

FACTivity Extension



The *Natural Inquirer* website has a “Birding in the Classroom” Outdoor FACTivity which provides many more birding activities. This Outdoor FACTivity was adapted from Cornell University’s BirdSleuth program. To see the full lesson plan, visit [http://www.naturalinquirer.org/UserFiles/File/Birding%20FACTivity\(1\).pdf](http://www.naturalinquirer.org/UserFiles/File/Birding%20FACTivity(1).pdf).

Technology Extension



Time Needed

One class period

Materials

(for each student or group of students)

- An original song that is age and content appropriate for students
- One or more covers of the original song (Note: A cover is a new performance or recording of a previously recorded song. The cover is recorded or performed by someone other than the original performer.)
- A way to play chosen songs for the class to hear
- Access to the Internet and a way to listen to .wav files
- Bird song files (.wav files) located at <http://www.naturalinquirer.org>
- Spectrograms (on page 74)
- Graphic organizer

The questions you will answer in this FACTivity are: What similarities and differences do you notice between bird songs? How does the way a song sounds have an effect on you?

Methods

To start thinking about songs and sounds, your teacher will play a song for you. First, your teacher will play the original song. Then your teacher will play the same song, but with someone else singing it. (Note: Some songs may have several different versions that your teacher can play.) Which song did you like better? Why? Have a class discussion about this introduction activity and how it is similar to what happens to the birds in the “Invasion of the Song Snatcher” article you read.

Next, you will listen to six recorded chipping sparrow bird songs that the scientists

in this study recorded. First, simply listen to each file. Next, play each file several times in a row.

As you listen to each song, take some notes about the song on the graphic organizer on page 73. For example, you may want to think about the following questions:

- What do the notes sound like to you?
- Is the song fast or slow?
- Does the sound remind you of anything?

Make a note of the song or songs that seemed to have the most differences.

Invasion of the Song Snatcher Bird Song Graphic Organizer

Name _____ Date _____

Bird Song	Notes About What You Hear in the Song
Song 1	
Song 2	
Song 3	
Song 4	
Song 5	
Song 6	

Now, examine the spectrogram illustrations provided by the scientists in figure 15. A spectrogram is a visual representation of sound qualities such as pitch and how this changes over time. In the spectrograms, the black shapes are the notes, repeated by the bird. The vertical axis (y-axis) shows the pitch of the note. For example, this axis shows whether the notes are high or low or represent a range. The horizontal axis (x-axis) shows the change over time. The horizontal axis is time, with all of the spectrograms depicting 0.5 seconds.

After you have listened to the bird songs and reviewed the spectrograms, answer the following questions:

- Do the spectrograms help to show what you heard?
- What is one thing that you learned today about birds?
- What are you still curious about?

To learn more about bird songs and calls, visit <https://www.allaboutbirds.org/how-to-learn-bird-songs-and-calls/>.

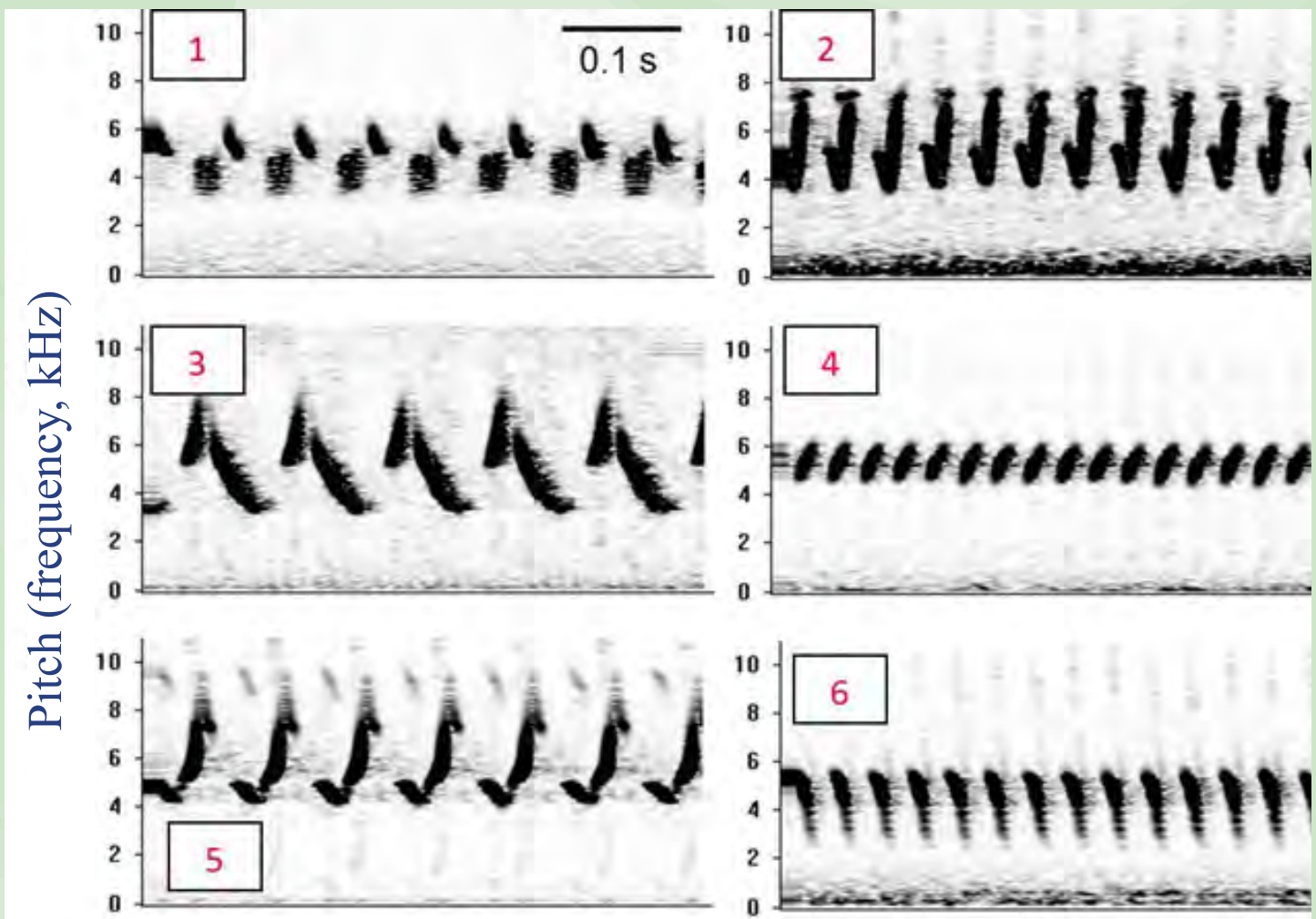


Figure 15. Spectrograms of chipping sparrow songs (0.5 second clips) illustrating differing song types identified. Each spectrogram shows one unique song type. The number in the box shows what song number the spectrogram represents. Photo courtesy of Yvette Ortega.