

Date: Tuesday, June 23, 2020

Time: 1:00 pm, 45-60 mins

Materials:

Small Canvas (not included)
Paint (from Sun Printing)
Sponge Brush (from Sun Printing)
Permanent Marker (not included)

Activity Agenda

Bird Call Sound Waves



I. Welcome

Be sure to have your materials ready before the video session starts and always ask an adult for help and permission.

II. Activity Overview

If a tree falls in the forest and no one is around to hear, does it make a sound? Sound is the STEM topic today. We will explore how sound travels using bird calls and art. Sounds are created by vibrations and if you change the vibrations you change the sound. The best way to see sound is by looking at the waves it produces. We will use an oscilloscope to see sound waves up close.

III. Grade Levels

- All campers are welcome to join to learn and participate in the activity

IV. Before Activity

Download Audubon Bird Guide App: <https://www.audubon.org/app>
(Available for apple and android)

Link to online oscilloscope: <https://academo.org/demos/virtual-oscilloscope/>
(Make sure to have this link ready to go before camp.)

V. Activity

Bird Watch

1. Make sure you have downloaded the Audubon Bird App. This will help you identify birds and their calls.
2. Head outside. Your patio, backyard, neighborhood, or local park are great places to find and hear birds.
3. Listen. Bird watching takes patience. If you sit for a few minutes you may just hear a bird calling. Use this time scroll through your Bird Guide app.
4. See if you can identify at least one bird.



Creating Sound Wave Art

1. Paint your canvas and set aside to dry (paint a solid color, you can add a design on a later step if you would like)
2. We will be using bird calls to see sound waves. Choose a bird from the Bird Guide App or one you found on your bird watch. Pick a call from your chosen bird's info page on the app.
3. Open the online oscilloscope.
4. Check that the Input is set to "Live Input"
5. Explore the oscilloscope. Speak into your computers microphone. Do you see the line of the oscilloscope move? Compare waves created by the bird call to your own voice. Are they similar or not? Why do you think that is?
6. Play your bird call. Take a snapshot of the sound waves by clicking the "Freeze Live Input" square. You can redo this step as many times as you need to capture your desired wave.
7. Using the sharpie draw out the frozen sound wave
8. Make sure to label your sound wave with the name of your bird
9. You may add additional designs or decorate your painting as you wish.



VI. Clean Up

A Girl Scout always leaves a place cleaner than she found it.

VII. Closing

Be sure to tune into our next activity – Bird Feeder Challenge at 3:00 p.m.

See you soon, Girl Scout!