

Coding the Sounds of Music – TI-Nspire CXII Python STEM and Coding Full Version

(~4 hours of class time)

Getting Ready: Follow these step-by-step videos

Learn about the TI-Nspire CXII calculator ([watch video](#) ~6 min)

Write your first Python program on the TI-Nspire CXII ([watch video](#) ~12 min)

Interested in exploring more Python?

(optional) Check out the TI 10 Minutes of Code for Python lessons. ([web link](#))

Coding the Sounds of Music

Getting Ready: Name that Tune ([watch video](#) ~11 min)

Science/Music Activity 1: How does a violin make sound? ([watch video](#) ~11 min)

Coding Challenge 1: Coding Boop ([watch video](#) ~9 min)

(optional) Explore More: How does a speaker work? ([watch video](#) ~16 min)

Coding Challenge 2: Range of human hearing ([watch video](#) ~11 min)

(optional) Explore More: How does the human ear work? ([watch video](#) ~7 min)

(optional) Explore More: How does a microphone work? ([watch video](#) ~ 10 min)

Science/Music Activity 2: The Metronome and Tempo ([watch video](#) ~10 min)

Coding Challenge 3: Calculating Tempo ([watch video](#) ~18 min)

Science/Music Activity 3: Duration of a Note ([watch video](#) ~8 min)

Coding Challenge 4: Coding Notes ([watch video](#) ~12 min)

Coding Challenge 5: Frequency of Notes ([watch video](#) ~11 min)

Coding Challenge 6: Reading Notes ([watch video](#) ~12 min)

Coding Challenge 7: Do-Re-Mi ([watch video](#) ~8 min)

Coding Challenge 8: Sound Effects ([watch video](#) ~5 min)

Science/Music Activity 4: Playing Twinkle ([watch video](#) ~4 min)

Coding Challenge 9: Coding Twinkle ([watch video](#) ~12 min)

(optional) Coding Challenge 10: Play it Again, Sam ([watch video](#) ~15 min)

Downloads: Student Files

Coding the Sounds of Music Student ([download .tns file](#))

Student Handout: Coding the Sounds of Music ([download .pdf file](#))

Python Syntax Quick Reference for Coding Music project ([download .pdf file](#))