STEAM Subject: Photography
Lab: Taking Photographs to Tell a Story

Grades: 4th-8th

Learning objective:
Students will be able to
- tell a story using photography to describe an experience or event.
- practice different photography techniques with a phone camera.

ENGAGE:
Ask students the following questions:
- How do photographs help us tell a story?
- Have you use the zoom option on a phone camera? If yes, when do you think is helpful to use it?

EXPLORE:
- You will photograph an activity from your daily life.
- Your image will only contain the objects that tell your story.
- You will practice using the zoom option on your camera to get close to what you consider important.

Materials:
- Phone camera app
- Visit the website of your phone company for more information about your camera options
  - iPhone < https://support.apple.com/en-us/HT205659>
  - Android <https://www.wikihow.com/Zoom-with-the-Camera-on-Android>
- Journal or paper
- Pencil or pen

Directions:
1. Think about our "temporary life style". Things have changed rapidly and unexpectedly, maybe you got a better routine today than last week, or maybe you are in the process of getting a new routine.
2. Use a journal or a paper to write about what you do in the morning. You can describe a part of your routine, your favorite activity or least favorite activity. Now write a list of objects that you use when doing these activities.
3. Using only these objects, imagine the photos you can take to tell the story of your daily life activities.
4. Explore the zoom in and out on your phone camera app. The cell phone camera has different types of sensors and lenses, therefore the quality of the images and how far you can zoom in or out depends on the phone.
Two common zoom options are:
1. **Pinch motion**: touching the index and thumb together, you open (zoom in) and close (zoom out) both fingers at the same time.

You can see the image getting closer to an object (**zoom in);** by placing your fingers on the middle of the screen and open your fingers as a pinch motion.
You can see the image getting farther from an object (**zoom out**); by placing your fingers open on opposite direction on the screen and close your fingers as a pinch motion.

2. To reveal the ***zoom slider***
   Option A. Use a pinch gesture and place you fingers on the middle of the screen, slightly open your fingers, the slide will appear in your screen with an + and – sign symbol. The image will get closer to an object (**zoom in)** as you move the slide towards the + sign symbol. The image will get farther from an object (**zoom out**) as you move the slide towards the - sign symbol.
   Option B. On your iPhone 7 Plus, iPhone 8 Plus, or iPhone X and later, tap 1x for a higher-quality zoom from farther away. If you want to zoom more than 2x or finely control the image, touch and hold 1x or 2x to get a slider that lets you zoom all the way to 10x. On iPhone 11, iPhone 11 Pro, and iPhone 11 Pro Max, zoom out to .5x with the Ultra Wide camera (you can learn more visiting the website of your device for support).

5. While you photograph your object, get close to it, observe the light, the shapes and take photos at different angles.
6. Take a picture zooming out.
7. Photography is an activity that can help us tell stories and share our feelings, spend as much time as you can, and have fun!

EXPLAIN:
Objects are part of our daily life, you can tell stories, share your interests and disinterests photographing those objects and/or things. You can also find what you have in common with other people by sharing a part of their daily activities. When you take photographs, you are writing a story with images. You decide what to include and what to exclude on the *frame*. When you see a scene, your brain focuses attention on a subject/object, reducing attention to those elements that cause distraction.
When you photograph a landscape without getting close, the photograph will show that all the elements are important; however, you can emphasize what is important to you as you zoom in on objects without moving, using the zoom in option.

See below some photos using zoom in and out options:
In the image on the left, our Photography instructor, Carla Reyes zoomed in on objects to capture what's important and what she looks forward to every morning. In the image on the right, she zoomed away from the objects to capture those elements that distract the image.

Zoom in

Zoom out

ELABORATE:
How can we use photography in science?
Scientists all around the world use photography to document changes in the environment, study viruses, capture the first image of a black hole < https://www.jpl.nasa.gov/edu/news/2019/4/19/how-scientists-captured-the-first-image-of-a-black-hole/>, and much more.

- Check out the MIT Museum exhibit "Images of Discovery: Communicating Science through Photography" that showcase some science phenomena using photography https://mitmuseum.mit.edu/exhibition/images-discovery-communicating-science-through-photography.
- Learn more about "How do pictures tell a story" in this National Geographic article < https://www.nationalgeographic.com/travel/intelligent-travel/2013/05/03/do-your-pictures-tell-a-story/>

OPTIONAL ACTIVITY:
If you were a scientist, what would you like to photograph? How would you use this photo to communicate your science? Practice what you learn today to share observations and document changes in your backyard or neighborhood. Look for things that can tell the story about a local animal or plant.

EVALUATE:
Find someone that does not know about this photography project.
Show them a *zoom out* image and ask them, what they think the image is about?
Show them the *zoom in* image and ask the same question.
Based on their answers, which image told your story the best?

Share you pictures with us on social media!

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