



project.org

STUDENT HANDOUT

YELLOW LEVEL
GRADE LEVEL

The Science of Sound

Grades 5–8 • Science

ADMIT ONE

NAME

DATE

CLASS

The Harlem Renaissance (c. 1920–1935) produced extraordinary work in music, literature, and visual art. It grew from the Great Migration, when over one million Black Americans moved north, concentrating artistic talent in Harlem in a way that had never existed before — and creating the conditions for a cultural explosion that permanently changed American identity.

OI

ACTIVITY 1 • THE PHYSICS OF JAZZ INSTRUMENTS

How Do They Make Sound?

Complete the table explaining the physics of each jazz instrument:

INSTRUMENT	HOW SOUND IS PRODUCED	HOW PITCH IS CHANGED	FREQUENCY RANGE
Trumpet			
Saxophone			
Double Bass			
Piano			
Drums			

O2

ACTIVITY 2 · ANALYZE THE SOUND WAVE

Drawing Waves

In the boxes below, draw what a sound wave would look like for each scenario:

A HIGH, LOUD note (trumpet)

DRAW WAVE

A LOW, SOFT note (bass)

DRAW WAVE

O3

ACTIVITY 3 · TIMBRE AND OVERTONES

Why Does a Trumpet Sound Like a Trumpet?

Two instruments playing the same note produce the same fundamental frequency — but sound completely different. This is called **timbre**, and it comes from **overtones** (higher frequency vibrations produced alongside the main note).

Explain in your own words why a trumpet and a piano playing middle C sound different:

If you were Ellington choosing instruments for a new composition, which instrument would you choose for each role below, and why?

The “voice” of the piece (melodic lead):

The heartbeat (rhythm foundation):

MINI MUSEUM CONNECTION

Option 1 — Visit the exhibition: If the Harlem Renaissance exhibition is available at your school, visit the Mini Museum to experience the phonograph, Jazz Lab, Great Migration Map, and more. Ask your librarian to arrange a class visit.

Option 2 — Virtual visit: Explore the full exhibition at minimuseumproject.org/exhibitions/harlem-renaissance

SHARE WITH YOUR FAMILY

Find two versions of the same song — one on piano and one on trumpet or saxophone. Play them for your family and explain why they sound different using the concept of timbre and overtones.