Depth of Field and Selective Focus

What is Depth of Field?

What is Depth of Field?

The area of the image
that is in focus.

What is Depth of Field?

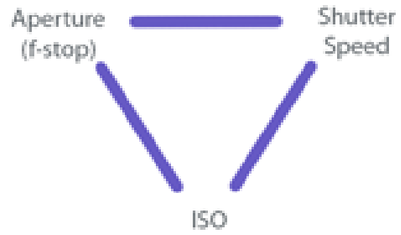
The area of the image
that is in focus.

The greater the area in focus,
the greater the depth of field.

Three things affect depth of field:

1. Aperture/F-Stop
2. Focal Length of Lens
3. Proximity to Subject

3 Elements of Expoure



Aperture and Depth of Field

Large diameter
Low f-stop (<f5.6)
Less depth of field

Small diameter
High f-stop (f11+)
Greater depth of field

Aperture

Lower f-stop means wider aperture and more light,
but less depth of field

Higher f-stop means smaller aperture and less light,
but greater depth of field

F4.0

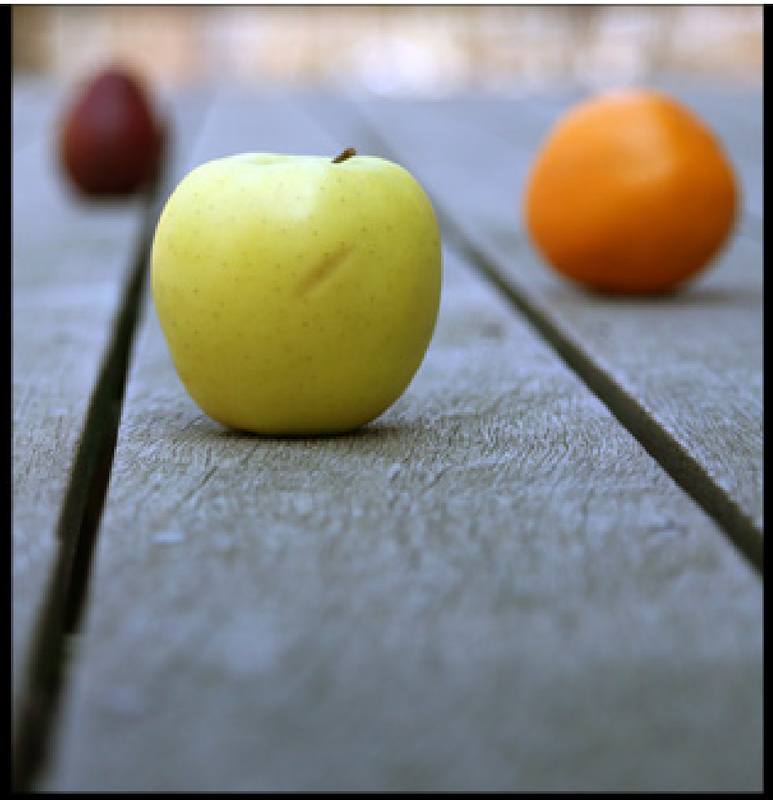
F4.0

F11

F4.0

F11

F20



F4

F4

F8

F4

F8

F20

35mm at f22

The length of the lens
also affects depth of field.

A shorter lens will have
greater depth of field than
a longer lens.

35mm at f22

35mm at f4

105mm at f22

105mm at f22

105mm at f4

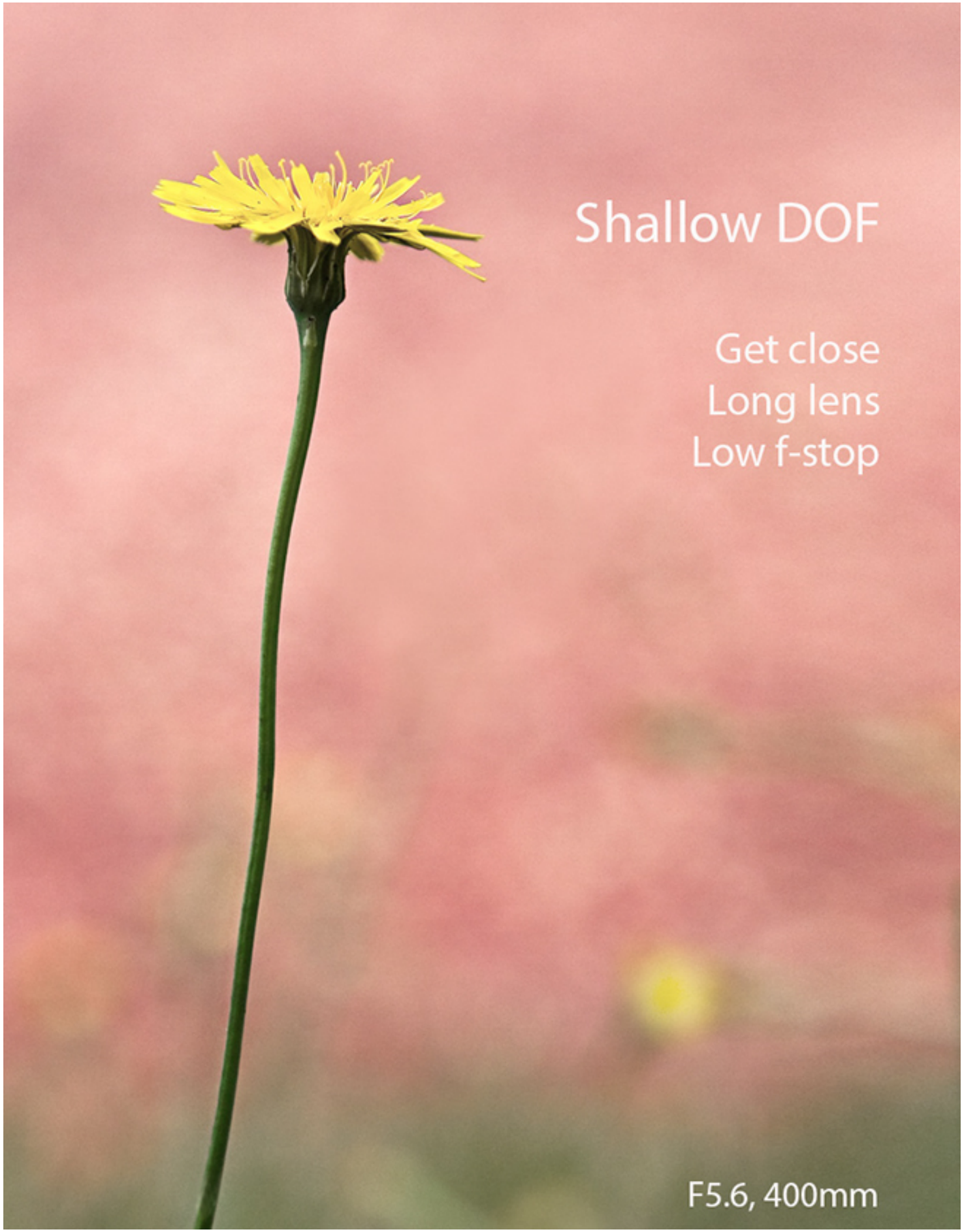
400mm at f22

400mm at f22

400mm at f4

Use your aperture settings and depth of field as a compositional tool.

Make -- don’t take -- a picture.


Shallow DOF
Get close
Long lens
Low f-stop
F5.6, 400mm

F2.8

F8

Using shallow depth fo field (low aperture) for portraits and close-ups blurs out the background, which reduces background distractions and emphasizes the subject.


F5.6, 75mm

F5.6, 400mm

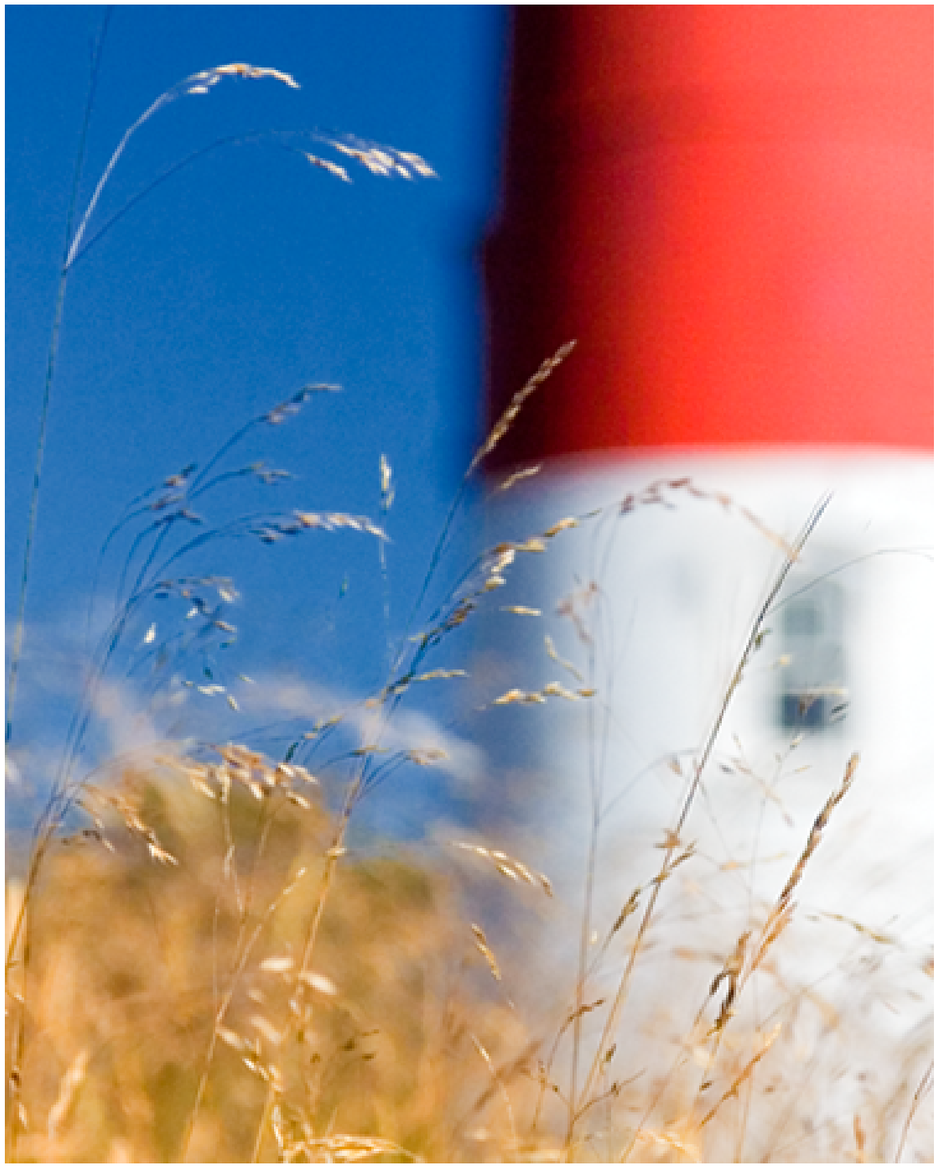
F5.6, 400mm

F6.3, 900mm

F4, 105mm

F4

F4.0



F4

Selective Focus.

Moving the focus point.

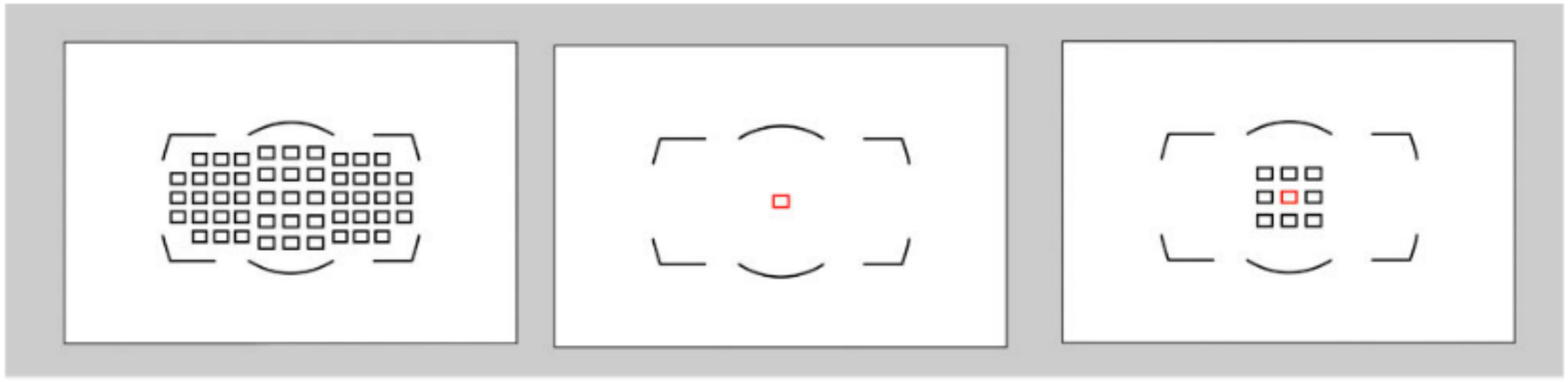
Selective Focus

Two methods

1. Focus Lock

2. Focus Points

Focus Modes



Auto Focus Point Selection*

Single Point

Expanded Point

*Not to be confused with Auto Focus

F5.6 - 1/200 - 400mm

Selective Focus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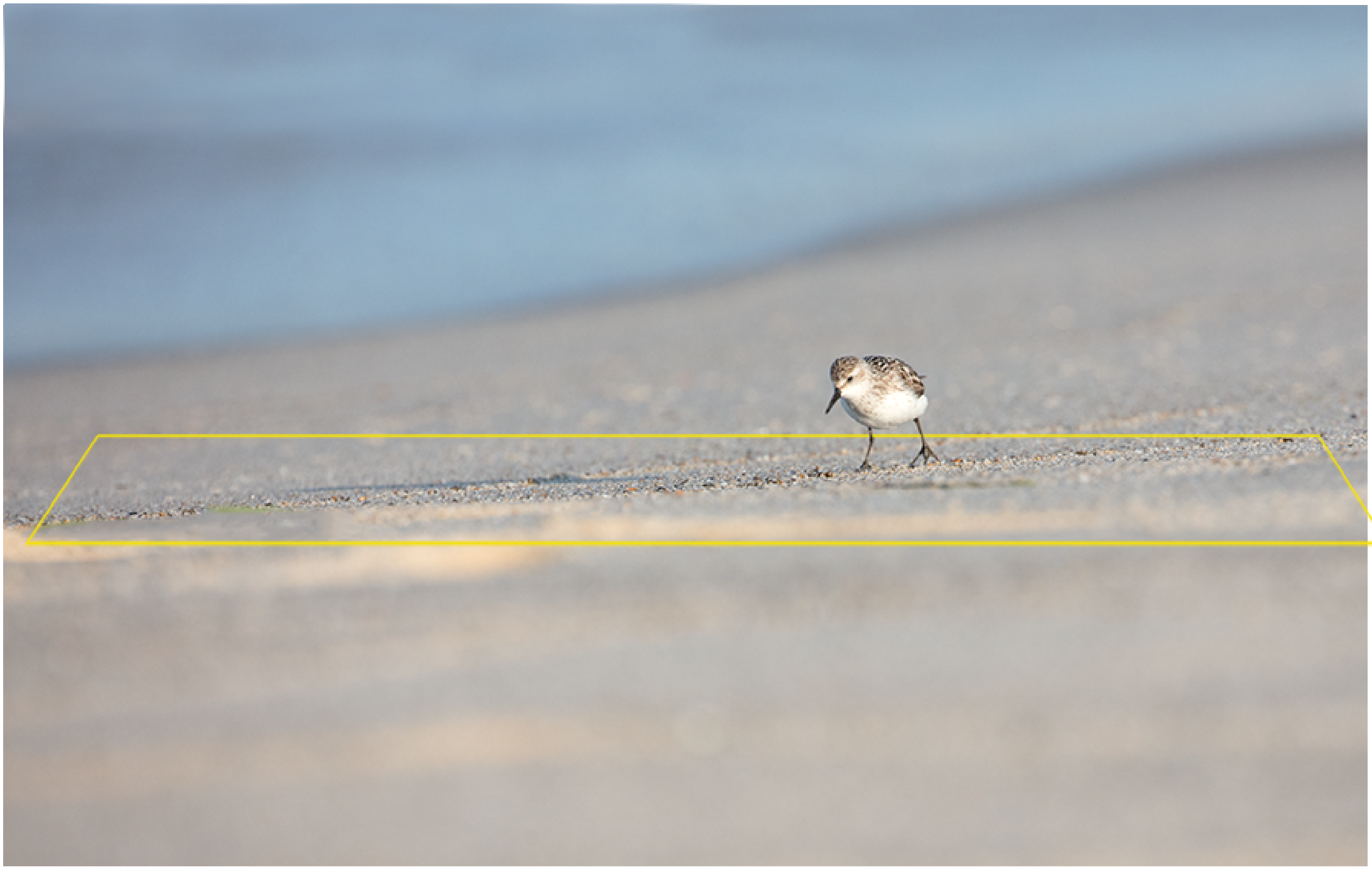
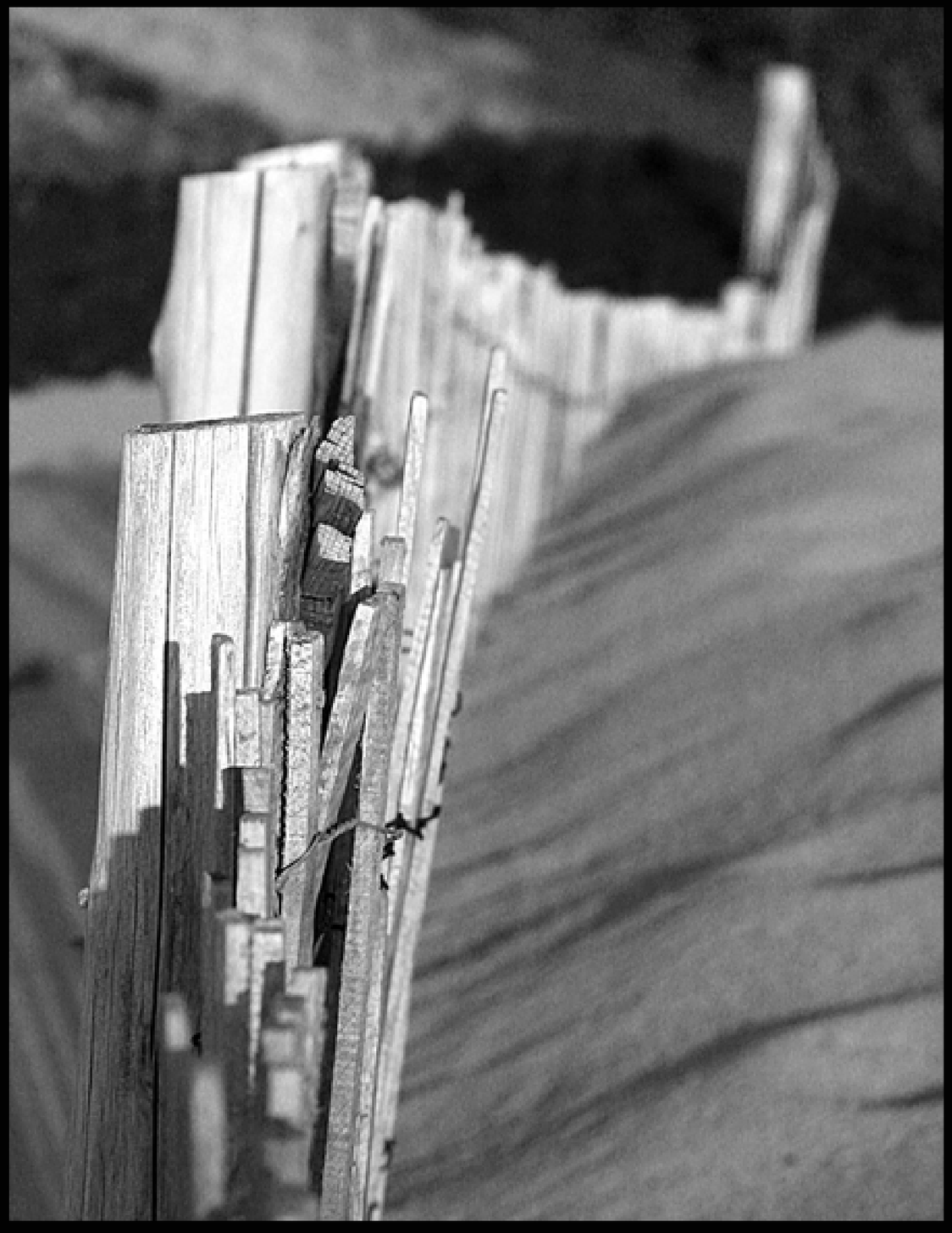
f5.6, 400mm


f5.6, 400mm

f8, 400mm



f8, 400mm



F8

Proximity to the subject also affects depth of field.

Greater Depth of Field

F16, 16mm

High f-stops will help maximize depth of field.
The focal length of the lens also affects depth of field.
A wide angle lens (below 35mm) will increase depth of field.

21mm, F16


F11, 24mm

F11, 32mm

F8, 24mm

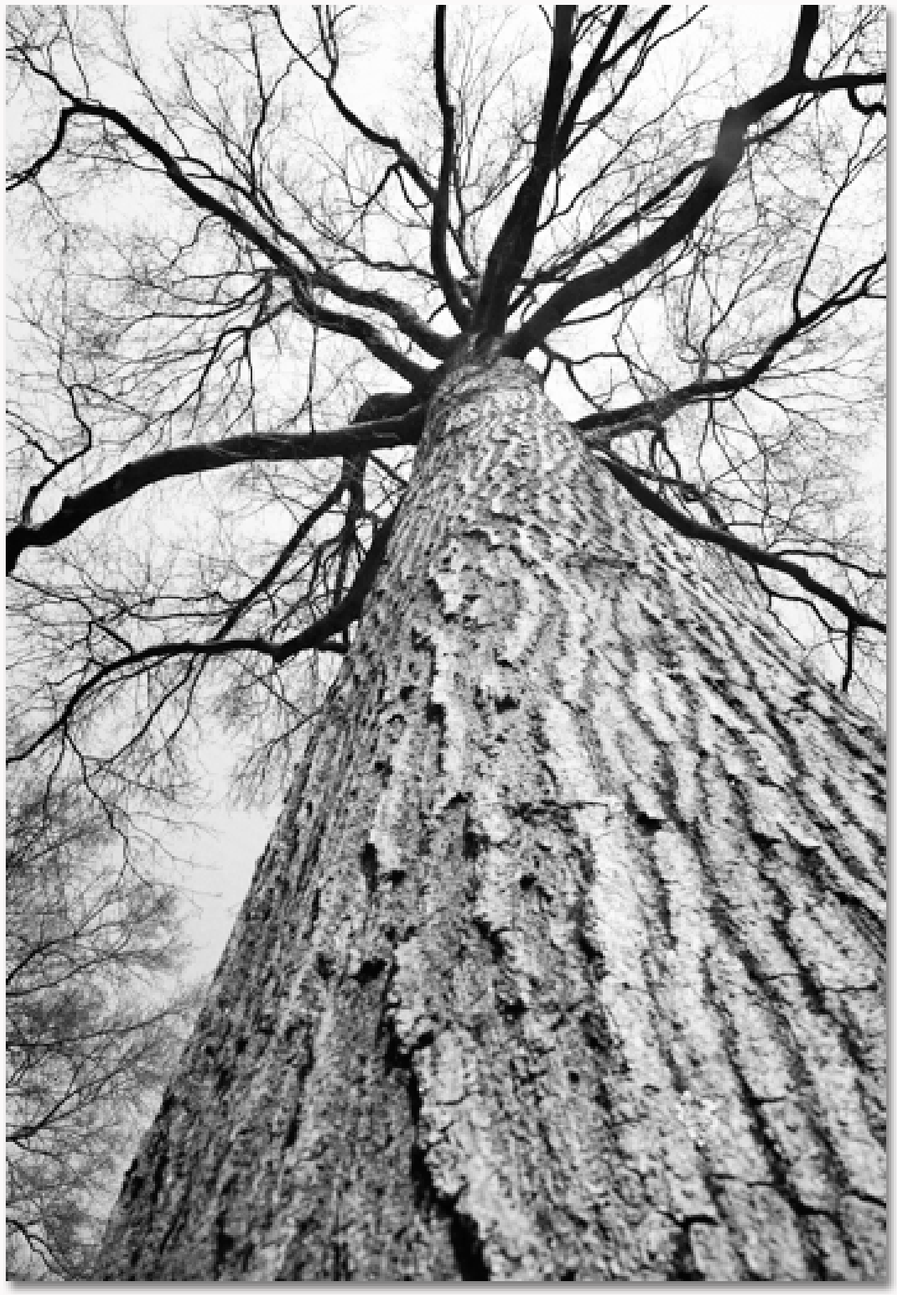
Wide-angle lens often used to emphasize foreground element
and maximize depth of field to create expanded sense of space and distance.


F9, 16mm

F16, 45mm

F16, 50mm

f16, 24mm



F16, 24mm

What is Depth of Field?

What is Depth of Field?

The area that is in focus.

What three things affect DOF?

What three things affect DOF?

Aperture (f-stop)
Lens Size (focal length)
Proximity to Subject

Maximum Depth of Field

Acceptably sharp from front to back

Maximum Depth of Field

How do you create it?

Maximum Depth of Field

Small aperture/high f-stop (use f8+)

Maximum Depth of Field

Small aperture/high f-stop (use f8+)

Short focal length/wide angle (50mm and under +/-)

Maximum Depth of Field

Small aperture/high f-stop (use f8+)

Short focal length/wide angle (50mm and under +/-)

Proximity to Subject (not too close...experiment

Shallow DOF

Shallow DOF

Soft background
(or foreground)

Isolates subjects

Shallow DOF

How to create?

Shallow DOF

How to create?

Wide aperture/low f-stop
(use 5.6 or under)

Shallow DOF

How to create?

Wide aperture/low f-stop (use 5.6 or under)

Long focal length (telephoto)

Shallow DOF

How to create?

Wide aperture/low f-stop
(use 5.6 or under)

Long focal length
(telephoto)

Proximity
(The closer the better)

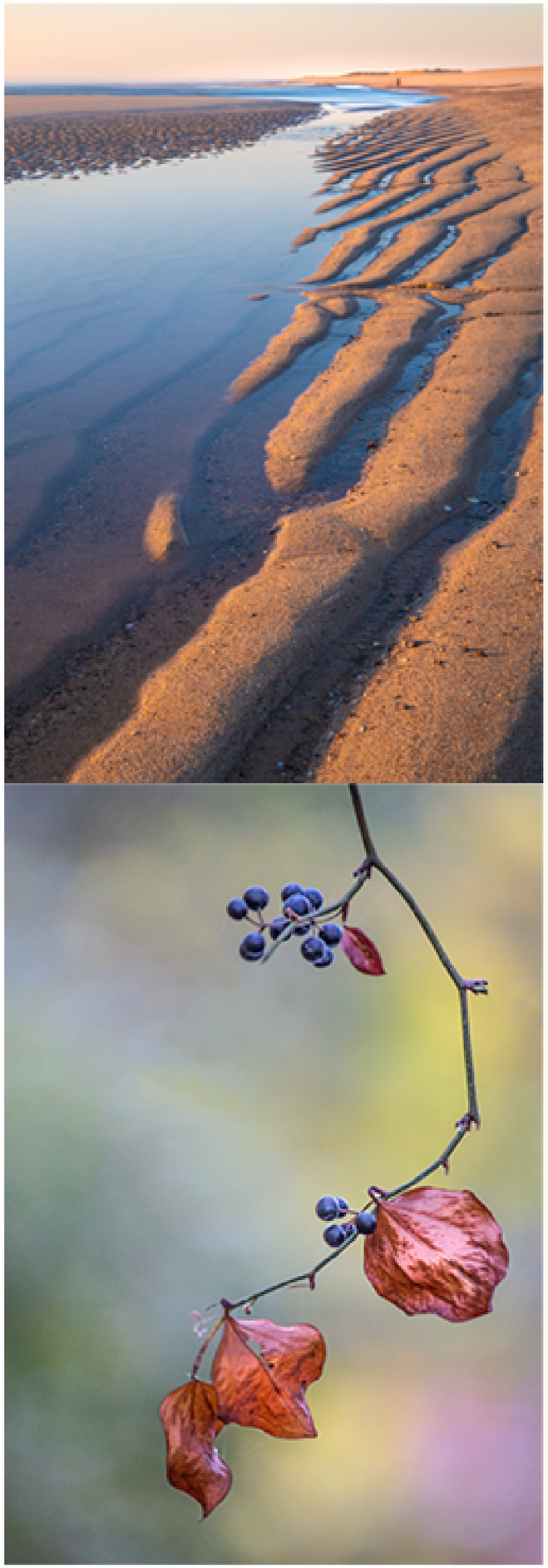
One More Thing
About Aperture…

Sun/Moon bursts
with high f-stop, wide angle

F11, 22mm

F16 sunburst

F16 moonburst



Depth of Field and Selective Focus

Assignments

Create images with shallow depth of field
(low f-stop, close to subject, long lens)

Create images with great depth of field
(high f-stop, not to close, wide angle lens)