

# Slow Shutter Speed

Light Writing and Amazing Things in the Studio

# Objective

Students will explore the concept of light writing (*also known as light painting*) and learn to create compelling images using long exposure photography in a controlled studio setting.

By the end of this activity, students will understand the techniques and tools needed to experiment with light as a creative medium.

# Instructions

For this, you will be going into the studio in groups of four.

You will be sharing one camera between the four of you, but you will only be using the photos **YOU** take.

You will all be using a tripod for the camera(*Make sure the quick release plate is secure on the camera, and the camera is secure on the tripod*).

If you are taking photos, you need to be within an arm's length from the camera.

One person is the photographer, one person is the subject, and the two other people can be moving the lights around.

You will be getting **FOUR** solid and different photos, making sure to review your images before you switch to a different person.

Don't waste time doing this, as other people are also waiting to use the studio.

# Materials

- Cameras with manual settings
  - If you can connect your phone to your camera using the app, you can release the shutter without touching the camera(*which prevents camera shake when using slow shutter speed*)
  - Phone will allow you to see the photos via the Canon app
- Studio Tripod
- Flashlights, LED lights, glow sticks, or other light sources
- Dark studio space

# What is light writing?

**Light writing**, also known as light painting, is a photography technique where you use a moving light source to **DRAW** or create designs during a long exposure shot.

This means you set your camera(*on a tripod*) to keep its shutter open for several seconds or longer, giving it enough time to capture the motion of the light.

While the camera is taking the picture, you move light sources like flashlights, glow sticks, or other light sources in front of the lens to create patterns, words, or shapes.

The result is an image where the light trails look like glowing drawings or handwriting, offering endless creative possibilities.

# Application of Light Writing

Light writing has many practical applications in art and media outside of just a class assignment, making it a unique and creative tool for storytelling.

- Photographers use it to create eye-catching photographs with dynamic light trails that capture movement and emotion.
- In media production, light writing is often used in music videos, advertisements, and films to add vibrant, glowing effects or to write messages that stand out.
- It's also a popular technique for social media content, where the visually striking images can attract attention and engage viewers.

By combining photography and creativity, light writing allows you to explore innovative ways to express yourself and enhance your artistic projects.

# How to use the studio tripod

## Step 1: Set Up the Tripod

1. **Find a Stable Surface:** *Place the tripod on a flat, stable surface to avoid movement during the shot.*
2. **Adjust the Height:** *Extend the legs of the tripod to your desired height, ensuring all legs are locked securely.*
3. **Mount the Camera:** *Attach your camera to the tripod's mounting plate. Tighten the screw to secure it firmly in place.*

## Step 2: Position the Camera

1. **Choose the Angle:** *Aim the camera at the area where the light writing will take place. Consider the frame composition to ensure enough space for the light trails.*
2. **Level the Camera:** *Use the built-in level on the tripod(if available) to ensure the camera is aligned correctly.*

# Tripod Parts



**Tripod Joints** - Open the latch and extend the leg to however long you need the tripod to be. Make sure to securely close it to make sure the tripod doesn't slide down during the shoot!



**Quick Release Plate** - This is what you attach to the bottom of the camera. Make sure to secure it tightly so the camera doesn't move on the tripod, but don't overdo it!

The latch on the tripod is pointing towards you when it's unlocked and you can take it off.

The latch is pushed in to lock it onto the tripod.



# The Lights!

We have different LED lights that you can use for light writing.

**HUE** - Changes through the color spectrum.

**SATURATION** - how intense or vivid a color looks. At 100% saturation, the color is at its brightest and most vibrant. As you lower the saturation toward 0%, the color becomes less vivid and more faded, eventually turning into shades of gray and losing all its color. At 0% saturation, there is no color left—just white, gray, or black, depending on the brightness.

**MODE** - Switch between the different modes, from effects to color to white light.

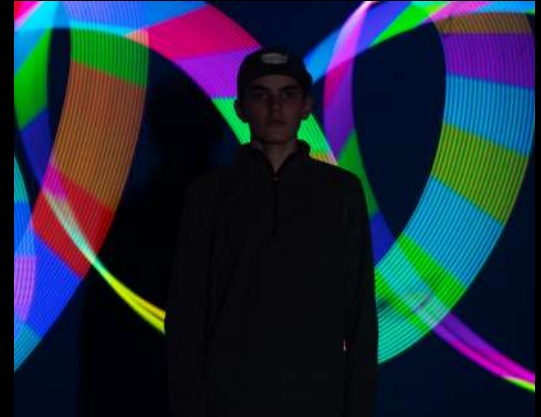


# Difference between constant light and strobing light

The lights have different settings. If you keep a constant light, you will get images similar to the one here on the **LEFT**.

The lights can also strobe/flash, where you will get streaks of light similar to the one in the **MIDDLE**.

You can also set the lights to strobe between colors, which will change the color streak to be like a rainbow like we see here on the **RIGHT**.



# Behind or in front of?

You can have the light be behind your subject, as is shown on the **LEFT** side, but then we don't have much detail of our subject.

You can bring the light towards the camera, which brings depth to our photo like in the picture to the **RIGHT**.

And then you can briefly shine the light on your subject so we can see detail of your subject while also having the light be behind and in front of your subject, like in the **MIDDLE** picture.



# Shine Some Light On Your Subject!

At some point, shine some light on your subject(*briefly!*) so we can see the detail on your subject.

Doing this also *cements* the focus of your subject on the picture and allows you to move the lights behind them and in front of them(*towards the camera*) and if the subject moves a little, it won't be as noticeable.



# Focusing before you take the photo

Your camera should be in **Manual Focus**. If it is in auto focus and the lights are off the camera will try to get the focus which might be hard to do and might not get the right focus once the photo has been taken.

One of your helpers can hold their light on your subject's face to get the focus set.

**TIP:** *Get the focus on the eyes, that is the deepest part of the face and best place to get your focus.*

**APERTURE TIP:** *Remember, when your aperture is  $f/1.8$ , you have a narrow field of focus, but as you make the aperture hole smaller(bigger number), the larger your field of focus is!*

# Keep Your ISO Low!

We keep our ISO as low as possible so we don't have digital noise as we can see in the picture here.

The great thing about light writing is that we can slow the shutter speed even longer to see the lights, so keep your ISO low!





# Your Subject Needs to Remain STILL!

If your subject moves (even a *little!*) it will show in your photos and make your subject look blurry.

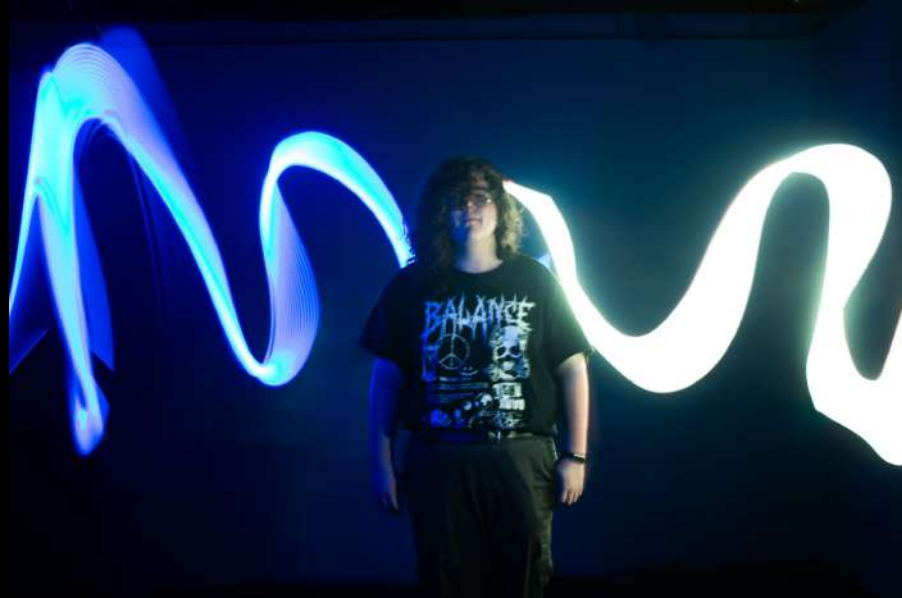
Your subject needs to remain as still as possible while the light is on them, but as soon as the light is off it's ok to blink and possibly move a little bit.



# Crop Your Image!

We don't want to see the studio itself! If you can see the ceiling, the ground, or the walls on the side of the pictures, CROP IT!

You don't need to worry about this in light writing in general, but for this assignment we don't want to see it!





# Your Helpers **NEED** to Move!

All three of these photos are great. The only issue? We can see the person moving the lights around behind the subject!

Make sure that your helpers are moving around and not standing still for too long, because if the light rests on your helper for too long, it will burn into your image.



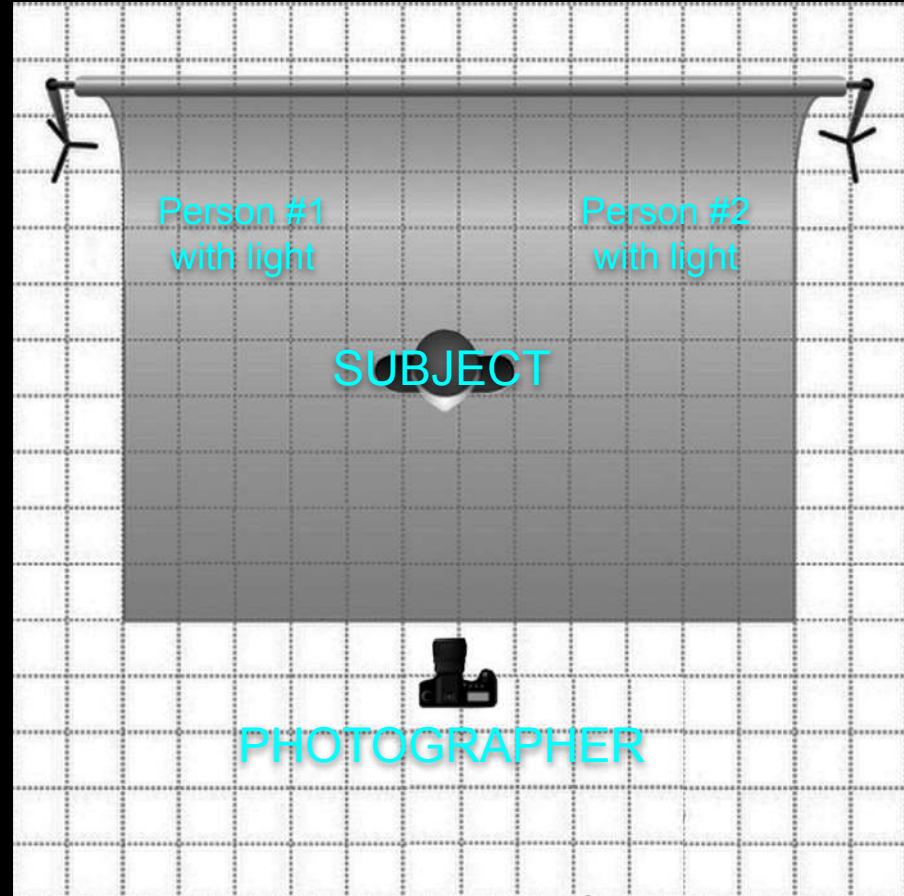
# The Studio!

The camera will be positioned on the tripod closest to the back wall (*by the door to the Annex*), facing the blue backdrop wall.

The subject will stand in the middle of the studio, trying to stand as still as possible while you are taking the photo.

Person #1 and #2 will be moving around moving the lights around to get the swirls, and they can move from one side to the other, as well as move in front of the subject and towards the photographer.

**Don't touch the walls!**



# Camera Settings Recap

**Shutter Speed:** between **10 seconds** to **30 seconds** long.

- The longer the exposure, the more time you have to play with lights.

**Aperture:** Try keeping your aperture around **f/8** to **f/11** (*up to f/16*) for a balanced depth of field and sharpness. Adjust as needed to try to keep ISO as low as possible.

**ISO:** Try to keep at **100** to avoid digital noise, start raising up (*only a little!*) if needed.

**Tripod:** Do not touch the tripod when you are taking photos, because any kind of movement on the tripod will make your subject look blurry.

**Focus:** You have lights you'll be moving around. Before you take the photo, shine the light on your subject's face so the camera operator can set the focus, but it should be set to **MANUAL** mode for light writing.

# Studio Procedures

**Do not touch the Blue Wall or get too close to it, as well as the other walls.**

Remember that there are two classes happening on either side of the studio, so you need to keep the volume low in the studio.

**Door** into the Annex(*Middle room*) needs to stay open(*Side doors to other classes remain closed*).

- If you need to turn the light off in the Annex to have it be **darker**, that is fine, but keep the door between studio/annex open.

**Do not lean against the walls in the studio.**

# Turning the lights on and off in the studio

To turn off the lights, there is a small pull tab underneath the white sensors on the switch. **Do not push on the white sensors, it is NOT a button.** Pull the latch/tab gently and the light will turn off.

To turn the lights back on, which you will need to do when you are done with the studio, push the latch/tab back in.



# Video Instructions



# Video Instructions



# Video Instructions





# Video Instructions



# Student Photo Examples



Moving the light behind and around your subject helps make the image have more depth and dimension even though it's a flat image.



You can shine the light on your subject, then have them move again and shine your light on them again to have them appear multiple times during the long exposure.

# Student Photo Examples



# Student Photo Examples



Light shown in the front will show  
light on the subject.



Light behind will silhouette the  
subject.

# Student Photo Examples



# Student Photo Examples





# Student Photo Examples



# Student Photo Examples





# Student Photo Examples



Good: Subject is sitting still so features are clearly visible



Bad: Subject moves and the light is shown on two different areas, blurring the photo

# Closure

What do you think is going to be the easiest part of taking light writing photos?

What do you think will be the hardest part, or the part you might struggle with the most, when taking light writing photos?

Discuss with your neighbors and be prepared to share with the class.