The String Instrument Family

Welcome to the tour on the strings of the orchestra! I will serve as your guide through this exciting tour.

I will show you four instruments of the string family:
- Violin
- Viola
- Violoncello
- Double Bass

By the end of this tour, you will be able to:
- Identify historical facts and physical characteristics of the violin, viola, violoncello, and double bass.
- Identify the role and use of the violin, viola, violoncello, and double bass.
- Recognize the characteristic sounds of the violin, viola, violoncello, and double bass.
- Visually recognize the violin, viola, violoncello, and double bass.

Violin

How do you tell the difference between a violinist and a dog?
- The dog knows when to stop scratching.

We begin our journey today by taking a closer look at the most important instrument of the string family: the violin.

I have gathered some interesting facts about the violin that I am sure you will enjoy learning about. Let’s go inside of the Virtual Music Conservatory!

Engaging the Past

The development of the modern violin stems from early types of instruments available in Europe during the Middle Ages. Some historians even suggest that the origins of stringed instruments can be traced back to Asia many centuries before it appeared in Europe.
Semantic Issues

In essence, the modern violin is one of the oldest stringed instruments. Presumably, the word violin derives from the Latin word *vitula*. Other sources claim that the word violin means small viola.

Existing pre-Classical instruments hint the current look of the modern violin. Today’s quality instruments still follow the same traditions that luthiers or instrument makers followed in the old times.

The Ancients

The vielle and the rota are two instruments that were commonly used in Europe during the 11th century. Throughout the 12th century, vielle makers continued changing the instrument appearance by cutting a shape similar to that of the violin.

The fiddle was a stringed instrument used throughout the 14th century to accompany singing and dancing. The structure of the fiddle experienced changes that led to the conception of the gamba instrument family that include the ancestors of the violoncello and the double bass and the family of viols that include the ancestors of the viola and violin instruments.

Body and Soul

The violin is mostly made out of wood. The most commonly used woods for all the stringed instruments are: spruce, maple, poplar, ebony and rosewood.

Putting the Pieces Together

The following parts are considered to be the most important parts of any stringed instrument, including the violin.

- Fingerboard
- Bridge
- Tailpiece
- Soundpost
- F-holes
- Scroll
Cool Facts

Because of its melodic character, the violin is considered to be the soprano voice of the string orchestra.

The violin is capable of playing more than one note at a time. We call this technique double stop technique. A player can produce double stops when two notes are played simultaneously.

The violin is able to play at a higher register than all the other instruments of the string family of the orchestra.

Major composers have recognized the musical possibilities of the instrument. Along with the piano and the voice, the violin is one of the instruments with the most extensive concert repertoire.

The violin comes in different sizes for different age groups. You can start training on the violin as early as 4 years old. Throughout all these years of teaching music, I have learned that reading music and playing a musical instrument stimulates certain areas of the brain that are associated with the development and coordination of brain and muscle activities.

Job Description

In classical music, the violin is used frequently as a member of the symphony orchestra, string quartets, opera orchestra, ballet orchestra and solo repertoire to play melodies.

Due to the large number of violinists in the orchestra, most composers divide the violins into two sections: the first violins and the second violins, thus creating more inner voices and harmonies.

The second violin part could also be compared to the second soprano part in the chorus. The combination of first and second violins gives composers more possibilities of greater melodic creation and interaction.

Let the Show Begin

The violin is capable of playing a wide range of notes. In general, three octaves or 36 notes is considered a plausible range.

In most symphony orchestras, there are about 30 violinists which represents about 3 times more than any of the other string sections of the orchestra. This number creates a solid sonority and an artistic balance between sounds coming from the different families of instruments within the symphony orchestra.
Alley Oop

The violin is mostly played using the bow. Nonetheless, you should not be surprised if you see a violinist plucking the strings to produce sounds. This technique is called pizzicato and it is used by all members of the stringed family of instruments.

Hall of Fame

Antonio Stradivarius, Italian luthier, is famous for his crafting the best sounding violins.

Itzhak Perlman is the most famous violinist in the history of music.

Niccolo Paganini was a great composer and virtuoso of the violin.

Viola

How can you tell when a violist is playing out of tune?
- The bow is moving.

The viola was once dreaded by composers because of its clumsy nature. Today, as a valuable member of the rhythm section of the strings, the viola enjoys a great reputation among famous composers and performers.

Join me in this journey of discovery to learn about the exciting world of the viola!

Engaging the Past

In the 16th and 17th Centuries the term viola had a more general meaning. It was used to describe a variety of string instruments. Later, the term referred to specific instruments.

Semantic Issues

Originally, the instrument was known by the Italian name, viola da braccio. In English, braccio means “arm.” In Germany, the viola is known as Bratsche, which refers to the word arm and also to the instrument.

As a member of the viol instrument family, the viola gets its name from the fact that it is an instrument played on the arm of the performer.

The Italian word violino means “small viola. Some scholars and performers believe that the viola may have appeared earlier than the violin. Violists are happy to believe that they might be the earliest link to the stringed instrument family.
The Ancients

String makers were building violas and *liras do braccio*, with four strings since the 1500s. Many of the improvements made to those instruments are still commonly used by modern luthiers. These changes include: lateral pegs, F sound holes and violin shaped instruments.

The tenor viol was difficult to play because it was too large and hard to hold comfortably. Performers and luthiers agreed to make changes to the tenor viol to make it easier to play.

As a result, some of these changes influenced the design of the modern violoncello and the modern viola.

Body and Soul

Similar to the violin, the viola is mostly made out of wood. The most commonly used woods for all the stringed instruments are: spruce, maple, poplar, ebony and rosewood.

Putting the Pieces Together

The following parts are considered to be the most important parts of any stringed instrument, including the viola.
- Fingerboard
- Bridge
- Tailpiece
- Soundpost
- F-holes
- Scroll

Cool Facts

The viola is considered to be the alto voice of the string orchestra. The most commonly used musical ranges are: Soprano (highest), Alto (high), Tenor (low), and Bass (lowest).

The viola is exactly the same shape as the violin. It is, however, a couple of inches longer and a bit thicker.

The viola comes in several different sizes. The smallest viola measures 12 inches. The largest is 16 ½ inches, and is used by professional players. Professional players prefer a bigger viola for deeper sound.
The viola bow is slightly heavier and thicker than the violin bow. Remember that the viola is larger, so its strings are longer. Because of this, the player needs a heavier and thicker bow. The thicker bow allows the viola to project the full spectrum of the viola sound.

**Job Description**

In the string orchestra, the role of the viola is to provide rhythmical precision to the string family.

Its harmonic and rhythmical role provides musical support for the violins. Generally, composers will use the violins to play the melodies, while the violas, violoncellos and double basses provide the harmonic and rhythmic support.

At the turn of the 20th century, the viola received a more prominent role from composers who were looking for new sonorities.

The modern viola is a versatile instrument capable of playing everything than composers write for it. Today, viola concertos are commonly heard. A viola concerto is a composition that features the viola as a solo instrument with orchestral accompaniment.

**Let the Show Begin**

Throughout the Baroque and Classical periods, composers felt uneasy when writing for the viola because performers were not able to correctly play the music that was written for the viola. The instrument playing technique was not well developed because of the size of the instrument and the way it was held.

The viola experienced an improvement in its playing technique during the later part of the Classical and the beginning of the Romantic periods of music. Performers became more adept at the difficult requirements of the music written by composers such as Haydn, Mozart, and Beethoven.

In the popular music world, the viola has enjoyed some notoriety. Country music artists Charlie Daniels and Alison Krauss have used the viola in their recordings. The melody of the popular tune *Dust in The Wind* is played on the viola.

**Alley Oop**

Today, the viola is mostly played with the use of a bow. However, you should not be surprised if you see a violist plucking the strings to play the viola. This technique is called *pizzicato* and can be used with all members of the stringed instrument family.
Hall of Fame

Gasparo da Salo was an Italian luthier credited with developing the shape of the viola as we know it today.

Pinchas Zukerman is an Israeli violist admired for his expressive phrasing and brilliant technique.

Béla Bartók was a Hungarian composer who wrote the most important concerto for the viola, also known as the Bartók Viola Concerto.

Violoncello

Well, now we are back in the classroom, and I have a good one for you: How do you make a violoncello sound beautiful?

• Sell it and buy a violin

Although a violoncello is a large instrument, it is able to play the most beautiful melodies.

Join me as we embark on a journey to learn about the violoncello!

Engaging the Past

Early references to the violoncello go as far back as the 17th century. Before using the term violoncello, composers referred to this instrument as the bas de violon, basso di viola da braccio, viola da gamba, or violone.

The early violoncello was member of the viol instrument family, which included different sized instruments. The tenor viol and the viol da gamba are two instruments that aided in the development of the instrument that we today refer to as the violoncello.

Semantic Issues

The term violoncello, of Italian origin, means Great Violin. Instead of using its full name, the violoncello is commonly just referred to as cello.
The Ancients

Two close relatives of the modern day cello, were the Viola de Gamba and the Basso di Viola, both used during the 16th century. The development of the cello stems from both these instruments.

Other instruments which may have played a part in the development of the cello are the Basso di Viola, the Discant-Viola (Violetta), the Viola d’Alta and the Viola di Tenore.

The Basso di Viola was a part of the string quartets of the 16th century in Italy.

Body and Soul

The cello is mostly made out of wood. The most commonly used woods for all the stringed instruments are: spruce, maple, poplar, ebony and rosewood.

Putting the Pieces Together

The following parts are considered to be the most important parts of any stringed instrument, including the cello.

• Fingerboard
• Bridge
• Tailpiece
• Soundpost
• F-holes
• Scroll

Cool Facts

The cello is tuned an octave lower than a viola. Cellos have a very mellow sound which contributes to the orchestra's bass line.

A player can change the pitch of the cello in two ways: by drawing the bow across different strings, and also by pressing on the strings with the fingers of the left hand. This is true for all members of the string family.

Composers occasionally use the cello to play the melody in a symphony orchestra. More commonly, composers prefer to use the first violins are the most preferred stringed instrument to play melodies within the symphony orchestra.

The cello endpin comes out of the bottom of the instrument. Afterwards, the player sticks it into the floor in order to balance the instrument.
**Job Description**

Within the symphony orchestra, the cello makes a rich, warm sound. The instrument is part of the rhythm section of the strings. Generally, it provides rhythmic and harmonic support to the melodies of the orchestra. The cello section and double bass section combined are referred as the bass clef section of the symphony orchestra.

The cello can also be a part of a string quartet. A string quartet is formed by 2 violins, 1 viola and 1 cello.

Notice that the string quartet does not include the double bass.

However, a **string quintet** can also include the double bass as an additional member.

**Let the Show Begin**

The cello section within the symphony orchestra is a very important component of the string section.

The cello is highly regarded as a valued member of the string quartet and a very important member of the string family used for recordings of all kinds. As a solo instrument, the cello enjoys a respectable position in the musical scene.

It is common to hear a cello solo, and these solos are usually played by the principal cellist. The principal cellist is also responsible for marking all the conductor’s musical indications for the rest of the cello section.

**Alley Oop**

The cello has a different sound partly due to its size and the special way it is played. Notice the way the instrument is held by the cellist in the picture.

The cello is considered to be the tenor voice of the string orchestra because of its majestic and elegant sound.

The sound of the cello is very rich and resonant. This is due to its larger body as compare to the smaller strings such as the violin and the viola. Many composers have written solos and other types of music for the cello.
Hall of Fame

Domenico Montagnana is considered one of the foremost cello makers in history.

Yo-Yo Ma is considered today’s premier performer of the cello.

Antonin Dvorak was a Czech composer best known for his use of folk music themes in his symphonies and chamber music.

Double Bass

How do you make a double bass sound in tune?
  • Chop it up and make it into a xylophone.

The double bass is the “grandfather” of the strings due to its size. However, it is the newest member of the string family.

Join me as we discover the instrument that I have been playing in the orchestra for over a quarter century!

Engaging the Past

According to double bass artist Lawrence Hurst, the original intent of the early double bass makers was to build an instrument similar to the violone, which was considered the largest member of the viol family.

Michael Praetorius, a 17th century composer, drew sketches of a rather large instrument, about 8 feet tall, known as violon da gamba. This instrument had five strings and played notes an octave lower than written. The instrument also had frets along the fingerboard and used a bow. Eventually, as the performers felt more comfortable with the instrument, the frets were removed from the fingerboard.

Semantic Issues

Originally, the violoncello was the bass of the strings. The violone and the violon da gamba were introduced to the musical scene, and the sounds they produced were one octave lower than the written notes. Therefore, the prefix double means that the instrument sounds an octave lower than it is written.
The Ancients

Both the *viola da gamba* and the *violone* are the ancestors of the double bass. It is generally believed that the double bass is an instrument with roots in the gamba and viol families. Today, you find a variety of double bass models that are descendants of these two significant ancestries.

Body and Soul

The double bass is mostly made out of wood. The most commonly used woods for all the stringed instruments are: spruce, maple, poplar, ebony and rosewood.

Putting the Pieces Together

The following parts are considered to be the most important parts of any stringed instrument, including the double bass.

- Fingerboard
- Bridge
- Tailpiece
- Soundpost
- F-holes
- Scroll

Cool Facts

The double bass is also known as the contrabass, the string bass, the upright bass and the bass.

A person who plays the double bass is called a bassist, a double bass player or a bass player.

The double bass provides harmonic and rhythmic support to the string orchestra. It is, unquestionably, the lowest sounding instrument of the string family.

The double bass is the only member of the string family that is tuned in fourths. All other ones are tuned in fifths.

The double bass provides the foundation for the string family. In general, the music played by this section moves at a slower pace that the music played by most other instruments.
Job Description

The modern double bass player is able to play melodies. The technique for playing the bass has evolved greatly since the early part of the 20th century.

The orchestral playing range is about two octaves and one half. Generally, composers use the bass because of its typical low and dark sound. The characteristic bass sound provides a solid foundation for melodic instruments.

Chamber music and solo playing add new sonorities to the musical palette. Depending on the performer's skill, one can play the double bass up to the violin register by the use of a special technique called artificial harmonics.

Basically, the performer presses the thumb on the fingerboard and then taps the same string with another finger to create a note that will sound two octaves above its thumb position. Technically, artificial harmonics is a difficult technique for the performer. Once played, it is very rewarding for the musician. A musician may feel as though they have achieved a great challenge.

Let the Show Begin

The double bass is the largest member of the stringed instruments. It is the foundation for the rest of the string family. It is also the lowest sounding instrument in the strings of the orchestra.

The double bass can be played standing up, which is different from other stringed instruments.

The double bass uses a bow to produce sound. There are two different types of bow styles. The French style bow requires the musician to hold the bow with the palm of the hand over the wooden stick. The German style bow requires the player to hold the bow over the palm of the hand. Each one of these techniques is equally good. Nonetheless, it seems that more players around the world use the French style of playing over the German style of bow playing.

Alley Oop

The bass is a required instrument for all kinds of music. When it is used in popular music, the player produces sounds by plucking the strings.

Plucking the strings is a special playing technique known as pizzicato. This is used frequently in jazz playing.

You are probably most familiar with the electric bass guitar. This instrument uses an amplifier to increase its sound volume.
Hall of Fame

Carlo Antonio Testore is considered among the most recognized makers of double basses.

Gary Karr is considered the world’s leading double bass soloist.

Giovanni Bottesini was a famous double bass soloist, composer and conductor distinguished for extending the technical possibilities of the double bass.

Final Words on the String Instrument Family

Now that we have completed this tour, you can:

• Identify historical facts and physical characteristics of the violin, viola, violoncello, and double bass.
• Identify the role and use of the violin, viola, violoncello, and double bass.
• Recognize the characteristic sounds of the violin, viola, violoncello, and double bass.
• Visually recognize the violin, viola, violoncello, and double bass.
The Brass Instrument Family

Now that we have learned about the strings of the orchestra, let’s move on to the brass section of the orchestra! I will serve as your guide through this exciting tour.

I will show you four instruments of the brass family:
• Trumpet
• French horn
• Trombone
• Tuba

By the end of this tour, you will be able to:
• Identify historical facts and physical characteristics of the trumpet, French horn, trombone, and tuba.
• Identify the role and use of the trumpet, French horn, trombone, and tuba.
• Recognize the characteristic sounds of the trumpet, French horn, trombone, and tuba.
• Visually recognize the trumpet, French horn, trombone, and tuba.

Trumpet

What's the difference between trumpet players and government bonds?
• Government bonds eventually mature and earn money.

The trumpet is the most brilliant and exciting member of the brass family. Fasten your seatbelt as we plunge into the “breathtaking” facts of this fascinating instrument!

Engaging the Past

The history of the trumpet can be traced back to when people used wood, bones and animal horns to amplify their voice. These primitive instruments were mostly ceremonial, and were also used as a form of communication between neighboring tribes.

Various examples of these instruments have been found all over the world with a vast variety of designs.

Egyptians used trumpet-like instruments to announce war or an important event.

Although these instruments were not considered trumpets, they used the same concept of blowing air to produce sound.
Semantic Issues

The term *trompette* is of Middle English origin. In Italy, the term *tromba* is used to refer to the trumpet. The term *trumpe* is of Anglo-French origin also meaning trumpet.

The trumpet was first put to musical use in the late 14th century.

The Ancients

The most famous trumpet ancestor is the *Shofar*. This instrument is made from the horn of the ram and is frequently used in Jewish religious services.

Another type of trumpet is the *silver trumpet* referred to in the Old Testament. This trumpet-like instrument was originally made for the Tabernacle of Moses. It is a straight instrument made silver with no valves and it is traditionally blown only by the priests.

Body and Soul

Historically, trumpets have been made from bamboo, cane, silver, shells, ivory, wood, or bones.

Today, trumpets are mostly made of brass. This can be either lacquered or plated with silver, or nickel. Occasionally, gold or titanium is used.

Putting the Pieces Together

The following parts are considered to be the most important parts of any brass instrument.

- Mouthpiece
- Mouthpiece receiver
- Bell
- Valves
- Leadpipe
- Tuning slides
- Water key
Cool Facts

The trumpet is the most brilliant and exciting member of the brass family. This is due to the fact that it encompasses a very high range and has a tremendous flair for playing difficult passages.

The technique for playing the trumpet peaked during the Baroque period (1600-1750). With this improved technique and more musical pieces in its repertoire, more trumpeters were hired to play fanfares and songs.

The trumpet can easily soar above the entire orchestra, enabling it to be heard quite easily. The main principle of trumpet playing is that each valve combination is capable of playing many different notes.

Trumpet players gained notoriety in the early stages of jazz development.

Job Description

The natural trumpet (i.e., no valves, slides or pistons) dominated the 17th and 18th century.

The modern trumpet came into being in the 1700s. With the invention of valves, players had the ability to control the air column that went through the instrument by allowing or blocking air in selected sections of the trumpet. The resulting length of air column was dependant on the valve or combination of valves that the player pressed.

Let the Show Begin

The trumpet is an instrument that is easy to learn but difficult to master. It is capable of playing high register melodies, which allow its sound to be high and penetrating.

The trumpet is an instrument used in a wide variety of musical styles. The trumpet can play beautiful musical lines in the hands of a virtuoso performer.

Alley Oop

A trumpeter must be able to change musical styles quite often. This is especially so because the trumpet is an instrument that is used in many different styles of music.

A change in style means that a player has to adjust the position of the lips to change the idiomatic sound of the instrument. It also means that the conception of rhythm must change to accommodate to the particular style that has to be played.
Perhaps the player must use additional equipment such as mutes to alter the sound color of the instrument, microphones to increase the sound of the instrument, or use different sized mouthpieces to allow for changes in the air column.

**Hall of Fame**

Claude Monette recognize for making state of the art trumpets and trumpet mouthpieces designed to improve the sound of the performer.

Ludwig Guttler has become one of the most sought after trumpet soloists in the world.

Adolph Herseth is widely regarded as the greatest orchestral trumpeters in history.

**French Horn**

How many French horn players does it take to change a light bulb?
- Just one, but he'll spend two hours checking the bulb for alignment and leaks.

The French horn was originally used as hunting instrument. Today, the French horn is an instrument that plays beautiful melodies in the symphony orchestra.

I’ve gathered many interesting facts about the French horn. Come with me and learn about this unusual, yet intriguing instrument.

**Engaging the Past**

The first types of horns were made from animal horns. Eventually wood and metal became the preferred materials used to make horns.

These instruments were used primarily for hunting or for military purposes.

**Semantic Issues**

The French horn gets its name from a type of hunting horn used in France during the late 1600s.

The modern horn was developed during the Baroque period of music (1600-1750).
The Ancients

One of the earliest "horn-like" instruments, the Scandinavian lur, predates the birth of Christ. It was made of bronze and made a loud shrieking sound.

Horns in direct historical line with the modern French horn are:

- *Le grand cor* (the big horn),
- The *cor à plusieurs tours*, (the horn of several turns)
- *Le cor qui n'a qu'un seul tour* (the horn which has only one turn)
- *Le huchet* (the horn with which one calls from afar).

Other horns, such as the *cor de chasse* and *trompe de chasse* also fall into this historical category.

Body and Soul

Historically, French horns have been made from bones, wood, and metal.

Today, French horns are mostly made of brass that is either lacquered or plated with silver, copper, or nickel. Gold is occasionally used to plate the French horn.

Putting the Pieces Together

The following parts are considered to be the most important parts of any brass instrument.

- Mouthpiece
- Mouthpiece receiver
- Bell
- Valves
- Leadpipe
- Tuning slides
- Water key

Cool Facts

The French horn reached maturity when valves were invented.

Today's modern rotary valves allow the horn to have an extremely wide range of notes and varied tone colors.

If uncoiled, the French horn would be about 17 feet long!
Job Description

Horns are part of the standard orchestra. A small orchestra will have two horns. A typical band or wind ensemble will have at least four horns.

When playing with the woodwinds, the French horn must be played very quietly to match the lighter texture of the woodwinds. However, if the French horn is playing with brass instruments, then it could be played very loudly to match the texture created by the brass instruments.

The French horns are also well represented in the chamber music repertoire. The French horn is a member of both the brass quintet and the woodwind quintet.

Let the Show Begin

There are two types of single French horns:
- The French horn in F, which plays well in the low and middle registers, but does not yield well in the high register.
- The French horn in B flat, which plays exceptionally well in both the high register and the middle register. However, it does not yield well in low register.

The problem with both these horns is that their sound is not consistent in all registers. Hornists need an instrument that plays well in every register due to the demands that composers make on the instrument.

The double horn was created as a solution to allow the hornist to play consistently well in all registers. Both the French horn in F and in B flat have 3 valves. Horn makers decided to add a 4th valve to the horn, to allow the instrument to switch from the F horn mechanism to the B flat horn mechanism.

The double French horn is an instrument that allows the player to perform well in every register because it incorporates the best of both horn mechanisms. The playing range of the double French horn is four octaves.

Alley Oop

The sound of the French horn is produced by placing the lips firmly against the mouthpiece of the instrument.

When the lips vibrate, air is forced through them, which sends a resonating air column through the instrument’s tubing, and thus producing the sound of the French Horn.
A technique called hand-stopping revolutionized the way the instrument could be played.

In the mid 1700s it was discovered that by placing one’s right hand inside the bell, the player could alter enough notes to produce a complete scale, which is equal to twelve notes, in the horn’s middle register.

**Hall of Fame**

Josef Monke is best known today as a maker of superior, first-class French horns.

Ludwig Güttler prowess with both the trumpet and the *corno da caccia* makes him one of the most successful virtuosos of our time.

Dennis Brain was a very distinguished British hornist largely responsible for popularizing the horn as a solo classical instrument.

**Trombone**

How can you tell that a kid on a playground is a trombonist's kid?
- He can't swing and he complains about the slide.

The trombone is the only brass instrument that uses a slide.

Let’s see how this unique instrument brings life to the brass section!

**Engaging the Past**

During the 16th century, the trombone was mostly used in Church music and in other settings such as in the opera house orchestra. In general, the use of the trombone in the concert hall remained rare until the arrival of Romantic music written by composers in the 19th century.

Trombone makers attempted to add valves to the instrument but this new mechanism was not reliable. A slide was added to the trombone during the late part of the Renaissance period (1400-1650).

The trombone has not changed much since its invention.

In the past, the trombone was used to represent the supernatural or the dead by composers such as Mozart.
Semantic Issues

The trombone is an Italian word that means big trumpet.

In Italian, tromba means trumpet. Therefore, the word trombone refers to a grand tromba, which in English means big trumpet.

The Ancients

The sackbut was an early ancestor of the trombone. It was developed during the 15th century and was the first brass instrument able to play music chromatically.

The sackbut is different from the modern day trombone because of its smaller size. The sackbut sounds softer than the trombone and has a uncharacteristic vocal sound quality.

The sackbut was used extensively in church music and therefore, was regarded as a sacred instrument.

During the 16th century, the sackbut was commonly performed at outdoor gatherings during Renaissance dance and music events.

Body and Soul

The trombone consists of a cylindrical tube bent into an elongated "S" shape.

Trombones are mostly made of brass and can either be lacquered or plated with silver or nickel.

Putting the Pieces Together

The following parts are considered to be the most important parts of the trombone.

- Mouthpiece
- Mouthpiece receiver
- Bell
- Slide
- Leadpipe
- Water key
Cool Facts

There are two kinds: the tenor trombone and the bass trombone.

The trombone provides a rich bass sound to the brass family.

The trombone and all the other brass instruments are classified as aerophones. They are called like that because they produce sounds by blowing air into a pipe.

Job Description

Currently, the trombone is a popular instrument used frequently in symphony orchestras, big bands, marching bands, military bands, Latin and jazz combos, pop/rock bands, and brass quintets.

Additionally, the trombone receives much attention from composers that use the trombone as a solo instrument and also in orchestral and chamber settings.

Let the Show Begin

In the 20th century, the trombone found an important place within the symphony orchestra. Many of the best known composers have written significant parts for this instrument.

Current physical changes to the trombone have contributed to make the trombone a popular instrument.

Reasons why the trombone has become a required instrument in all styles of music include: changes in the materials, an increase in size, and the use of modern mutes.

Alley Oop

The sound is produced in the same manner as for the other brass instruments. A trombonist blows air into the mouthpiece, which creates an air column that travels through the instrument. The resulting sound comes out of the bell.

Trombone notes are produced by changing the length of the slide.

Continuously moving the slide up and down creates an effect called glissando.

- *A glissando is accomplished by playing a note and moving the slide in or out. Although a glissando can be played on other brass instruments, it is better performed on the trombone because the slide allows for a clean sweep of the notes without glitches.*
Hall of Fame

The Edwards Company builds state of the art trombones for professional trombone artists.

Ludwig van Beethoven used the trombone extensively in most of his symphonies. After him, many composers followed his example.

Christian Lindberg is one of today's leading trombone soloists. He is considered a world famous virtuoso.

Tuba

How many tuba players does it take to change a light bulb?
- Five: one to hold the bulb, one to hold the lamp and three to drink until the room spins.

The tuba is the lowest sounding instrument of the whole orchestra. Its sound is so powerful that they only need one tubist per orchestra.

Let’s learn some interesting facts about this mammoth-sized instrument!

Engaging the Past

An attempt to make a low sounding brass instrument was made during the Middle Ages. This instrument was made out of wood covered with leather.

The evolution of the tuba begins with the Ophicleide in the 19th century. This instrument, inspired by a keyed bugle, was invented in 1817. It was an improvement on the Serpent (picture), a brass-type instrument from the end of the eighteenth century.

Semantic Issues

The word tuba stems from a French term that means "straight bronze war trumpet," related to the tubus.

The Ancients

The precursor to the modern tuba was the ophicleide. The ophicleide was the cornerstone of the brass section of the Romantic orchestra.

The tuba replaced this strange instrument in the 19th century.
Body and Soul

Generally, tubas are generally finished in raw brass, lacquered brass, or silver-plated brass.

Adolphe Sax is credited with improving the design of the modern tuba in the later part of the 19th century.

Putting the Pieces Together

The following parts are considered to be the most important parts of any tuba instrument.

- Mouthpiece
- Mouthpiece receiver
- Valves
- Leadpipe
- Tuning slides
- Water key
- Bell

Cool Facts

The tuba was patented in 1835 by a Prussian bandmaster.

The modern tuba has three or four valves. The tuba has approx. 14 feet of tubing wrapped around its body. Because of its weight, the player must sit down to hold and play the tuba.

The tuba is the lowest sounding instrument of the brass family. In fact, it is the lowest sounding instrument in the entire symphony orchestra. Even so, the tuba is capable of providing harmonic, melodic and rhythmic support to the brass family.

Job Description

Generally, symphony orchestras have one tubist in the brass section. Occasionally, another tubist is hired when the orchestra plays 19th century Romantic repertoire.

19th and 20th century composers occasionally had used the tuba as a solo instrument.

It is common for the tuba to reinforce the sounds of the brass, woodwind and string sections.

The tuba is a regular member of any brass ensemble and many popular music bands. Tubas have been used in jazz and Dixieland since their early beginnings.
Let the Show Begin

The player plays the tuba by holding the lips tightly inside the tuba mouthpiece.

The lips vibrate when air is forced through them. This sets the air column in motion. The instrument tubing then acts as a sound resonator.

The notes are produced by changing the length of the tubing. This is done through the use of valves. When the valve is pressed, the air column is lengthened, resulting in lower notes.

When the valve is not pressed, then the air column is shortened, resulting in higher notes.

Alley Oop

Tuba players need to breathe often to be able to produce a good tone. It is essential to take full, relaxed breaths, without any excessive bodily movement or tension in the shoulders, throat, or face.

A tuba player is also required to train his or her playing muscles to build muscle stamina. Playing a brass instrument can be a demanding physical activity that requires daily training of breathing and playing techniques.

Hall of Fame

The Meinl Weston tuba is considered the best crafted tuba in the market today because of its precision mechanism.

Roger Bobo is a noted American tuba virtuoso and teacher.

Arnold Jacobs was considered one of the foremost tuba orchestral performers and teachers of his time.

Final Words on the Brass Instrument Family

Now that we have completed this tour, you can:
- Identify historical facts and physical characteristics of the trumpet, French horn, trombone, and tuba.
- Identify the role and use of the trumpet, French horn, trombone, and tuba.
- Recognize the characteristic sounds of the trumpet, French horn, trombone, and tuba.
- Visually recognize the trumpet, French horn, trombone, and tuba.