It's an Orchestra!

Pictures, descriptions, and history
for every instrument of the orchestra.

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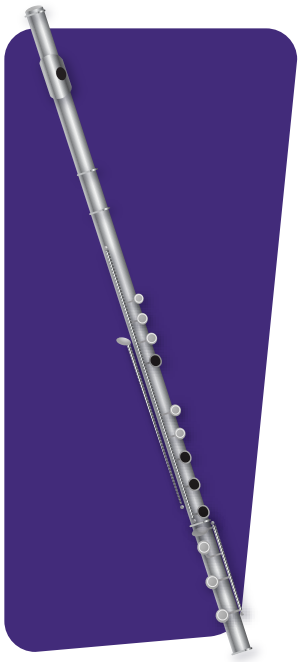
Hey Kids,
It's a Flute



The Flute is a member of the woodwind section of the orchestra. Only the piccolo, a member of the flute family, plays higher. The flute produces a sound that is light, clear and penetrating on its highest notes. A flute player may be referred to as a flautist or a flutist.

History

The transverse (side-blown) flutes can be seen in paintings and manuscripts that date back as far as the 14th century, though most flutes were played like the recorder, blowing air in from the end. By about the 15th century the transverse flute had become quite popular and by 1847 the modern orchestral flute had reached its present form.

How It's Played

A symphonic flute player holds the flute horizontally while blowing in the opening just like you blow across the top of a soda pop bottle to make a tone. The flute player holds the flute steady with the lower lip, the base of the left hand index finger, and the right hand thumb. To change notes, the flute player covers various combinations of tone holes. Each change to a different fingering combination determines the length of tubing through which the air will flow before it escapes out of the uncovered holes. Advanced flute-players will also add vibrato to their tone.

How It's Made

Flutes are different than all the other woodwinds in the orchestra, in that they don't have reeds. Flutes are traditionally made of a silver alloy, although some players prefer to have their flutes made of platinum, gold, or even wood. These choices will make the flute play with a brighter, darker or warmer sound. The body of the flute is a long cylinder that is divided into three sections: the headjoint, the body, and the foot joint. On these three sections you will find 16 tone holes that are covered by fingers and key pads when played.

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The Flute Family

The standard symphonic flute is pitched in the key of C and has a range of 3 octaves. Other common flute family members include the alto flute and the bass flute.

Fun Fact

The hyperbass flute is the biggest member of the flute family. It is pitched in C, and plays four octaves lower than the standard symphonic flute. The hyperbass flute tubing is over 8 meters long. Its lowest note is one C lower than the lowest C on the piano - lower than what scientists consider the range of human hearing!

Hey Kids,
It's an Oboe

The Oboe has a sound that is clear and penetrating. Its name comes from the French word hautbois which means 'high wood'. An oboe player may be referred to as an oboist. You might even think it sounds a little like a duck! Prokofiev thought so when he wrote his celebrated masterpiece *Peter and the Wolf* where he used the oboe to represent the duck.

History

The baroque oboe first appeared in France in the 17th century. It was usually made of boxwood and had only three keys: a "great" key and two side keys. In the classical era that followed, the oboe continued to develop, adding several new keys including a key similar to the modern octave key referred to then as a "slur key". In the 19th century, instrument builders continued to increase the complexity of the keywork of the oboe, drawing ideas from the Boehm flute. The modern symphonic oboe, with the "full conservatory" key system, has a whopping 45 pieces of keywork!

How It's Played

The oboist blows air through a double reed causing the reed to vibrate. This vibration is what makes the sound. To play notes, the oboist covers various combinations of tone holes with fingers or keys. Each new note requires a different finger combination allowing the air to travel through a different length of tubing before it escapes out of the uncovered holes and the bell.

How It's Made

The symphonic oboe is commonly made from grenadilla wood which also is called African Blackwood. Some instrument makers also build oboes from ebony, coco-bolo, rosewood, and violetwood. Oboes begin as a block of wood that is shaped on a lathe into a wooden tube with a hole in the middle. Oboes have a conical bore, which means that the hole is shaped like an ice cream cone - growing gradually bigger

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from one end to the other. Tone holes are drilled, and then keys and a double reed are added. The double reed is typically made by the player from cane reed that is similar to bamboo. Student oboes are made from plastic resin to make the instrument more affordable.

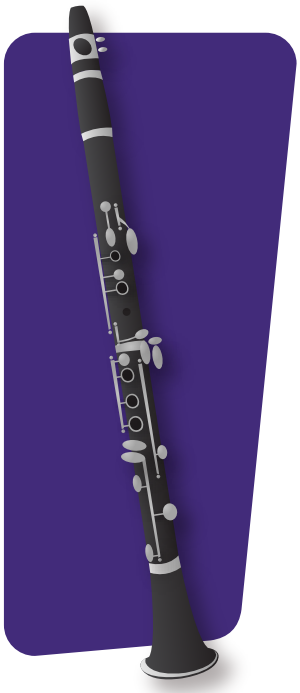
The Oboe Family

The most popular members fo the oboe family include the oboe which sometimes is called the hautbois, and the English Horn which sometimes is called cor anglais. The bassoon, alas, is only a cousin because its keywork is very different from the oboe.

Fun Fact

The oboe is featured in "Across the Stars" from John Williams film score to *Star Wars Episode II: Attack of the Clones*.

Hey Kids,
It's a Clarinet



The Clarinet is the only single-reed instrument in the symphony orchestra. The tone of the clarinet is dark and hollow sounding. The clarinet player is referred to as a clarinetist.

History

The symphonic clarinet was invented by a German inventor named Johann Christoph Denner in the first part of the 18th century. Vivaldi and Handel were the first of the great composers to write music for the clarinet. Mozart and Beethoven followed with beautiful chamber works for this instrument, but Romantic Era composers like Carl Maria von Weber, Schumann, and Brahms were the ones who really showed the full potential of the clarinet as a solo instrument.

How It's Played

The clarinetist blows air into the mouthpiece causing the reed to vibrate. This vibration is what makes the sound. To play notes, the clarinetist covers various combinations of tone holes with fingers or keys. Each new note requires a different finger combination, allowing the air to travel through a different length of tubing before it escapes out of the uncovered holes and the bell.

How It's Made

The symphonic clarinet is commonly made from grenadilla wood which also is called African Blackwood. Clarinets begin as a block of wood that is shaped on a lathe into a wooden tube with a hole in the middle. Clarinets have a cylindrical bore which means that the hole is shaped like a paper towel roll - staying one size from one end to the other. Tone holes are then drilled, followed by keys, a mouthpiece, a single reed, and a ligature (the thingy that holds the reed on). Student clarinets are made from plastic resin to make the instrument more affordable.

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The Clarinet Family
The most common instruments in the clarinet family include the Eb clarinet, the soprano Bb clarinet which is by far the most popular, the alto clarinet, the bass clarinet, and the contrabass clarinet.

Fun Facts
One of the most popular symphonic clarinet solos is the one in George Gershwin's *Rhapsody in Blue*. The opening for Gershwin's 'jazz concerto' features the clarinet ascending from a low note to a high note followed by a melody. During the rehearsal of the piece for the premier performance in 1924, the clarinet soloist decided it would be funny to glissando (slide) up to the high note rather than play the written chromatic scale notes. Gershwin liked it so much that it has been played that way ever since!

The clarinet sometimes is referred to a licorice whip. Next time you visit a music store give one a lick and see what you think!

Hey Kids,
It's a Bassoon

The Bassoon is the largest and lowest sounding member of the woodwind family except, of course, when the contrabassoon is asked to play. This much bigger bassoon can play a whole octave lower. The sound of the bassoon is sometimes expressive like an oboe, sometimes funny, and sometimes gruff. It all depends on the music it is asked to play. Two of the most popular symphonic solos for the bassoon include the theme for grandfather in Prokofiev's *Peter and the Wolf* and the opening solo in Stravinsky's *The Rite of Spring*.

History

The early bassoons were called Dulcians or Curtals. The main difference between the modern bassoon and the early bassoons is that these instruments were carved from a single piece of wood and they didn't have any keys. To play these instruments, the player would cover holes with his/her fingers. It was in France, in the 17th century, that instrument builders made the first bassoon with separate joints. By the middle of the 19th century, the modern 17-key bassoon was developed.

How It's Played

The bassoon is held to the side of the player because it's way too big to hold in the middle like the other woodwind instruments. Because the bassoon is somewhat heavy, it is supported by a seat strap which is hooked to the end of the bassoon and then placed over the player's chair. To make a sound, the bassoonist blows air through a double reed, causing it to vibrate. This vibration is what makes the sound. To play notes, the bassoonist covers various combinations of tone holes with fingers or keys. Each new note requires a different fingering combination allowing the air to travel through a different length of tubing before escaping out through the uncovered holes and the bell.

How It's Made

The bassoon has almost 8 feet of tubing that is bent in a "U" shape to make it easier

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to play. Like the English Horn and oboe, the bassoon has a conical bore which means that the hole in the middle is shaped like an ice cream cone - growing gradually bigger from one end to the other. The bassoon is made of several joints with a distinctive curved metal tube called a bocal, which extends from the main part of the bassoon. At the end of the bocal a double reed is added. The double reed is usually made by the player from cane reed that is similar to bamboo. Student bassoons are made from plastic resin to make the instrument more affordable.

The Bassoon Family

The bassoon family includes the bassoon and the contrabassoon. The contrabassoon is able to play lower than any other instrument in the symphony orchestra.

Fun Facts

The bassoon has 7 feet of tubing, while the contrabassoon has a whopping 16 feet! If instrument builders hadn't decided to "fold" the tubing, you would have to stand on a very tall ladder to play the contrabassoon - but then how would you reach the keys?

Hey Kids,
It's a Violin

The Violin, sometimes called a fiddle, is the smallest member of the string family. The orchestra has more violins than any other single instrument. The violin section is divided into first and second violins, with the first violins playing the highest notes, and the second violins playing the next highest notes. The violin is also one of the most popular solo instruments. A distinctive feature of the violin is its hourglass shape.

History
The first violin makers may possibly have borrowed ideas from three types of bowed instruments:

1) The Rebec
2) The Renaissance Fiddle
3) Lira da braccio

The violin began as a three stringed instrument. In 1555, a fourth string was added by Italian violin maker Andrea Amati, though it was his student, Italian string maker Antonio Stradivari (1644-1737) who brought the art of violin making to its height. Stradivari's instruments are regarded as the finest stringed instruments ever built.

How It's Played
The violin rests on the left shoulder, and is kept in place by the players chin. The left hand is responsible for fingering the notes, while the right hand plucks or bows the strings. Beginning violin players often like to tape the fingerboard, to help remind them of left hand finger placement.

How It's Made
A violin is made of many pieces of wood that are chosen to enhance the performance of the instrument. The top is made of spruce, and the back and ribs are made of maple. The neck is made of maple and ebony, the preferred wood for the

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fingerboard because of its hardness and beauty. All of these parts are carefully carved and then glued together with a special glue. After the body of the violin is assembled and varnished, the four strings, bridge, tailpiece and various smaller pieces are added. Players can choose to include a chinrest.

Fun Fact

On May 16, 2006, Christie's, a London auction house, auctioned a Stradivarius called The Hammer for a record $3,544,000. It is the most anyone has ever paid at public auction for a musical instrument.

Hey Kids,
It's a Viola

The Viola ("vee-oh-la") is slightly bigger than the violin and plays notes that are lower in pitch. The tone of the viola is darker and less brilliant than the violin. The viola plays a middle part in the orchestra. It is hard to hear the viola when the whole orchestra is playing, though they would certainly be missed if they weren't there.

History

The viola was developed in the 16th and 17th centuries, about the same time as the rest of the string family. Some early string instrument builders tried to get more sound from the viola by building it bigger. Modern builders still experiment occasionally with the design of the viola, though most people like it just the way it is.

How It's Played

The shape of the viola is slightly different, and a little heavier than the violin, though it is played in very much the same way. The viola rests on the left shoulder, and is kept in place by the players chin. The left hand is responsible for fingering the notes, while the right hand plucks or bows the strings. Beginning viola players often like to tape the fingerboard, to help remind them of left hand finger placement.

How It's Made

A viola is made of many pieces of wood that are chosen to enhance the performance of the instrument. The top is made of spruce, and the back and ribs are made of maple. The neck is made of maple and ebony, the prefered wood for the fingerboard because of its hardness and beauty. All of these parts are carefully carved and then glued together with a special glue. After the body of the viola is assembled and varnished, the four strings, bridge, tailpiece, and various smaller pieces are added. Players can choose to include a chinrest.

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Hey Kids,
It's a Cello

The Cello is one of the bigger instruments in the string family. It plays notes that are lower than the viola, though not as low as the string bass. The strings on the cello are more than twice as long as the strings on the viola, producing rich, and warm lower notes. The symphony orchestra will usually include 8-12 cellists.

History

The first known maker of the cello was Andrea Amati, the teacher of world famous Italian string instrument builder Antonio Stradivari. Amati's original cello was slightly larger than the modern cello. In 1690 the size was reduced from 31 inches to 29 inches. By the early 1700's string instruments builders were generally using this smaller pattern. Even the older instruments by famous makers were being trimmed down in size. The reason for this smaller size was to reduce the tension in the cellist's left hand.

How It's Played

The size and weight of the cello make it too heavy to rest on your shoulder as violinists and viola players do, so cellists sit down. In modern orchestras cellists also support most of the weight of the cello with an endpin that extends out from the bottom of the cello. In the 1800's the cello did not have an endpin, so cellists had to squeeze their knees together to keep the instrument from dropping to the floor. The left hand is responsible for fingering the notes, while the right hand plucks (pizzicato) or bows (arco) the strings. Beginning cellists often like to tape the fingerboard to help remind them where to place the fingers of the left hand.

How It's Made

The cello is typically made of various woods that are chosen to enhance the performance of the instrument. The top is made of spruce, with maple for the back and sides. The neck is made of maple and ebony, the preferred wood for the fingerboard because of its hardness and beauty. These parts are carefully carved

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and shaped, and then glued together with a special glue. After the body of the cello is assembled and varnished, the four strings, bridge, tailpiece, endpin, and various smaller pieces are added.

Fun Fact

A cello made in 1707 by Matteo Goffriller of Venice, sold at auction on April 22, 2005 for $620,800, a new record for Goffriller's instruments.

Hey Kids,
It's a String Bass

The String Bass is the largest member of the string family. It is also known as the contrabass, upright bass, bull fiddle, bass fiddle, bass violin, or just bass. It is the largest member of the string family. In our modern orchestra it is common to see eight string basses. It plays the lowest notes of any instrument in the string family and an octave lower than the cello.

History

The original String Bass appeared in the early 1500's along with the rest of the string family. Its design changed a lot over the next three or four centuries. In the 18th century they experimented with the number of strings. They tried three strings … nope, too few. Then five strings … nope, too many. Then four strings … perfect! During this same time, instrument builders also enjoyed constructing super-sized String Basses. They required two people to play them; one to finger the notes and another to hold the bow. A few of these super-sized String Basses still survive in museums.

How It's Played

Because the String Bass is way too big to put under your chin, the instrument sits on the floor, supported by an endpin. The bassist has the choice to sit or stand when they play. The player's left hand is responsible for fingering the notes, while the right hand plucks (pizzicato) or bows (arco) the strings. Because the String Bass is larger than the other instruments in the string family, the left hand finger positions are further apart. Beginning bassists often like to tape the fingerboard to help remind them of left hand finger placement.

How It's Made

The String Bass is typically made of various woods that are chosen to enhance the performance of the instrument. The top is made of spruce with maple for the back and sides. The neck is made of maple and ebony, the prefered wood for the fingerboard because of its hardness and beauty. These parts are carefully carved

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and shaped and then glued together with a special glue. After the body of the String Bass is assembled and varnished, the four strings and bridge, tailpiece, endpin, and various smaller pieces are added.

The biggest difference between the String Bass and the rest of the string family of the symphony orchestra is the way the pegbox is made. The String Bass uses machine heads with small gears to tune the strings rather than friction pegs that are used on the violin, viola, and cello.

Hey Kids,
It's a Harp

The Harp is a member of the string family. Harps have a neck, a resonator and strings. Its strings may be plucked or strummed. A harp player may be referred to as a harpist.

History

Harps date back thousands of years. Harps can be seen in Middle eastern paintings 2500 years before Christ. King David is easy to find in paintings during his reign. He is often holding a harp, and is known to have played one. Smaller harps have been played by minstrels and troubadors for hundreds of years. During the Renaissance in Europe large floor harps began to be built. Then in 1782, in France, the double-action harp was invented, allowing the player to raise and lower the pitch of the strings with foot pedals. This new double-action system allowed harpists to play a wide variety of music without having to re-tune their harp for each piece. By the middle of the 18th century the harp had become so popular that composers began to include parts for the harp in their compositions for the symphony orchestra.

How It's Played

Harpists use all of their fingers, except for the last finger on each hand, as it is thought to be too short and weak to effectively pluck a string. Each finger is given a number, one through five, to help in the performance of printed music. To change the pitch of individual strings, either up or down, the player presses any one of seven pedals with their feet. Concert grand harps have seven pedals - one for each of the seven notes of the scale. Three pedals are controlled by the left foot, and four pedals by the right foot. The pedals shorten or lengthen the length of the strings, to provide the harpist with the ability to play sharps and flats. Each pedal has three positions. Each position is held in place by notches in the base of the harp.

How It's Made

Pedal harps, also called concert harps, orchestral harps, or grand harps, are made

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out of maple wood, with veneers or other wood finishes. Some harps even have parts covered in gold leaf! After the largest parts are assembled, including the sound board, sound box, shoulder, neck, and column/pillar, the tuning pins, strings and pedals are added. Concert Grand stand over 6 feet tall, weighs 85-90 pounds and has 47 strings. Semi-Grand harps are a little shorter, and have 46-47 strings. Some of the most respected harp makers include Salvi, Lyon & Healy, Venus, Aoyama, and Camac.

Fun Facts

If you are a beginning harp student Harpsicle Harp Co. may have just the harp for you! Their brightly colored Harpsicles are affordable and lots of fun! These little harps come in a variety of "flavors," including blue (blueberry), red (cherry), purple (grape), black (licorice), pink (bubble gum), white (marshmallow), dark green, gold, silver, and natural wood finish. Made in the USA by the Harpsicle Harp Co., these simple harps are well designed, sturdily built, yet lightweight. They have a great sound for a small harp, and their light tension makes them easy to play.

Hey Kids,
It's a Trumpet

The Trumpet is the smallest member of the brass family. Its tone is bright and penetrating.

History
For hundreds of years instrument makers have experimented with different shapes and sizes of trumpets.

Natural Trumpets
Natural trumpets are like bugles, which have no valves to change the pitches. Sometimes you can see them being played in orchestras when the music of Johann Sebastian Bach is being played.

Slide Trumpets
Beginning in the 15th century instrument makers experimented with slides for the trumpet, similar to the trombone slide. The slide allowed the trumpet player to play more notes, though it was awkward to play. This went on for about 400 years.

Valve Trumpets
Finally in 1813, valves (those button thingies) were invented.

How It's Played
To make a sound on the trumpet the player buzzes his/her lips into a cup-shaped mouthpiece. The valves on the trumpet allow the player to quickly switch the length of tubing that the air is going through, to provide a whole new set of notes. All the trumpet player has to do is press down the valve combination that they want … and presto! … more notes.

How It's Made
The trumpet has a cylindrical bore, which means that the tubing stays about the same size for most of the length of the instrument until it flairs at the end, forming a

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small bell. Trumpets also have a thinner tubing than other members of the brass family, which is another reason for its bright sound.

The Trumpet Family
The trumpet family has many members, from the tiny piccolo trumpet to the gigantic bass trumpet. The most popular trumpets include the Bb trumpet and the C trumpet.

The Bb trumpet is by far the most popular trumpet, being the favorite trumpet of beginning students, jazz musicians, and classical musicians.

The C trumpet is the trumpet preferred by symphony orchestra musicians, because its slightly smaller size provides a brighter and more lively tone.

Fun Fact
Trumpets are made of brass, a metal made of copper and zinc. Both of these metals are found in vitamins. This means that during your life you may eat an entire trumpet - and it would be good for you!

Hey Kids,
It's a French Horn

The French Horn is a member of the brass family. It has a round, velvety tone that that can be heard over other instruments without overpowering them. These qualities make it a perfect addition to the woodwind quintet, where it is sometimes seen.

History

The very first horns were made from animal horns. By cutting off the tip of the horn and buzzing their lips, players could sound notes to give directions to hunters. By the Renaissance Era horns were being made of metal tubing wound in a circle. These horns were small instruments, sometimes with just one loop and no valves. Hunting calls - a couple of notes played to a rhythm - were played by hunters while on horseback.

How It's Made

The french horn is made of many pieces of brass tubing, which are soldered together. Rotary valves (the lever thingies) and valve tubing are placed in the middle of the outer circle of tubing. If you were to unwind a french horn, the brass tubing could be up to twelve feet long!

How It's Played

To make a sound on the french horn the player buzzes his/her lips into a cone-shaped mouthpiece. If you were to watch a french hornist play, you would see that they keep the right hand in the bell all the time. This helps the instrument with tuning and tone production, giving it a haunting and distant sound. The french horn player can also place the hand tightly inside the bell for a special effect called "stopped horn". This effect gives the french horn a muffled and tinny, yet highly penetrating tone. At times composers will ask the french horn section for "bells up". This effect, with bells raised high in the air, creates a bright and brilliant tone quality.

Fun Fact

French horns are made of brass, a metal made of copper and zinc. Both of these metals are found in vitamins. This means that during your life you may eat an entire french horn - and it would be good for you!

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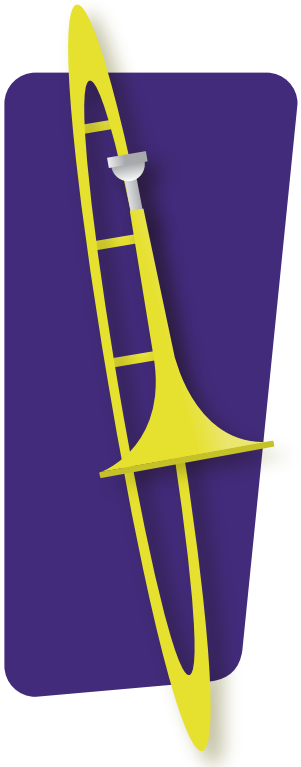
Hey Kids,
It's a Trombone



The Trombone is a member of the brass family. It plays notes that are lower than the french horn, though not as low as the tuba. The tone of the trombone is rich and brilliant. If you were to unwind the trombone, the total length of the tubing would be about 9 feet!

History

Trombones have been around for more than 500 years. In fact they were around when Columbus was busy sailing the ocean blue in 1492. Trombones, originally called sackbuts, are very much like the modern instrument. The word sackbut may possibly come from the French word 'sacquer', which means 'to draw out'.

The Trombone Family

The modern symphony orchestra is made up of two or three tenor trombones and one bass trombone. The alto trombone, which plays the highest sounds, completes the trombone family.

How It's Played

While most brass instruments use valves to play different pitches, the trombone uses a slide. The slide may make it look different, though the way it works is basically the same as valved brass instruments. When the trombonist plays, he/she moves the slide back and forth to select one of 7 different lengths of tubing. This is how they change the pitch. The rest of the brass family instruments select a different length of tubing by simply pressing down a different set of valves.

Fun Facts

Beethoven was the first composer to write a trombone part for a symphony. He included one in his Fifth Symphony.

Trombones are made of brass, a metal made of copper and zinc. Both of these metals are found in vitamins. This means that during your life you may eat an entire trombone - and it would be good for you!

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Hey Kids,
It's a Tuba

The Tuba is the largest and lowest sounding member of the brass family. Its sound is very round and mellow. The tuba, along with the string basses and bassoons, provide the lowest sounds for the orchestra.

History

The tuba is the youngest of all the brass instruments. It was invented in the middle of the nineteenth century, replacing the ophicleide (ahf-i-clyde). In the 1800s it joined the military band. About 100 years later the tuba was included as a regular member of the symphony orchestra.

How It's Played

The symphonic tuba player holds the instrument in his lap, with the bell pointing up. To make a sound the player buzzes his/her lips into a large cup-shaped mouthpiece. To change notes the player selects and presses down on different valve combinations.

How It's Made

Some tubas have piston valves (the button thingies) like the trumpet. Other tubas have rotary valves (the lever thingies) like the french horn. The brass tubing for the tuba begins at the mouthpiece, and bends and folds until it finally flairs, forming a large bell. If you were to stretch the metal tubing out, it would be 18 feet long! Now that's big!

The Tuba Family

The three most popular tubas include the C tuba, Bb tuba and the Sousaphone.

1) The C tuba is the most commonly used tuba in the United States symphony orchestras because of its ability to play in tune with the other instruments of the orchestra.

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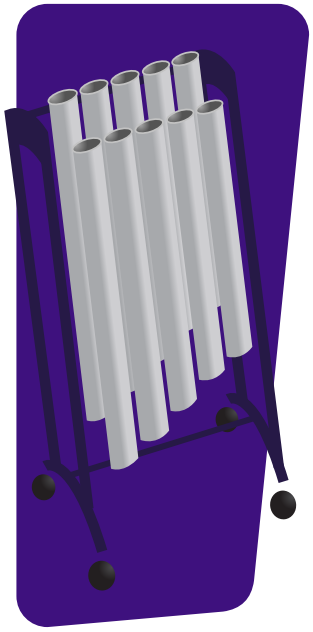
2) The Bb tuba is the most common instrument among tuba players in German, Austrian and Russian orchestras. It is also the most common instrument for student tuba players.

3) The Sousaphone, invented by John Phillip Sousa, is the modern version of the helicon. Both instruments are designed to make the instrument easy to carry, and to project the sound toward the audience.

Fun Fact

Tubas are made of brass, a metal made of copper and zinc. Both of these metals are found in vitamins. This means that during your life you may eat an entire tuba - and it would be good for you!

Hey Kids,
It's the Chimes



Chimes, also known as tubular bells, are a member of the percussion family. Unlike most percussion instruments, they produce a pitch when struck.

How It's Played

Chimes are played by striking the top edge of the metal tube with a rawhide or plastic hammer. The player may control the length of the ringing with the damper pedal.

How It's Made

Chimes begin in a metal shop where 1.5" diameter brass tubes are cut in various lengths. The longer tubes play the lower notes while shorter tubes play the higher notes. After the tubes are carefully tuned, they are arranged like a piano keyboard, from largest to smallest, and suspended vertically from a large frame. Damers and a damper pedal are then added to control how long the chime tubes will ring.

The Percussion Family

Chimes are a member of the percussion family. The percussion family includes the timpani, snare drum, bass drum, xylophone, glockenspiel, chimes, gong, cymbals, and many smaller percussion instruments.

Fun Fact

In 1950, NBC filed with the U. S. Patent Office to make their three note chime tune a registered audible service mark. It was the first time a 'tune' was filed with that office. The NBC chime tune was discontinued in 1971 and then returned in 1976 on the anniversary of the network's 50th year in broadcasting.

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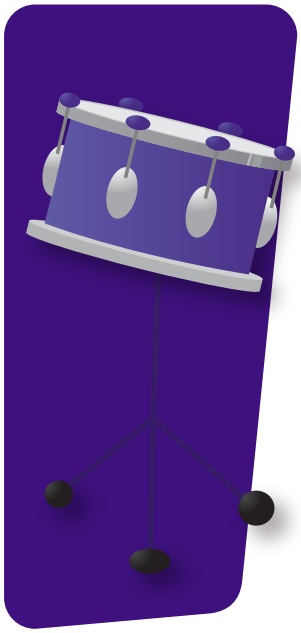
Hey Kids,
It's a Snare Drum



The Snare Drum is a non-pitched instrument that serves an important part in the symphony orchestra, both as a supporting instrument and sometimes a solo instrument. The snare drum's characteristic "buzz" sets it apart from the other instruments of the orchestra. A person who plays a drum is commonly referred to as a percussionist.

History

The original snare drum was called a tabor, and was used with the fife (like a piccolo) in the Swiss military. These instruments originated in Europe as far back as the 15th century. The snare drum joined the symphony orchestra almost 200 years ago in the early 19th century.

How It's Made

The snare drum is typically made of wood or metal with a drum head stretched across the top and bottom of its hollow frame. Strung across the bottom of the drum you will see a set of curled metal wires or catgut which is called the "snare". When the drum is struck, the snare rattles, producing the snare drum's unique sound.

How It's Played

A percussionist produces a sound on the snare drum by striking it with a wooden drumstick. The percussionist may strike either the head of the drum, the rim, or the shell to create a variety of sounds. To make a softer sound, the percussionist may play with wire brushes. The snare may also be turned off if a tom-tom effect is desired.

The Percussion Family

The snare drum is a member of the percussion family. The percussion family includes the timpani, snare drum, bass drum, xylophone, glockenspiel, chimes, gong, cymbals, and many smaller percussion instruments.

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Hey Kids,
It's a Xylophone

The Xylophone is a member of the percussion family. Unlike most percussion instruments, it produces a pitch when struck.

History
The eariliest xylophone originated in 2000BC, documented by temple carvings of musicians playing suspended wooden bars. Xylophones were seen in Asia by the 9th century, and later in Africa. By the 16th century they had reached the European continent. By the 19th century, the xylophone had grown quite popular due in part to the extensive tours of Russian xylophone virtuoso Michael Josef Gusikov.

How It's Played
To make a sound on the xylophone the player must strike a bar with a mallet. When the xylophonist strikes a bar with a hard mallet, the xylophone produces a bright and sharp sound. When the xylophonist strikes a bar with a soft mallet a more muted sound is produced.

How It's Made
Xylophone bars are made from rosewood or, more commonly, Kelon which is a very durable fiberglass. After the material is selected, the bars are cut and shaped in various lengths. Longer bars play low notes while the shorter bars play high notes. A cord is strung through holes in both ends of each bar to hold them in place and to allow them to vibrate freely. Resonator tubes are then fabricated and placed below each bar to amplify the sound. Concert xylophones typically have 42-48 bars that are arranged like a piano keyboard.

The Percussion Family
The xylophone is a member of the percussion family. The percussion family includes the timpani, snare drum, bass drum, xylophone, glockenspiel, chimes, gong, cymbals, and many smaller percussion instruments.

Fun Fact
The sounds of Fred Flintstone's twinkling toes at the bowling alley aren't made by his toes... they're made by a xylophone!

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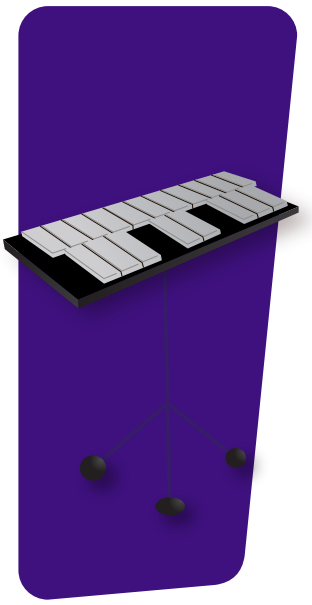
Hey Kids,
It's a Glockenspiel



Glockenspiel is a German word which means "bell play". The glockenspiel is similar to the German carillon and the French celesta. However, the carrillon and celesta are played using a keyboard while the glockenspiel is played with mallets. Unlike most percussion instruments, the glockenspiel produces a pitch when struck.

History

The glockenspiel began as a set of individual bells that were replaced by steel bars near the end of the 17th century. In the beginning the glockenspiel was only considered a substitute for real bells. But gradually the glockenspiel became an instrument in its own right.

How It's Played

To make a sound on the glockenspiel the player must strike a bar with a mallet. When the player strikes a bar with a hard mallet, the glockenspiel produces a bright and sharp sound. When the player strikes a bar with a soft mallet a more muted sound is produced.

How It's Made

The glockenspiel is similar to the xylophone, though its bars are made of steel and it plays notes that are much higher. The glockenspiel begins in a metal shop where the bars are cut and shaped in various lengths. Longer bars play low notes while the shorter bars play high notes. After the bars are carefully tuned, they are arranged from largest to smallest like a piano keyboard and then attached to its base.

The Percussion Family

The glockenspiel is a member of the percussion family. The percussion family includes the timpani, snare drum, bass drum, xylophone, glockenspiel, chimes, gong, cymbals, and many smaller percussion instruments.

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Hey Kids,
It's a Cymbal

The Cymbal is a member of the percussion family. The cymbal is a thin round metal plate that serves to provide colorful effects to the overall sound of the orchestra. Some of the most popular cymbals include tiny finger cymbals, crash cymbals, and suspended cymbals. The cymbal can play very softly or very loudly. It can be played so loud in fact, that it can be heard over even the most uproarious of orchestral music!

History

Cymbals can be traced back to prehistoric times. The word cymbal is derived from the Latin word cymbalum which has its origin in the Greek word kumbalom which means small bowl. The British Museum has in its collection two pairs of ancient Egyptian cymbals thirteen centimeters in diameter. One of the pairs of cymbals was found in the coffin of the mummy of Ankhhape, a sacred musician. Cymbals used by the Assyrians were both plate shaped and cup shaped. Cymbals of the Ancient Persians were shaped like big plates and made of brass.

How It's Made

Cymbals begin in a foundry where copper, tin and traces of silver are combined into a perfect blend of metals. Next, the castings are placed in a pizza-style rotary oven until they glow at a red hot 1410F. After being heated in the oven, the castings are flattened in a rolling mill. After heating the metal disk again the bell is pressed in. It is heated yet again and then submersed in cold salt water for tempering. Until this point the castings remain very brittle. The process of tempering the cymbal makes the metal more flexible and sturdy. It's not looking much like a cymbal just yet but a quick trip to the circle shearing machine will take care of that. Next, the cymbal heads to the hammering and lathing room to find its musical voice. The final step, after the cymbal is made perfectly smooth, is to buff it to a brilliant finish!

How It's Played

Crash cymbals are held by placing your hand through a strap that is attached to the

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outside of the cymbal. They are played by sliding one cymbal across the other and striking the rim of one cymbal against the rim of the other cymbal. Striking the edges together causes the cymbals to vibrate more which, in turn, causes a louder sound.

Suspended cymbals are supported by a tri-pod stand and can be played in two different ways. The most common way to play the suspended cymbal is to strike the bow or taper of the cymbal with a drumstick or mallet. Striking the bell of a suspended cymbal will create another sound which is higher than the rest of the cymbal. This effect is common in Latin music.

The Percussion Family

The cymbal is a member of the percussion family. The percussion family includes the timpani, snare drum, bass drum, xylophone, glockenspiel, chimes, gong, cymbals, and many smaller percussion instruments.

Fun Fact

In the year 1623, Avedis Zildjian, an Armenian alchemist in the city of Constantinople, in his attempt to create gold from a combination of copper, tin and traces of silver, found instead a new metal alloy with unique sound qualities. The secret blend of Zildjian's celebrated cymbals remains the same today as it was four centuries ago.

Hey Kids,
It's a Tympani

Timpani, also called kettledrums, are instruments from the percussion family. Unlike most percussion instruments, they produce a pitch when struck. Most symphony orchestras use three or four timpani of various sizes. A timpani player may be referred to as a percussionist or a timpanist.

History

Timpani began as military drums. In the late 19th century, a mechanical system was invented to quickly change the tension of the drumhead. These drums were referred to as machine timpani because they required the player to turn a handle to adjust the tension of the drumhead. The modern timpani is known as a pedal timpani because it allows the player to adjust the tension of the drumhead with a foot pedal.

How It's Played

The timpanist plays the timpani by striking the drumhead with a special stick called a timpani mallet. A timpanist must determine how loud to play a note and how long the note should sound. To end a sound, the timpanist must place his/her fingers against the drumhead while holding the timpani stick with the thumb and index finger. This technique is called muffling or damping and is an important part of timpani playing.

How It's Made

Timpani begin as a large copper bowl which is called the resonator. A drumhead is then added to the top which is made of calfskin or plastic. Tension rods are then added to stretch the head tightly across the top of the drum. Lastly, a foot pedal is attached to allow the percussionist to quickly adjust the pitch of the drum during a performance.

Fun Facts

Eighteenth century composer Johann Fischer once wrote a symphony for timpani and orchestra which required the timpani player to play eight drums at the same time!

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Hey Kids,
It's a Piano

The Piano can be a member of the orchestra or a solo instrument. It is one of the favorite solo instruments of all the instruments in the orchestra with works by Beethoven, Brahms, Gershwin, Mozart, Ravel, Tchaikovsky, and many more. Stravinsky's *Petrouchka* and Aaron Copland's *Appalachian Spring* are excellent examples of compositions where the piano plays a role as an orchestra member. The piano player is referred to as a pianist.

History

The first piano was built as early as 1694 and was invented by Bartolomeo Cristofori of Padua, Italy. The three pianos built by Cristofori that survive today date from the 1720s. The piano replaced the harpsichord as the most popular keyboard instrument of the Romantic era. The piano was first referred to as a pianoforte which means soft (piano) loud (forte) instrument. It was named the pianoforte because, unlike the harpsichord, it allowed the player to control the degree of loudness and softness of a note by the way he/she would strike a key.

How It's Played

Playing the piano often involves the use of all ten fingers and sometimes both of your feet. To make a sound, simply press a key down. The softer or harder and slower or faster the pianist presses a key will determine the sound quality of the note. The three pedals, controlled by the pianists feet, also change the tone of the piano. They include the damper pedal, the soft pedal, and the sostenuto pedal. The damper pedal is the most used pedal by far, serving to sustain the notes that have been played. The soft pedal, which may be locked in place during a performance, serves to lighten the intensity of the notes. The last pedal, the sostenuto pedal, makes it possible to sustain some notes while allowing the player to play detached sounds on another part of the keyboard.

How It's Made

Grand piano builders begin by coating thin sheets of maple or beech with glue and

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then layering these sheets until they have enough to form the outer rim of the piano. The layers are then taken to a rim press to give the wood its proper shape. After 24 hours in the press, the glue is dry enough to remove the rim from the press. The contoured rim is then taken to a conditioning room for 30 days to allow additional time for the glue to dry. Next, piano builders add a system of braces and tension rods to make the piano very sturdy. The piano is now ready for the sound board which is the amplifier of the piano. This is the part of the piano where choosing the right wood matters the most. In quality pianos, the sound board is made of solid spruce because of its strength and weight. The sound board and two bridges are placed above the brace system. The piano builder then adds ribs to the sound board, gluing them in place, clamping them tightly, and leaving them to dry. The glue will dry for about an hour. Next, the bridges and cast iron plate are added. Good craftsmanship is very important here. If the sound plate is not correctly assembled, the piano will never work well. The piano then goes through a finishing process where it is sanded and given its final look. In the next step, piano builders add the pin block, pins and steel piano strings. Dampers are then added to stop the strings from vibrating after a note is played. The keys and hammers are added next, carefully checking the action of the keys to insure that they will respond perfectly for the player. Add three legs and three pedals and there you have it... a piano!

Fun Facts

By the time a piano is put together it can be quite heavy. A Steinway Concert Grand can weigh up to 990 pounds. The largest piano built, the Fazioli F308, weighs in at a whopping 1520 pounds!

The system described for building the rim of a grand piano was developed by Theodore Steinway in 1880.

Piano playing is sometimes referred to as "tickling the ivories". Have you tickled a piano lately?