



**THE  
INSTRUMENTS  
OF THE  
ORCHESTRA**

PRESENTED BY:

**UTAH SYMPHONY | UTAH OPERA**



# THE ORCHESTRA

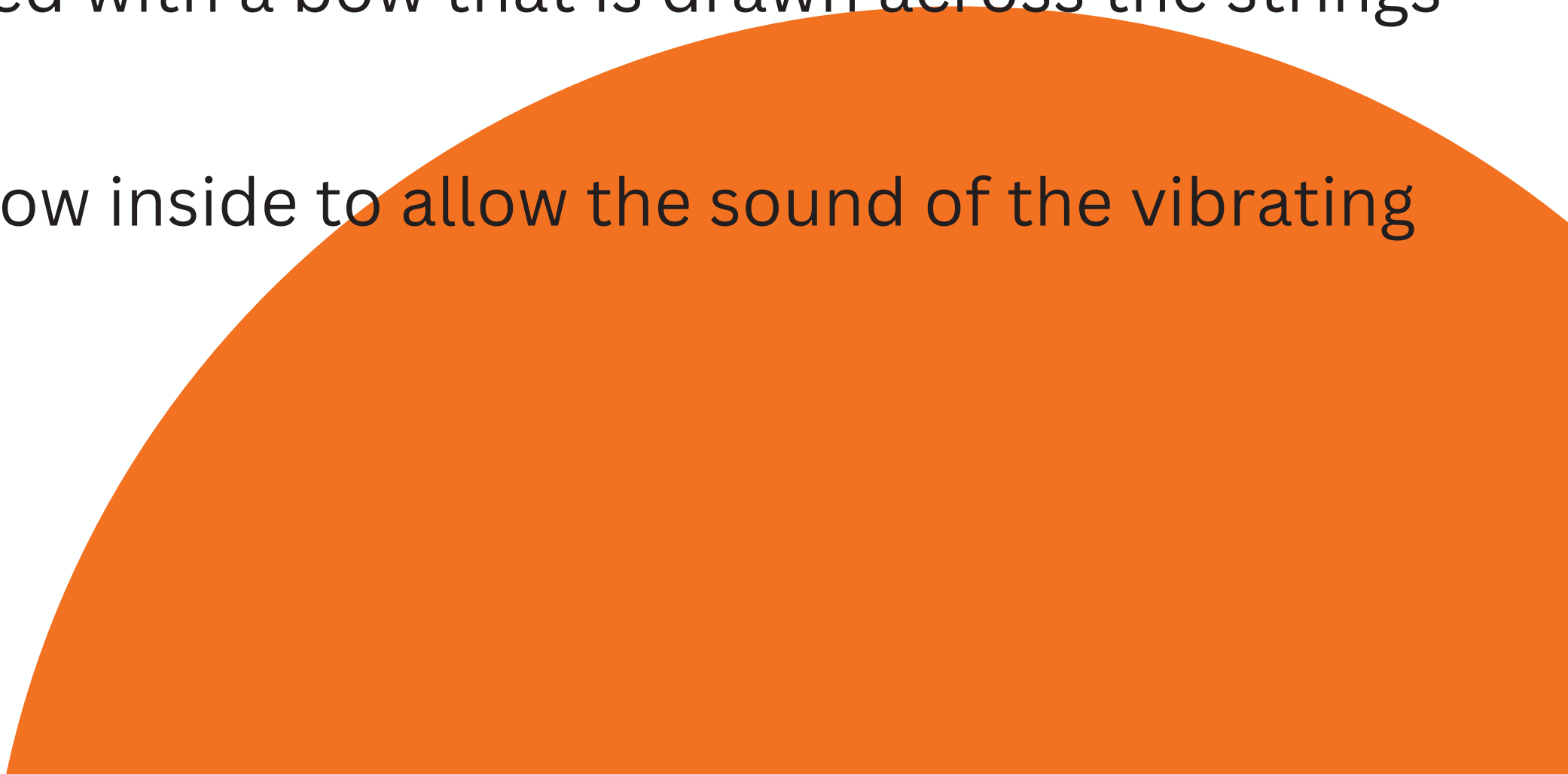
- The orchestra is divided up into three different families:
  - Strings
  - Winds
  - Percussion



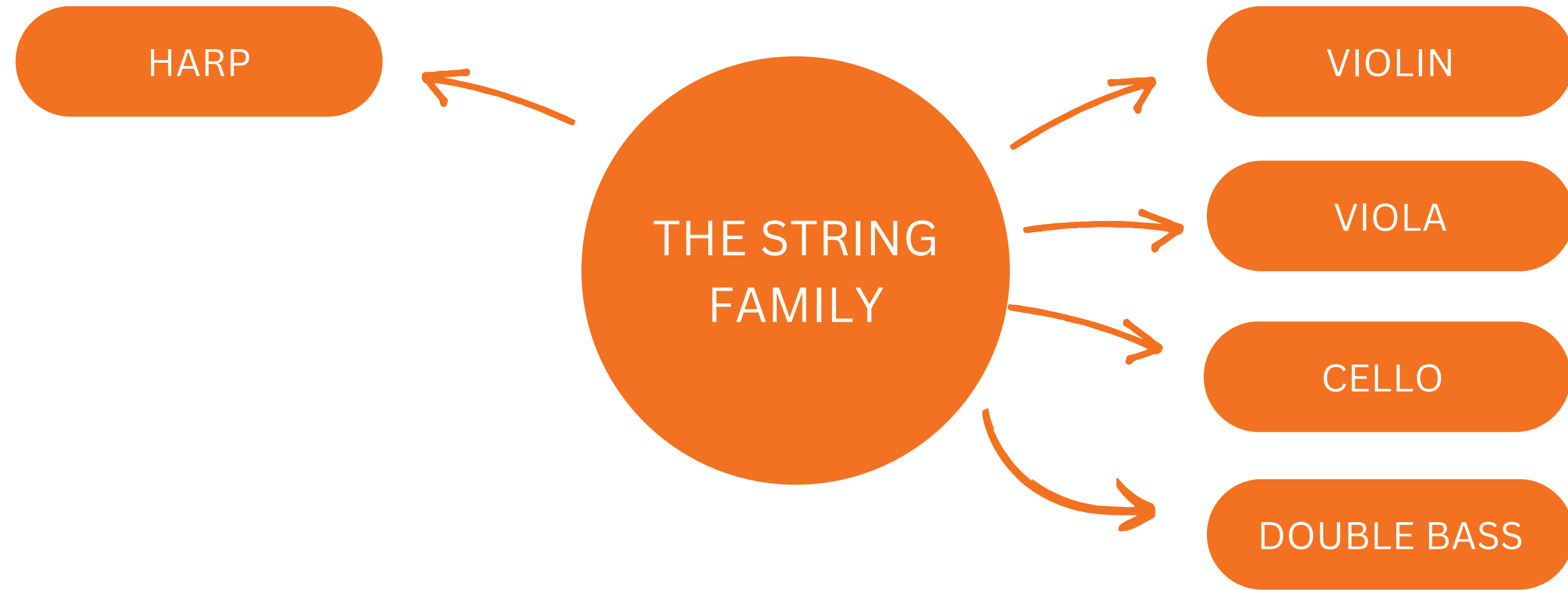




## The String Family

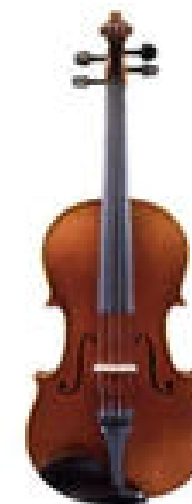
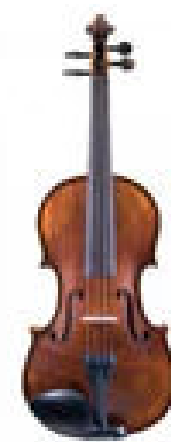
- The string family has around 45 musicians in the ensemble.
  - The instruments are made of wood carved into a curvy wooden body shape.
  - They have strings that are stretched over the body of the instrument.
  - Four of these instruments are played with a bow that is drawn across the strings to make a sound.
    - These four instruments are hollow inside to allow the sound of the vibrating strings to resonate.
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There are five main instruments in the string family including the harp. The other four string instruments all look very similar in shape but they are very different in size.



Violin, Viola, Cello, Double Bass

**THE STRING FAMILY**



# THE HARP

The harp is one of the oldest instruments in the world with evidence of its existence dating back to at least 3,000 B.C.

The word “harp” means “to pluck” and derives from German, Old Norse, and Anglo Saxon words.

The strings on the harp are plucked so they vibrate to make sound.

There is usually one harp in the orchestra but some larger symphonies are orchestrated for two.

Click [here](#) to listen to the harp played by our harpist Louise Vickerman.



# THE VIOLIN

The modern violin was invented in the 16th century in Italy by Andrea Amati.

The violin is the smallest instrument in the string family and the most popular. It is the soprano voice of the string family.

The word “violin” comes from the Latin word “vitula” or “vitulare” meaning to “sing or rejoice.”

In an orchestra the violins are broken up into two groups, 1st violin and 2nd violin.

Click [here](#) to listen to the violin.

Watch a [video](#) about our Concert Master, Madeline Adkins.





# THE VIOLA

The viola looks very similar to the violin but is a little larger. It is played the same way by pulling the bow across the strings.

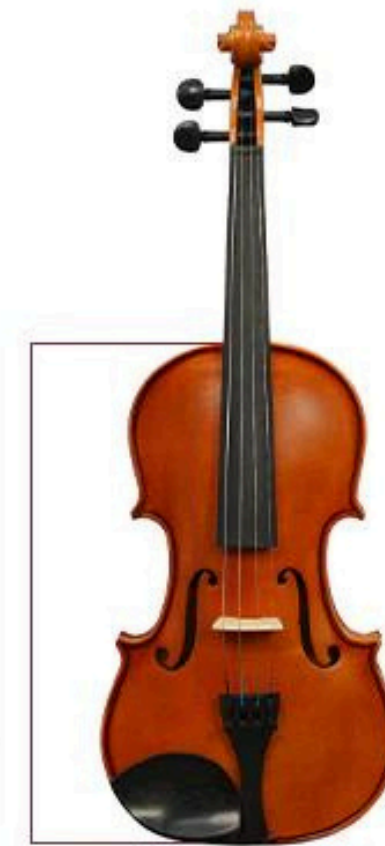
Because the viola is larger than the violin it has a darker and lower sound. It is the alto voice of the string family.

The viola was invented in the 16th century by Andrea Amati.

Click [here](#) to listen to the viola.

Watch a [video](#) about our principal violist, Brant Bayless.

VIOLIN



14"

VIOLA



15" TO 18"

# THE CELLO

The cello is the second largest bowed string instrument. It is the tenor voice of the string family.

“Cello” is a shortened form of the Italian word “violoncello” which means “small large violin.”

The cello has a peg that comes out at the bottom so it can be played sitting down.

Click [here](#) to listen to the cello.

Watch a [video](#) about our past principal cellist, Rainer Eudeikis.





# THE DOUBLE BASS

The double bass is called bass for short and is the bass voice of the string family.

The bass was invented in 1685 in Venice by Matteo Gofriller.

The bass is the largest of the bowed string instruments and weighs 20-25 pounds.

The bass needs to be played standing up or by sitting on a tall stool.


Click [here](#) to listen to the double bass.

Watch a [video](#) about our principal bassist, David Yavornitzky.





## The Wind Family

- The wind family has around 25 musicians in the ensemble.
  - Wind Instruments produce sound through the vibration of air.
  - The different instruments are made of wood or metal.
  - This family is divided into two main groups:
    - Woodwinds and Brass
  - Together the wind family adds a wide range of colors and textures to the orchestra's sound.
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There are four main woodwind instruments.

Sound is produced by blowing air either across a mouthpiece (as in the flute) or through a reed (as in the oboe, clarinet, and bassoon).



**FLUTE**



**OBOE**



**CLARINET**



**BASSOON**



# THE FLUTE

The flute is one of the oldest instruments dated back to approximately 900 B.C.

The flute is played by blowing air across the opening on the mouthpiece.

Historically flutes have been made out of many different materials. Today the standard flute is made of metal.

There are two flutes in most symphonies.

Click [here](#) to listen to the flute.

Watch a [video](#) about our principal flutist, Mercedes Smith.



# THE OBOE

The oboe was invented in the mid 17th century and is made out of Grenadilla wood.

The oboes sound is made by blowing air through a double-reed.

A double-reed is made out of bamboo. Oboists make their own reeds.

There are two oboes in most symphonies.

Click [here](#) to listen to the oboe.

Watch a [video](#) about our past principal oboist, Robert Stephenson.



# THE CLARINET

The clarinet was invented around the 1690's and is made of Grenadilla wood.

It has a single-reed that vibrates against the mouthpiece to produce sound.

This reed is also made of bamboo but clarinetists buy their reeds and do not make their own.

There are two clarinets in most symphonies.

Click [here](#) to listen to the clarinet.

Watch a [video](#) about our principal clarinetist, Tad Calcara.





# THE BASSOON

The bassoon was invented in the mid 17th century and is made out of mountain or red maple.

It is the largest of the woodwinds standing at 4' 5" tall, though its tubing tubing is 8' 4" long.

Like the oboe the bassoon's sound is made by blowing air through a double-reed which then vibrates. Bassoonist also make their own reeds.

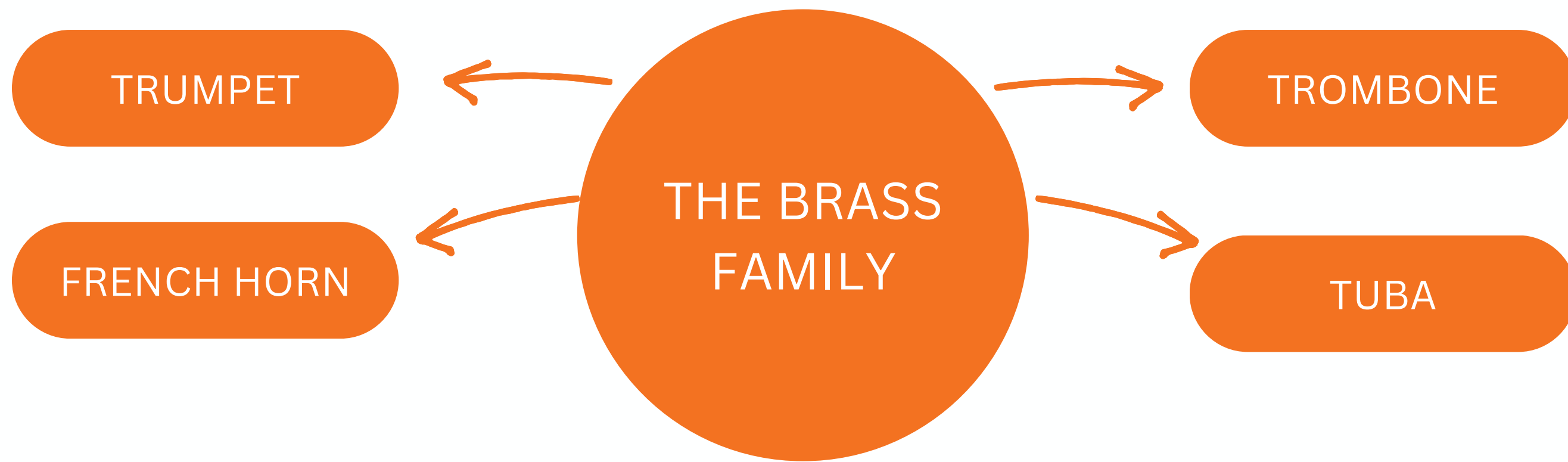
There are two bassoons in most symphonies.

Click [here](#) to listen to the bassoon.

Watch a [video](#) about our principal bassoonist, Lori Wike.



There are four main brass instruments. They are made of metal and produce sound by buzzing the lips into a mouthpiece. The pitch is adjusted by changing lip tension and using valves or a slide.



Trumpet



Trombone



French Horn



Tuba

# THE TRUMPET

The trumpet was invented around 1500 B.C. and is made out of brass.

It has 4' 10" feet of tubing that is tightly wrapped.

Sound is produced by buzzing your lips into the mouthpiece and using the three valves found on top.

There are 2-4 trumpets in most symphonies.

Click [here](#) to listen to the trumpet.

Watch a [video](#) about our principal trumpeter, Travis Peterson.





# THE FRENCH HORN

The French horn was invented in 1814 and is made out of brass.

It has 18 feet of tubing that is tightly wrapped.

Sound is produced by buzzing your lips into the mouthpiece. There are three valves to also change pitch.

There are four French horns in most symphonies.

Click [here](#) to listen to the French horn.

Watch a [video](#) about our associate principal French hornist, Edmund Rollett.



# THE TROMBONE

The trombone was invented around 1450 and is also made of brass.

It has 9 feet of tubing including the slide.

Sound is produced by buzzing your lips into the mouthpiece. Moving the slide will also change pitch.

There are 3 trombones in most symphonies.

Click [here](#) to listen to the trombone.

Watch a [video](#) about our principal trombonist, Mark Davidson.



# THE TUBA

The tuba was invented in 1835 and is also made of brass.

It has 16 feet of tubing wrapped around itself.

Sound is produced by buzzing your lips into the mouthpiece and using 3 valves to help change pitch.

There is 1 tuba in most symphonies.

Click [here](#) to listen to the tuba.

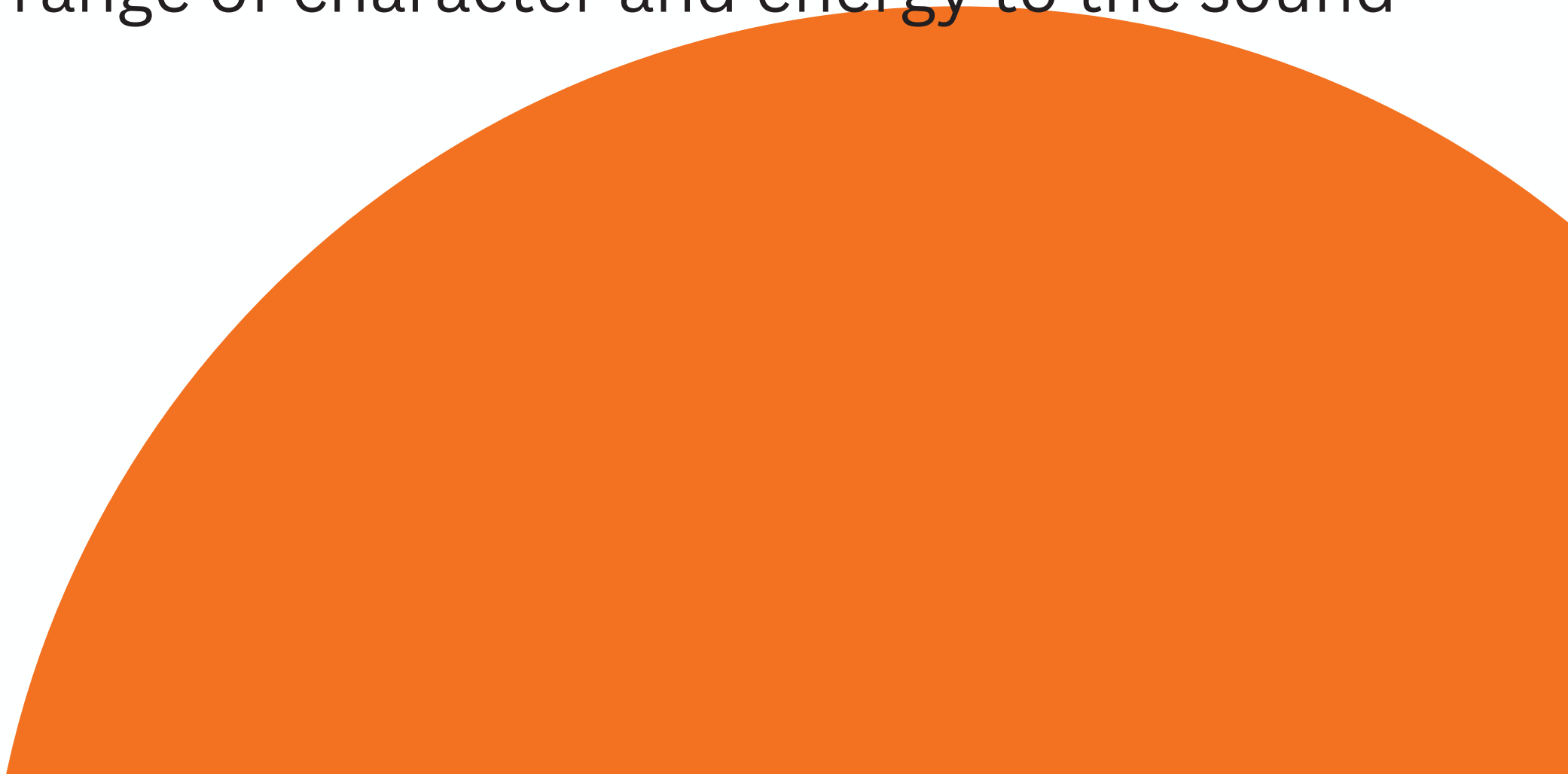
Watch a [video](#) about our past principal tubist, Gary Ofenloch.



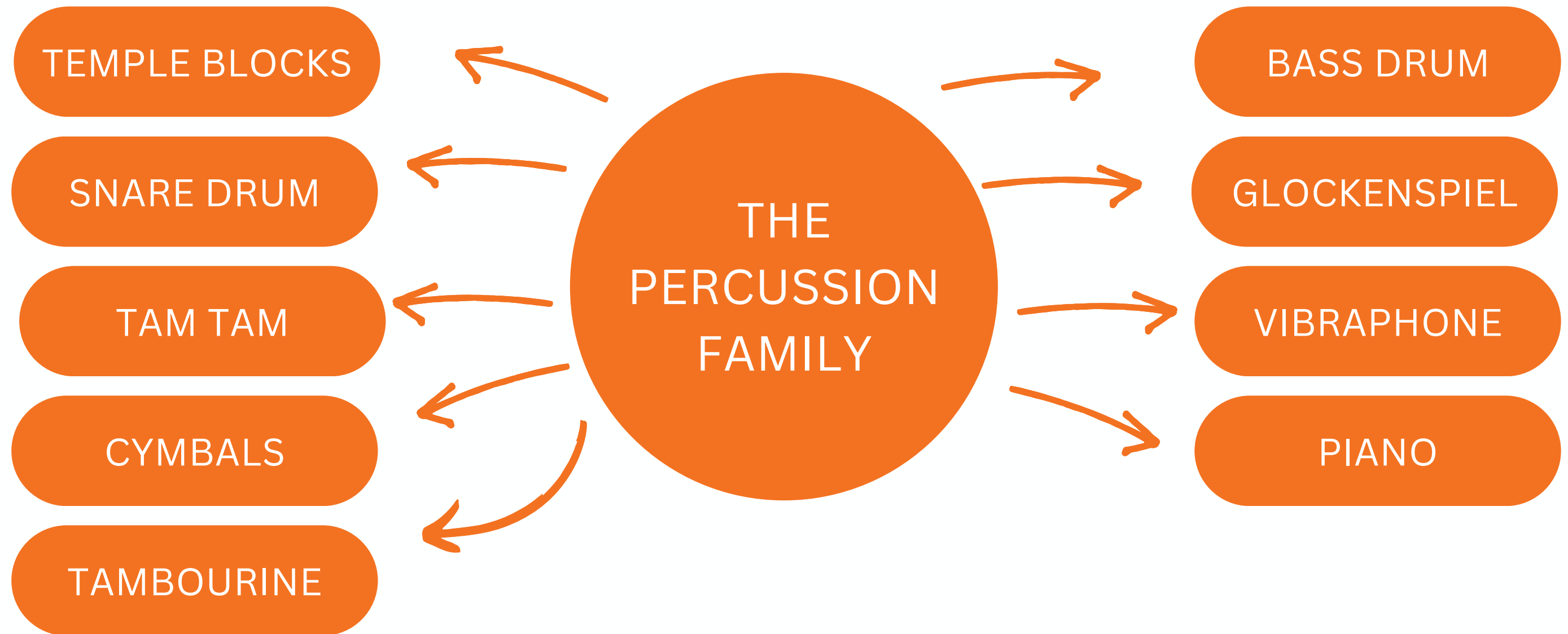




## The Percussion Family

- The percussion family has around 5 musicians in the ensemble.
  - There are countless instruments in the percussion family.
  - The different instruments are made of wood, metal, and other various materials.
  - Percussive instruments add a wide range of character and energy to the sound of the orchestra.
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Any instrument that makes a sound when it's hit, shaken, or scraped is a percussive instrument.



# THE PIANO

The piano was invented by Italian musician Bartolomeo Cristofori around 1700.

The sound in a piano is produced by little hammers hitting the strings causing them to vibrate.

The piano was originally called “piano e forte” which in Italian means “soft and loud.”

There is usually one piano in the orchestra but some larger symphonies are orchestrated for two.

Click [here](#) to hear the piano.

Watch a [video](#) about our pianist Jason Hardink.





# OTHER PERCUSSIVE INSTRUMENTS



Hear the [temple blocks](#)



Hear the [snare drum](#)



Hear the [tam tam](#)



Hear the [cymbals](#)



Hear the [tambourine](#)



Hear the [bass drum](#)



Hear the [glockenspiel](#)



Hear the [vibraphone](#)



Hear the [xylophone](#)



Watch a [video](#) about our principal percussionist, Keith Carrick.