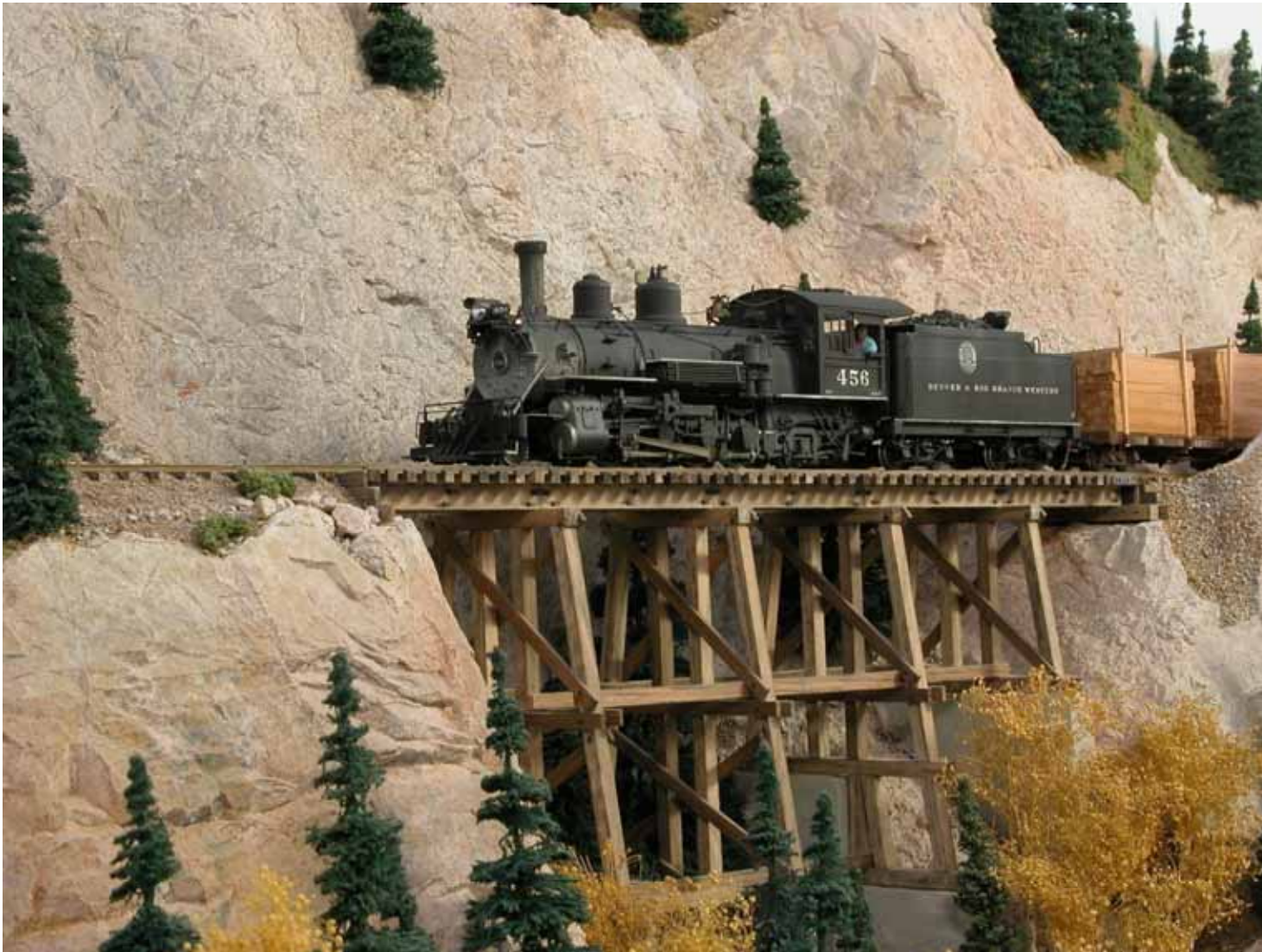


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Histogram #3, Correct Exposure

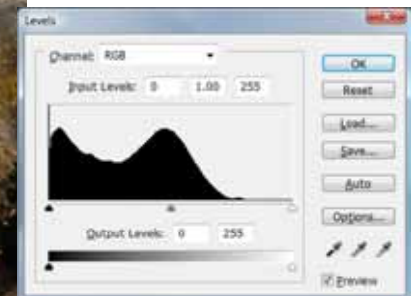


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Histogram #4, underexposed more



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Lighting



Lighting

- Most layouts don't have the best lighting
- Usually low light levels
- Most commonly incandescent or fluorescent lighting
- In most cases you can get acceptable results with available light if you use the camera's custom white balancing.
- Ambient light usually gives you a diffused lighting as if shooting on a cloudy day.
- For close ups or equipment portraits use low cost Halogen work lights. Adjust lighting to give the desired effect.
- The following slide shows the “real world” incandescent lighting at Dave Adams Durlin Branch where most of this presentation was shot.

Room Lighting – Real World Example



Note overhead incandescent lighting.



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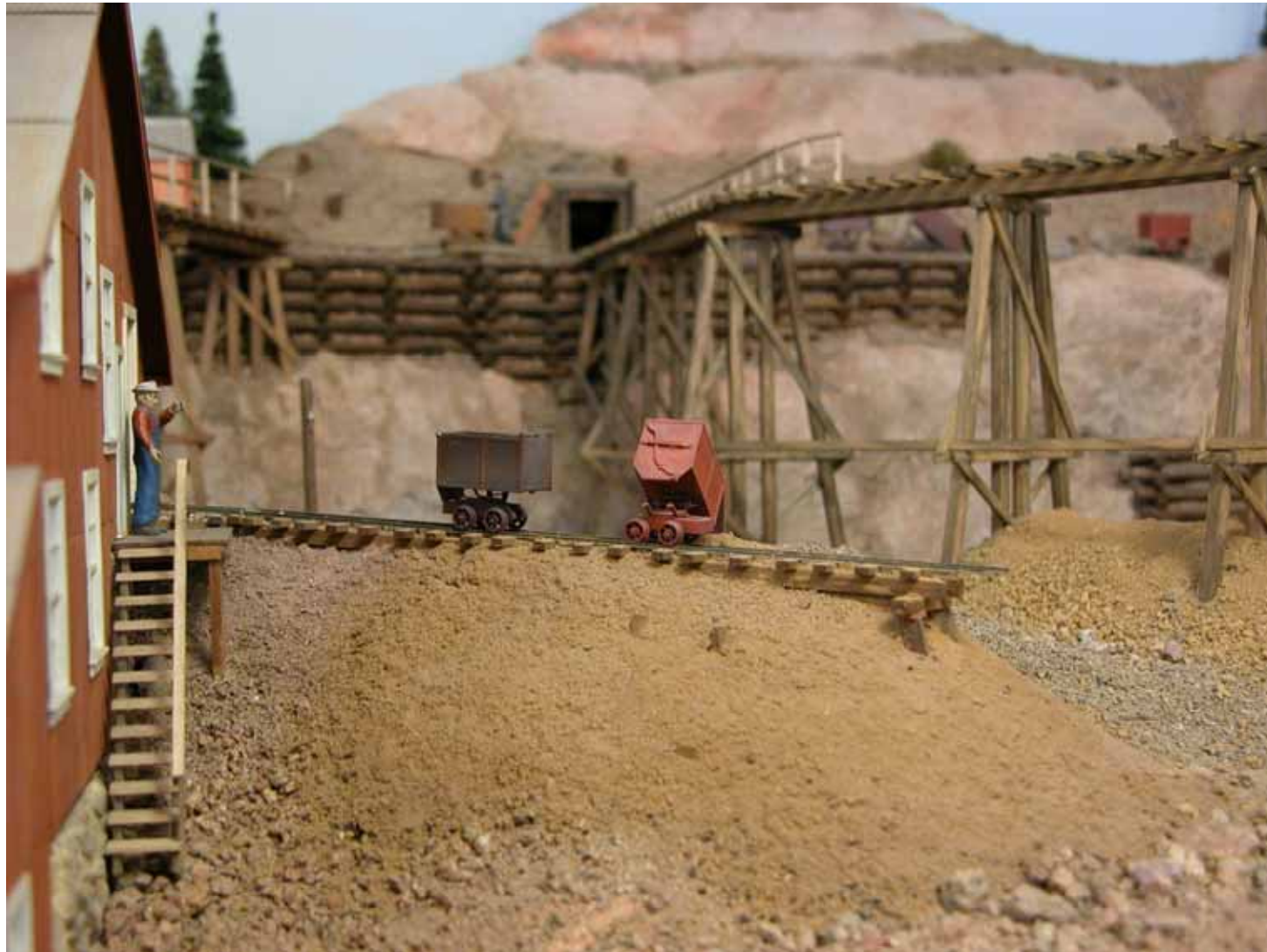
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Depth of Field



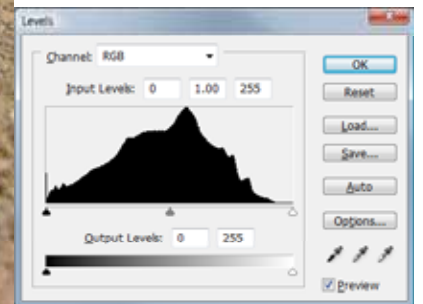
- **Depth of field** – The area in front of the camera from a minimum distance to a maximum distance in which the subject will be acceptably focused.
- Depth of field varies with the F-stop setting of the lens.
- Low F-stop settings result in shallow depth of field.
- High F-stop settings result in wider depth of field.
- Low light levels will result in low F-stop settings if the camera is set on Auto.
- Set the camera in Aperture Priority mode and set F-stop to F-8 or higher.
- Examples of depth of field differences are shown on the following slides.

Depth of Field, F/3.1, Lens wide open

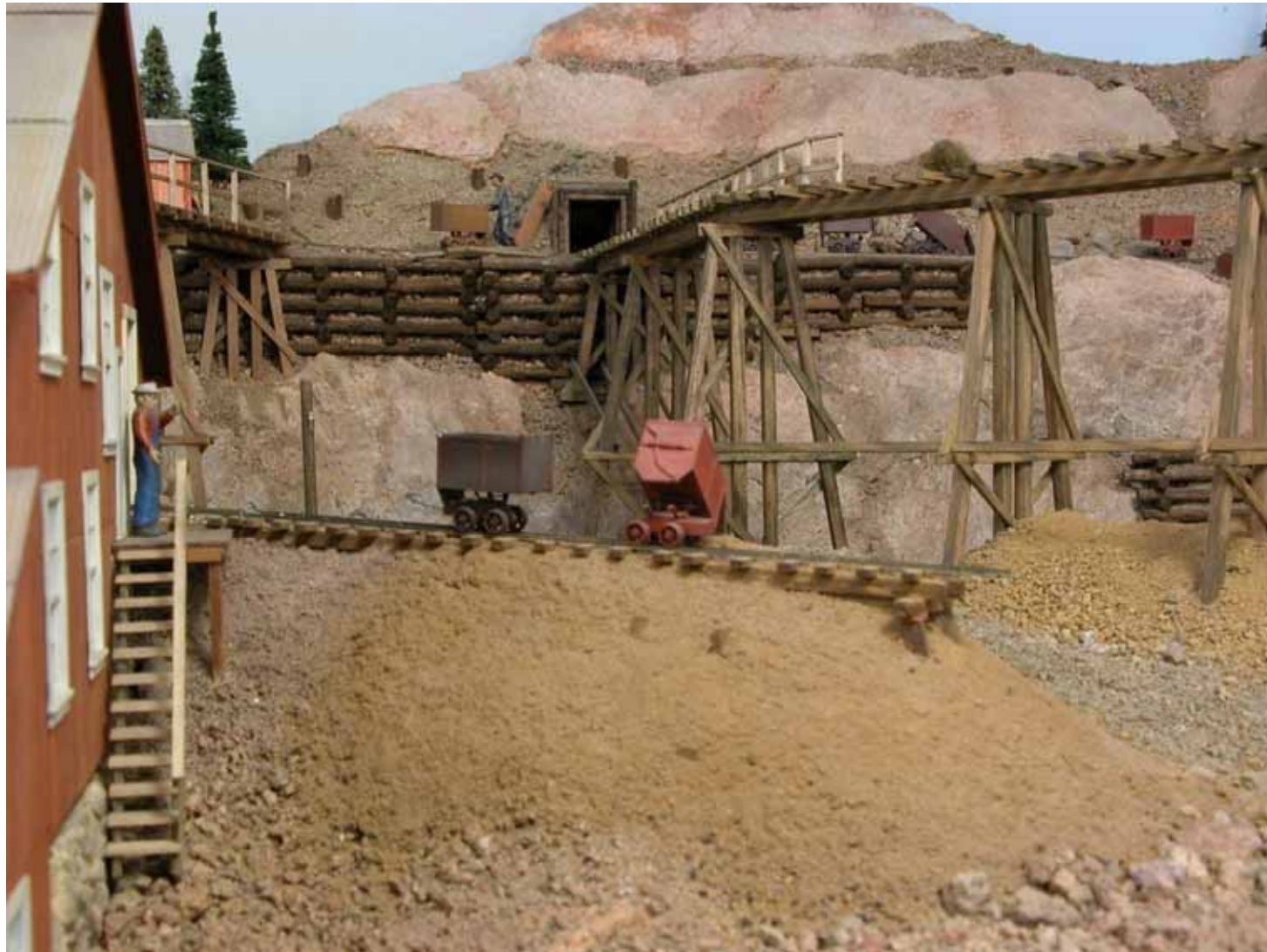


Notes

- Limited focus range

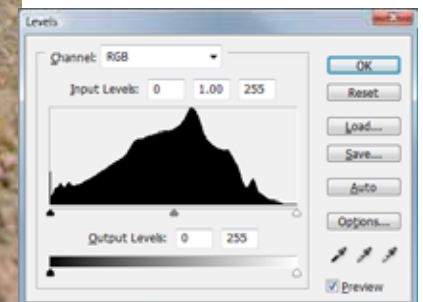


Depth of Field, F/8, Lens stopped down



Notes

- Improved focus range



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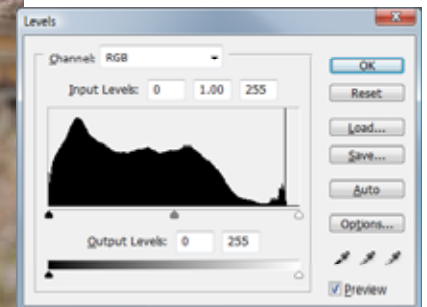
Composition



Composition

- Imagine yourself as a scale photographer standing at track side.
- Get the camera down low near to ground level for realistic shots.
- Avoid helicopter shots from above, in most cases they don't look realistic.
- Always use a backdrop of some sort.
- Mind distractions in the picture, fascia, edge of backdrop, ceiling, and people in the background .
- Use a Macro lens and get in close to avoid distractions.
- Use center weighted focus and focus on the main subject in the scene.

No Flash, Custom White Balance, Ground Level

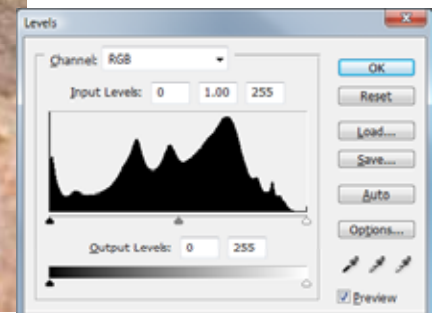
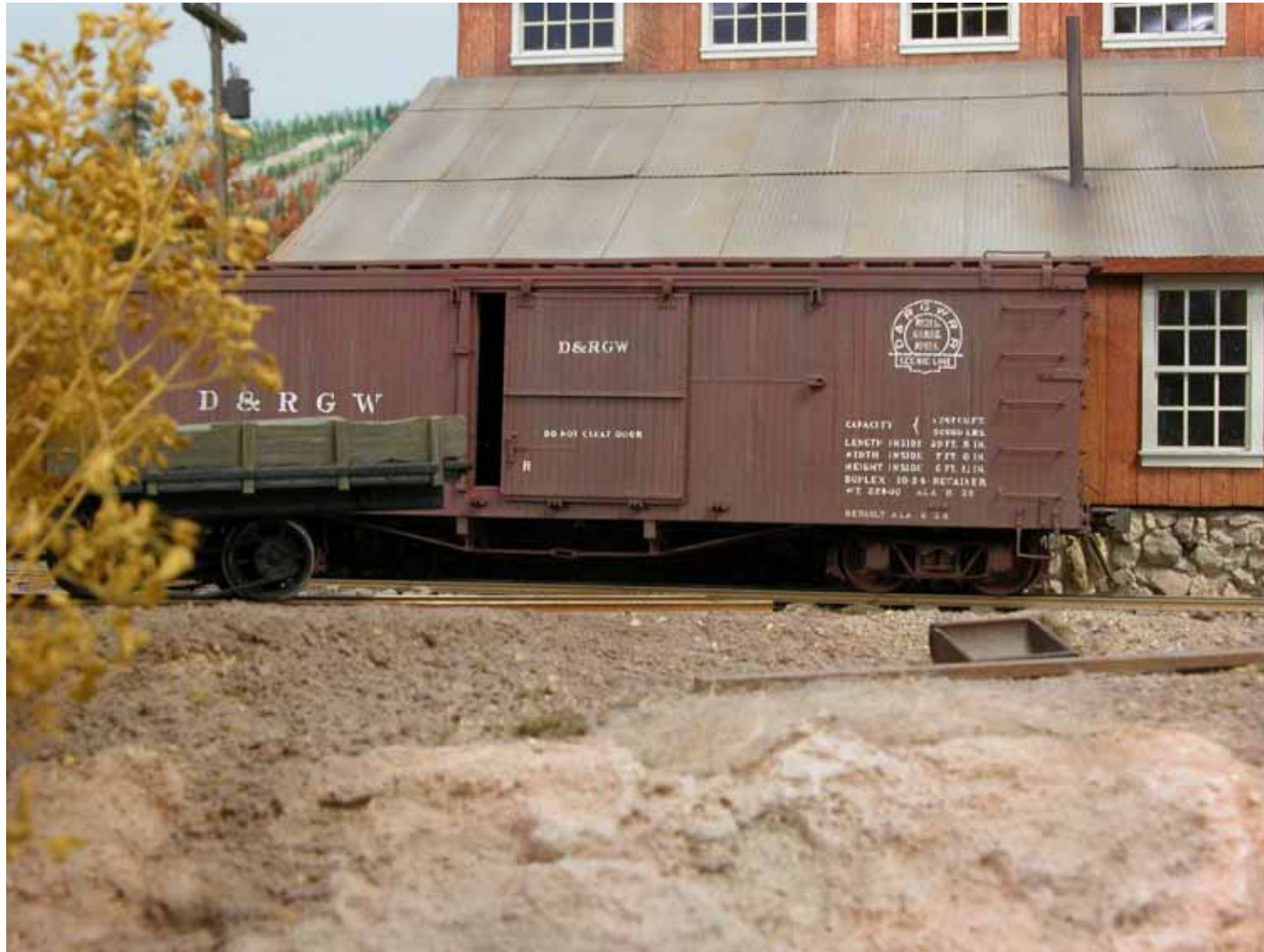


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Shoot at Ground Level



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Avoid Helicopter Shots



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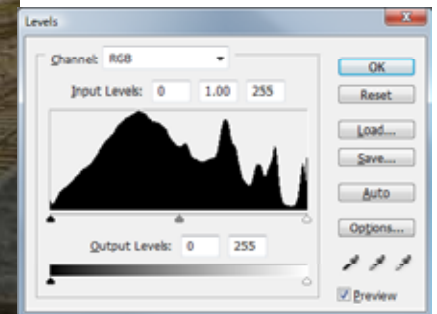
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Watch your background!

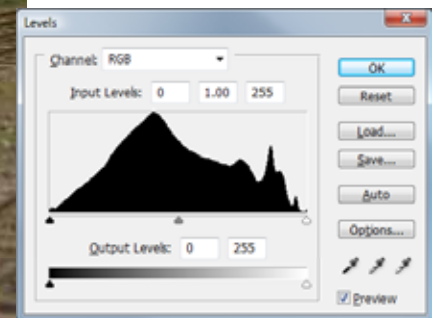


Issues

- Edge of backdrop and ceiling showing



More realistic without background distraction

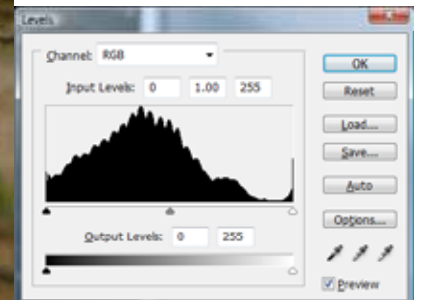


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Shoot at ground level



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Backdrop need not be elaborate



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Light and Ceiling Distractions

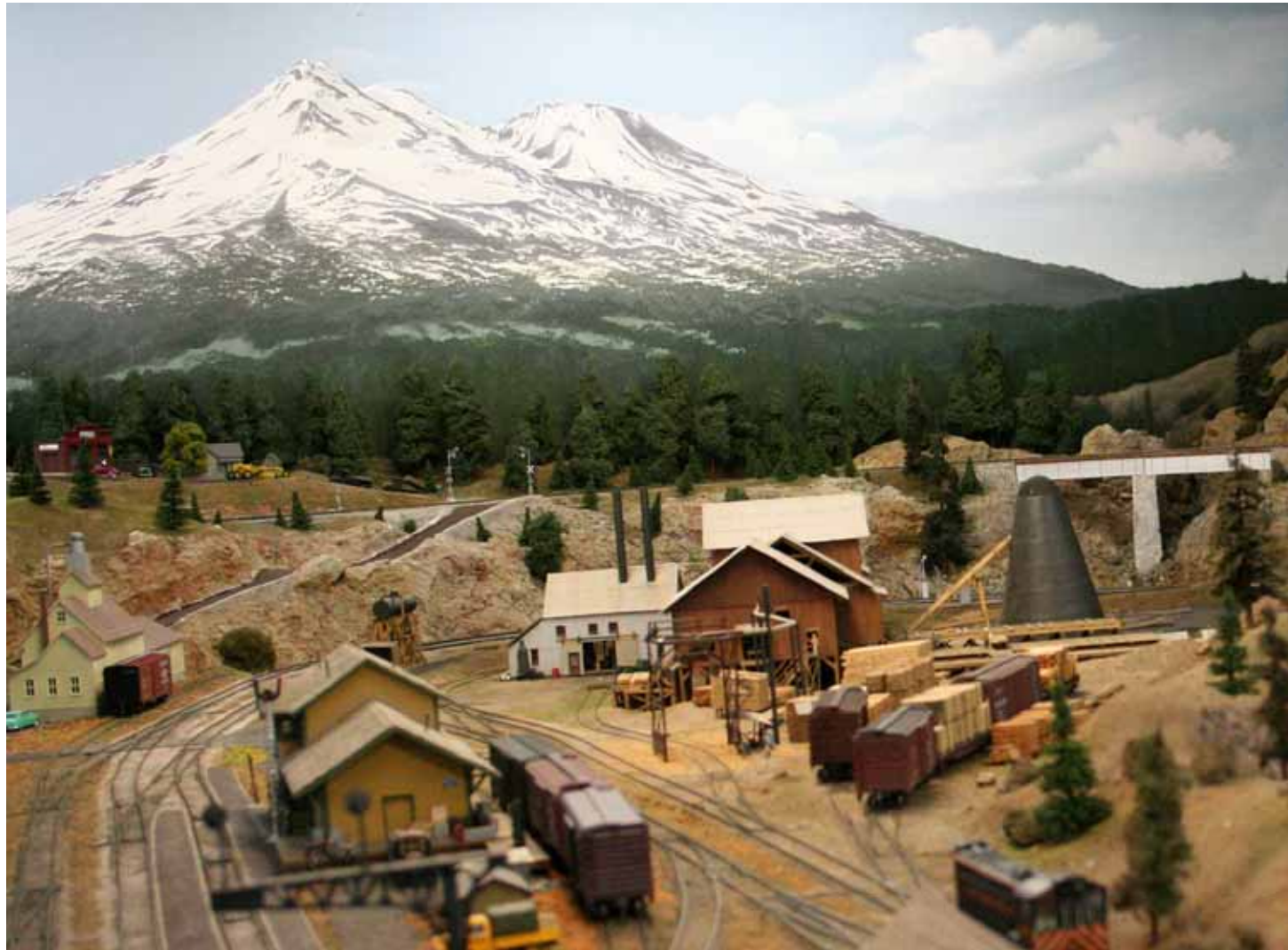


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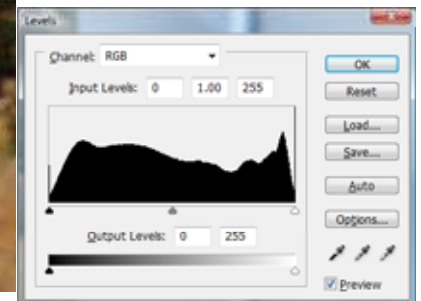
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Better with Distractions cropped out

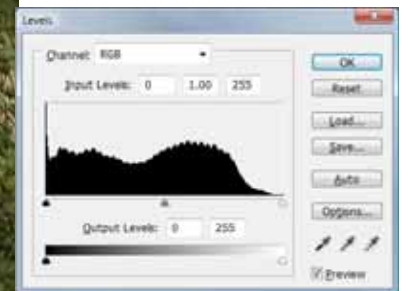


Some issues

- 1600 ISO, Noisy
- Uneven lighting
- Slightly overexposed
- Not ground level



Ceiling Distractions



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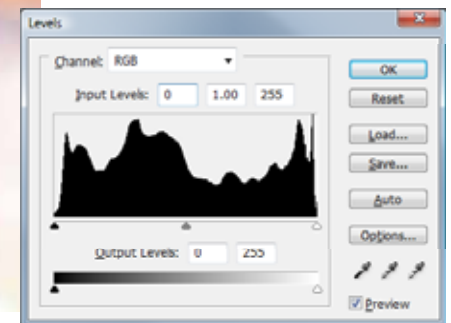
The good, bad, and ugly side by side

Flash Enabled



Issues

- Uneven lighting
- Stark unrealistic shadows



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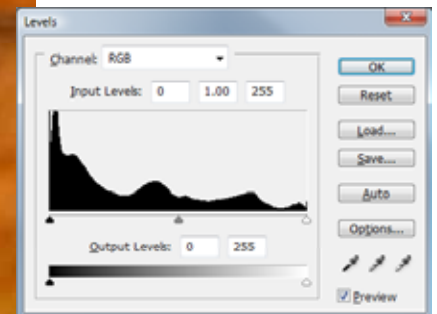
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No Flash, Auto White Balance



Issues

- Color shift



No Flash, Auto White Balance

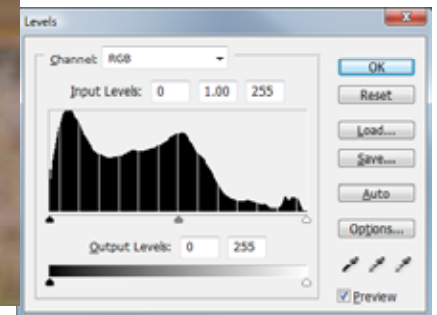


Issues

- Trains in motion are blurred



No Flash, Custom White Balance



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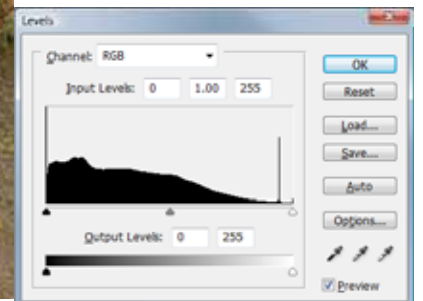
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Railfanning

Railfanning

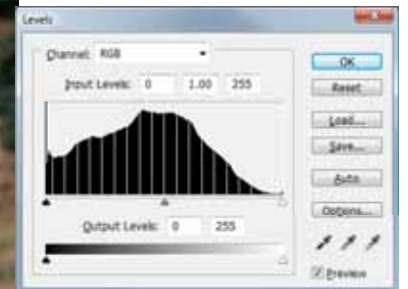


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Railfanning



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Railfanning

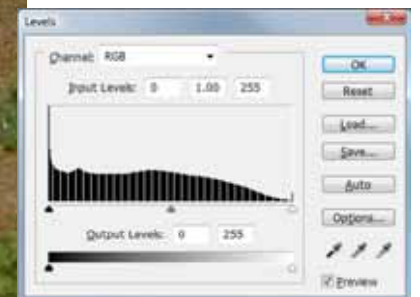


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Railfanning

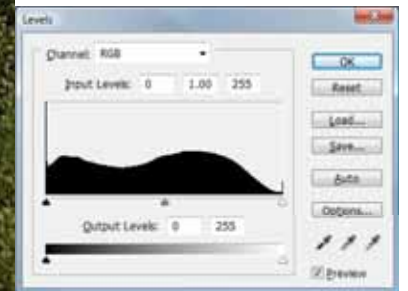


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Railfanning



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The Digital Darkroom



Digital Darkroom

- Exposure is rarely perfect right out of the camera.
- In the film world the technician running the printing machine adjusts the printing process to make up for exposure issues.
- Image editing software such as Adobe Photoshop, or Photoshop Elements allow you to crop, correct exposure, resize, and adjust the color balance of a photo.
- Image editing is a vital part of the digital workflow.
- Every digital camera user should also have some kind of image editor.



Image editing examples in Photoshop



Questions?