



Fun Photography

Don't be too boring, let your imagination
run free

Photoshop vs In-Camera

- It is true that many amazing effects can be done in post-production using software
- Many things can be done in the camera instead of later on a computer
 - Impress your friends, no computer used!
 - Don't spend all that time sitting in front of a computer monitor and not getting any exercise 😊



Exploring Fun Techniques

- Shadows
- Perspective
- Pinhole lens
- Zoom effects
- Multiple exposures
- Light painting
- Props
- Bokeh shaping
- Sandwich bag
- Slow shutter effects



What About Cell Phones?

- Some techniques will work, others not
 - Need full aperture control
 - Need shutter speed control
- Cell phones with HDR do amazing images
 - Combine several quick exposures



Explore the Internet

- There's nothing wrong with browsing around the Internet looking for ideas
- It's a wonderful resource that connects us with the rest of the world
- Many great tutorials on YouTube

Aperture or F-Stop

- Regulates amount of light through lens
- Controls depth of field
- Big number
 - Restricts light but gives large depth of field
- Small number
 - Let more light through, shallow depth of field
- Focal length divided by “hole” diameter

Depth of Field



F4



F8



F22

Depth of field is also affected by the sensor size, which is why cell phones have a large depth of field while full frame cameras have a much shallower one.

Focal Length

- Relates to angle of view
 - Larger focal length gives narrow angle
 - Shorter gives wider angle
- “normal” is diagonal of “squared” sensor
 - Full frame ~ 50mm
 - APS-C ~ 35
- Longer=telephoto, Shorter=wide angle

Lens Classifications

- Prime – Single Focal Length
- Zoom – Adjustable Range of Focal Lengths
 - Digital Zoom is phony, it just throws pixels away
- Normal
- Wide
- Telephoto

Choosing a Lens Length

	Wide Angle (short)	Normal	Telephoto (long)
Perspective	Spreads things apart	Normal	Makes things appear closer
Depth of Field	Deep (long)	Normal	Shallow
Shake sensitivity	Low	Normal	High, tripod
Size	Short and wider	Normal	Long and often heavy
Vertical lines	Tend to tilt and curve	Normal	Tend to stay straight

Effect of Shutter Speed

Fast

- Collects less light, use when scene is lighter
- Stops motion
- Easy to handhold

Slow

- Collects more light, use when scene is darker
- Shows motion
- Tripod

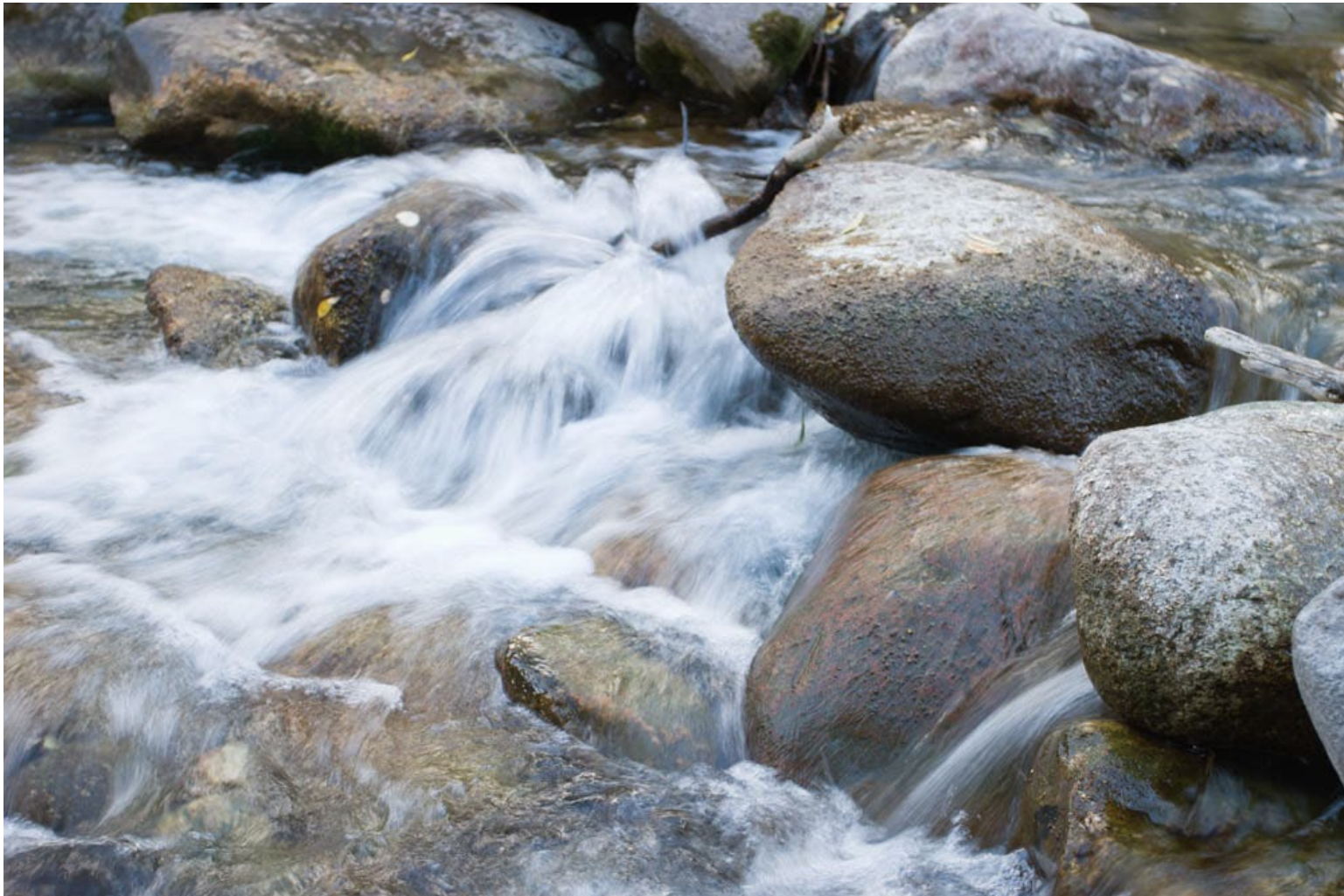


Shutter speeds from $\frac{1}{4}$ to $\frac{1}{500}$ second.
The fan was running at a constant speed!

Freeze Motion



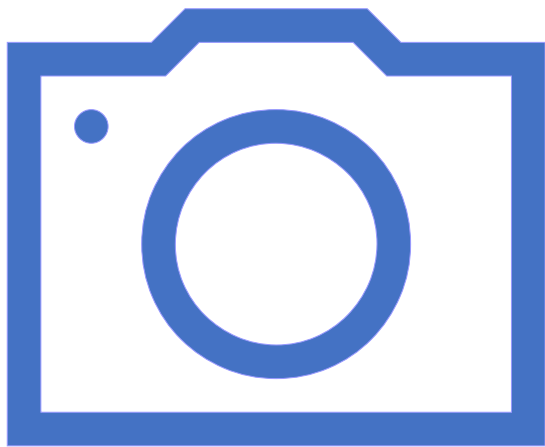
Slow Show Motion



ISO

- Indicates how much light sensor needs
- In the past DIN and ASA were used, ISO is the universal standard now
- Higher values have more noise
 - Best to stay below 800, but it varies with the size and quality of the sensor
 - You will often need higher values when less light is available

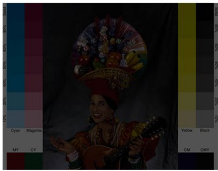




Getting the correct amount of light to
the sensor

Exposure

Things Affecting Exposure



Exposure

less noise **ISO** more noise

more depth of field **F-Stop** less depth of field

stop motion **Shutter Speed** motion blur

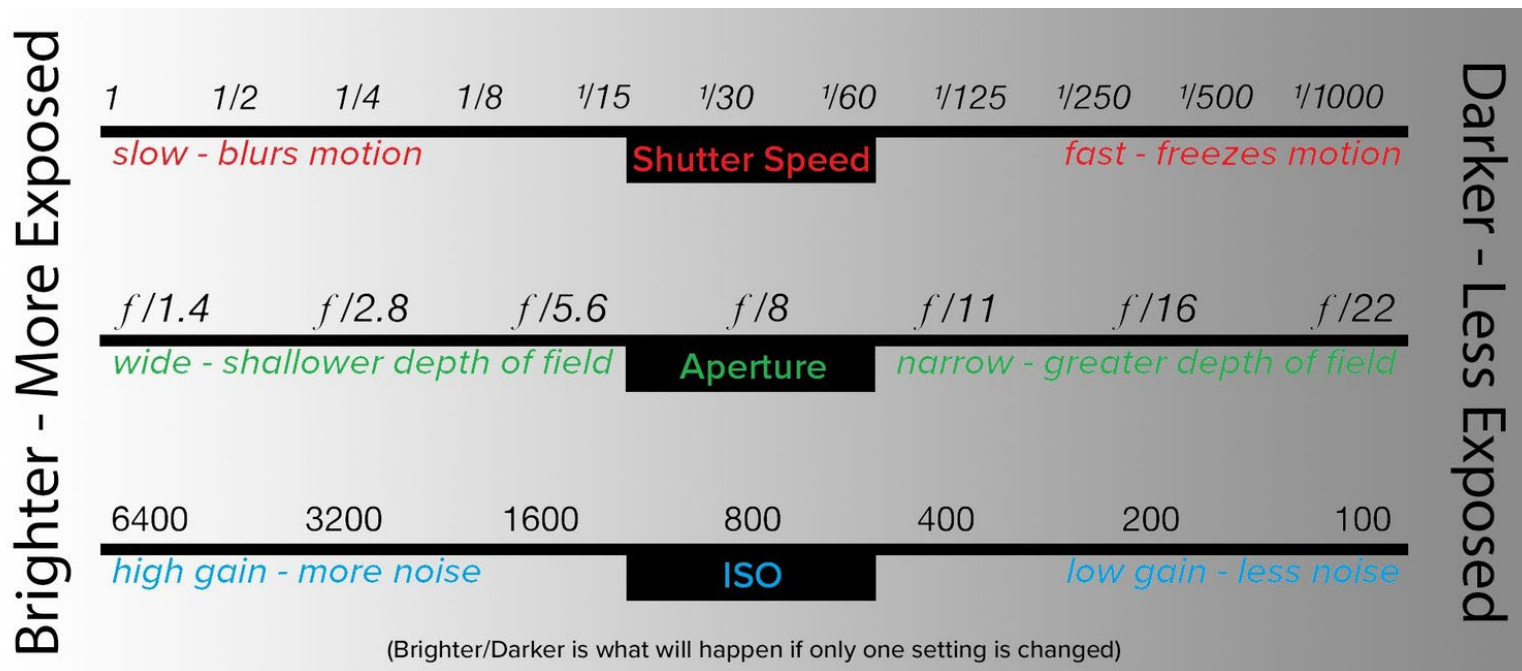
Exposure

- Correct exposure is controlled by
 - ISO, how much light the sensor needs
 - Shutter speed, how long the shutter is open
 - F-Stop, how much light the lens lets through
- Kind of like a three-legged stool
 - Any change means one or both of the other two must change in order to stay balanced

Sensor needs right amount of light

- Too much = highlight detail loss
 - And sometimes 'blooming'
- Too little = shadow detail loss
- Sometimes you have to accept one or both of the above
 - Or take multiple images and combine

Diagram showing relationship



This shows how things get brighter one way and darker the other way. If you adjust one, then you must adjust one or both of the others to get the brightness correct again.

Credit to Mike Dixon

Tradeoffs and Compromises

- When you change one setting, one of the other two, or both, must change
- Example:
 - Need more depth of field
 - Bigger F-Stop number
 - But that means we need a slower shutter speed to get the right exposure
 - Slower shutter speed might not work because things are moving too much
 - So, we increase the ISO, oops, now we get more noise

Rule for Exposure

It depends on the scene!

- Expose for the most important dark or light areas
- Choosing light areas means dark ones might lose detail
- Choosing dark areas means light ones might lose detail
- That's the way it is! But so what? We're creating visual art to be enjoyed

Summary - Choosing Settings

Setting	Effect	Comments
ISO	How much light is needed by the sensor	Higher values result in more image noise but let you use faster shutter speeds and/or slower lenses. Use 100-200 in sun and 1200+ night.
F-stop Av or A	The amount of light the lens allows through	Smaller numbers give a smaller depth of field. May be necessary in low light. Larger numbers create more depth of field, but require more light or a slower shutter or even higher ISO.
Shutter speed Tv or S	How long the shutter lets light through to the sensor	Slower speeds show motion and blur. Higher speeds can be used to stop motion.

Summary of exposure effects

- ISO
- Shutter speed
- Aperture
- Noise
- Motion blur
- Depth of field/Bokeh

What is 'Correct' Exposure?

■ Technical intent

- At least 6 “correct” values

 - F stop/shutter combinations

 - Camera will pick one for you in automatic

■ Artistic intent

- Depth of field to isolate subject or include all

- Shutter speed for motion, blur or freeze

- Hide or emphasize light or dark areas



Setting Exposure

So how do I control it?

Exposure Types

- S/Tv = shutter speed, camera chooses A
- A/Av = aperture (F-stop), camera picks S
- P = programmed, camera picks A and S
- M = manual, pick shutter and aperture
 - ISO = manual, fully manual, choose ISO
 - ISO = automatic, still automatic exposure



Silhouettes

- Show shapes
- Strong backlight
- Often underexpose to make shape black

Silhouette Shapes





Multiple Exposures

- Many cameras allow layering of images onto a single image
- Can also be done in Photoshop etc. later
 - Fun to do in camera!
- Interesting motion effects
- Fill dark areas with other images
 - Need dark areas in image





Multiple Exposures

- Create a painterly impressionist effect
 - Different than just motion blur
- Interesting way to show motion



Basic
Flower
In wind
Fast shutter

Slow shutter
Speed blur

Multiple
exposures

Panorama

- Cell phone is best
 - Use panorama mode
 - Pan very slowly and have people move after they are registered in the image
- DSLR requires multiple exposures
 - Sticking software to assemble



Fun with Panorama Mode

- Panorama on cell phone, have subject move from position to position as you rotate slowly
- Takes practice, you need to know at what point your camera has recorded the scene



The "portal"



Zoom With Shutter Open

- Use a long enough shutter speed so you can turn the zoom ring with shutter open
- Gives interesting streaking effects
- Also try with focus ring
 - NOTE: only works with mechanical focus
 - Some lenses use electronic focus

Do the Twist, Do it Like This





Twist the zoom ring with the shutter open



Really Slow Shutter

- Compresses time into a single frame
- Blurry? Yes, but this can give interest
- Don't be afraid to experiment

Time Exposures – Compress Time into a Single Image



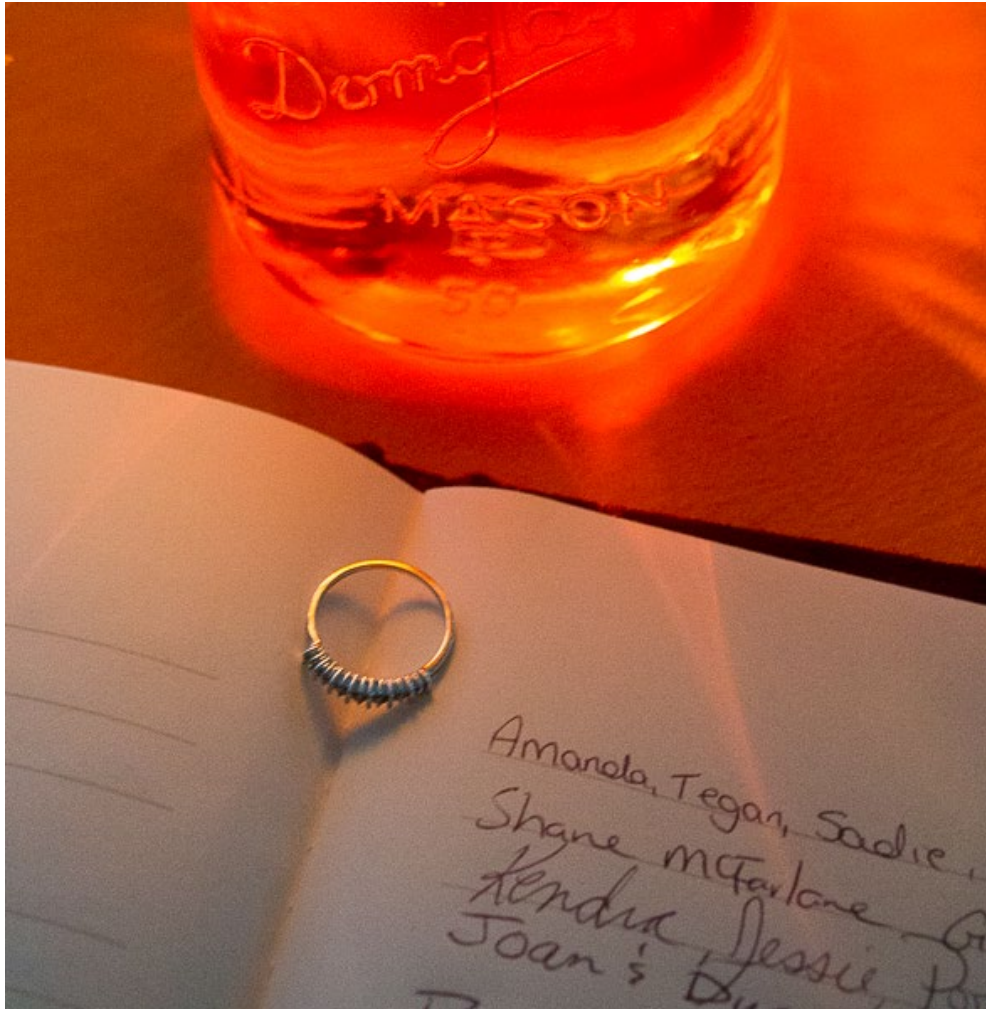




Shadows

- Sometimes the shadow is the subject

Use Shadow Shapes



See the heart?

Set the Mood



Camera exposure

Exposure compensation -2 stops



Dangerous Shadow



Simple objects



Staging



Very static, nothing going on



Can you feel the wind now?



Aerials

- Get high (altitude!) to get interesting pictures
- Helicopters, \$1000+/hr
- Airplanes, \$100+/hr
- Drones, extremely good value now

Cheap Aerials

- Ladders
- Balconies
- Buildings
- Towers
- Cherry pickers
- Tractor buckets
- Bleachers
- Even a chair!

Bokeh Shaping (1/2)

- Need F1.8 or better lens
- Manual focus and aperture setting
- Create a cutout in a piece of cardboard or heavy paper that covers the front of the lens, the cutout should be around $\frac{1}{2}$ "
- Set F-stop to the smallest number

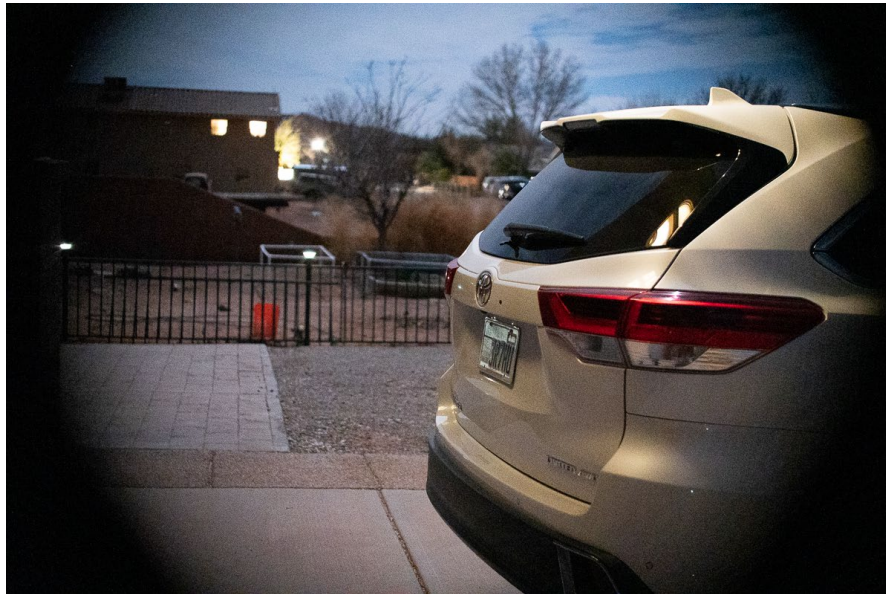
Bokeh Shaping (2/2)

- Focus close so background is blurry
- Highlights will take on the cutout shape!
- Put something sharp in the foreground and use the shaped lights to add background interest to the image
- Or just keep it abstract with the shapes

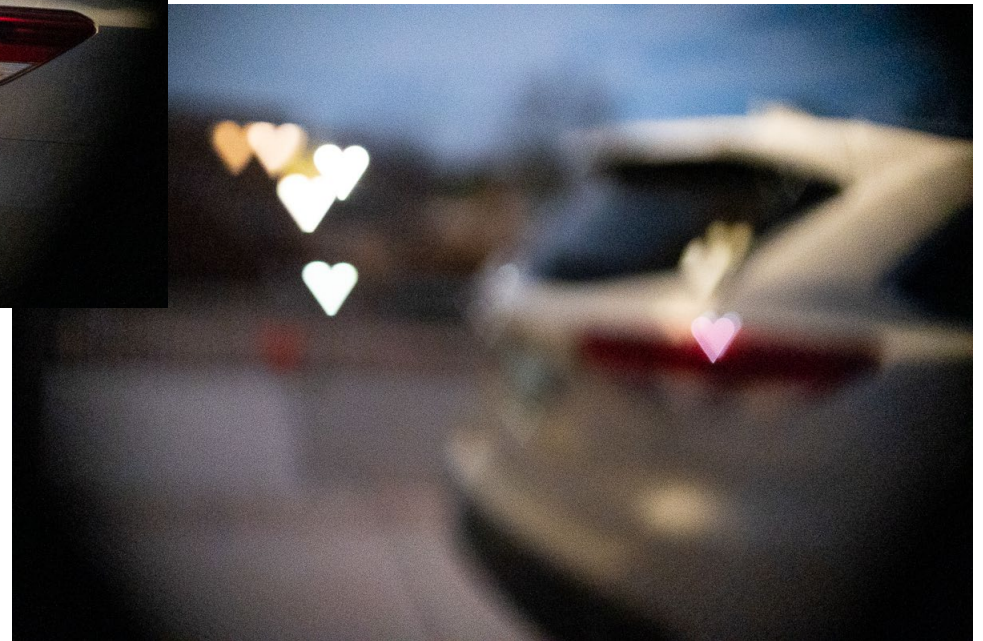
Basic Lens Bokeh



Heart Shaped Cutout F1.4



Focus on car

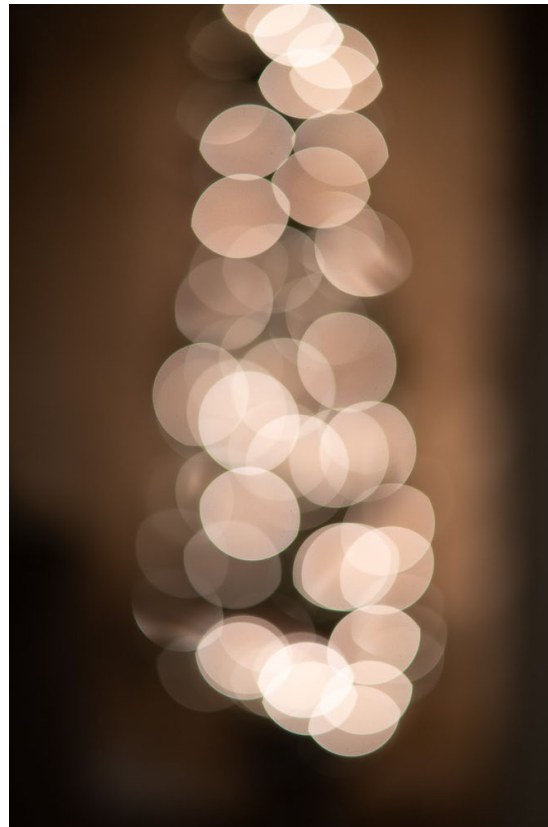


Focus close to camera

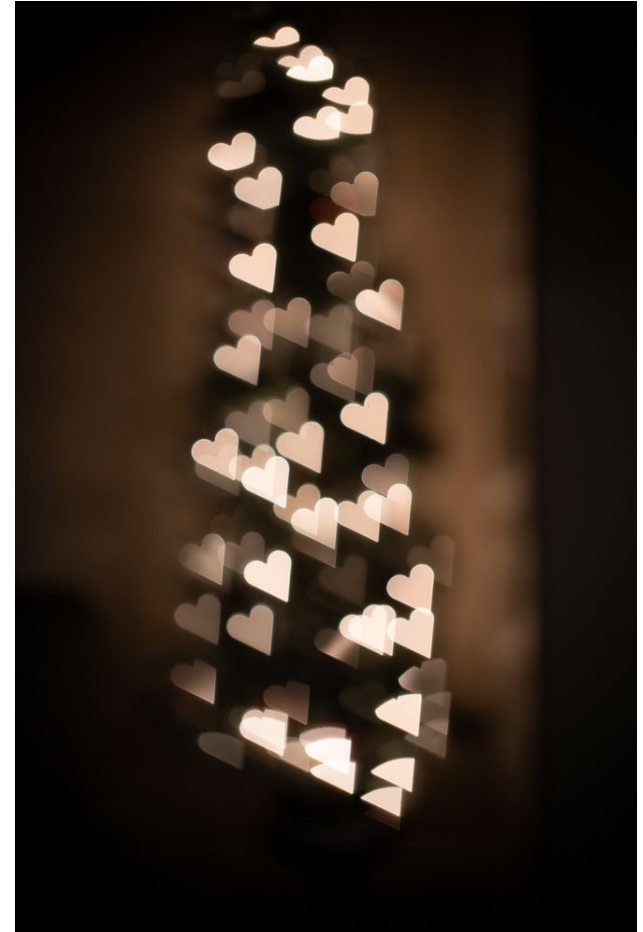
Christmas Tree Lights F1.4



Focus on tree



Focus close to camera
Without cutout



Focus close to camera
With cutout

Vegetable Shapes



Scorpion?

Flowers

- Ringlight for more light
- Velvet or reflector behind to isolate
- If windy, try one of these
 - Surround with a box, even an old aquarium
 - Paint or line with velvet or soft cloth
 - Use a flash to stop the motion

Ring Lights



Night Flowers

- Flashlight to illuminate
 - Light in one hand, cell phone camera in the other, say “smile” to the camera
 - Could of course use a tripod
- Backlight is very nice



Abstracts can be fun

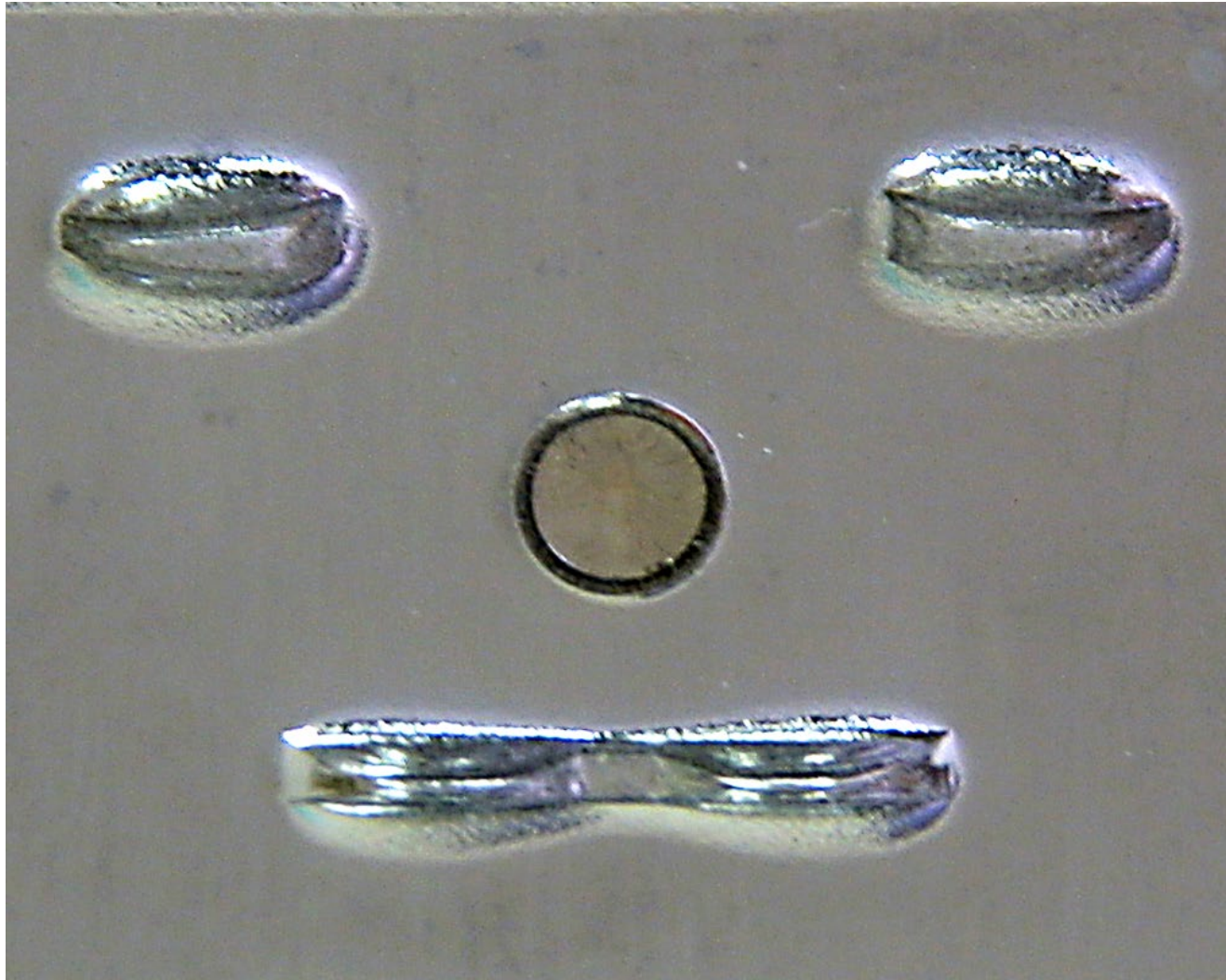


Close-ups

- The world up close looks interesting
- Macro/micro lenses are best but \$\$
- Closeup filters inexpensive
- Extension tubes



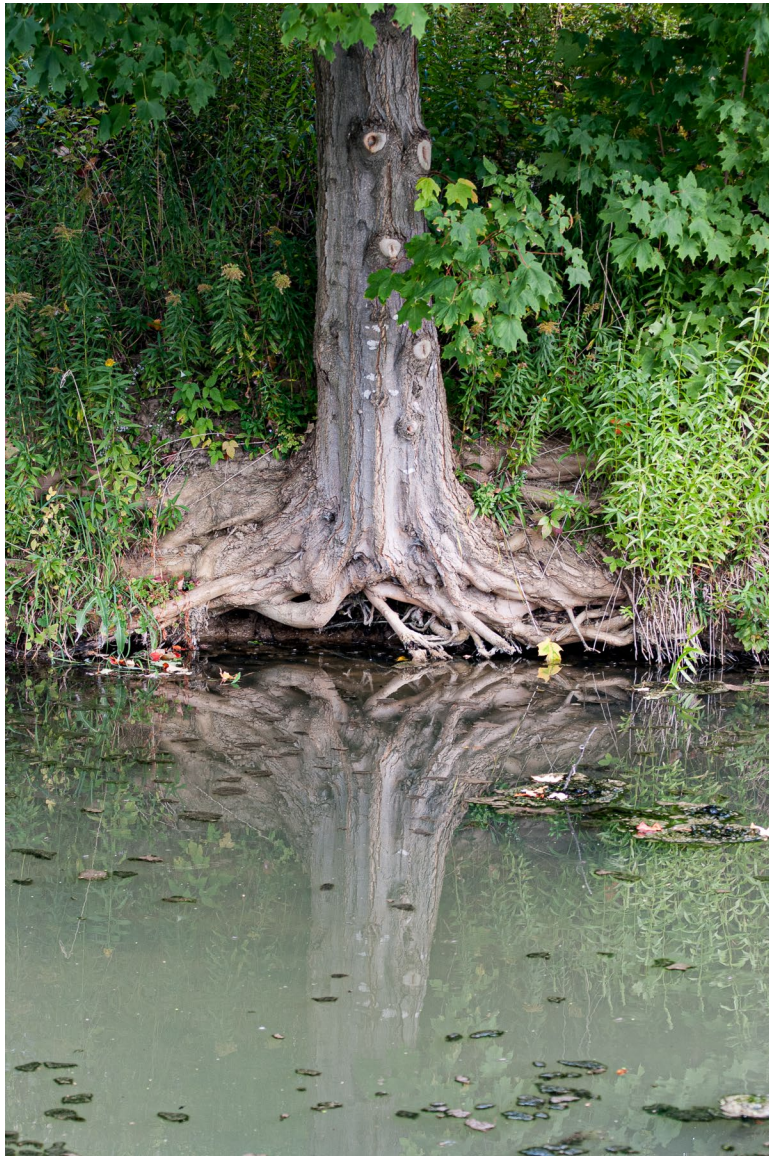






Reflections







Sun Star (also night lights)

- F16 or smaller aperture (e.g. F22 etc.)
- Remove any filters, will cause reflections



Pinhole Camera

- https://en.wikipedia.org/wiki/Pinhole_camera
- Make your own, tiny hole in thin metal
- Buy from www.pinholecamera.com
 - Lensless Camera Mfg. Co.

Perspective Tricks

- Use position to alter size relationships
 - Used in Lord of The Rings movie
- Closer objects are larger while farther away ones look smaller
- Need large depth of field e.g. F22
- Sometimes easier with wide angle lens









To “sell” these perspective tricks pay attention to:

1. Focus and depth of field, the things you want to appear to be together must both be sharp
2. Watch other elements in the photo, example: the ground, in this case a low angle separates the spoon from the feet standing on the cement
3. Make sure the object overlap is in the correct order, in this example the spoon is tilted so the feet appear to be inside the spoon and off the ground
4. Wide angle lenses with long depth of field are often useful but longer lenses can be used in some cases



More Perspective Ideas

- Large shoe attacking someone
- Large bird looking at a small person
- Huge beachball falling on a person
- A hand holding a car
- Building top as a hat on someone
- Etc.

Gravity Rotation

Might need to put in a suitable background to really “sell” this



Sandwich Bag Photography

- Yes, really!
- Google it for examples
 - Ignore the sandwiches in bags!
- Gives nice soft edges
- Best with F2 or better (smaller number)
- [Sandwich Bag Portraits: Creative Photography Challenge Ep. 3 \(creativelive.com\)](#)



SANDWICH BAG PORTRAIT

Credit: Casey Cosley



Fun With People

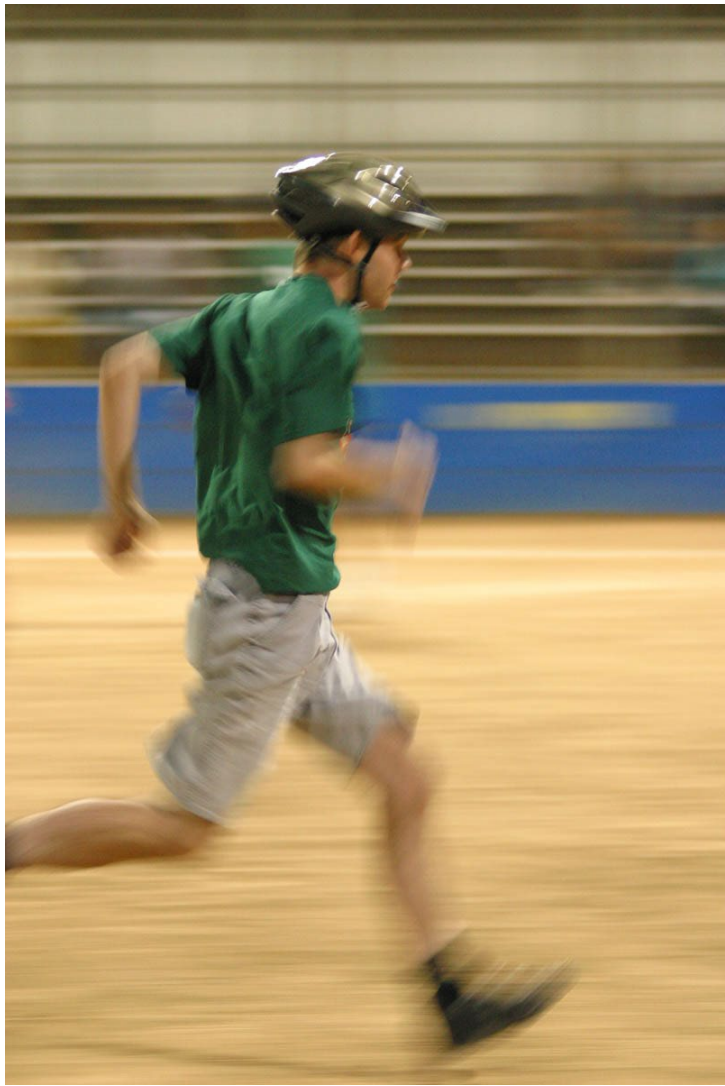
- Capture expressions doing things
- Jumping, running, biking etc.
- Toss leaves in the air above somebody



Panning

- Move camera following a moving subject
- Blurs background in the moving direction
- Use shutter speed around 1/30









Oil Colors

Spilled oil can be beautiful

Light on Oil Gives Colors

*** TODO **** Add picture of oil on road showing colors



Light Painting

Long Exposure, move a light source around.



Copyright Darren Pearson



Copyright Darren Pearson

LED Wand Painting - PixelStick





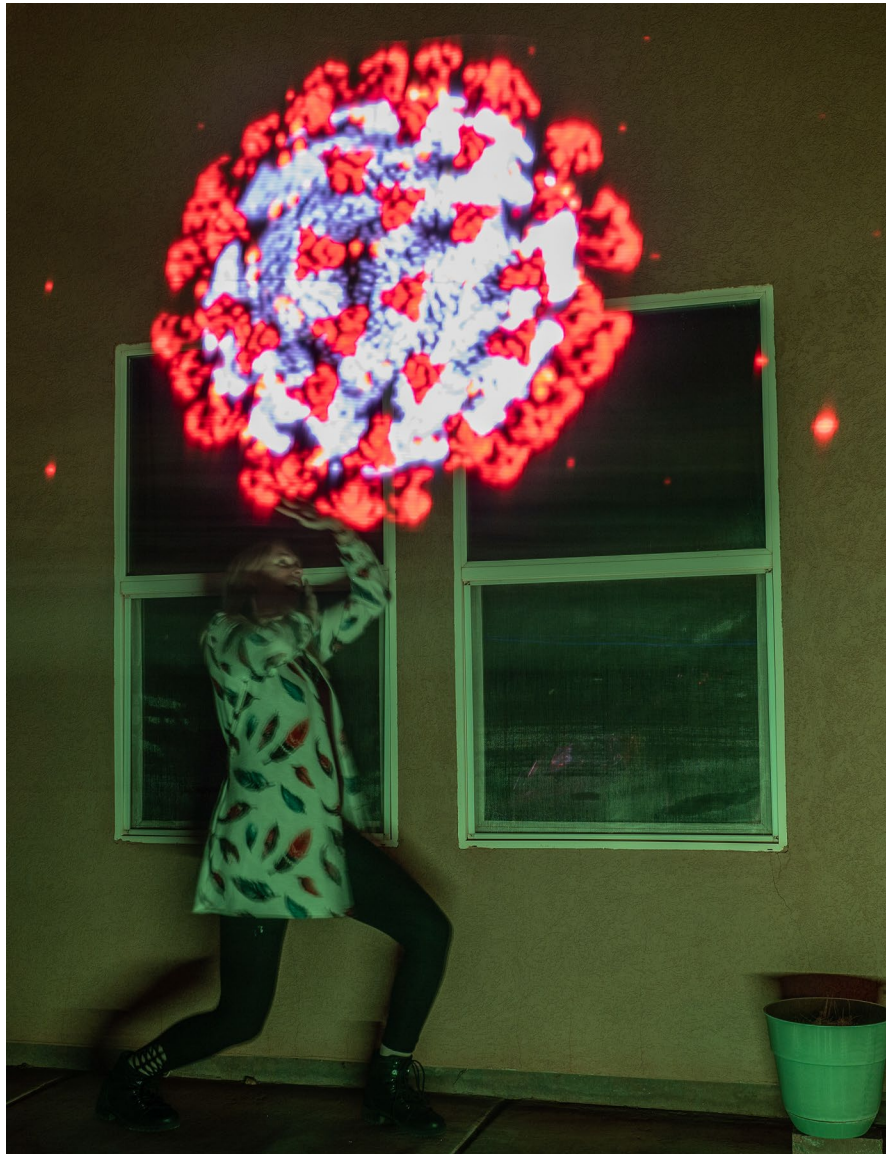
Nice cabin we
stayed in!



Note how the checkers are reflected on the car's paint.

She walked to display MAGIC, then stopped. The flash was set to fire at the end of the exposure.





Covid attack!

This was shot in the camera.
Photoshop was not used.





More Information

- [Google PixelStick, MagiLight, and Magic Image Wand](#)
- [Facebook.com/LightPaintingBrushes](https://www.facebook.com/LightPaintingBrushes)
- [YouTube.com/LightPaintingPhoto](https://www.youtube.com/LightPaintingPhoto)

Lightning



Several Methods

- Luck, press the button at the right time
- Better luck, leave shutter open longer
- Use a camera that pre-captures images
- Connect a lightning detector
 - Many available for less than \$200



Modified Time Exposures

Part Still, Part Motion

e.g. 10 seconds total, maybe 7 seconds on tripod, pick up and move camera around



This one won first place at the Red Cliffs Art Gallery in May 2023
Theme: "Splash of Color" Title: "Deer in Lights"







Crystal Ball Images

See the world differently









This was actually done in Photoshop because I wanted to make the image right side up and remove the color from the background.



Spend the Week Creating

- Bring your images next week to show
- We can also spend a little time with Lightroom to see how to manage and edit your collection of images