

Total time:
1-2 hours



Difficulty Level: Very easy

Skill Points:

- Discovering proper form in holding a camera
- Using the Reciprocal Rule to increase image sharpness

EQUIPMENT:

- DSLR, mirrorless, or hybrid camera and different lenses

THIS ACTION CARD IS ESSENTIAL: RECIPROCAL RULE



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New photographers are often frustrated, because their images are not sharp. The biggest “Photo Killer” in this regard is called **camera shake**. Camera shake occurs when the shutter release button is depressed to create a photograph. The camera literally shakes, and creates motion blur in the image.

KEY LESSON: As the focal length of a lens is increased, so is the magnification. As the magnification increases, so is the possibility of camera shake. There are really two key lessons in preventing this. The first one is proper form and technique when holding the camera. The second one is the “Reciprocal Rule”.

START HERE

Lenses: The camera lens plays a critical role in the occurrence of camera shake. A lens that is physically large is more prone to camera shake. The *Reciprocal Rule* states, that the shutter speed of your camera should be at least the reciprocal of the effective focal length of the lens. (Ex. 50mm use 1/50th)

Proper Grip: However, just using the Reciprocal Rule may not be enough. Holding the camera properly, and then using a smooth movement when depressing the shutter release button, also impacts camera shake.

Good form: When handholding a camera, use the viewfinder and not the Live View function. Press the viewfinder to your face. Support the lens from beneath. Tuck your elbows into your side or chest. Breathe evenly. Slowly depress the shutter release. Use the Reciprocal Rule.

SAMPLE
PHOTOGRAPHS

1 300mm



2 85mm



3 28mm



- 1- Telephoto:** If this photograph were shot hand-held with a 300mm lens, what does the Reciprocal Rule tell us? The shutter speed should be 1/300th of a second or faster.
- 2- In the middle:** While the Reciprocal Rule gives you a guideline, your camera holding technique plays a huge role. With an 85mm lens the shutter speed should be 1/85th of a second or faster. If your camera technique is still being developed, your shutter speed should likely be faster. If your camera technique is excellent, you may get away with a slower shutter speed than 1/85th of a second.
- 3- Wide Angle:** These lenses do not magnify a scene, they push the scene out and away. This allows them to be handheld at slower shutter speeds. You would likely never want to handhold your camera at a shutter speed of 1/8th of second or slower.



ACTION ASSIGNMENT!

- 1- Organize a photo shoot, and use all of your lenses- use every focal length. If your lenses are zoom lenses, then shoot at various zoom focal lengths.
 - For each scene and focal length- shoot your first image using the Reciprocal Rule.
 - After the first shot, for each scene and focal length, vary the shutter speed both up and down.
 - Take notes- or make sure that your camera data is being recorded.
 - Have a friend shoot video of you taking the pictures. Examine the video for flaws in your camera holding technique. Print your images.

HOW DID YOU DO?

- Did you create a sharp image at the setting recommended by the Reciprocal Rule? If not, you need to work on your camera technique.

READY! SET! GO! **ACTION CARDS**
STRETCH GOALS: RECIPROCAL RULE