

THE  
**CLEVELAND ORCHESTRA**

WHAT IS AN ORCHESTRA?



Student Learning Lab for

**The Percussion Family**

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# PART 1: Let's Meet the Percussion Family

An orchestra consists of musicians organized by instrument “family” groups. The four [instrument families](#) are: strings, woodwinds, brass and percussion. Today we are going to explore the percussion family. Get your tapping fingers and toes ready!

The percussion family includes all of the instruments that are “struck” in some way. We have no official records of when humans first used percussion instruments, but from ancient times, drums have been used for tribal dances and for communications of all kinds. Today, there are more instruments in the percussion family than in any other. They can be grouped into two types:

1. Percussion instruments that make just one [pitch](#).

These include:

Snare drum, bass drum, cymbals, tambourine, triangle, wood block, gong, maracas and castanets



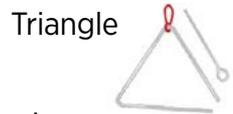
Snare Drum



Castanets



Tambourine



Triangle



Bass Drum

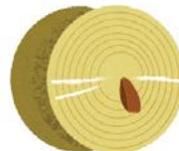


Gong



Wood Block

Maracas



Cymbals

2. Percussion instruments that play different pitches, even a melody. These include:

Kettle drums (also called timpani), the xylophone (and marimba), orchestra bells, the celesta and the piano



Piano



Celesta



Orchestra Bells



Kettle Drum



Xylophone

## How percussion instruments work

There are several ways to get a percussion instrument to make a sound. You can strike some percussion instruments with a stick or mallet (snare drum, bass drum, kettle drum, triangle, xylophone); or with your hand (tambourine). Other percussion instruments are shaken (maracas, tambourine) or scraped (guiro) or crashed together (cymbals)! The piano makes its sound when the keys are played, activating tiny hammers inside the piano that in turn strike strings that vibrate and produce sound.



# PART 2: Let's Listen to *Nagoya Marimbas* by Steve Reich

To see this video you'll need to get the password from your **Teacher/Parent**. If they don't have the password yet, please have them go to <http://bit.ly/DigitalEducationSeries> and fill out the short form.



## Composer Fun Facts

**Steve Reich** (his last name sounds like “rike” and rhymes with “like”) has been called one of our greatest living composers. He was born in 1936 in New York where he now lives. He took piano lessons as a child and also studied drums because he wanted to play jazz music. After going to college, he studied musical composition and began producing pieces of music soon afterwards for his own group of musicians.

Many of his compositions feature percussion instruments. In fact, when he was younger, he spent a summer studying drumming at the Institute for African Studies at the University of Ghana in Africa. You can hear “percussive” qualities in many of his musical compositions, even if they are played by non-percussion instruments from other musical families, such as the string family.

He helped pioneer a type of music called “[minimalism](#),” which is characterized by simple rhythmic or melodic patterns that repeat, often creating a hypnotic effect.

## About the Music

***Nagoya Marimbas***, was commissioned (this is when an artist is paid to create a work for a specific purpose) in 1994 to celebrate the opening of a new concert hall in Nagoya, Japan. Can you find Japan and the city of Nagoya on a map?

This piece consists of a series of repeated patterns played on two marimbas. The repeating patterns are played by each marimba player one or more beats out of sync with the other one, creating a musical [canon](#) effect. Repeating rhythmic and melodic patterns is a key characteristic of Steve Reich’s music.

This piece of music is fairly difficult to play and requires two [virtuoso](#) performers! Check out the concentration and accuracy required by Cleveland Orchestra musicians [Marc Damoulakis](#) and [Thomas Sherwood](#), to keep the rhythms and musical patterns going without stopping!

# PART 3: Music Learning Lab

## Activity #1: Be a Sleuth

The xylophone and marimba are not the same instrument – but they’re closely related! What are the key differences between a xylophone and a marimba? Jot down notes on what you find!



The kettle drum is also called timpani which is Italian for “drums.” Why do you think we call them “kettle drums”?



## Activity #2: Rhythm and Patterns

Check out another piece of music by Steve Reich called, [Clapping Music](#). That's right – it's just hands clapping, and it's super cool!

After you've listened to **Clapping Music**, grab a partner and try the following rhythm exercise for yourself. You can clap or tap on the table – you choose your percussion instrument!

Repeat this 8-beat pattern over a few times – do not rest between repeats – only rest when it tells you to. (**Helpful Music**

**Hint:** The repeat symbol in music looks like this **||**: and **:||** – you repeat whatever is between those two symbols)

**||: Clap, clap, clap, [rest] clap, clap [rest] clap :||**

Now you and your partner are each going to clap this same pattern, but in a different sequence. You both begin clapping at the same time, but you start in different places!

Clapper #1 starts as before

**||: Clap, clap, clap, [rest] clap, clap [rest] clap :||**

Clapper #2 starts after the first rest

**||: Clap, clap [rest] clap, clap, clap, clap [rest] :||**

Notice what kinds of new and different patterns emerge!

Clapper #1 ||: x x x 7 x x 7 x :||

Clapper #2 ||: x x 7 x x x x 7 :||

x = clap

7 = rest



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