

The 'rule of Reciprocity'

What a complicated sounding term (not to mention something that I get tongue-twisted on) for something that is really quite straightforward and not home to a lesser-known marvel comics figure after all!

I occasionally comment on online photography forums and recently I was accused of inventing this term (and as such talking rubbish) when used in a photographic context. Personally I don't believe I am that clever and this is simply a logical term to use as of course any number divided into one becomes a reciprocal number.

Anyway, assuming 'normal' requirements for your image, your shutter speed should be no slower than - one, over your chosen focal length.

$$\text{Min shutter speed} = \frac{1}{\text{focal length}}$$



Think about what can happen when you use a pair of binoculars -

Any slight instability in your handling makes the image jump around at a most exaggerated and annoying level.

The effect is exactly the same with your camera and lens combination, the longer the focal length the greater the potential for 'camera shake'

So, if shooting at a relatively wide angle (perhaps up to 50mm), camera shake or wobble is minimal so you can use a relatively slow shutter speed (although I have seen plenty of blurry wide-angle images online) but if for instance shooting at 200mm on a camera with a 'crop factor' of 1.4 then you should apply the following;

$$\text{Minimum shutter speed} = \frac{1}{(200 \times 1.4)} = \frac{1}{280}$$

It is commonplace for folk to forget to factor in the camera's crop effect. Although I do on occasion, most people will *not* be shooting with full-frame cameras - if you are not sure of your own camera's crop effect then apply 1.5x as this is I believe the highest for a DSLR.

I do know a couple of people with Olympus not-quite DSLR where the crop is 2x, but 1.3-1.5x is by far more the norm.