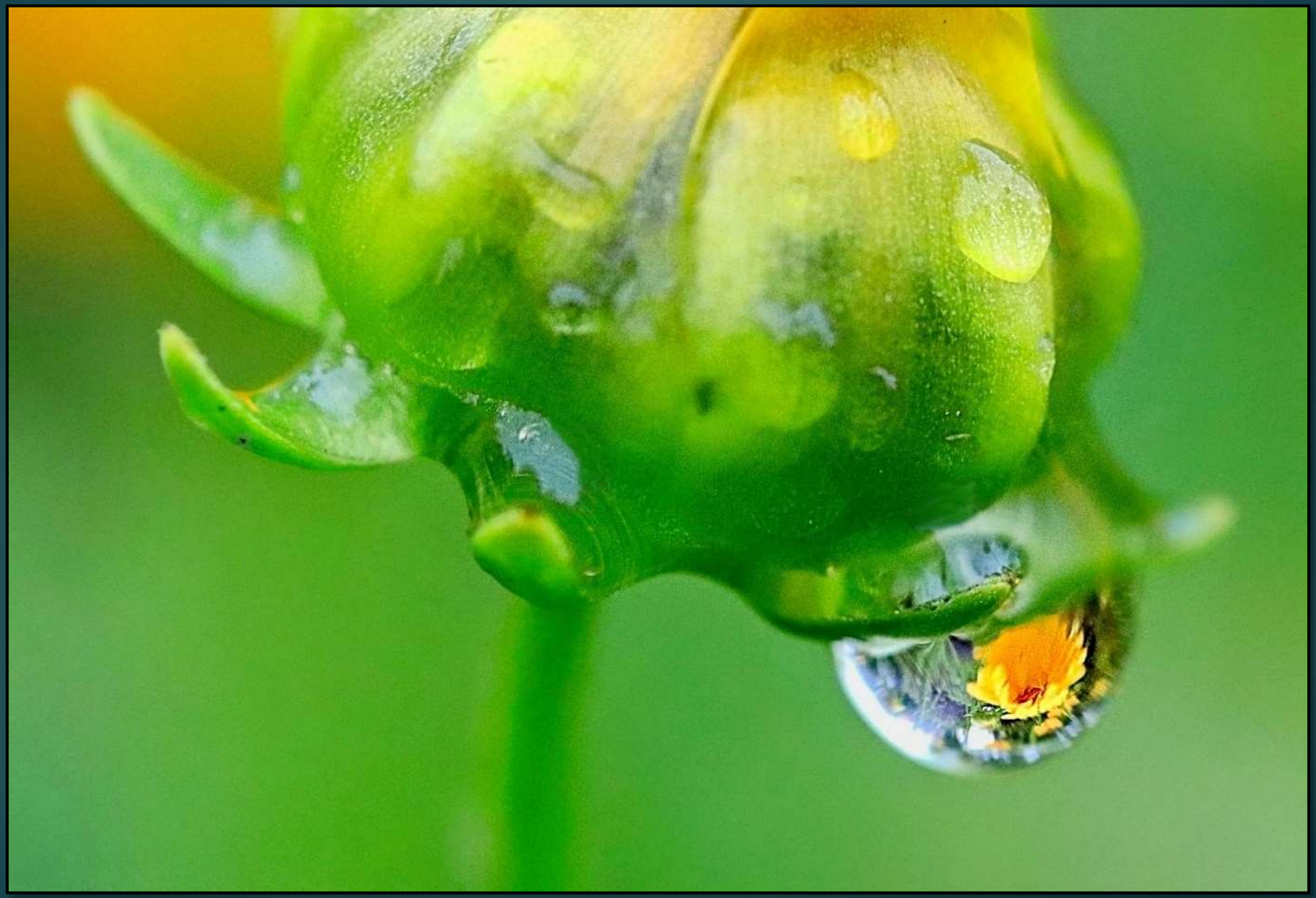
Macro photography

PHOTOS BY LYNDA BUSKE

Outline

- What is close up or macro photography?
- What gear do you need (or not need)?
- The importance of depth of field in close up photos
- Factors that affect the depth of field (focal distance, focal length, aperture).
- Tips for capturing certain subjects in every season.

60mm
macro



60mm
macro

Nifty 50 (50mm)

Cell phone set to portrait mode for soft bokeh

105mm macro

105mm macro

How to take a close-up shot

- Get as close as your lens permits and then crop
- Stand further back and zoom as close as your lens permits, crop
- Set your phone to portrait and zoom if possible and/or crop
- Add an extension tube to your regular lens
- Add a close up lens/filter to your regular lens
- Use a dedicated macro lens
- Bridge or point/shoot camera in macro mode

Extension tubes

- Available for any camera with interchangeable lenses
  - inexpensive
  - can vary how close you can focus by stacking tubes
- **But**:
  - may lose auto-focus and auto-exposure capability
  - can't focus on infinity
  - check product description carefully
- Cost: $25 - $250

Close up lenses / filters

- Works with any lens that can accept screw-on filters
- Buy the same size as filter size of your lens
- Typically comes in sets of three or four with different magnifications
- **But**:
  - Lower-quality close up lenses may cause loss of sharpness and lens aberrations
  - Can't focus on infinity
- Cost: $25 - $200+

Macro lens

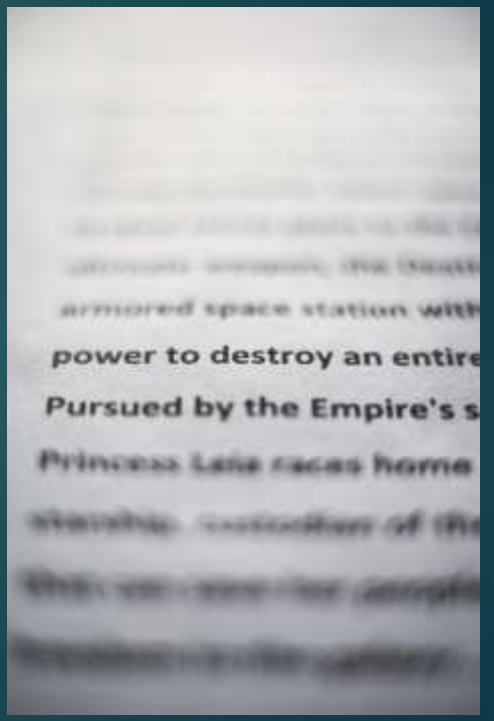
- Specially designed lens to permit close focus
  - true macro permits at least 1:1 magnification, i.e. 1 cm object is rendered as 1cm on the sensor
  - some macro lenses permit larger than 1:1 magnification
- Can also be used as a "normal" lens so can focus at infinity (not possible if using extension tubes or filters)
- Macro lenses are "primes", i.e. a fixed focal length so no zoom
- Can be heavy and bulky
- Cost: $350 and up
  - In many cases, a "macro" version of a lens is comparable in price to a "non-macro" version

Additional gear

- Lenses, hoods
- Ring light
- Tripod
- Closeup filter or extension tubes
- Focusing rail
- Articulated screen
- Plastic bag
- Bean bag
- Lens wipes in case you got too close

Depth of field

- Macro photography is all about close focus
- As your point-of-focus moves closer to the camera, the depth of field (the amount of your image in sharp focus) decreases dramatically
- Macro images have razor-thin depth-of-field
- Smaller apertures (high f/stop) increase the depth of field




Cluttered background


Better but not ideal

General effect of aperture on depth of field
(amount of image in sharp focus)

Example with a Canon APS-C camera (DSLR)

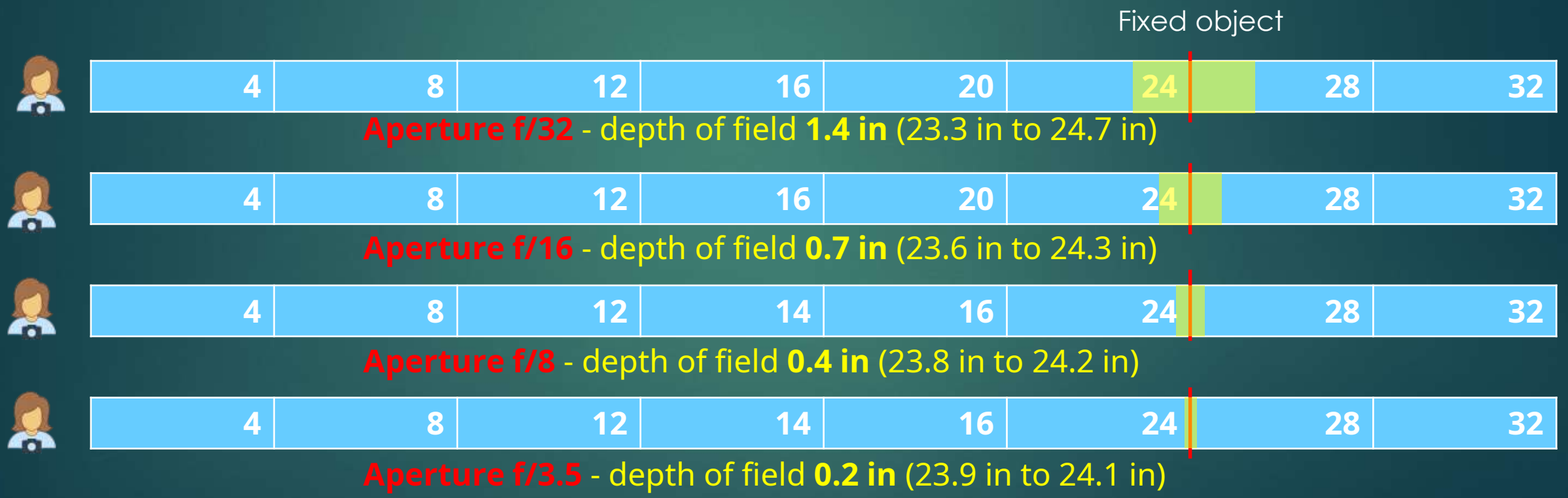
- Focus point 25 feet, lens focal length: 100mm

https://www.pointsinfocus.com/tools/depth-of-field-and-equivalent-lens-calculator/

Effect of aperture on depth of field (close focus)
(amount of image in sharp focus)

Example with a Canon APS-C camera (DSLR)

- Focus point 24 inches, lens focal length: 100mm



https://www.pointsinfocus.com/tools/depth-of-field-and-equivalent-lens-calculator/

Zoomed to 170mm with 24 to 200mm lens

f10

f6

f/14

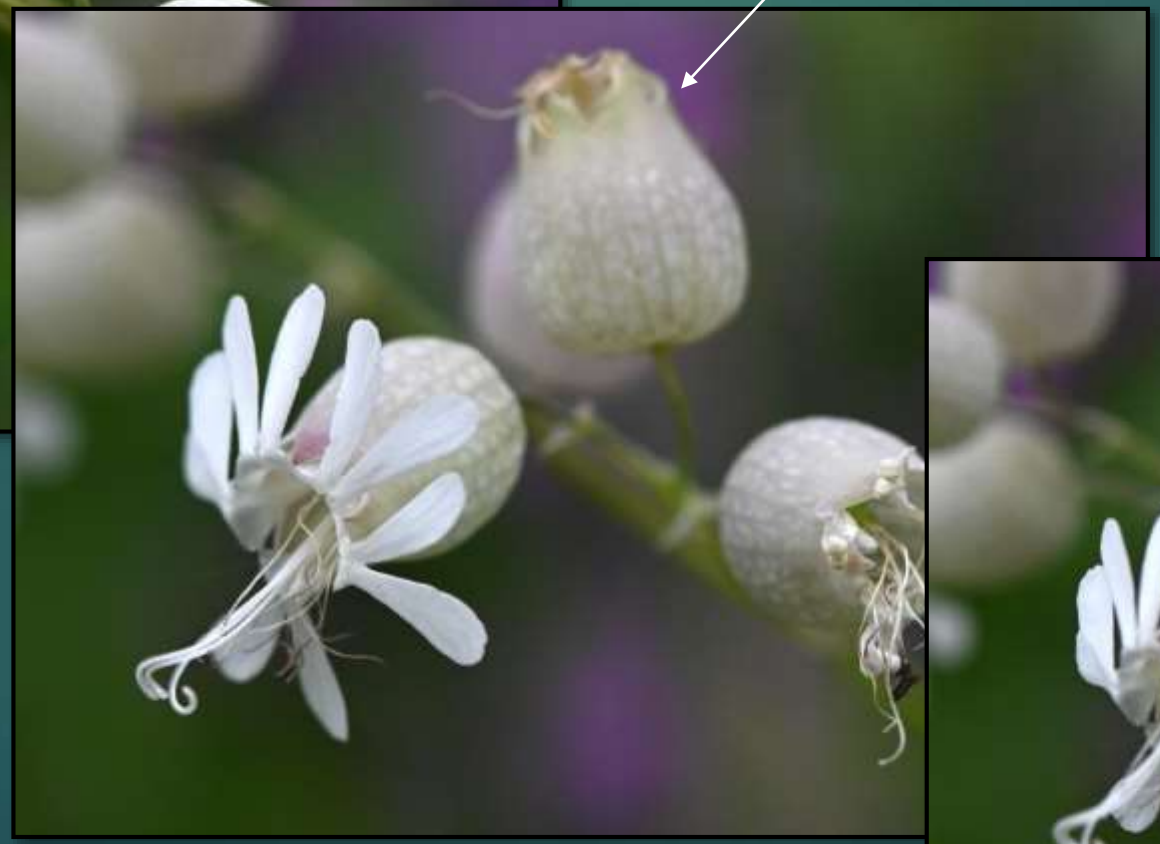
105mm macro

Lost focus

f/10

Lost focus

f/9

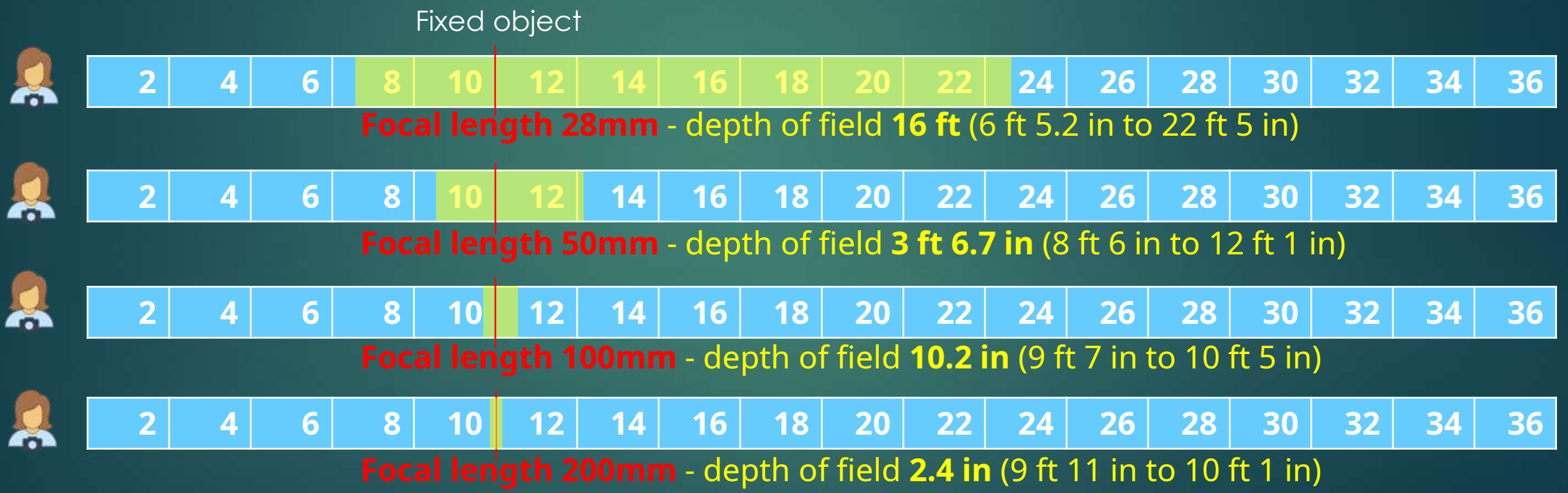


f/14

Effect of focal length on depth of field (amount of image in sharp focus)

Example with a Canon APS-C camera (DSLR)

- aperture: f/8, distance to focus point 10 feet



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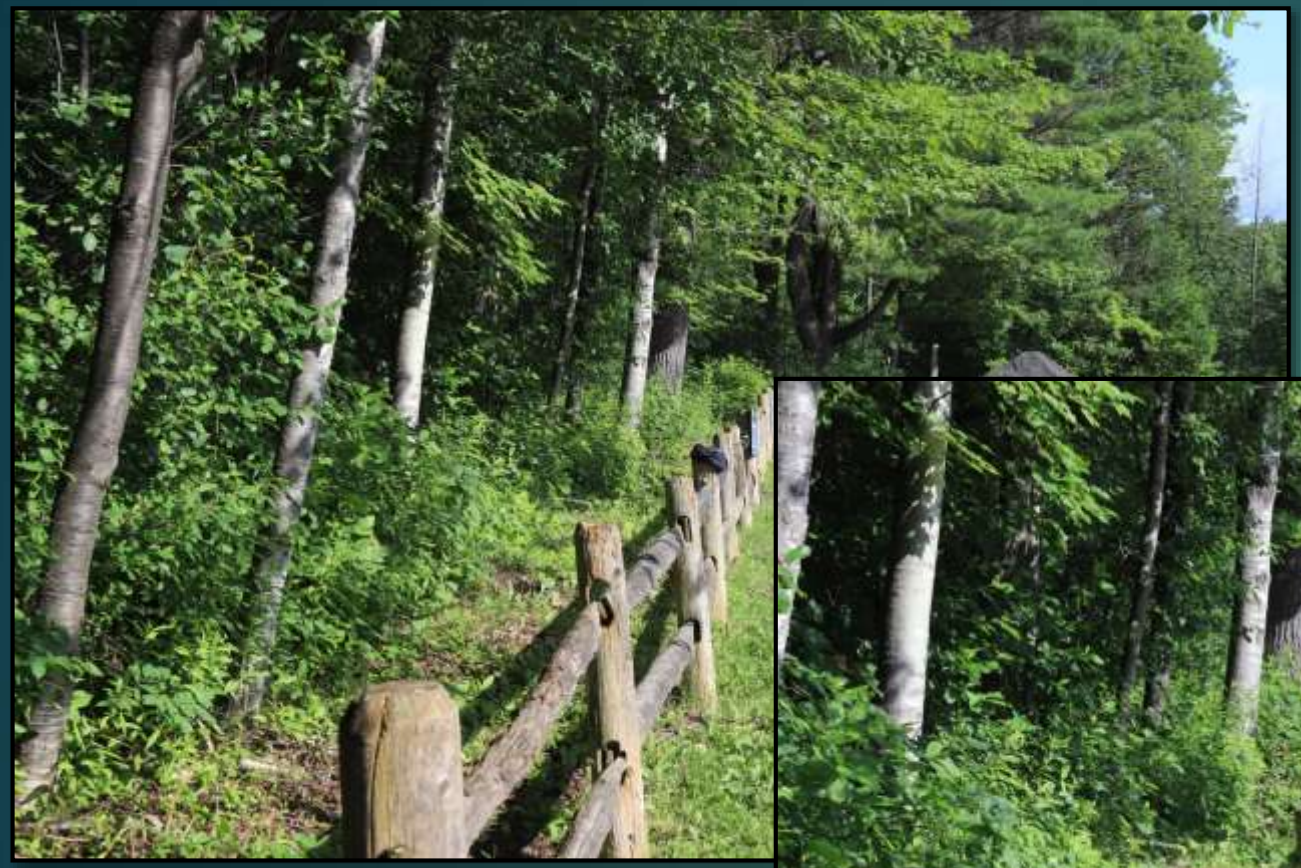
All taken at f/8 – I did not move



28mm

50mm

180mm


50mm
f/5


180mm
f/5

Effect of distance on depth of field
(amount of image in sharp focus)

Example with a Canon APS-C camera (DSLR)

- aperture: f/8, lens focal length: 100mm

https://www.pointsinfocus.com/tools/depth-of-field-and-equivalent-lens-calculator/

All taken with 105 mm lens and f/9 – I moved

30 ft

10 ft

5 ft

3 ft

Effect of distance on depth of field
(amount of image in sharp focus)

Example with a Canon APS-C camera (DSLR)

- aperture: f/22, lens focal length: 100mm

https://www.pointsinfocus.com/tools/depth-of-field-and-equivalent-lens-calculator/

Both taken at f/10,
105mm

Better separation
between subject
and background

Find an interesting background

f/14, 105mm macro

f/5, 105mm macro

Huh? The power of separation

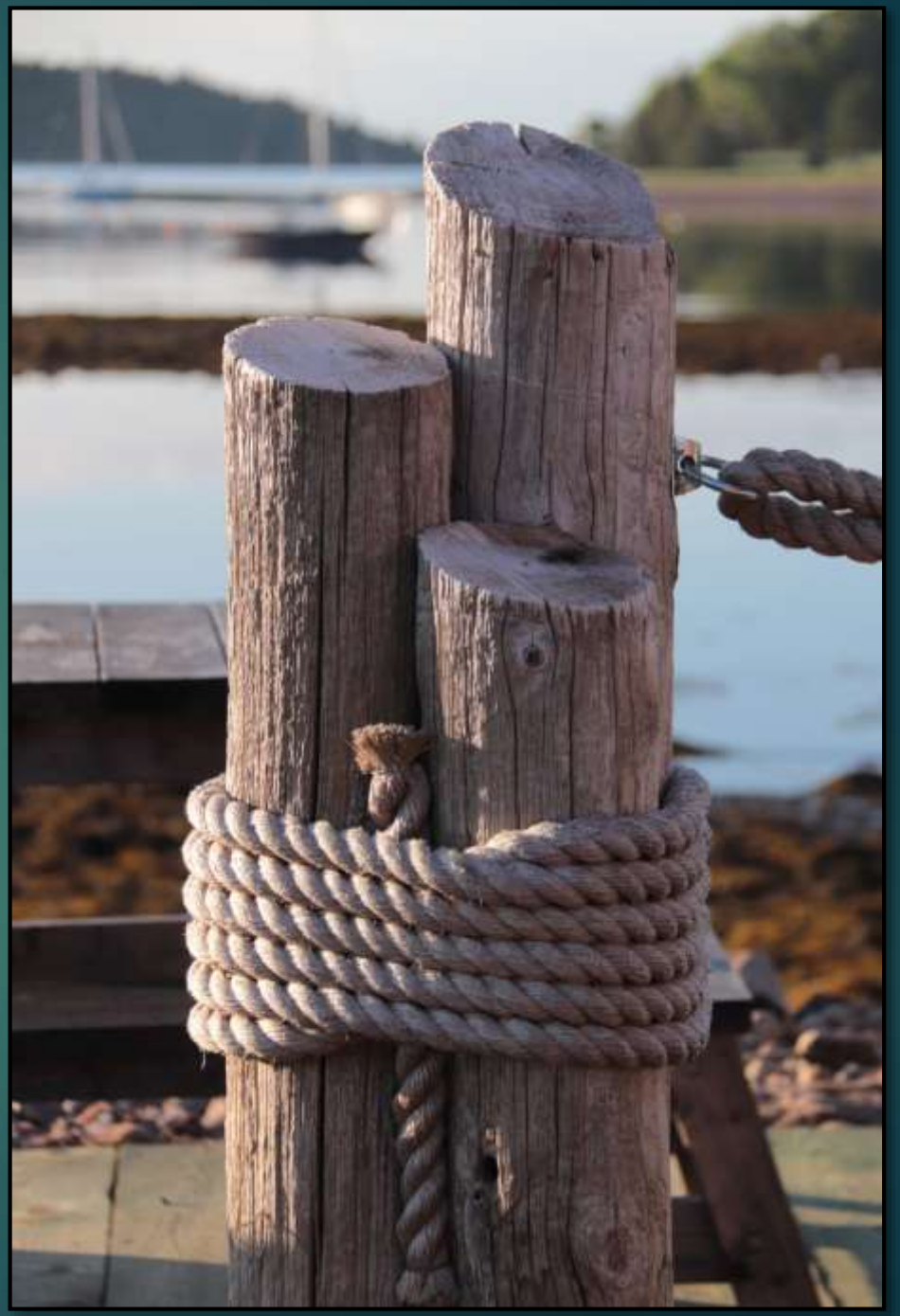
When you do want everything in focus, try focus stacking

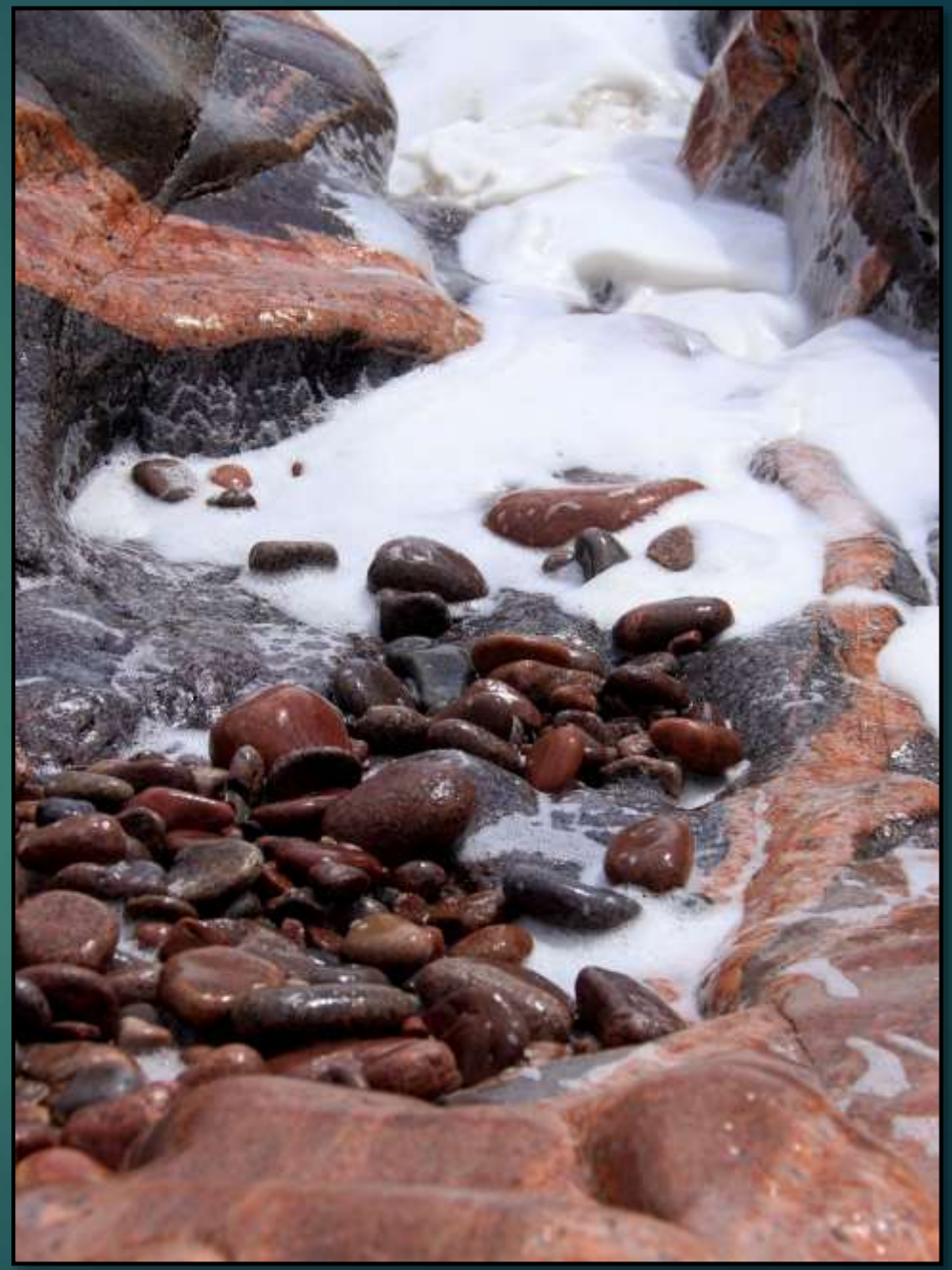
Close focus

Far focus

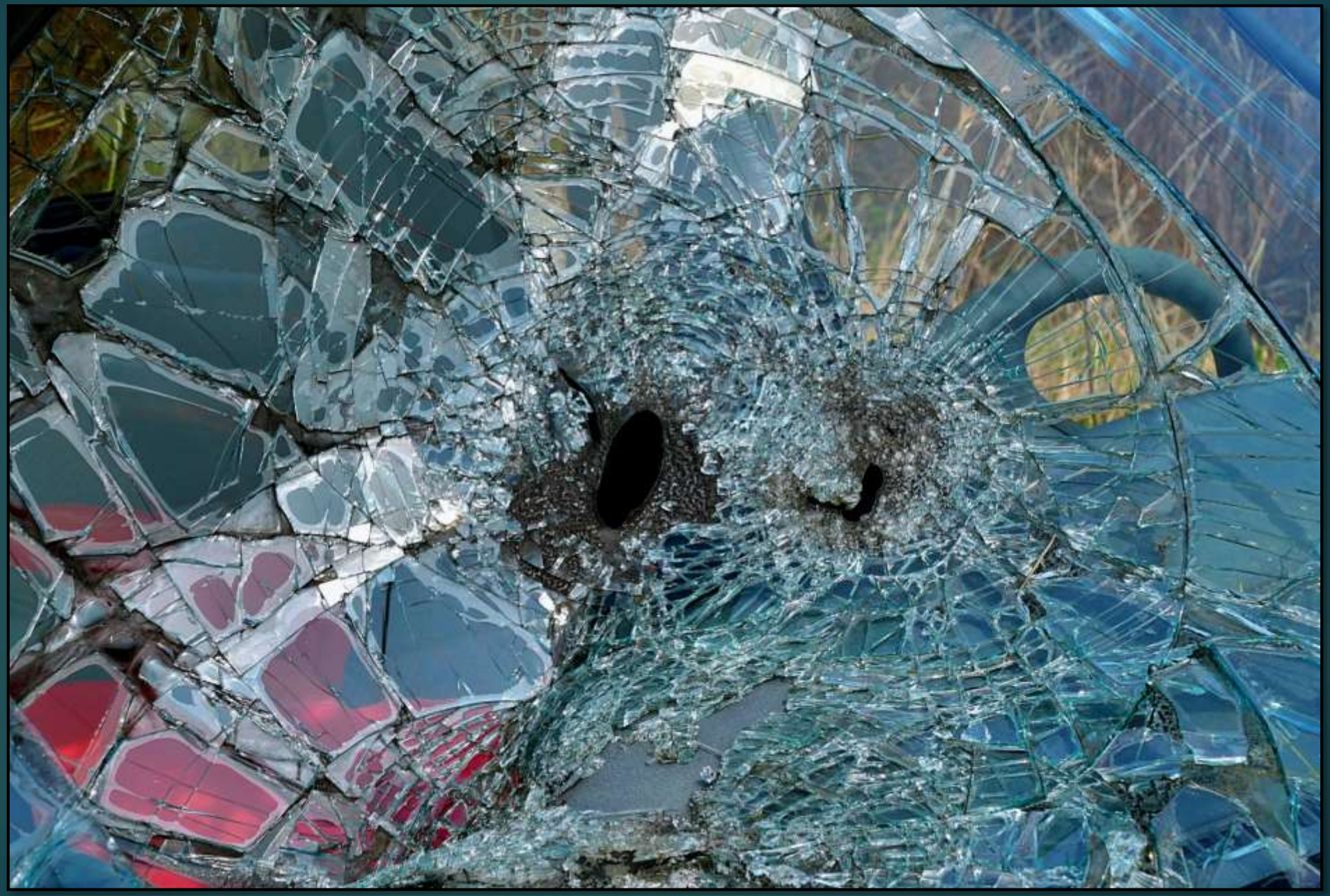
Focus stack of 40 separate images

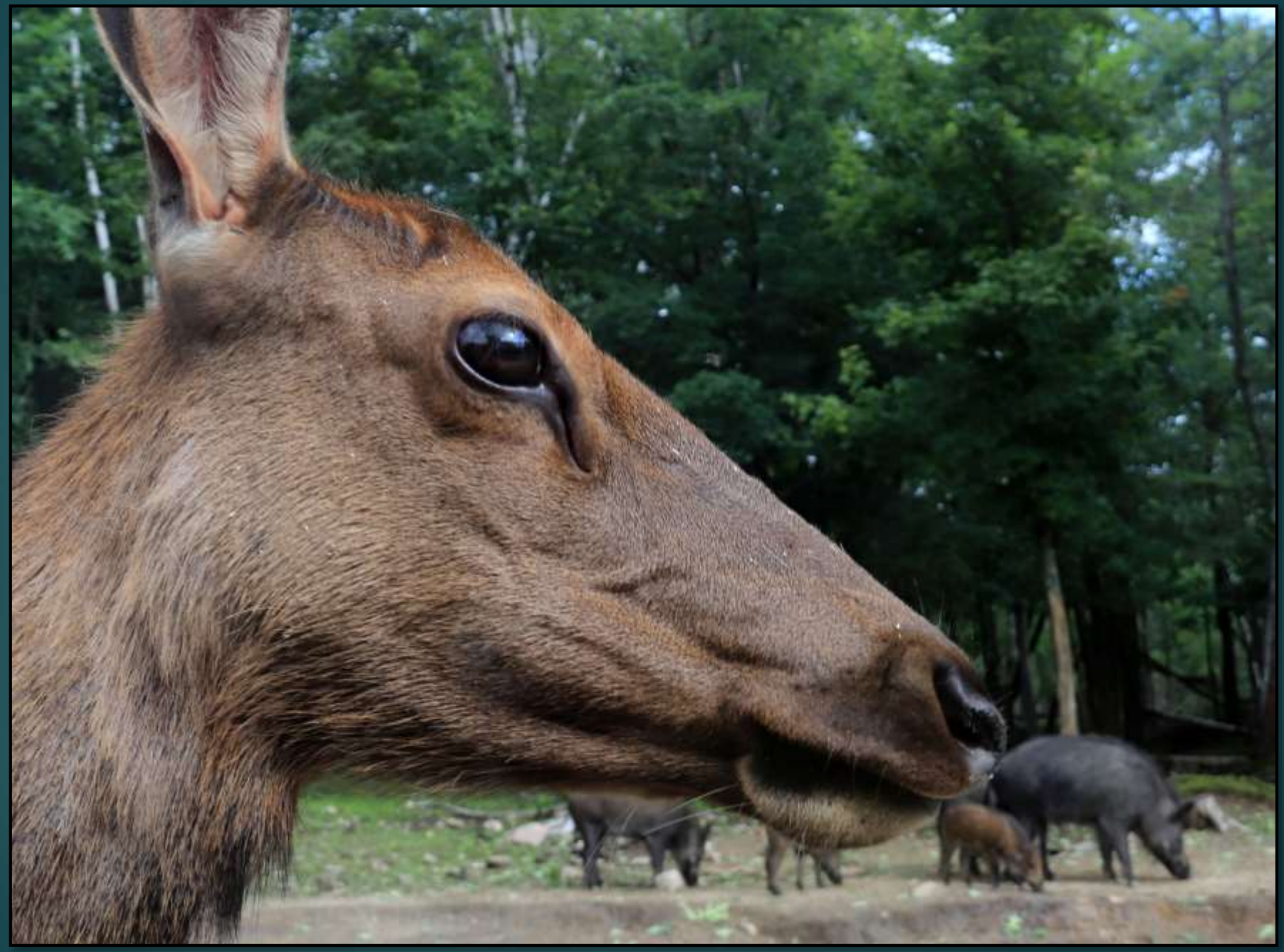
Take advantage of low angle light

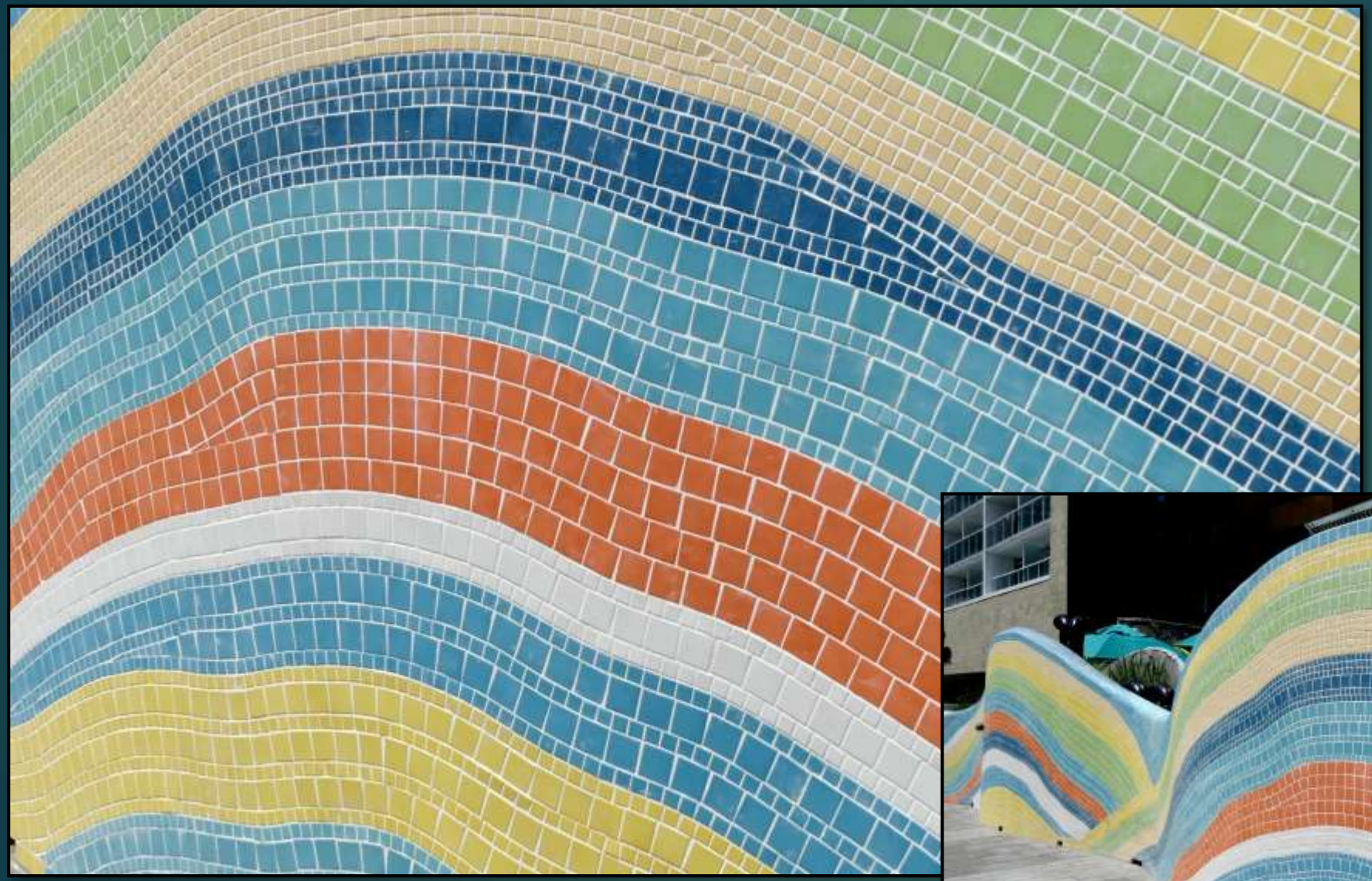


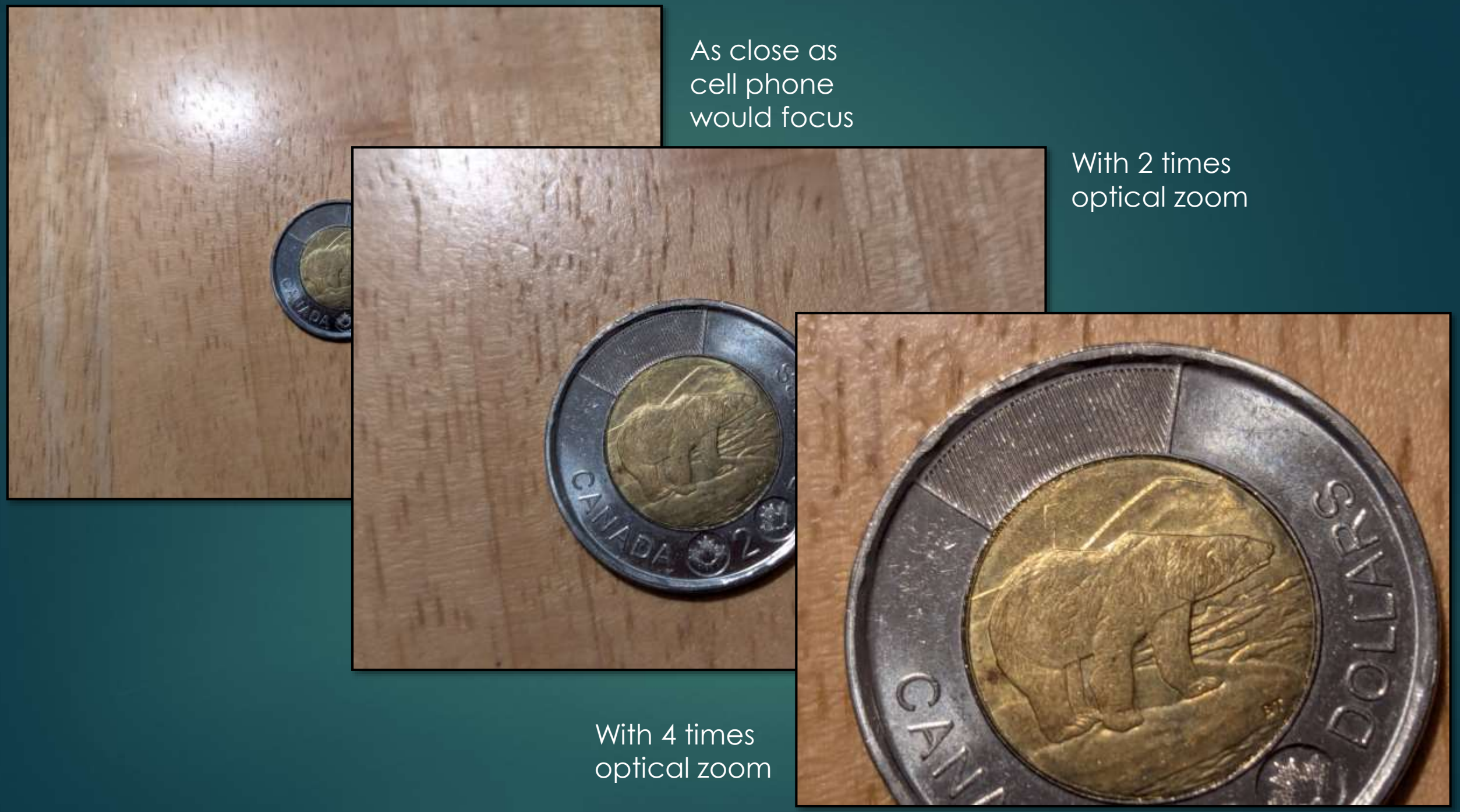



CAMEL








As close as cell phone would focus
With 2 times optical zoom
With 4 times optical zoom
CANADA
2
DOLLARS

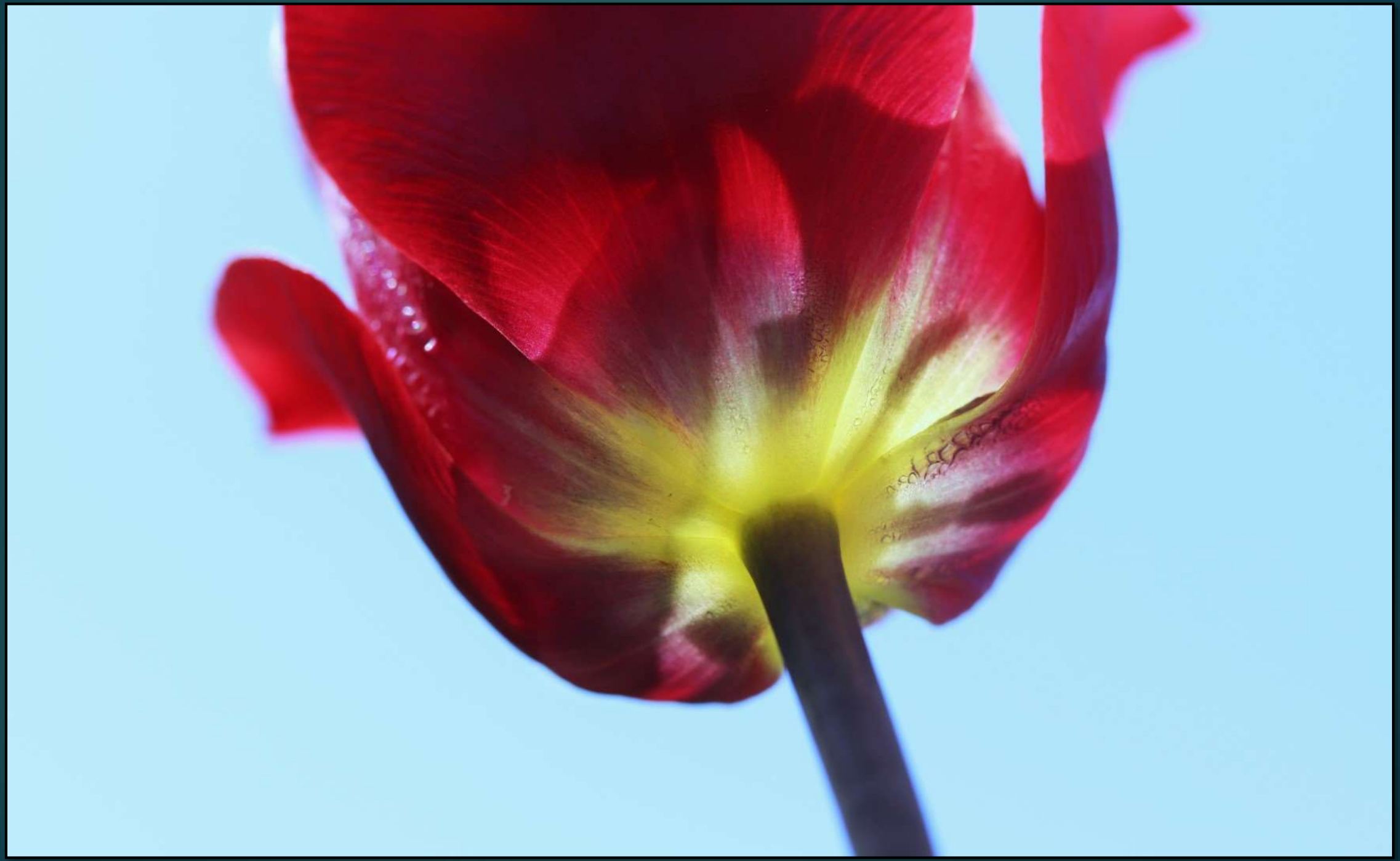
Close ups in SPRING

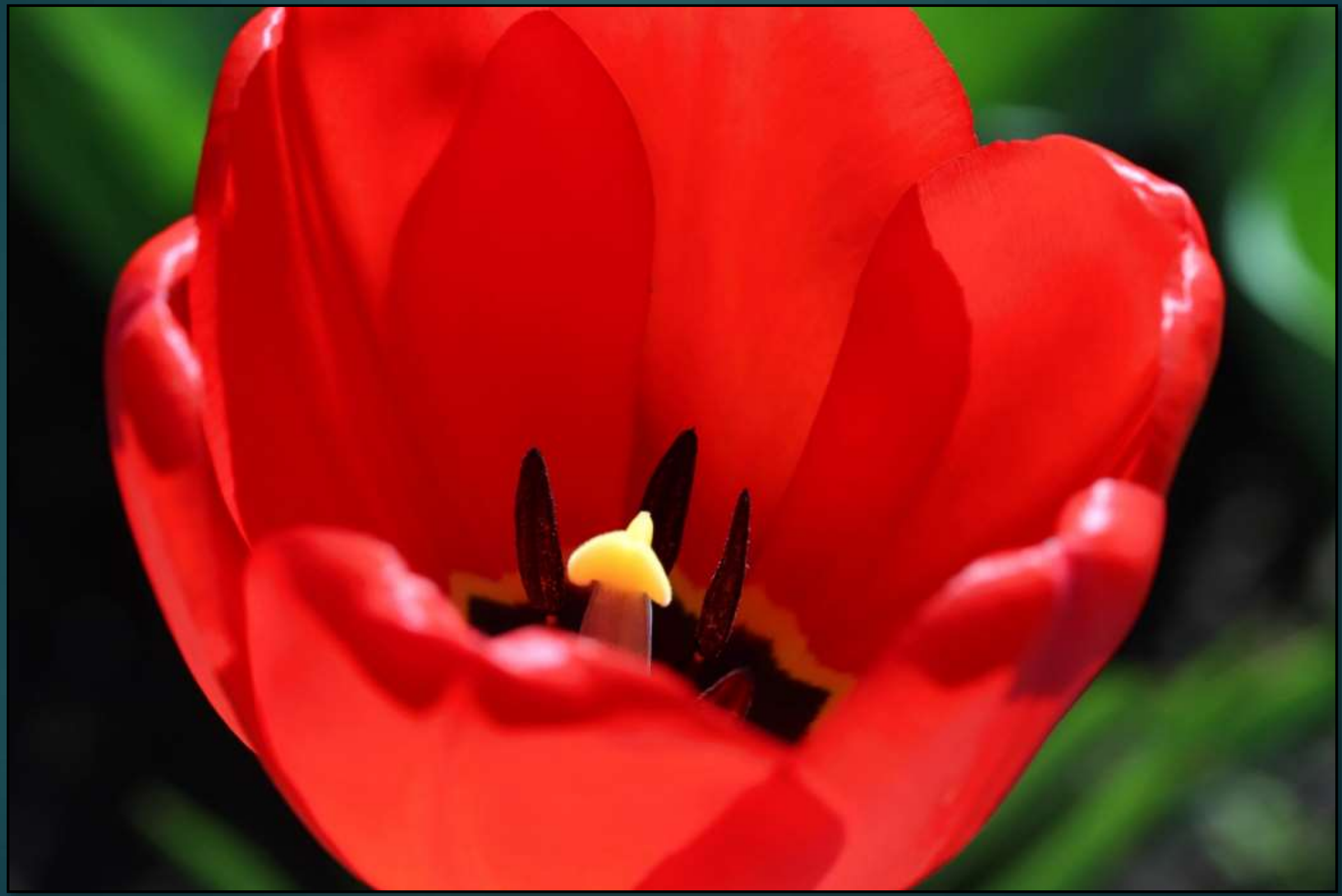
Clean up edges cell phone missed

Get down low!

How not to shoot tulips

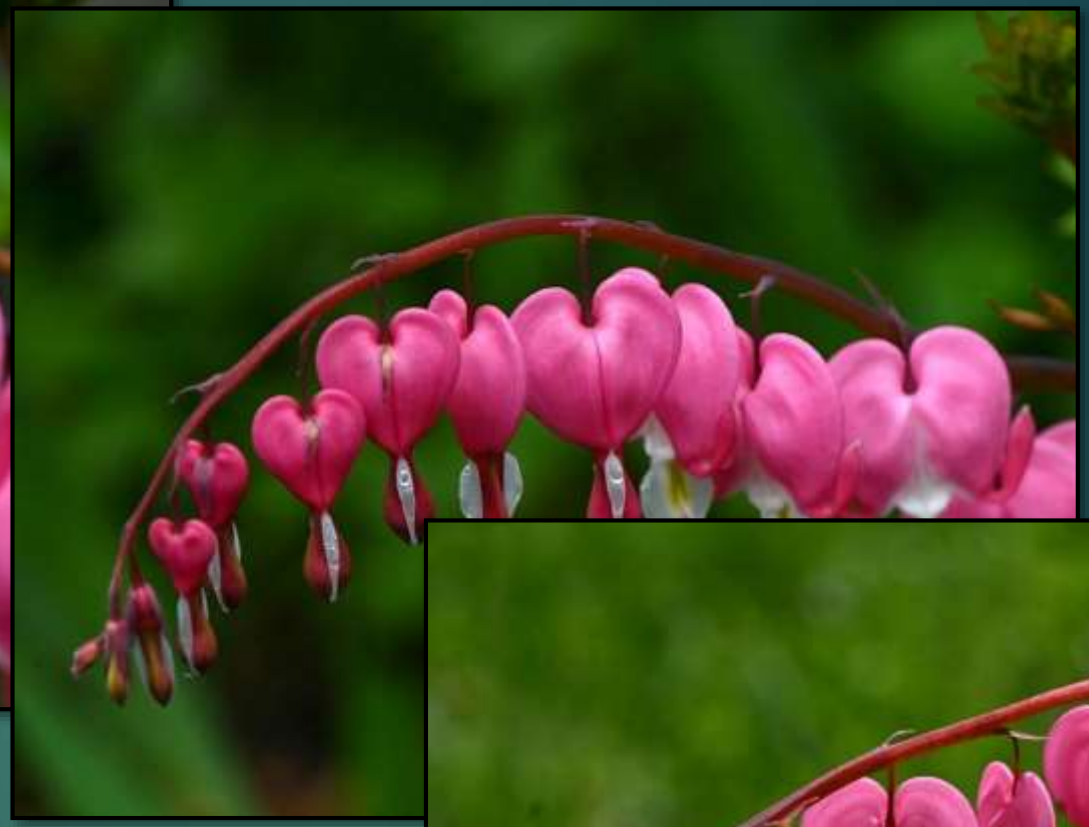
Find the light and get low





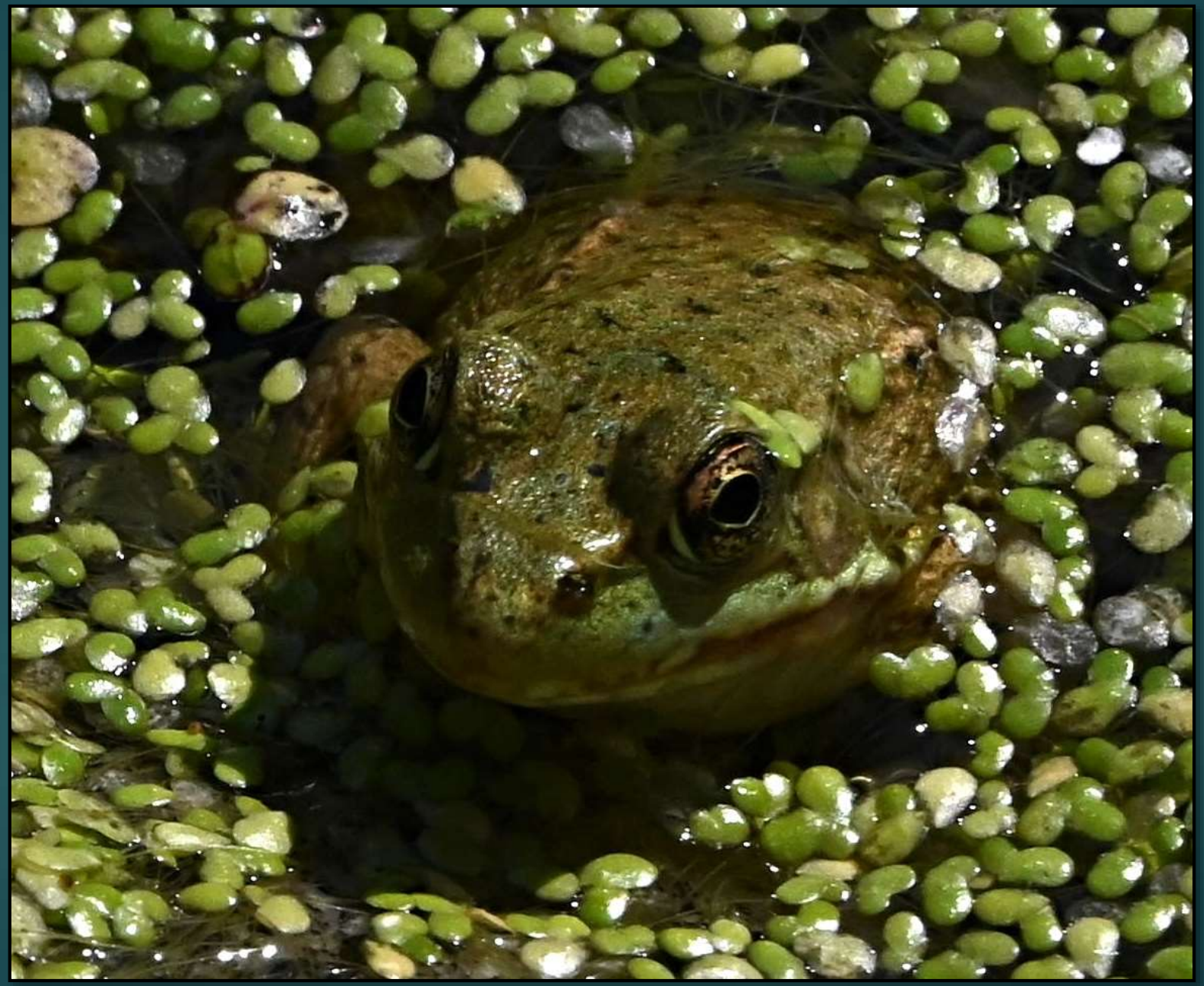
Close ups in SUMMER

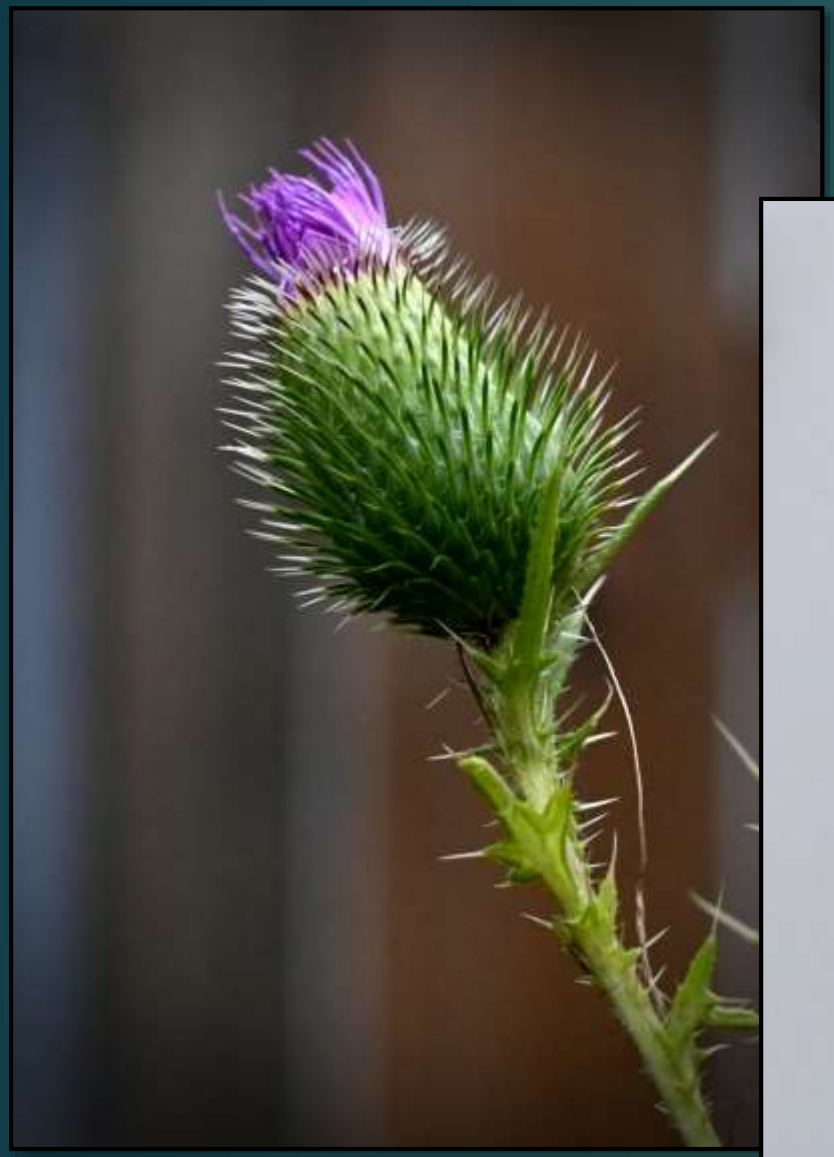
Remove ring
light refractions



Work the scene - try different angles

Watch what's in the reflection





How did I get this background?

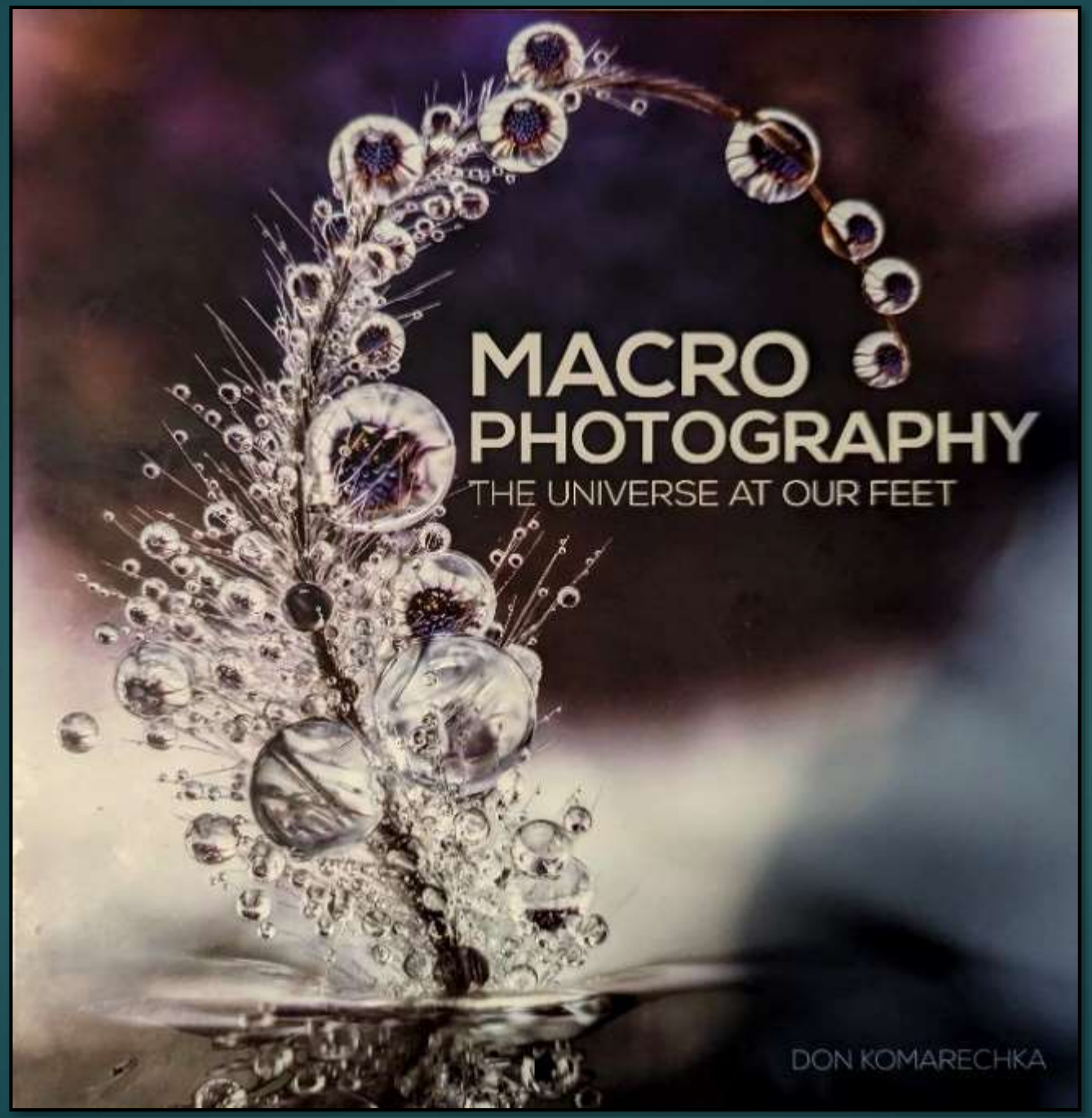
Used the side of an RV!

Close ups in autumn

Close ups in winter

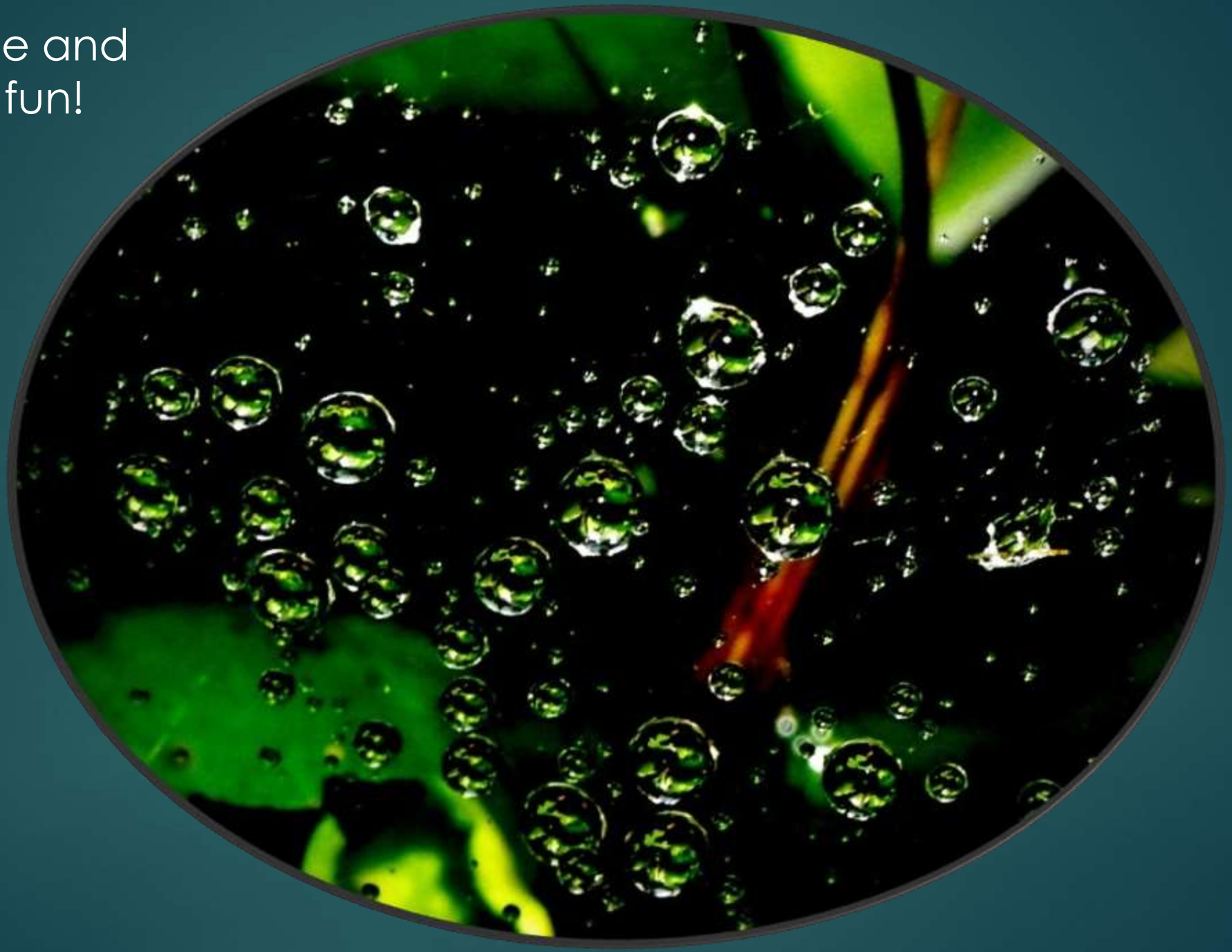
As with all photography, avoid tunnel vision

Macro plans did not work out but I did not waste the morning!



Don Komarechka.
www.donkom.ca

Be brave and have fun!



Club Photo ORLÉANS Photo Club

OrleansPhotoClb

Orleans Photo Club

Orleans_Photo_Club

- Monthly meetings, Saturday morning
- Some in-person, some zoom
- Monthly challenges/competitions (optional)
- Regular outings and workshops
- Excellent speakers from Can & USA
- Queenswood Heights Community Centre, Dufour Dr
- $50 per year

https://cpopc.ca

This deck in pdf format:

https://opcug.ca/opl/macrophotos.pdf

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Thank You