

Grades: 4-5

SciGirls, “Code Concert”

This series showcases bright, curious real girls putting science and engineering to work as they answer questions and make unexpected discoveries in the world around them. In this episode Britanee, Estrella and Saabiriinn collaborate with singers on a concert for deaf and hearing-impaired audiences. They code software that “paints” with the music, creating a stunning visual display of a live vocal performance.

After watching this episode, choose from the following questions and/or tasks to extend your learning

Question Box 1

- How do the girls use computers and software to represent sound?
- Describe how they use a computer to communicate.
- Describe the tools that help others visualize music in real time.
- What did the girls learn from analyzing code?
- What project were the girls given using the song **TRY**.
- Describe how the girls learn their assigned song, **TRY**.
- What do the girls think about the song **TRY**?
- Describe how the girls used a storyboard to represent **TRY**.
- Tell how the girls were able to change their song. How did it make the girls feel?
- How did the girls improve their visual display?
- How do the girls share their project?
- What do they hope others will learn from their work?
- Tell how their work proves that everyone can enjoy music.

Question Box 2

- Think about what it would be like to not be able to hear. How would you describe music to a deaf person?
- Brainstorm and list ways that you help a deaf person listen to music?
- What was one section of the text(video) that stood out for you and why?
- What was most challenging or least interesting about this program?
- What about the show stood out to you?
- What did you find most interesting and why?
- How much did you know about the subject before we started?
- How do you feel about this program? Why?
- If someone else were looking at this program, what might they learn?

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Box 3 (Tasks)

See Sound science activity:

- Watch the video: [How To See Sound](#)
- Try whispering, talking, yelling and other sounds.
- Record you findings for each sound used.
- Report your findings on a chart.

Now try another activity: [Musical Jars Science Experiment](#)

- Watch the video and try it as you follow along. Think about how this might help someone “see” music”.
- Now listen to your favorite song, make a storyboard representing the song you selected using shapes and colors.
- Describe how the SciGirls use engineering to make their software.
- Describe how the SciGirls made the connection between the mathematics needed for the code and the music.

Box 4 (Enrichment)

- Make an alphabet chart in ASL sign language. Make it colorful, like a piece of art.
- Visit Code & Chords to make and “see” your own music” [Code + Chords: Home](#)
- Describe the connection between sound waves and “feeling” sound for those with impaired hearing.
- Discuss how the sound waves of music connect with the light waves of the paintings.

Box 5 (Extend/Real-Life)

- Learn how to finger spell the alphabet from the [chart](#) or [video](#). Learn how to spell your name.
- Learn basic sign language words from the two videos below:
[25 Basic ASL Signs For Beginners | Learn ASL American Sign Language](#)
[20+ Basic Sign Language Phrases for Beginners | ASL](#)
- Research and discuss current real-life projects that connect sound and visual art.