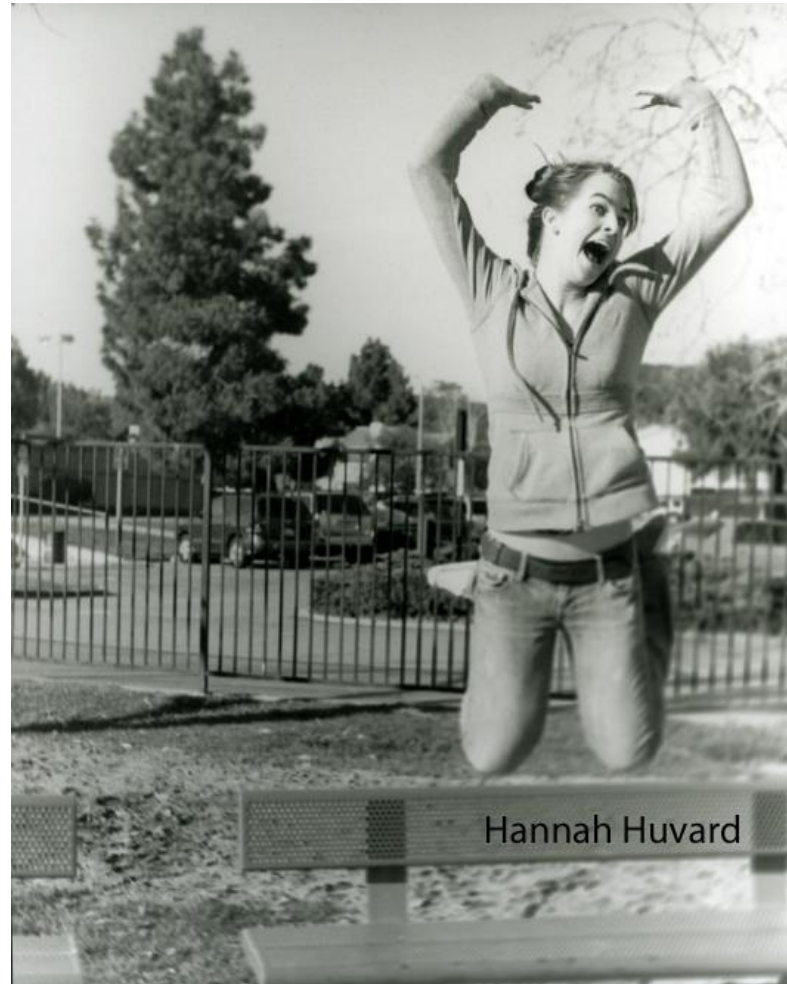


Shutter Speed

What will be covered

- Shutter Speed defined
- What shutter speed is used to achieve in an image (visible motion)
- What shutter speed numbers represent

Freeze Motion



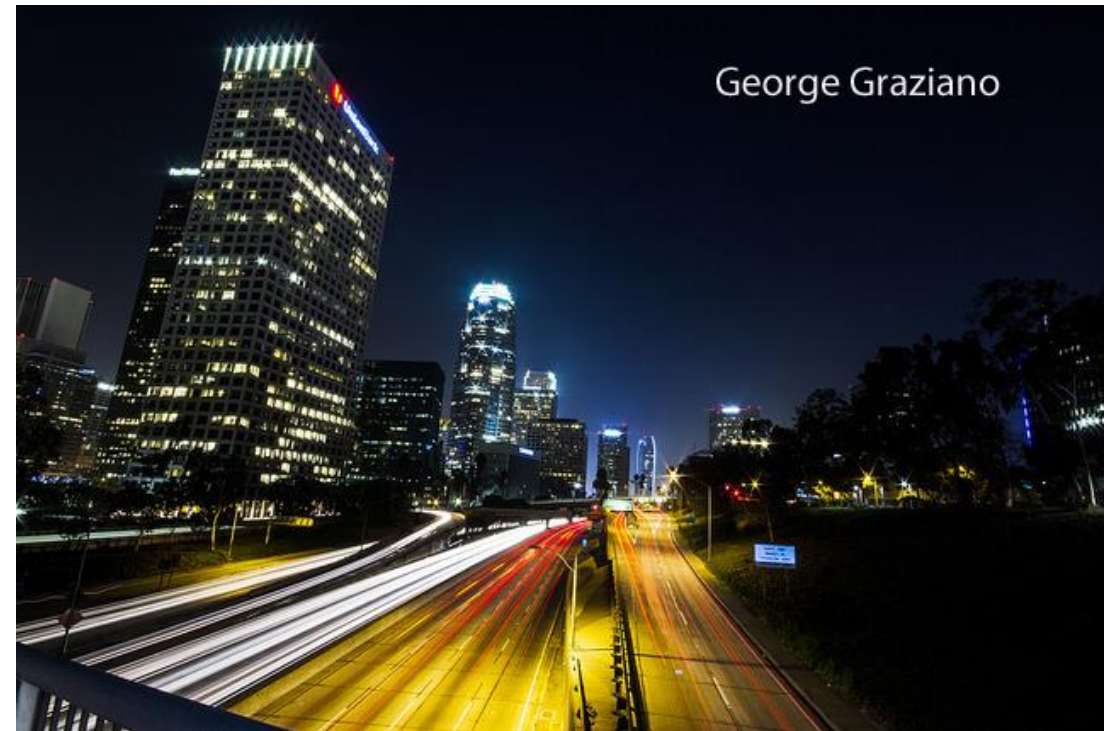
Blur and Pan Motion



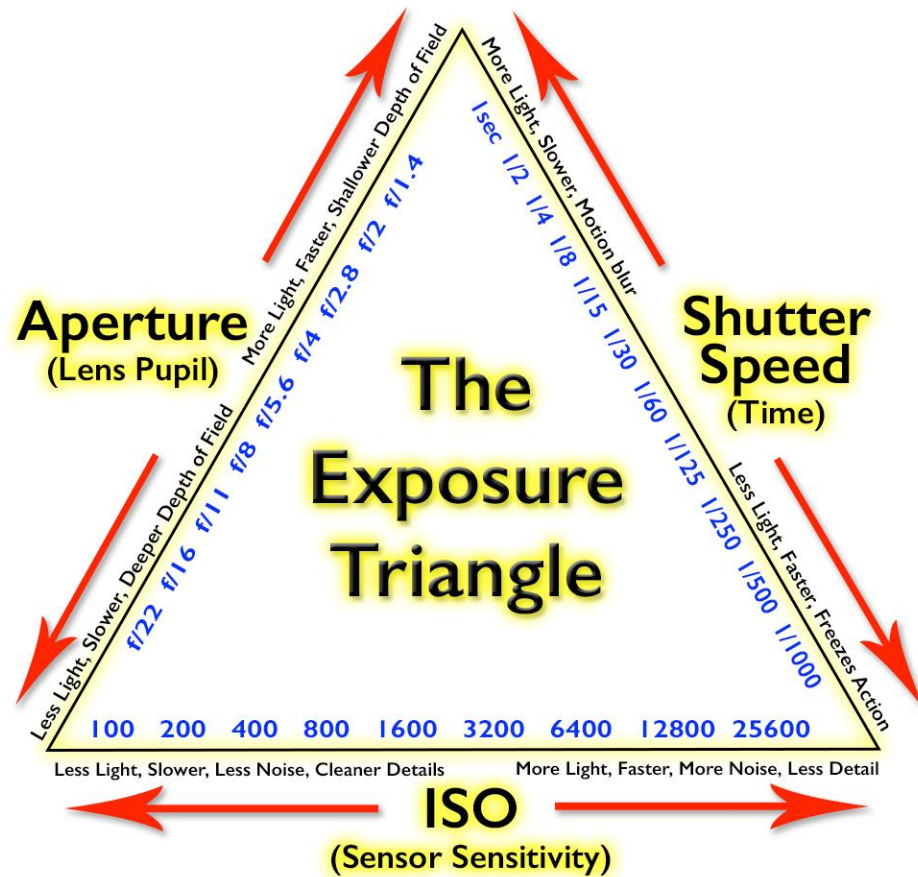
Bulb Exposure



Erika Frank



George Graziano



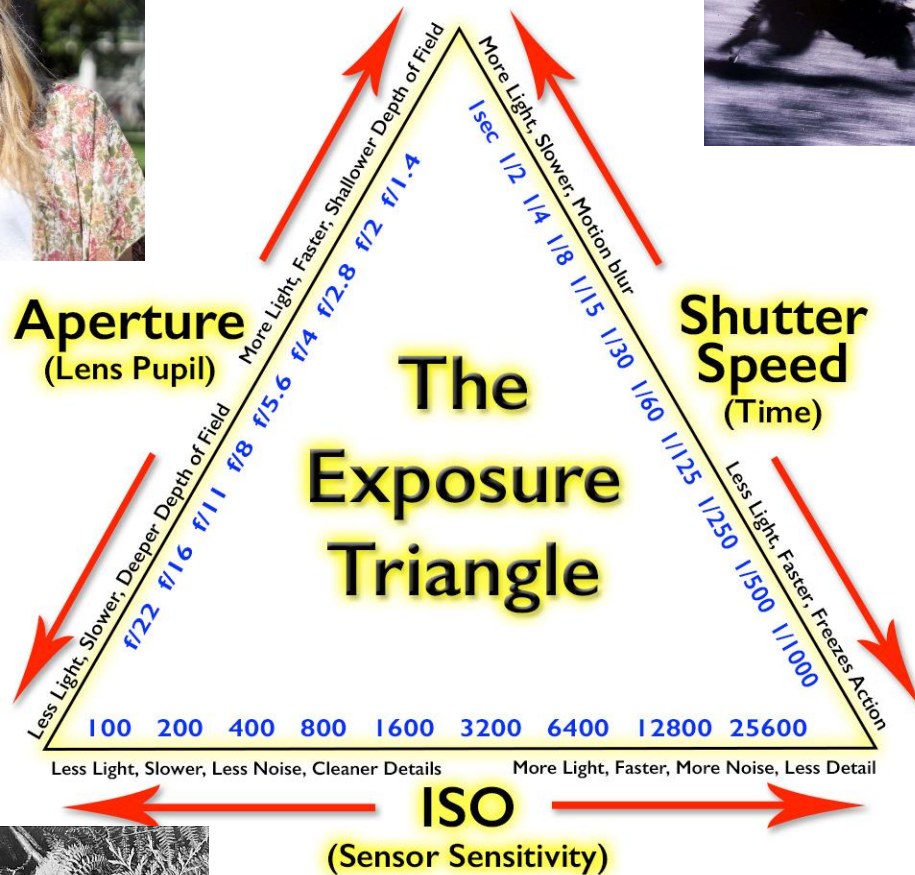
f/1.8



1/60 sec



f/22



1/2000 sec



ISO 100



ISO 3200

Shutter Speed



Shutter Speed Defined

- Shutter speed is the length of time camera shutter is open, exposing light onto the camera film/sensor.
- Essentially, it's how long your camera spends taking a photo.
- It controls the duration (time) of an exposure
- It controls how much visible motion is present in an image (Is motion frozen or is it blurred in some way?)

Each full shutter speed stop either doubles or halves the amount of light entering the camera

Why do higher numbered shutter speeds represent faster shutter speeds?

Remember shutter speed settings are associated with time

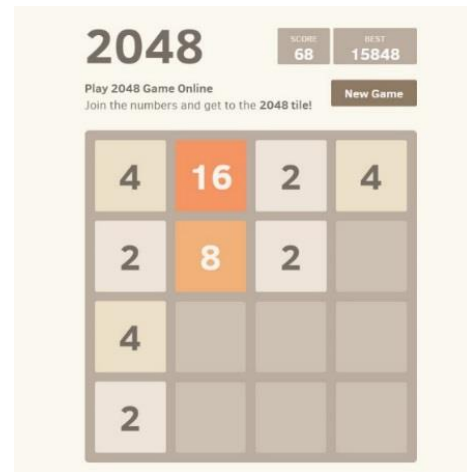
Higher numbers mean faster shutter speeds?

- Shutter speed numbers represent fractions
- The shutter speed number on your camera is the denominator
- For example:
- **$125 = 1/125$ of a second, $1000 = 1/1000$ of a second**

Doubling Comparison for Shutter Speeds

- Doubling Sequence

- 1
- 2
- 4
- 8
- 16
- 32
- 64
- 128
- 256
- 512
- 1024
- **2048**



- Camera Shutter Speeds

- 1
- 2
- 4
- 8
- 15
- 30
- 60
- 125
- 250
- 500
- 1000
- **2000**