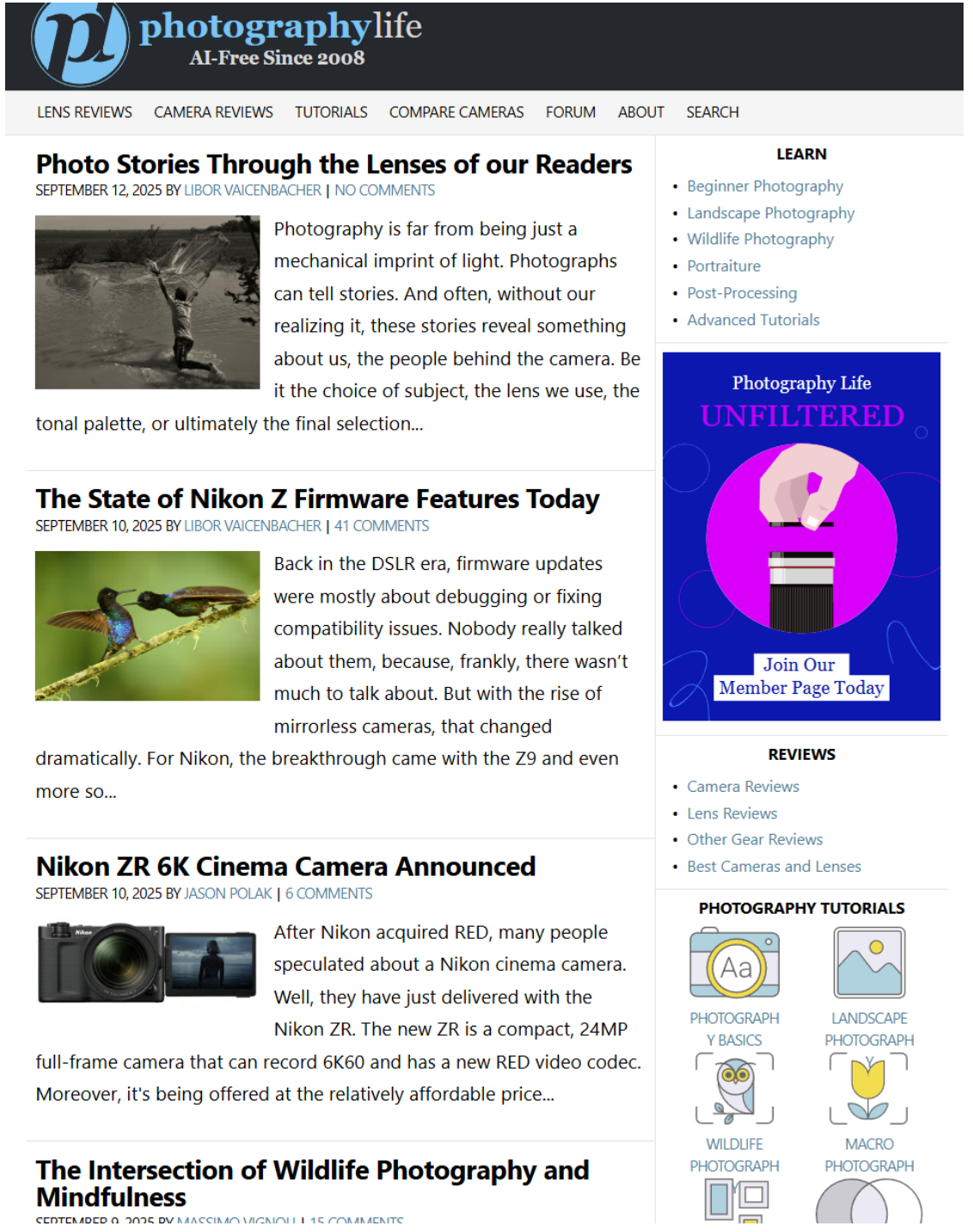
Basic Photography Focusing

Dennis Fritsche

February 20, 2024

Reference

- [Photography Life]



Fucus Modes For Nikon cameras.

- **Best for static subjects like landscapes – AF-S**
  AF-S (single-area autofocus) allows the camera to focus once on a subject a set distance away, and won't refocus automatically if you or your subject move. Once you've achieved focus lock, the focus point will briefly flash green to confirm.
- **Best for tracking moving subjects, such as birds in flight – AF-C**
  To use AF-C (continuous autofocus), half-depress the shutter button (or AF-ON) to continually focus on the subject under the active focus point(s). The autofocus system will automatically adjust to keep your subject in focus, and the focus point stays red because the system is continually focusing.
- **Best for both moving and still subjects in the frame – AF-A**
  AF-A (auto autofocus) automatically switches between AF-S and AF-C modes, depending on the subject under the active focus point(s). If the camera thinks the subject is static, it switches to AF-S. If the subject moves, it changes to AF-C. High-end cameras don't have AF-A, as there can be a delay when switching between the two modes, which could result in a shot being missed.
  Best for shooting videos – AF-F
  AF-F (full-time autofocus) automatically tracks subject movement and is constantly focusing during video recording. Use with Face / Eye tracking on a Z series camera for perfect focus.
- **Best for specific focusing requirements – MF**
  MF (manual focus) can help you target your subject more accurately in low-light conditions, such as for a tripod-mounted twilight shot, or with fast-moving subjects travelling down a predictable path, like a car on a race track. It's also good for low-contrast subjects, where autofocus would struggle to focus – for example, where there's little difference in colour between your subject and the background. Useful if you want to use focus peaking (more on that below) or have specific focusing requirements.

Focus Area Modes

Option		Description
PIN	[**Pinpoint AF**]	• With a focus point smaller than that employed for single-point AF, pinpoint AF is used for pinpoint focus on a selected spot in the frame. • Focusing may be slower than with single-point AF. • Recommended for shots involving static subjects, such as buildings, in-studio product photography, or close-ups. • This option is only available when photo mode is selected and [**Single AF**] is chosen for focus mode.
[ ]	[**Single-point AF**]	• The camera focuses on a point selected by the user. • Use with stationary subjects.

Focus Area Modes (Continued)

[S]	[**Dynamic-area AF (S)**]	• The camera focuses on a point selected by the user. If the subject briefly leaves the selected point, the camera will focus based on information from surrounding focus points. • This option is only available when photo mode is selected and [**Continuous AF**] is chosen for focus mode.
[M]	[**Dynamic-area AF (M)**]	• Use for photographs of athletes and other active subjects that are hard to frame using single-point AF. • The size of the area used for focus can be selected from **S** (small), **M** (medium), and **L** (large). **S** is the smallest and **L** the largest. • [**Dynamic-area AF (S)**]: Choose when there is time to compose the photograph or when photographing subjects that are moving predictably (e.g., runners or race cars on a track).
[L]	[**Dynamic-area AF (L)**]	• [**Dynamic-area AF (M)**]: Choose when photographing subjects that are moving unpredictably (e.g., players at a football game). • [**Dynamic-area AF (L)**]: Choose when photographing subjects that are moving quickly and cannot be easily framed in the selected focus point (e.g., birds).

Focus Area Modes (Continued)

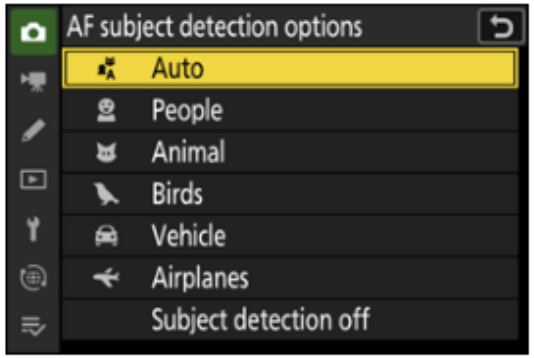
	**[Wide-area AF (S)]**	• As for single-point AF except that the camera focuses on a wider area. • Choose for snapshots, subjects that are in motion, and other subjects that are difficult to photograph using single-point AF. • During video recording, wide-area AF can be used for smooth focus when making panning or tilting shots or filming moving subjects. • If the selected focus point contains subjects at different distances from the camera, the camera will assign priority to the closest subject. • The focus points for [**Wide-area AF (L)**] are larger than those for [**Wide-area AF (S)**].
	**[Wide-area AF (L)]**	

Focus Area Modes (Continued)

[3D]	[**3D-tracking**]	• The camera tracks focus on a selected subject. • Position the focus point over your subject and start tracking by pressing **AF-ON** or by pressing the shutter-release button halfway; focus will then track the selected subject as it moves through the frame. Release the button to end tracking and restore the previously-selected focus point. • If the subject leaves the frame, remove your finger from the shutter-release button and recompose the photograph with the subject in the selected focus point. • This option is only available when photo mode is selected and [**Continuous AF**] is chosen for focus mode.
	[**Subject-tracking AF**]	• Track focus on a selected subject. • Position the focus point over your subject and start tracking by pressing OK or **AF-ON** or by pressing the shutter-release button halfway; focus will then track the selected subject as it moves through the frame. To end tracking and select the center focus point, press OK. • This option is only available in video mode.
	[**Auto-area AF**]	• The camera automatically detects the subject and selects the focus point. • Use on occasions when you don't have time to select the focus point yourself, for portraits, or for snapshots and other spur-of-the-moment photos.

Focus Area Modes (Continued)

Choosing a Subject Type for Autofocus



The class of subjects given priority during autofocus can be chosen using the [**AF subject detection options**] items in the photo shooting and video recording menus, which offer a choice of [**Auto**], [**People**], [**Animal**], [**Birds**], [**Vehicle**], [**Airplanes**], and [**Subject detection off**]. The subject detected by the camera is indicated by a focus point.

- In the case of the video recording menu, the choice of subject is made via [**AF subject detection options**] > [**Subject detection**]. Separate subject types can be selected for photo and video modes.
- Subject detection is available when [**Wide-area AF (S)**], [**Wide-area AF (L)**], [**Wide-area AF (C1)**], [**Wide-area AF (C2)**], [**3D-tracking**], [**Subject-tracking AF**], or [**Auto-area AF**] is selected for [**AF-area mode**].

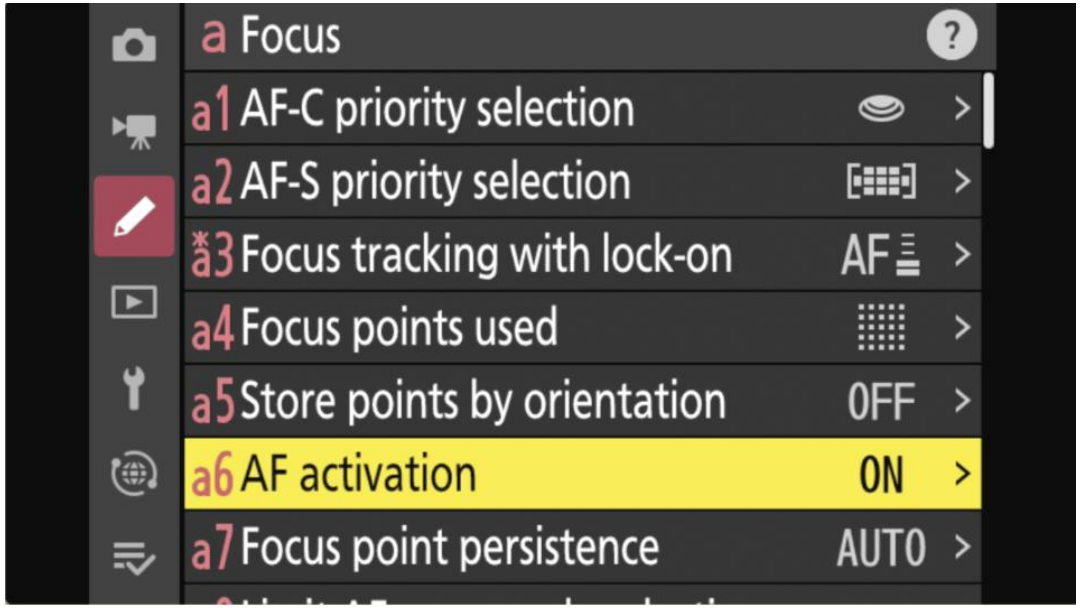
My Use

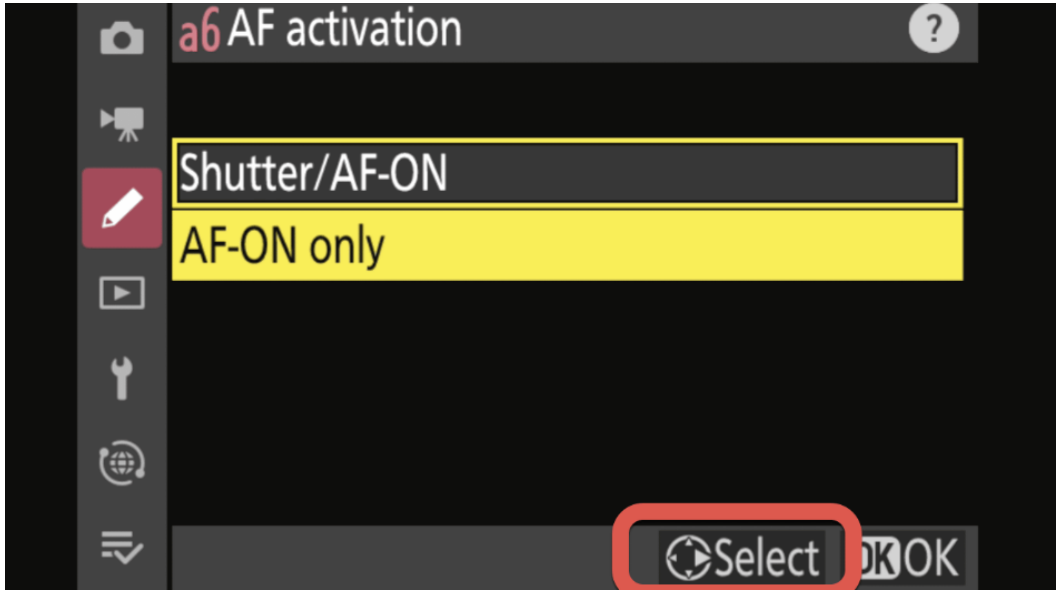
- Back Button Focus
- Single Point - AF for static Subjects
- Wide Area (L) and appropriate subject for animals and people. (Because that is what Alan D. told me to do.

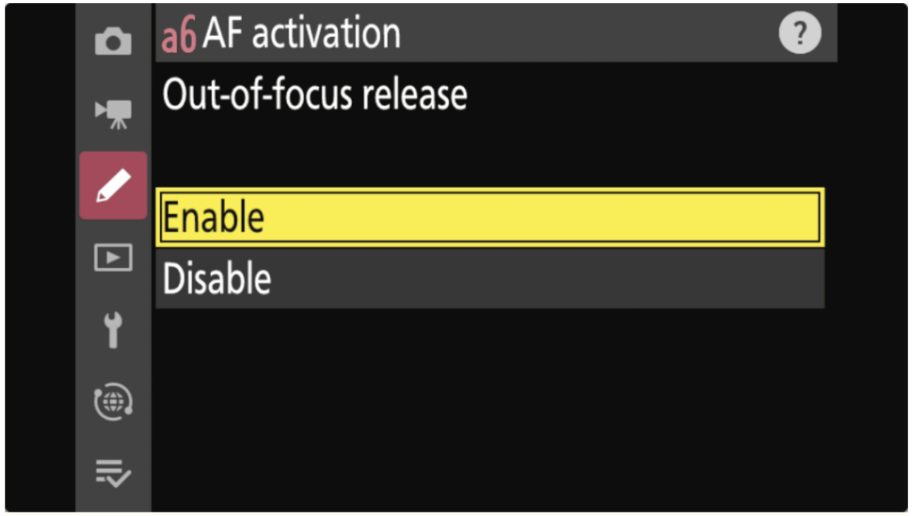
Back Button Focus

- Back Button AF uncouples autofocus from your shutter release and moves it exclusively to a button on the back of your camera (AF-ON for Nikon).
- Setup BBAF (next slide)
- Enable AF-C
- Use
  - Static subject - press AF-ON and release – operates like AF-S
  - Moving subject - press and hold. Press shutter to shoot.
- This is not for everyone and takes some getting used to.
- Inform anyone using your camera.

How to Enable Back Button (Only) Auto Focus on the Nikon Z8







Reference

- Backcountry Gallery - Wildlife Photography By Steve Perry
- Backcountry Gallery Web Store – Backcountry Gallery Web Store
- Secrets To The Nikon Autofocus System: Mirrorless Edition – Backcountry Gallery Web Store
- AF-On And Back Button Autofocus - Backcountry Gallery

Depth of Field
and
Hyperfocus Distance

Dennis Fritsche

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Depth of Field – Portion of the photograph in "acceptable focus"

- Depth of Field determined by
  - Focal length
  - Aperture
  - Distance to subject

- Depth of field calculators online and for phone
  - I use Depth of Field Master online https://www.dofmaster.com/dofjs.html
  - And "Digital Depth of Field" app on my phone
  - PhotoPills – App and Online Depth of Field (DoF) calculator | PhotoPills

Depth of Field (DOF) - Impact of Variables

Parameter	Focal Length	Aperture	Distance
Focal Length	Shorter = Greater DOF	Fixed	Fixed
Aperture	Fixed	Smaller = Greater DOF	Fixed
Distance to Subject	Fixed	Fixed	Longer = Greater DOF

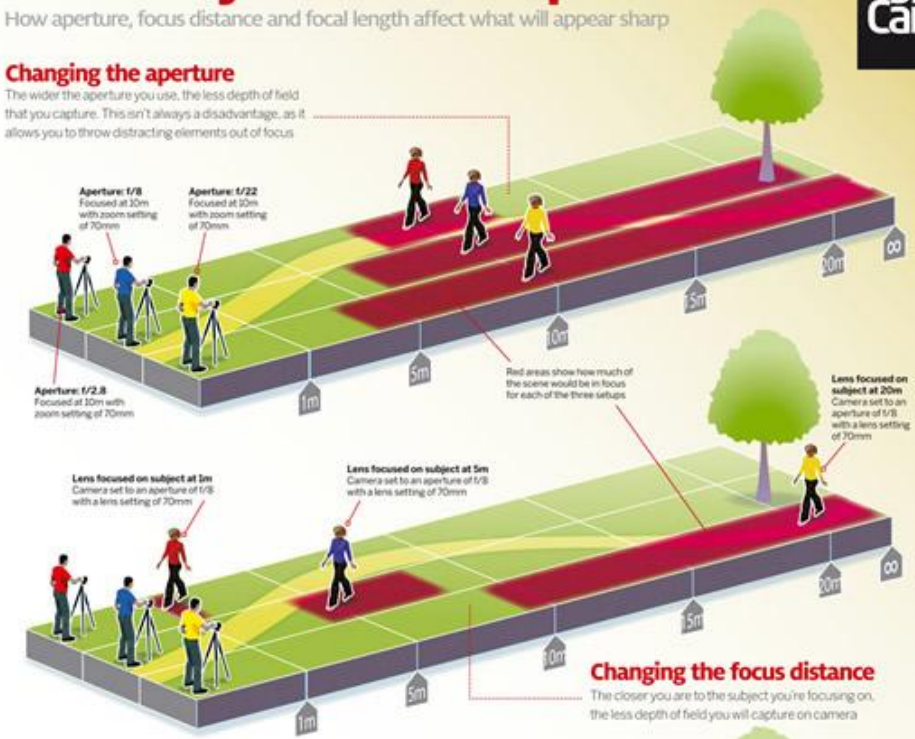
Depth of Field (DoF) calculator | PhotoPills

Three ways to affect depth of field

How aperture, focus distance and focal length affect what will appear sharp

Changing the aperture

The wider the aperture you use, the less depth of field that you capture. This isn't always a disadvantage, as it allows you to throw distracting elements out of focus

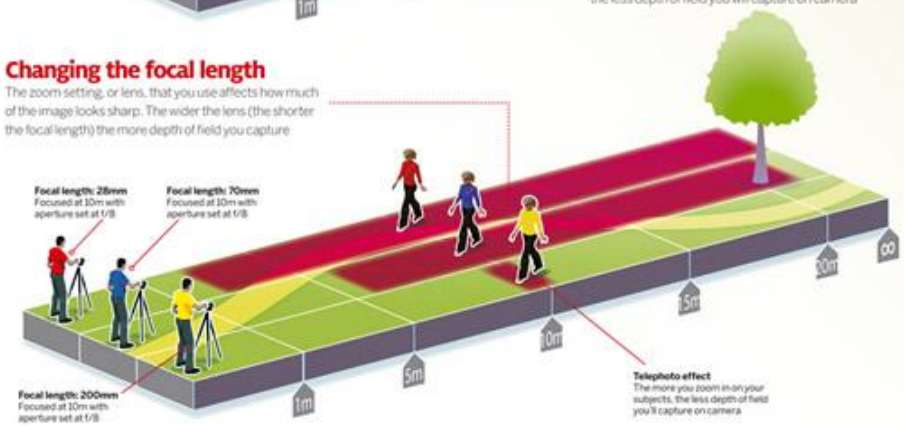


Changing the focus distance

The closer you are to the subject you're focusing on, the less depth of field you will capture on camera

Changing the focal length

The zoom setting, or lens, that you use affects how much of the image looks sharp. The wider the lens (the shorter the focal length) the more depth of field you capture



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How aperture, focus distance and focal length affect what will appear sharp

Digital Camera World

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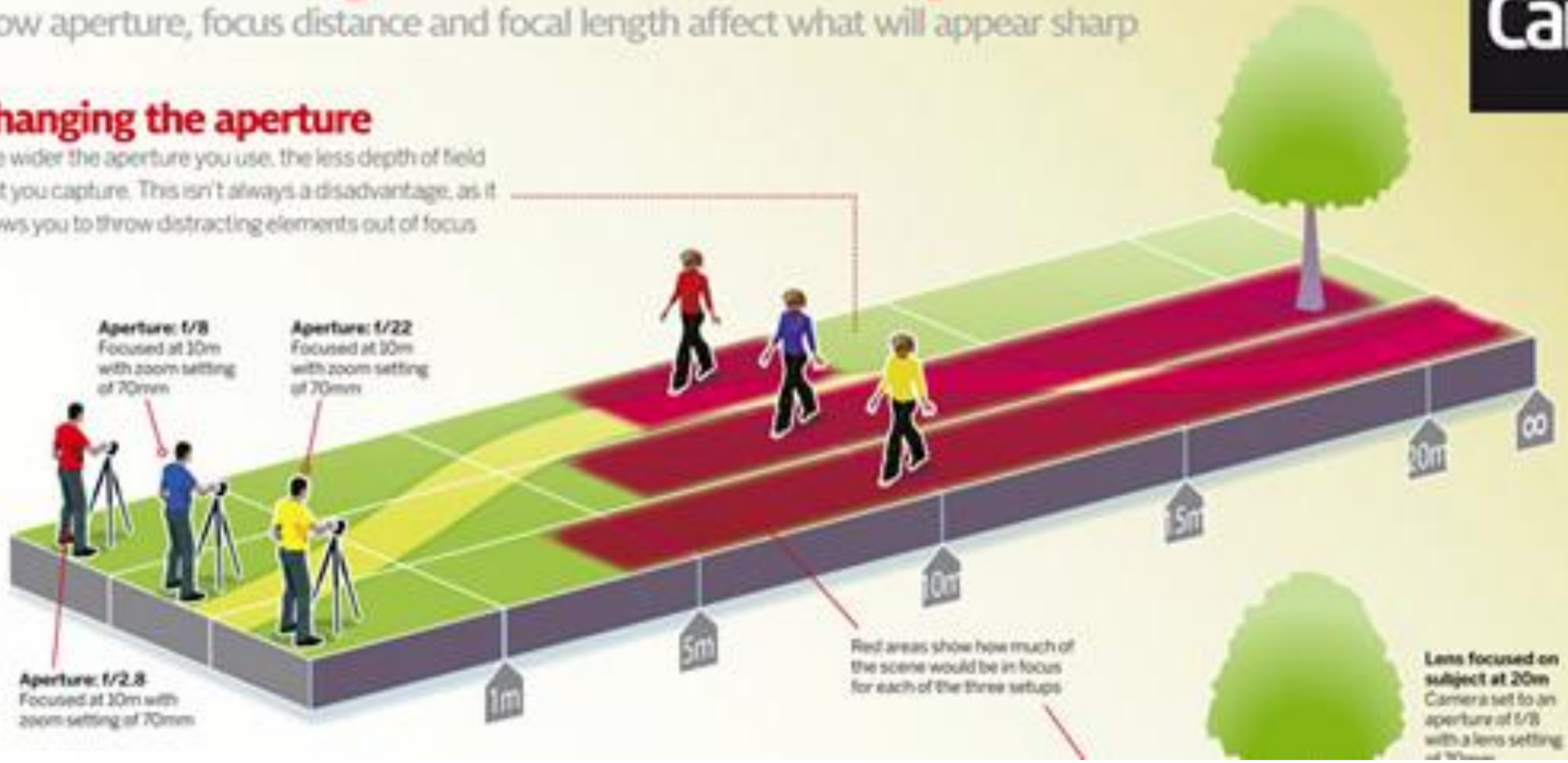

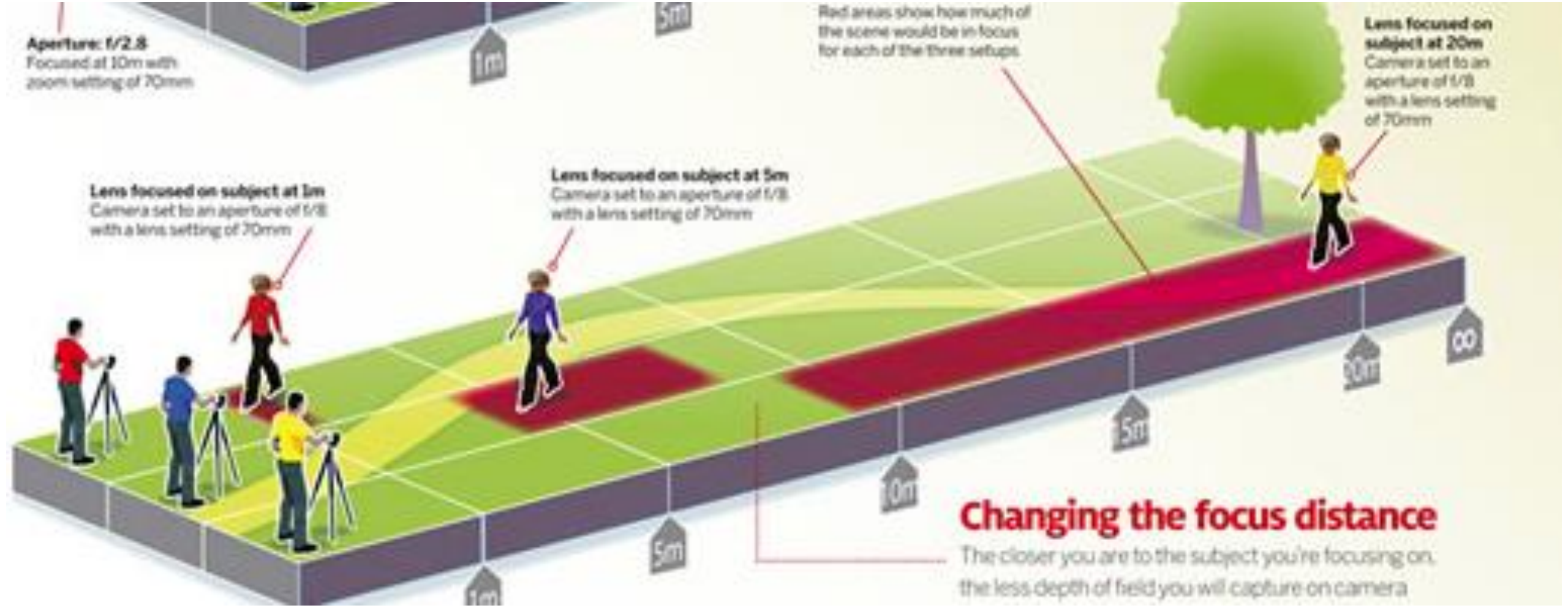
Aperture: f/2.8
Focused at 10m with zoom setting of 70mm
1m
5m
Red areas show how much of the scene would be in focus for each of the three setups
Lens focused on subject at 20m
Camera set to an aperture of f/8 with a lens setting of 70mm
Lens focused on subject at 1m
Camera set to an aperture of f/8 with a lens setting of 70mm
Lens focused on subject at 5m
Camera set to an aperture of f/8 with a lens setting of 70mm
1m
5m
10m
20m
∞
Changing the focus distance
The closer you are to the subject you're focusing on, the less depth of field you will capture on camera

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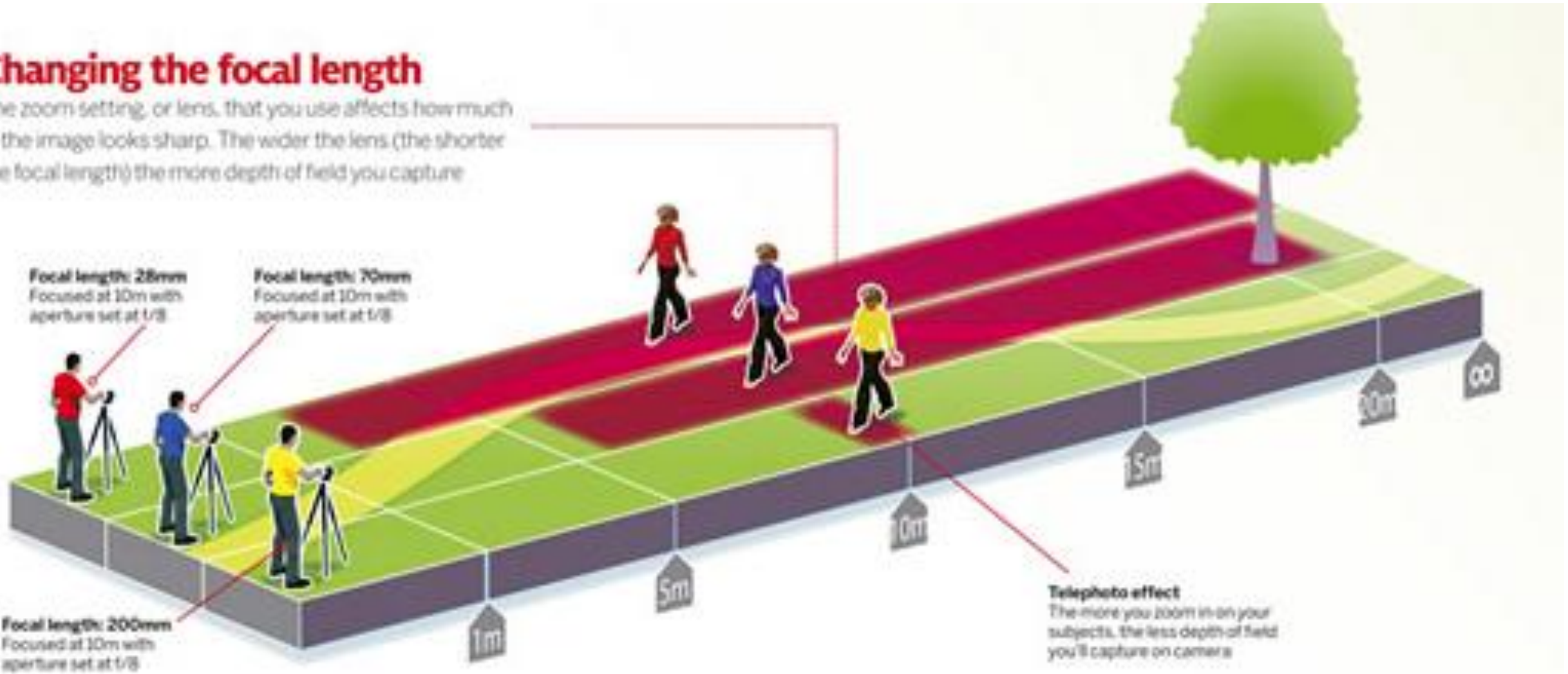
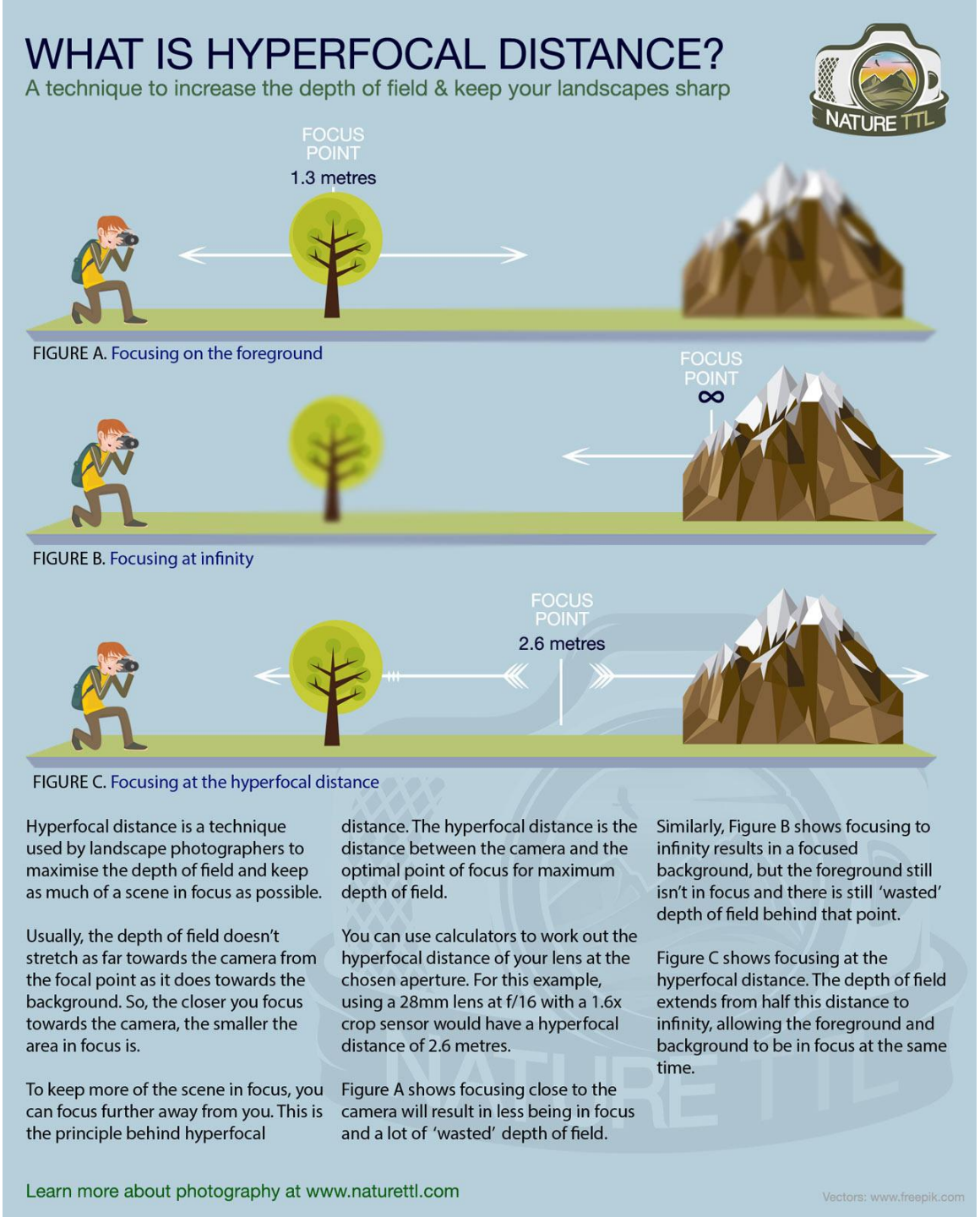


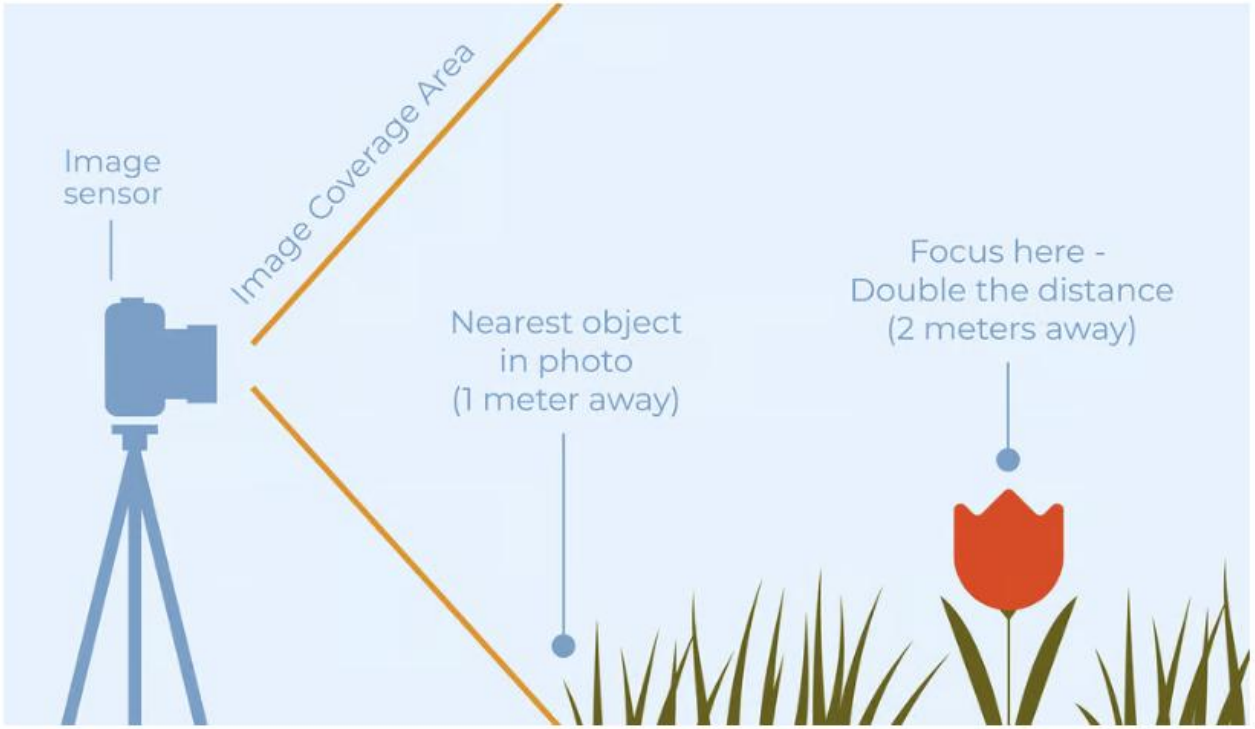
Hyperfocal distance:

Hyperfocal distance: The closest distance at which a lens can be focused while keeping objects at infinity acceptably sharp. When the lens is focused at this distance, all objects at distances from half of the hyperfocal distance out to infinity will be acceptably sharp.



Rule of Thumb 1

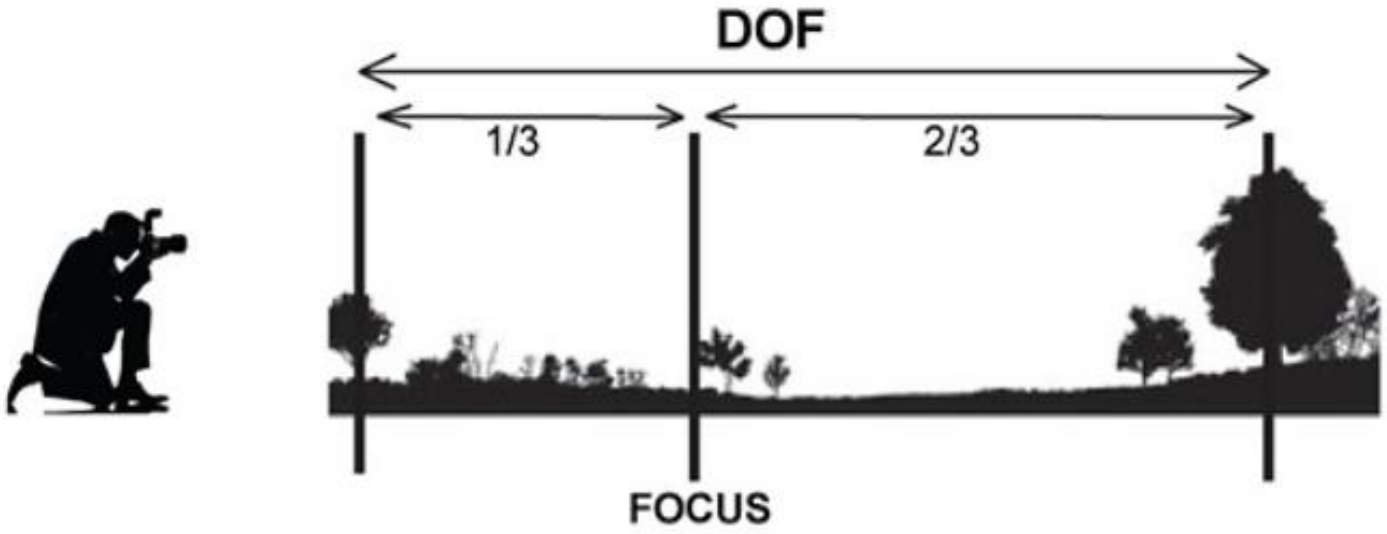
- If you have a close object, focus at twice the distance to the closest object.



From Photographylife.com

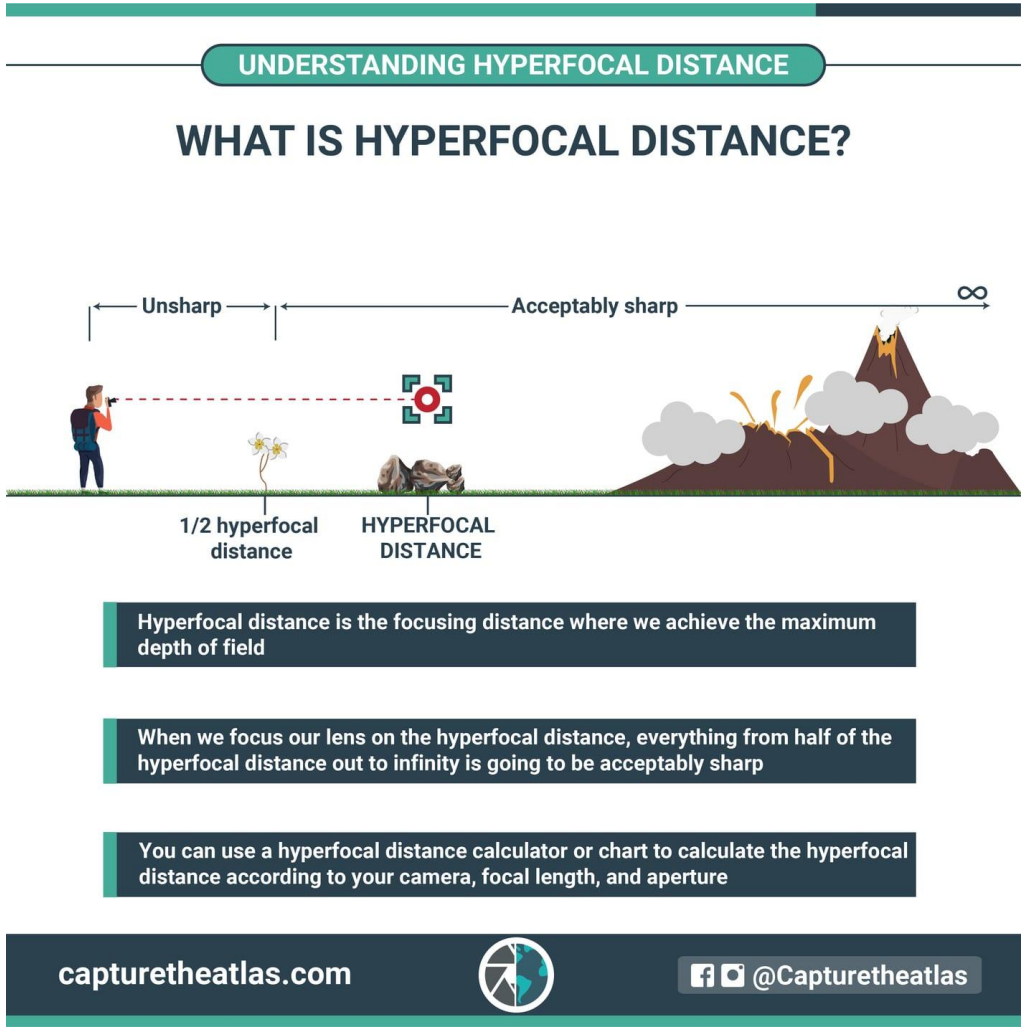
Rule of Thumb 2

- For distant subjects, focus 1/3 of the way into the scene.



Rule Thumb 1

- [Understanding Hyperfocal Distance in Photography-How it Works? (capturetheatlas.com)]
- ***Focus twice the distance as the nearest object you want in focus.***



Rule of Thumb 1

- *For photo with a near object.*
- *Focus twice the distance to the near object.*

Rule of Thumb 2

- For photo with no near objects
- *Focus 1/3 of the way into the scene.*