Focus on Fundamentals

Practice

Using the Mode Dial

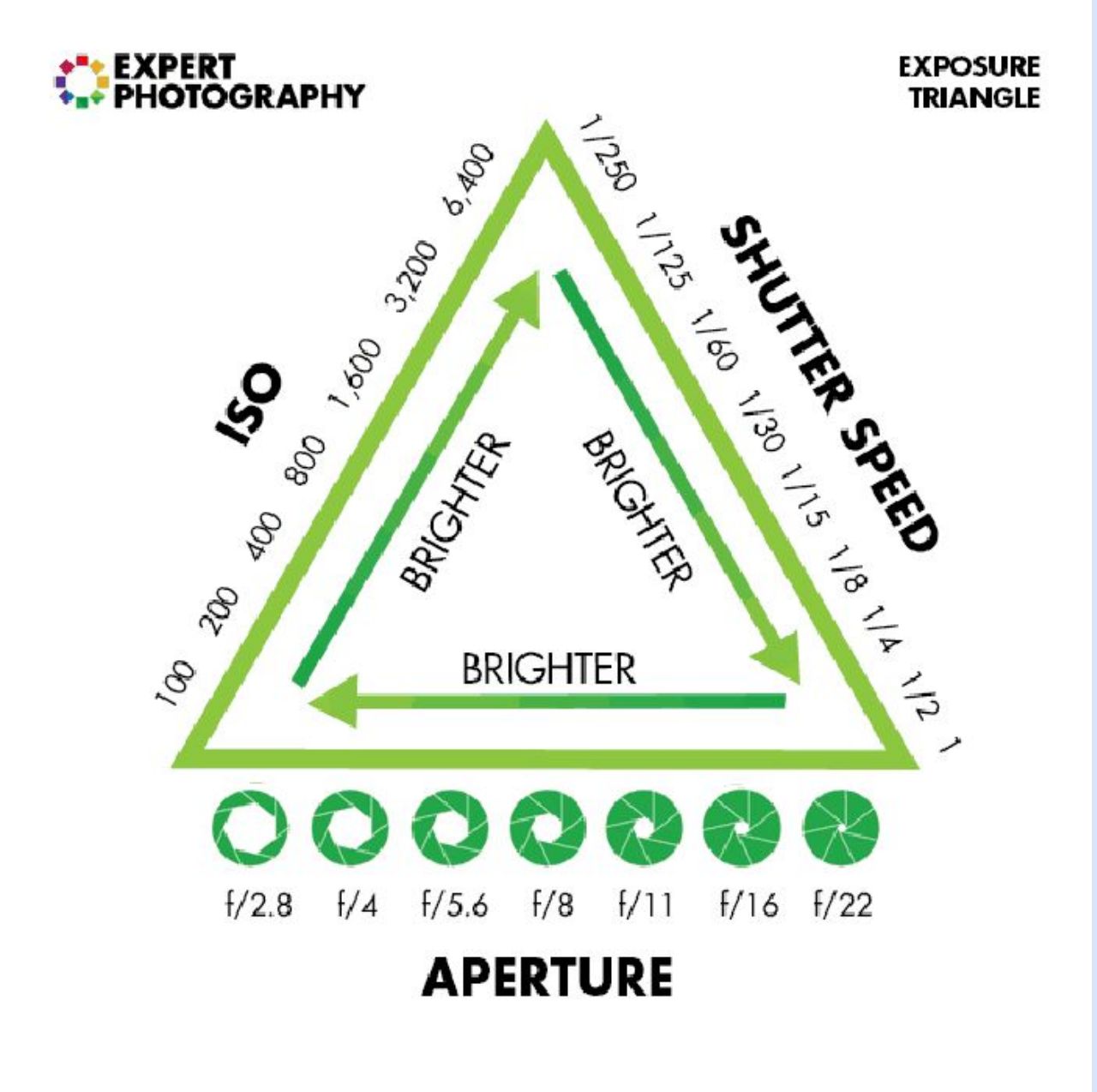
Using the Mode Dial

Goals:

- To become familiar with setting up the camera for 2 different Modes
  - Aperture Priority - Changing the Depth of Field
  - Shutter Priority – Blur or Freeze motion
- Become familiar with how when we change either Aperture, Shutter Speed, or ambient lighting the camera will change one of the other components of the Exposure Triangle to keep the shot properly exposed

Components of the Exposure Triangle

- Aperture
- Shutter Speed
- ISO
- Do we need to review the Exposure Triangle?



The Mode Dial – Nikon

Auto = Full Auto
“A” = Aperture Priority
“S” = Shutter Priority

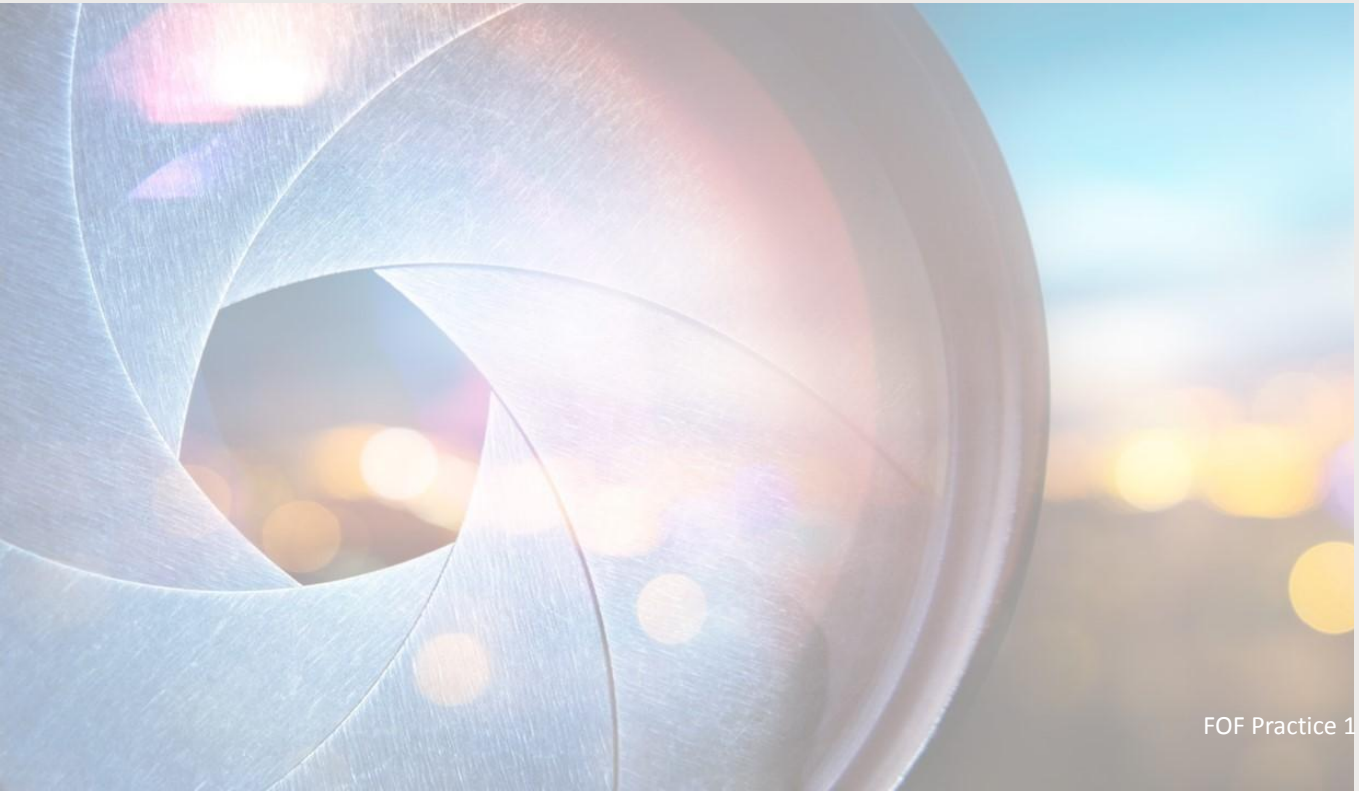
The Mode Dial – Cannon

A+ = Scene Intelligent Auto
=Full Auto
“Av” = Aperture Priority Value
“Tv” = Shutter Priority Value

We are all familiar with “Auto Mode”

- Camera controls Aperture, Shutter Speed, and ISO.
- Nikon Cameras - Select “Auto” on the mode dial
- Cannon Cameras - Select “A+” on the mode dial
- Why use Auto Mode
  - Easy
  - Quick
  - Can use the settings as a starting point for the other modes

What is Aperture Priority Mode



- You set the Aperture
  - The size of the opening in the lens
  - The camera automatically selects the Shutter Speed for best exposure
  - ISO remains fixed

- Do we need to review the definition of Aperture?

Live demonstration of changing Aperture

Things to Notice

- The Aperture setting
- How the camera automatically selects the Shutter Speed for best exposure
- ISO remains fixed
- How does the Histogram change

Why use Aperture Priority?

Primarily used to control Depth of Field - How much of the photo is in focus

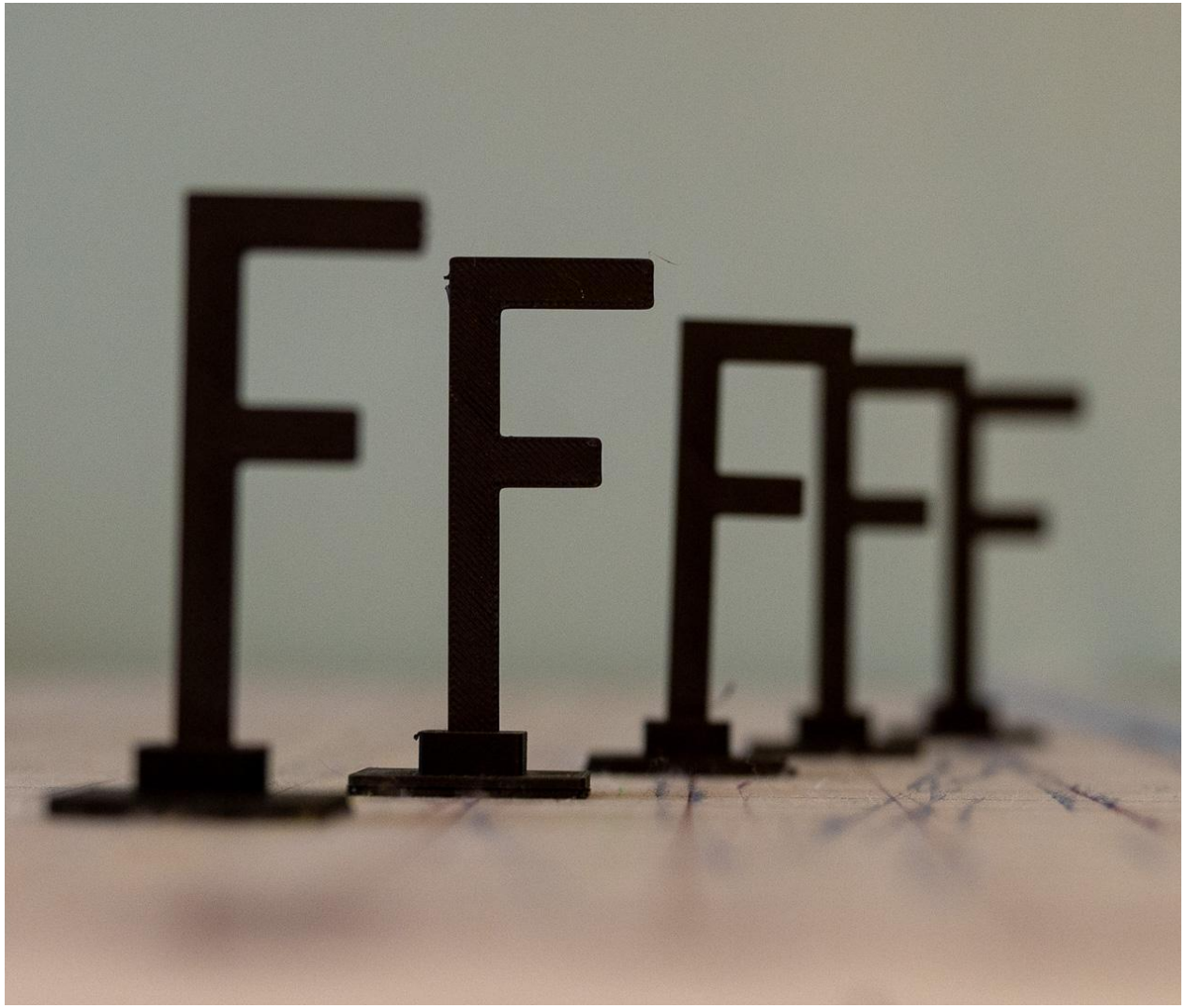
Smaller F-Numbers =
Shallower Depth of Field =
Less of the photo is in focus

Shallow Depth of Field:
Blurry background
Dreamy portraits

Shallow Depth of Field

The smaller the F-Number…
the shallower the Depth of Field…
the area in front and back of the focal point of the photo that is in focus

Think of a row of “F”s
F1 has a 1“F” in focus



Deep Depth of Field

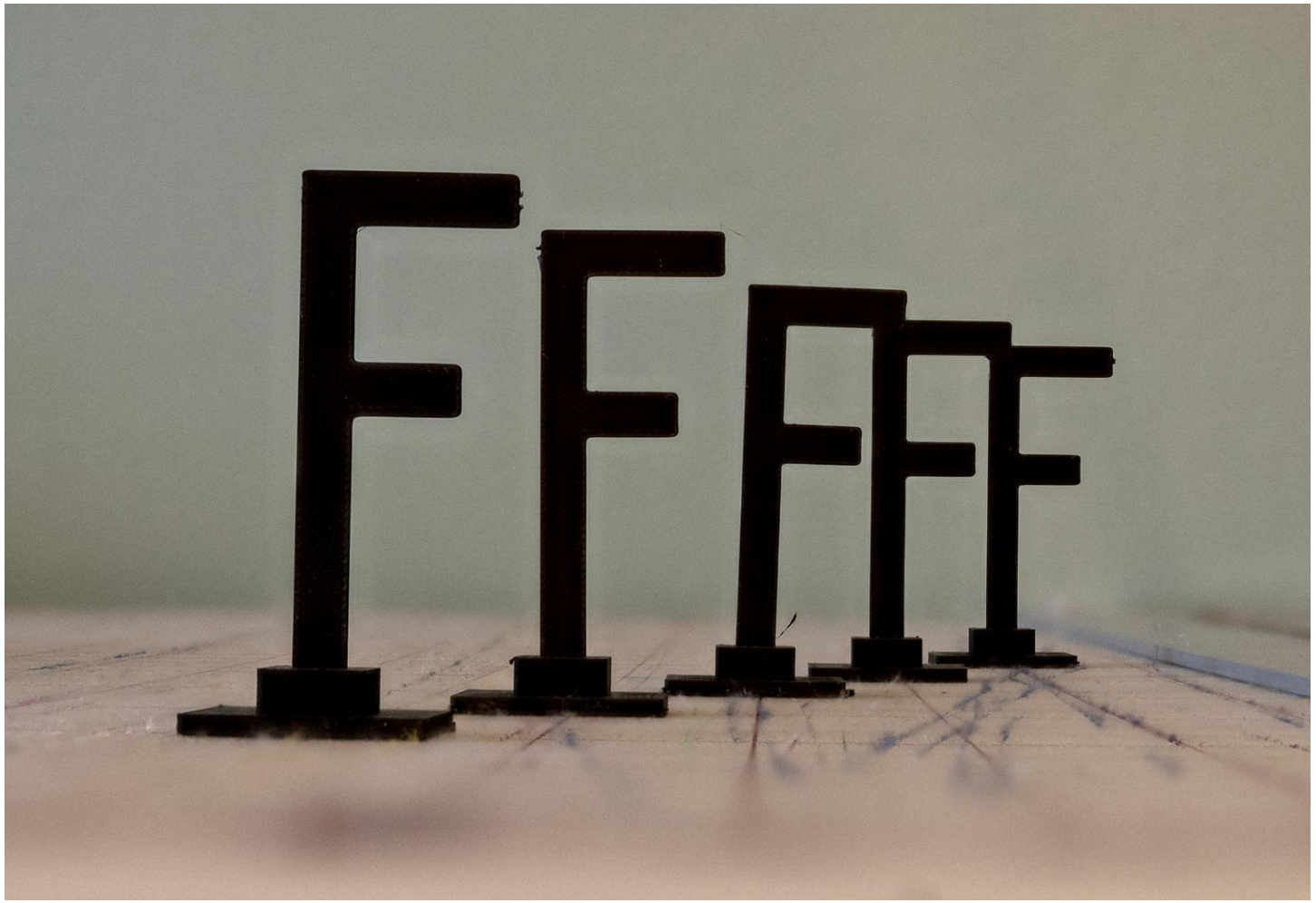
Larger F-Numbers =
Deeper Depth of Field =
More of the photo is in focus

Deep Depth of Field
Everything in focus
Great for landscapes

Deep Depth of Field

The larger the F-Number, the deeper the Depth of Field…
area in front and back of the focal point of the photo is in focus

Think of a row of “F”s
F5 has a 5“F”s in focus



Aperture Priority Worksheet

Shutter Speed	F stop	ISO	DOF	DOF In front of focal point	DOF behind Focal Point
	4.0		.7	.35	.35
	10.0		1.78	.84	.93
	16.0		2.83	1.31	1.53
	22.0		4.03	1.79	2.24

Changing the Aperture also changes 2 additional things:

1. The amount of Light hitting the Sensor

- A wide aperture (low f-stop like f/1.4) lets in more light, so it's perfect for low-light situations.
- A narrow aperture (high f-stop like f/22) restricts light — useful in bright conditions.

2. Sharpness of the Image

- Most lenses are sharpest around f/5.6-8. At very low f-stops, the edges of the photo may be softer. At very high f-stops like f/22, light diffraction can reduce sharpness again.

How to Use Aperture Priority Mode

Nikon Cameras - Select “A” on the mode dial

Cannon Cameras – Select “ Av” on the mode dial (Time Value)

Select your aperture value manually (f-stop) you plan to use

Select the ISO value you plan to use

Camera will adjust the Shutter Speed to achieve the proper exposure

What is Shutter Priority Mode

- You manually set your Shutter Speed (How long the shutter is open)
- The camera automatically selects the Aperture.
  - For instance, if you choose a fast shutter speed, your camera will set a wider aperture like f/2.8. This lets in as much light as possible during the brief time the shutter is open.
  - If you choose a slow shutter speed, your camera sets a narrow aperture like f/16. This reduces the amount of light hitting your sensor.
  - It’s all about the exposure triangle
- ISO remains fixed

Live demonstration of changing Shutter Speed

Things to Notice

- The Shutter Speed setting
- How the camera automatically selects the Aperture for best exposure
- ISO remains fixed
- How does the Histogram change

Why use Shutter Priority mode?
Primarily used to Freeze or Blur Motion

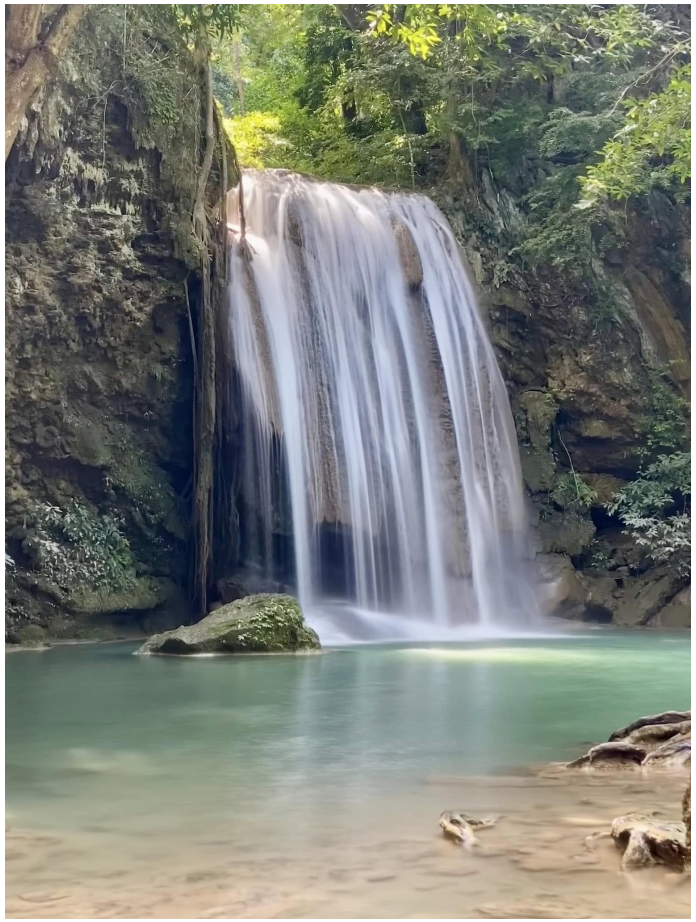


Photo by Steve Copeland

What is Shutter Speed?

Shutter Speed is how fast the shutter opens and closes.

This determines how much light comes into your camera.

At a fast shutter speed – 1/1000 - not much light will reach your sensor.

At a slow shutter speed – 1/60 - the shutter stays open longer, more light reaches the sensor and so the image is more exposed.

How to Use Shutter Priority Mode

Nikon Cameras - Select “S” on the mode dial

Cannon Cameras – Select “ Tv” on the mode dial (Time Value)

Select your Shutter Speed

Select the right ISO value

Camera will adjust the Aperture to achieve the proper exposure

Auto ISO and Shutter Priority

In this mode, the camera chooses the best combination of aperture and ISO values to balance the exposure.

Some cameras let you set an ISO range, where you decide on the minimum and maximum ISO. This ensures that your images will not get too noisy.

Raising or lowering the shutter speed will not change the exposure. Your camera adjusts the aperture to keep the same exposure.

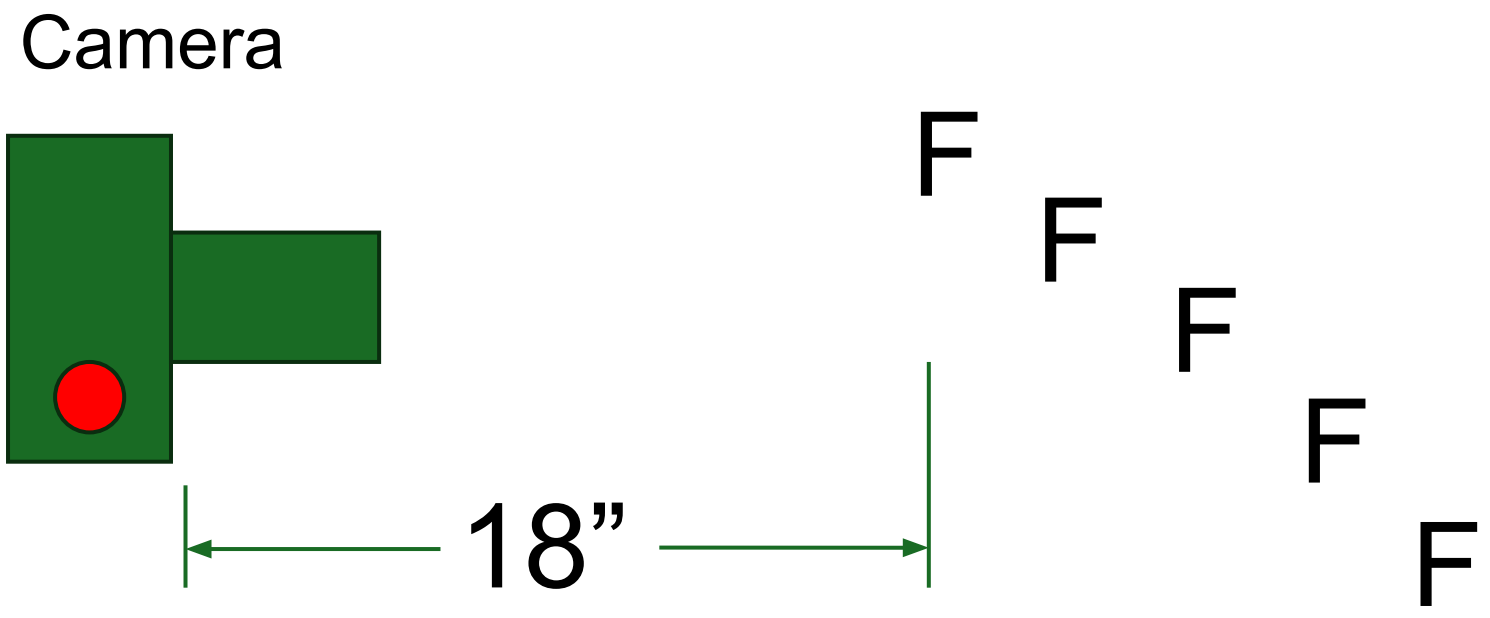
3 stations for practice

Aperture Priority – try different F-Stops to see the change in Depth of Field and the resulting change in Shutter Speed

Shutter Priority – try different Shutter Speeds to Freeze or Blur otion and note the resulting change in Aperture

ISO - Change the lighting to see the resulting change in ISO, Shutter speed, or Aperture

Setting up for Aperture



“F”s to have 1” separation

Aperture Priority Station

01

Set Camera Mode to Aperture Priority

02

Take photos at f/4, f/10,f/16, and f/22

03

Record values on worksheet for each Aperture setting

Aperture Priority Worksheet

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	22.0		4.03	1.79	2.24

Shutter Speed Station

1

Set camera Mode to Shutter Priority

2

Take photographs while changing the shutter speed to try and “Freeze” the motion

3

Note how the Aperture changes when changing Shutter Speed

ISO Station

- Set up camera Mode to Auto
- Take photographs while changing the intensity of the light.
  - Note how the Aperture or Shutter Speed change
- Change the Camera Mode to Aperture Priority
  - Note how the camera changes Shutter Speed
- Change the Camera Mode to Shutter Priority
  - Note how the camera changes Aperture

Next workshops

- Sat, Dec 6th
- Sat, January 10th
- Practice taking photographs using the different modes
- E-mail your photos for review at the Dec 6th workshop
- Things to cover at next workshop?
  - White Balance
  - Portrait Lighting
  - Lenses
  - Doublers
  - Lens Filters
  - Continue with Composition
  - Parts of Kim, Kristi, and Sue's presentation on "What makes a Good Photo"