



Episode title: Rafael, the Musician & the Whistling Pigeon

Episode launch date: August 9

Program name: Make a Mini Banjo

Program Magician: Virginia Marshall

Activity Overview

In this activity we will listen to a portion of the BPL podcast [Page Flippers Take on the World](#), and then read a section of a book about the science of music. Patrons will then have the opportunity to make their own mini banjos and experiment with manipulating the sound.

Learning Objectives

At the end of this session participants will be able to . . .

- Talk about how sound is created
- Manipulate rubber bands to change the pitch of a string instrument
- Generate ideas about how other craft instruments can be made

Materials Needed

- Optional: A book about the science of sound (like [this one](#)) with a reading section prepared
- Speaker, and capacity to play section of **Page Flippers**
- For the mini banjo craft:
 - All kinds of rubber bands
 - Duct tape
 - Metal jar lids and popsicle sticks (if making mini banjos) or ...
 - Cardboard boxes of different sizes or plastic containers used for storing other items in the library (if jar lids are too difficult to collect)

Setup

- Identify which section of the book to read, if using
- Gather materials for your craft
- Create a list, display, or small book bundles on animals for your patrons to peruse. You can use this list as a starting point: <https://www.bklynlibrary.org/search?booklist=584735>

Podcast Clip

- Find and charge (if necessary) your speaker and the device from which you'll play the **Page Flippers** snippet.
- The clip will appear as a "bonus" episode on the podcast feed (you can find it on [Spotify](#), [Apple Podcasts](#), [Stitcher](#), [RadioPublic](#), [Google Podcasts](#), etc.) or you can preview the clip here: [Page Flipper Bonus Clip - Musician.mp3](#)
- Clip summary: Sheneatha's friend Starr (a pigeon) is stressed out because she's stuck in the library and can't find her way out! Page Flipper Rafael remembers that scales can have a calming effect, so he uses his cello to play scales for Starr to calm her down. Then he figures out how to Starr out of the library using sound!

Process

- Talk about pitch – can patrons hum or sing a high note? A low one? Introduce the idea of vibration creating sound.
- Demonstrate how to make a mini banjo ([video here](#)).
- While they are making their craft, you can play the *Page Flippers* clip.
 - Follow up questions: What was your favorite part? What did you notice? How did Rafael help the pigeon find her way out of the library? Can you hum an ascending scale? Descending?
- Have kids experiment with tightening and loosening the rubber bands (bands can be doubled up on jar lids) and seeing what happens to the sound.
 - There are tons of ideas for sound experimentation in [Rubber band banjos and a java jive base: Projects and activities on the science of music and sound](#) by Alex Sabbeth
 - Page 22-23 has a section on how string tension impacts pitch, and you can refer to this when answering questions and prompting to try new ways of playing the rubber bands
- Invite everyone to check out books about music. Banjos are theirs to keep (unless you used plastic containers from around the room – then ask them to clean up their materials!)
- Have **Page Flipper** postcards, flyers, bookmarks, or other handouts on hand to give out to participants.

Scaling

- To Scale Younger: Focus more on the idea that vibrations create sound, not so much on pitch manipulation.

- To Scale Older: You could make a shoe box guitar (instructions on page 26 of [*Rubber band banjos and a java jive base: Projects and activities on the science of music and sound*](#) by Alex Sabbeth). Kids can press their fingers down to shorten the length of the rubber band.