

FOCUS STACKING



What is Focus Stacking?

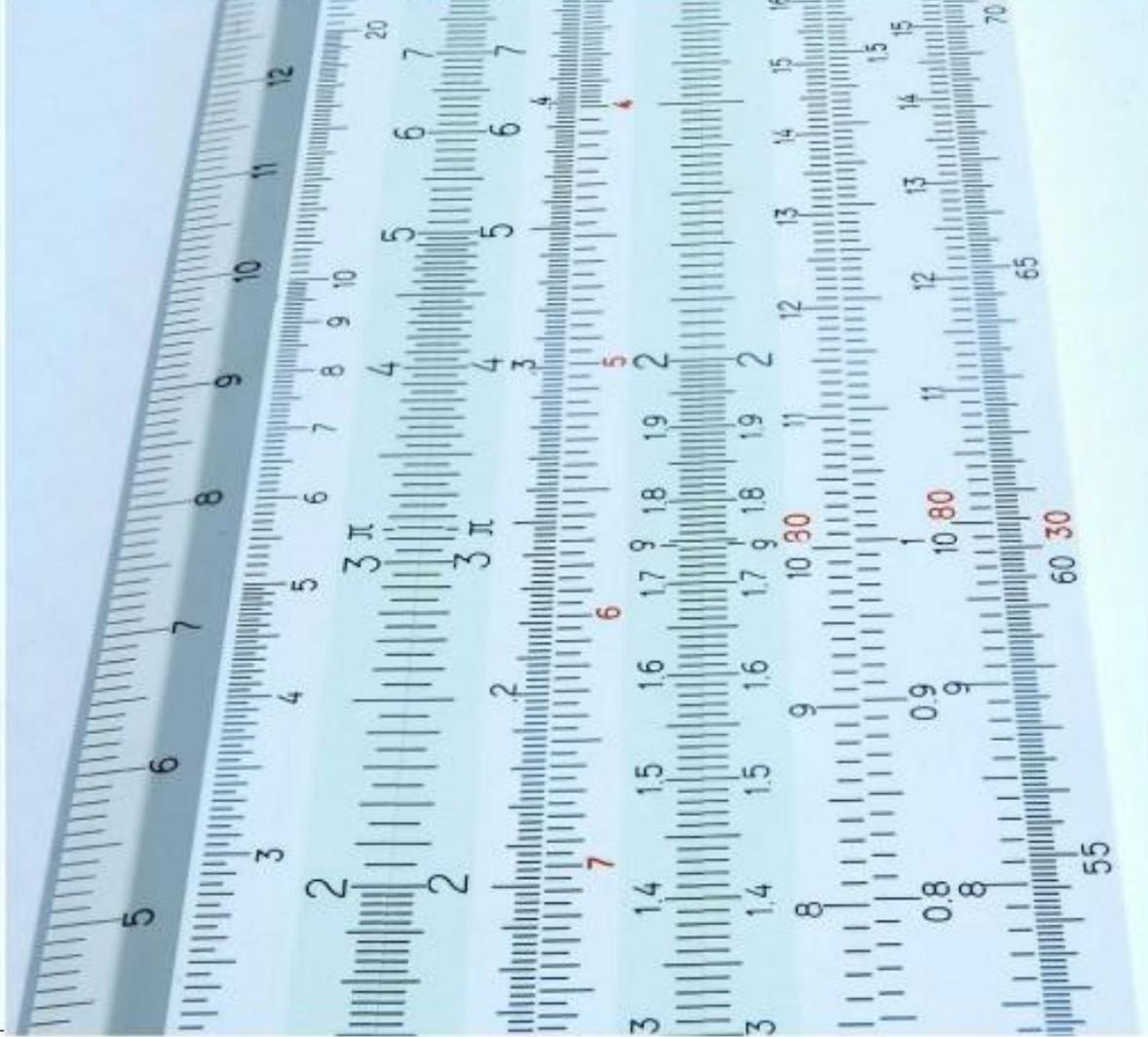
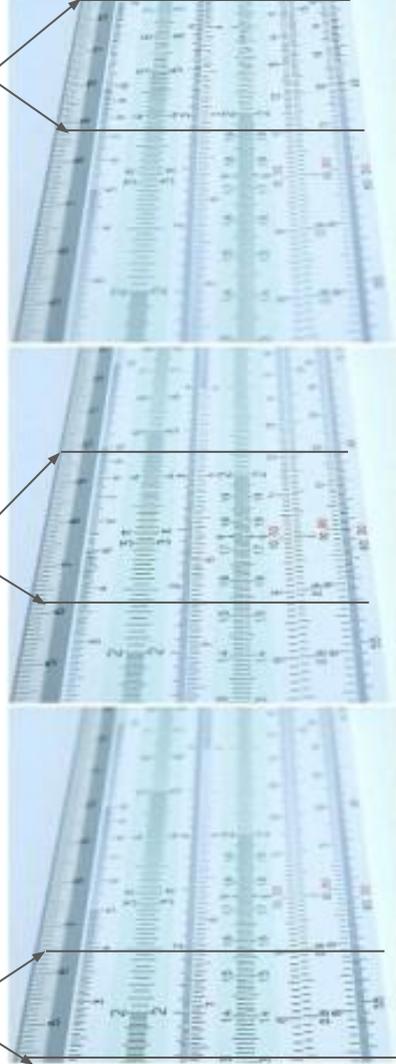
Focus stacking (also known as **focal plane merging** and **z-stacking** or **focus blending**) is a [digital image processing](#) technique which combines multiple images taken at different [focus](#) distances to give a resulting image with a greater [depth of field](#) (DOF) than any of the individual source images. Focus stacking can be used in any situation where individual images have a very shallow depth of field; [macro photography](#) and [optical microscopy](#) are two typical examples. Focus stacking can also be useful in [landscape photography](#).

Focus stacking offers flexibility: since it is a computational technique, images with several different depths of field can be generated in post-processing and compared for best artistic merit or scientific clarity. Focus stacking also allows generation of images physically impossible with normal imaging equipment; images with nonplanar focus regions can be generated.

3

2

1





Focus Point 5 Effectively Infinity

Focus Point 4 Approximately 22-23" away

Focus Point 3 Approximately 14-15" away

Focus Point 2 Approximately 12" away

Focus Point 1 Approximately 11" away

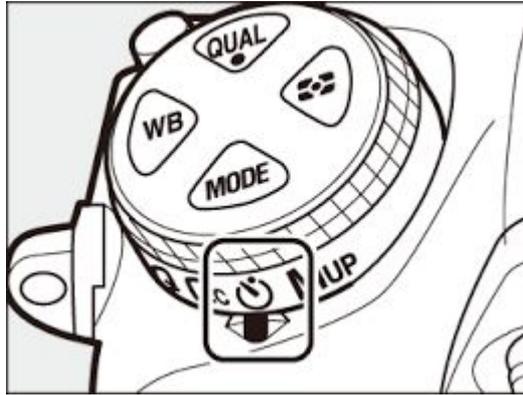
What Do you Need

- A tripod.
- A DSLR or Mirrorless camera capable of shooting in manual mode. It is possible to use a point and shoot camera, but it must have a manual mode and manual focus capabilities.
- Photoshop or another focus stacking software.
- Another item that you can use is a focusing rail, mostly used in macro photography.

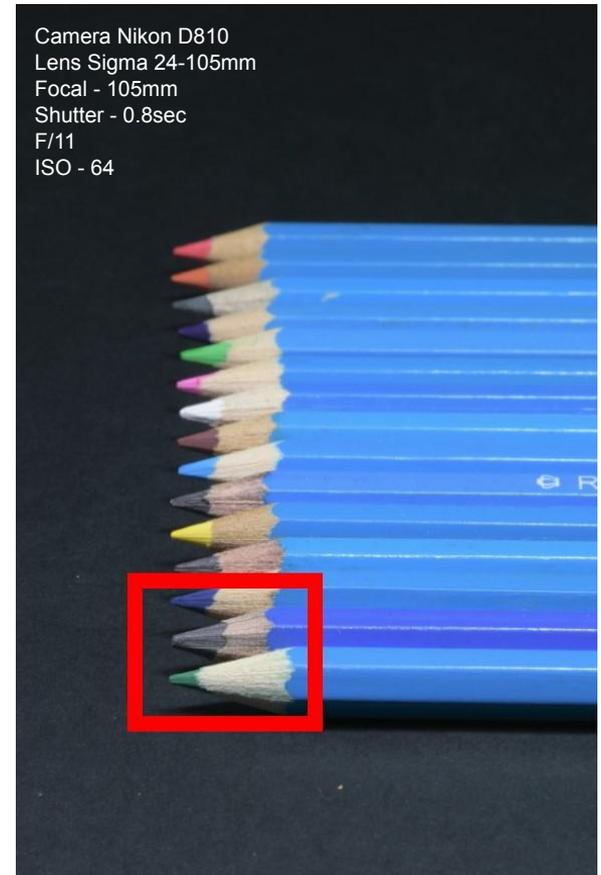


Steps for Shooting for Focus Stacking

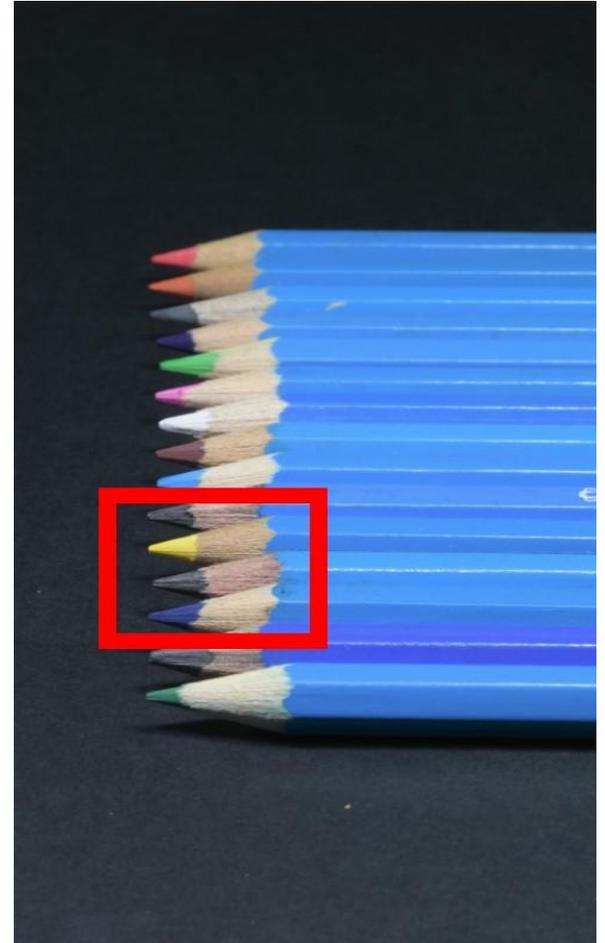
1. Place the camera on a sturdy tripod; this is a must!
2. A cable release is very helpful, but you can use your camera's built-in self-timer function for your shutter release



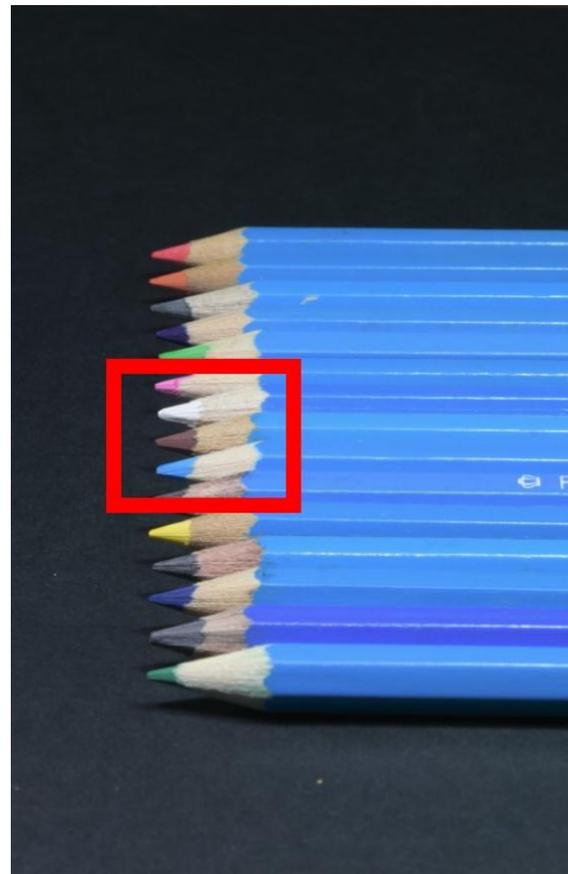
1. Frame the subject and compose the shot.
2. Determine exposure for the scene and set the camera to manual mode to ensure that the exposure is constant for every image.
3. Set the camera to Live View and aim the focus point at the nearest object you want in focus. Use the camera's zoom (the *plus* button, not zoom on the lens) to preview the focus through Live View. Then switch to manual focus and use the focus ring to fine-tune for sharpness if necessary.
4. Take the first exposure.



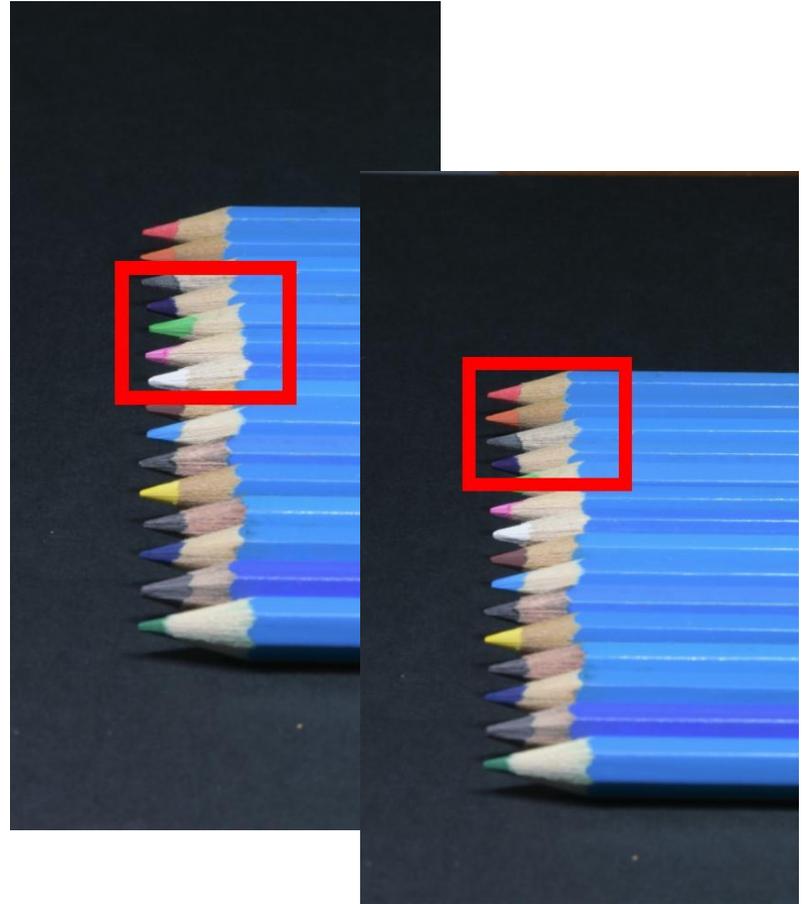
1. Without moving the camera or adjusting any settings, move the focus point to an object mid-way in the image and refocus.
2. Take the second exposure.



1. Again, without changing anything, but focus point
2. Take the third exposure



1. Take the fourth exposure or more if needed.

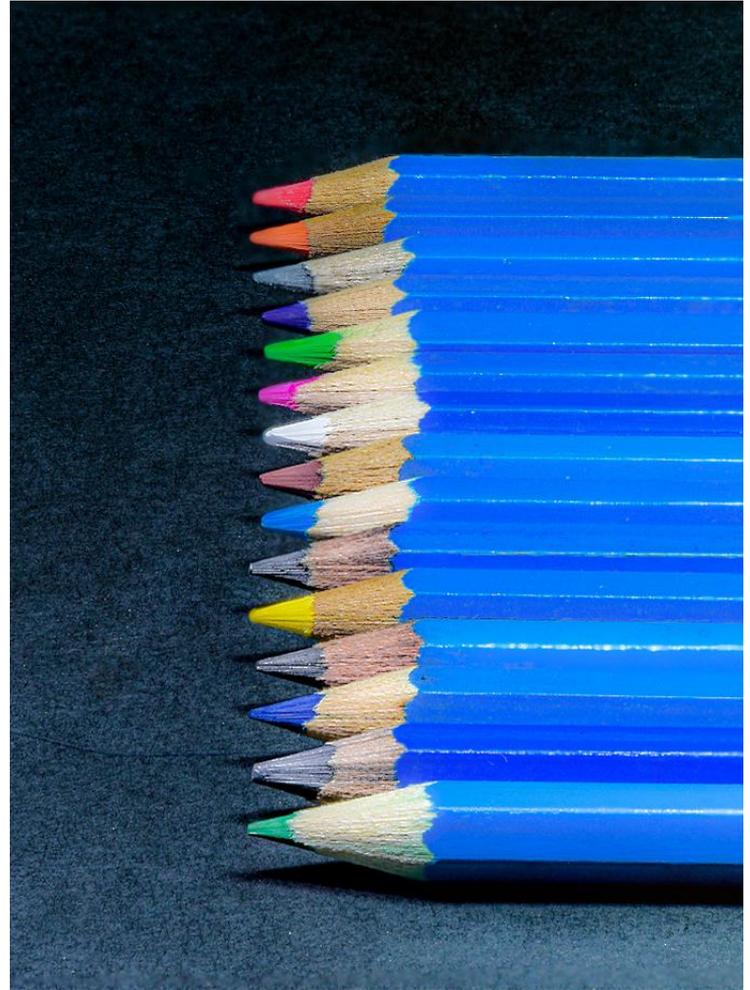


Photoshop Demonstration

Now I will show you how I stack the images in Photoshop 2020

Stacking in Photoshop

Final Image completed in Photoshop



Focus Stacking Macros

Black Vine Weevil

- 23 images in the stack
- Camera:Nikon D810
- Lens: 50mm, attached to a bellows
- Mount: focusing rail



Final image

Recap,

- Use a tripod, cable release, or the camera self timer
- Choose and compose your subject
- Set up in A, S, mode then change to manual mode to start shooting
- Autofocus by moving your focus point, or focus manually
- Take as many images you think will needed to create a sharp photo stack
- Use Photoshop to stack your images,or another focus stacking software.
- Then finish your final image for printing or Social Media

Now get out there and do some focus stacking!