COACH ART connect | starlight children's foundation

In partnership with

Photography Part 2 of 2

ages 5-10

Captain Starlight, here!

I just landed on Earth with some exciting news:

Starlight Children's Foundation has partnered with the organization **CoachArt** to work together to add fun STEAM (Science, Technology, Engineering, Art, Math) lessons into all the activities! How cool is that?!

Over the next few weeks, I will lead you and your student through four action-packed lessons using these nifty curriculum guides!

Did you know kids learn best when they are having fun? That's why I have thoughtfully sprinkled in a **STEAM** learning moment into each exciting lesson. Make sure you highlight those as you work your way through this curriculum guide.

If you have any questions throughout your mission, check out the Coach Corner website or email ***match@coachart.org.***

Now, buckle up and get ready to blast off in *3...2...1!*

Backgrounds: Lesson 5

Outdoor Photography

- Skill Level: Beginner
- STEAM: Visual Arts
- Adult Helper Required: As needed
- Recommended: Ages 5-10

Taking photos outdoors, especially on a nice day, can be great. You'll have plenty of light and plenty of possible subjects (things to photograph).

Activity One: 25 minutes / Activity Two: 20 minutes / Coaches Notes: 10 minutes

Learning Objective:

- To help students understand how to use outdoor backgrounds to add interest to photos.

At the end of this module, students will be able to:

- Define background.
- Demonstrate how to use a background outdoors.

What you need:

- Smartphone or digital camera

Activity 1: The ABC Game

What is outdoor photography?

Outdoor photography involves taking pictures of outdoor subjects such as landscapes, buildings, animals, and people. Outdoor photographs sometimes include things that are very far away from the camera.

A background is the thing that's furthest away from the camera. If you photograph a person in a park, the background might be trees, or a city skyline. If you photograph a sand castle at the beach, the background might be the ocean and the horizon.

Have the student go outside (weather permitting) and photograph objects that begin with the letters A, B, C, and D.

Ask the student to share and discuss the photos.

- ***What do you see in the background of each photo, behind the objects you photographed?***
- ***Do the backgrounds make it hard or easy to see the objects in the photos?***
- ***Do you think the backgrounds might help someone who looks at your photos to understand your photos better? What can someone learn by looking at the backgrounds?***

Activity 2: Just the Background

Now, have the student photograph several different outdoor scenes without focusing on any specific objects. Instead, they should photograph "just the background."

Ask the student to share and discuss the photos.

- ***What "story" does each background tell about where you were, and what kind of day it was?***
- ***Do the photos look like they're missing anything? Would they look more complete if they included an object (a person, an animal, a flower, anything) that's closer to the camera? Why or why not?***
- ***Imagine an object that would "match" each background. For example if the background is a street, the object might be a car. Now imagine an object that would NOT match each background. What would it be? How would that change someone's understanding of the photo?***

Coaches Notes – Foreground, Background, and the Golden Hour

Photography Learning Term of the Week:
Foreground: The part of the scene that is closest to the front of the camera.

STEAM Visual Art Question of the Week:
Why do backgrounds matter in photography?

A background can become part of the story even if you do not want it to be. Let's say you are taking a photo of a flower in front of a background that has a lot of complicated shapes and bright colors. This background could make the photo look cluttered, and this might mean your flower is no longer the center of attention.

Outdoor Photography Tip:
Have you ever heard of the "golden hour"? It usually occurs about one hour before the sun sets or one hour after the sun rises. This time of day creates a warm and soft glow that is great for outdoor portraits!

Photography and Motion: Lesson 6

Stop Motion Animation

- Skill Level: Beginner
- STEAM: Visual Arts
- Adult Helper Required: As needed
- Recommended: Ages 5-10

Activity One: 3 minutes / Activity Two: 35 minutes / Coaches Notes: 10 minutes

Have you seen "The Nightmare Before Christmas," "Wallace and Gromit," or "Rudolph the Red-Nosed Reindeer"? These are all movies made using stop motion animation. In today's lesson you will get an idea of how much work it takes to make a movie using this technique!

At the end of this module, students will be able to:

- Explain the basic function of a digital camera.
- Demonstrate how stop motion animation works.

What you need:

- Digital camera or smartphone
- Backdrop, such as construction paper or a blank wall
- Tripod to hold the camera steady, if available
- Small subjects of interest such as toys, balls, fruits, veggies
- Stop motion or movie software

Video: How Things Work – National Geographic Kids
Length: 2 minutes, 4 seconds
Topic: How digital cameras work
Link: https://www.youtube.com/watch?v=Ey6S3rKH_o4

Activity 1: Let's watch

How do digital cameras work?

A digital camera works in a similar way as a traditional camera. However, it captures the image on an electronic chip rather than on film. The chip is a light sensor that turns the image into electric signals. Most digital cameras have a small screen that displays the image right away.

Watch this short video (the link in the blue box above) for an overview of how it works.

Activity 2: Make a stop motion animation

Stop motion animation is a great way for kids to learn about photography and storytelling.

Each photo captures a moment. By photographing individual moments, then showing the moments quickly, you can create the illusion that things are moving. For example let's say you put an orange on a table and photograph it, then you roll the orange half an inch toward the edge of the table and photograph it again, and repeat this 10 times. Then let's say you turn your 10 photos into a video where each photo is visible for 1/10 of a second. Your video will be 1 second long, and it will look like the orange is rolling across the table. That's stop motion animation.

What to do:

1. Select a location that is well lit.
2. Think of a simple story you can tell in 2 seconds by moving an object.
3. Set your camera on a tripod or on a sturdy surface. Make sure the camera is stable and can stay in one place without moving while you make your animation.
4. Place your object in the starting position.
5. Take your first photo.
6. Think about where you want your object to be at the end of your animation.
7. Move your object 1/10 of the distance toward that final position.
8. Take your second photo.
9. Move your object again, and photograph it again. Repeat until you have taken 10 photos and your object is in its final position.
10. Adult helper: Upload your photos to movie software such as iMovie or stop motion software such as the Stop Motion Studio app.
11. Create a movie where each photo has a duration of 0.2 seconds.
12. Your movie will be 2 seconds long, and it will appear to show a moving object
13. Now try setting the duration of each photo to 0.1 seconds. Your video will be 1 second long. Does the motion of your object look smoother and more realistic? Why do you think that is?

Photography ages 5-10

Coaches Notes – Motion

Photography Learning Term of the Week:
Motion: The phenomenon in which an object changes its position over time.

STEAM Visual Art Question of the Week: What is a camera shutter?

The shutter is the device in the camera that opens and closes, allowing light into the camera for a certain amount of time. Think of it as a curtain. The shutter speed can be changed to either open fast or slow.

When you take a photo of something that's moving, it will look blurrier if the shutter speed is slow, and sharper if the shutter speed is fast. But if you want to take a photo in a place that's dark, a slow shutter speed will let more light into the camera, which will make objects in your photo easier to see. So the best shutter speed for your photo depends on your goals and on the conditions of the scene you're photographing.

STEAM Science Word of the Week:
Tripod: A tripod is a three-legged stand for supporting a camera. Did you know that "tri" means "having three"? What other words start with "tri"?

SHARE YOUR EXPERIENCE
Enjoy your time together, and email your photos & stories to photos@coachart.org at "original" (maximum) size.

Sequencing: Lesson 7

Storytelling With Photography

- Skill Level: Beginner
- STEAM: Visual Arts
- Adult Helper Required: Yes
- Recommended: Ages 5-10

Activity: 40 minutes / Coaches Notes: 10 minutes

Have you ever read a great book that only has pictures? Were you able to understand what happened in the story without reading any words? Today you are going to learn how photos can tell a story.

Learning Objective:

- Students will be able to plan out a series of photos in a logical sequence.

At the end of this module, students will be able to:

- Tell a story using photos.

What you need:

- Digital camera or smartphone

Activity: Let's tell a story!

What is storytelling in photography?

Not all stories use words. A movie is a story told with images and sounds (some of the sounds might be words, but not all of them). A photo can tell a story with a single image. Look at a photo in your home. It might be on the wall, or it might be in a magazine. Imagine what story that photo tells. It might be a very short story, but that's OK. Maybe you can see what time of day the photo was taken, or what season. If there's a person in the photo, maybe you can tell what mood that person was in, or what activity they were doing. What else does the photo tell you? Can you make up a story based on the photo?

Have the student take a photo that tells a story.

1. Find some objects for your photo.
2. Arrange the objects in a way that tells a little story. Maybe the story is "someone was eating a cookie but didn't finish it" or "someone likes to play soccer" or "the cat is comfortable."
3. Take several photos, trying different angles, backgrounds, composition, and lighting.

Once the student has finished taking the photos, have them share their story with you.

Coaches Notes – Stories and Science

Photography Learning Term of the Week:
Exposure: The amount of light that enters your camera, which is a combination of aperture and shutter speed.

STEAM Visual Art Question of the Week: Why tell a story with photos?

Some photos, such as news photos, can help people understand important events. Some photos can tell someone in one part of the world about what another part of the world looks like, and what happens there. Some photos tell us how the photographer sees things in a unique way. Some photos show how life looks today, so 100 years in the future, someone else might understand what life was like in the past.

STEAM Science Word of the Week:
Photojournalism: The art or practice of communicating news by photographs, especially in magazines. Many science magazines, like National Geographic, use photos to help their readers understand and connect with stories of scientific discoveries and the wonders of the natural world.

Final Touches: Lesson 8

Photo Editing

- Skill Level: Beginner
- STEAM: Visual Arts
- Adult Helper Required: Yes
- Recommended: Ages 5-10

Activity One: 20 minutes / Activity Two: 20 minutes / Coaches Notes: 10 minutes

Before digital photography, smart phones, and Photoshop, people used to manually edit photos by various methods of painting, drawing, or etching directly onto a negative or printed photograph. Luckily for us, editing photos is a lot easier today!

At the end of this module, students will be able to:

- Make at least one edit to a photo.
- Explain photo editing.

What you need:

- Digital camera or smartphone

Activity 1: Let's Make a Change!

What is photo editing?

Sometimes, after you take a photo, you might decide it would be better if you made some changes to it. Thanks to photo editing software, you can easily make certain changes such as making the photo lighter or darker, or making the colors brighter, or removing the colors to make it black and white, or cropping the photo (removing part of one or more sides of the photo).

Why crop a photo?

One reason to crop a photo is to improve the composition. Remember the rule of thirds? Maybe your subject is in the center of the photo and you'd like it better if your subject was closer to the left side. If you crop the left side of your photo, you can achieve that goal.
Another reason to crop a photo is to remove

parts that don't interest you. Maybe you photographed a crowd of people that includes your friend, and maybe you would like the photo better if it just showed your friend. By cropping the photo, you can remove the other people.

Another reason to crop a photo is to change the shape. Let's say you have a rectangular photo but you want to put it in a square frame. You can crop the photo to make it square, then print it and put it in the frame.

Have the student take a photo and then crop it.

Android:
1. Open the photo you want to edit.
2. Tap Edit, then Crop.
3. To crop the photo to a different size, select aspect ratios.

You can change the photo to a square by tapping Aspect ratio.
To save a copy of the photo with your edits, at the bottom right, tap Save.

iPhone:
1. Open the Photos app.
2. Select the photo you want to crop.
3. Tap Edit.
4. Tap the Crop button.
5. Drag the corners of the image to resize the photo.
Coach's Note: iPhone has an automatic mode that can be turned on or off by tapping Auto.
6. Tap Done to save your changes.

Discuss: how did cropping change the photo?

Activity 2: Fun with Filters!

A filter is an accessory used to alter light before it enters the camera. If you are using a digital camera, it is attached to the front of the lens. Filters can be used to block ultra-violet light, darken skies, reduce light, change color balance, and make other adjustments. Using a filter can change the mood of a photo. Apps like Instagram have filter effects that can make similar changes to a photo after you've taken it. This kind of filter is a digital filter.

Have the students use digital filters to create different effects on a photo.

Coach Note: If this is the student's first time using a digital filter, the student might need assistance.

Using a digital filter on an Android:

1. Open the Camera app, then select Photo.
2. Tap the Filter icon (it looks like a magic wand) in the top right corner of the screen, and then tap My filters.

Using a digital filter on an iPhone:

1. Open the Photos app from your Home screen.
2. Tap on the photo you want to filter.
3. Tap the Edit button at the top right of the screen.
4. Tap the Filters button (looks like 3 circles) in the bottom menu in the middle.
5. Scroll, then tap on the filter you want to apply.
6. Tap Done.

Does using a filter change the mood of the image?

Coaches Notes – Changing the World, One Photograph at a Time

Photography Learning Term of the Week:
Lens: A curved piece of glass that captures light from the subject and focuses it on the film or light sensors in the camera when you take a picture.

STEAM Visual Art Question of the Week: How is photography used in science?

Scientists use photos for many purposes. They use it to record the appearance of things like animals or rock formations. X-rays taken at hospitals are a kind of photo. Scientists can use photos to see things that the human eye can't see – for example a hummingbird's wing in flight. Photos were used to prove the existence of viruses in 1942. Pluto was discovered thanks to comparisons of photos taken through telescopes.

STEAM Science Word of the Week:
The speed of light: Light moves at the fastest known speed in the universe: 186,282 miles per second! How fast is that? The Sun is almost 93 million miles from the Earth. If you could travel at the speed of light, you could go from the Earth to the Sun in about 8 minutes.

COACH ART connect | starlight children's foundation

In partnership with