

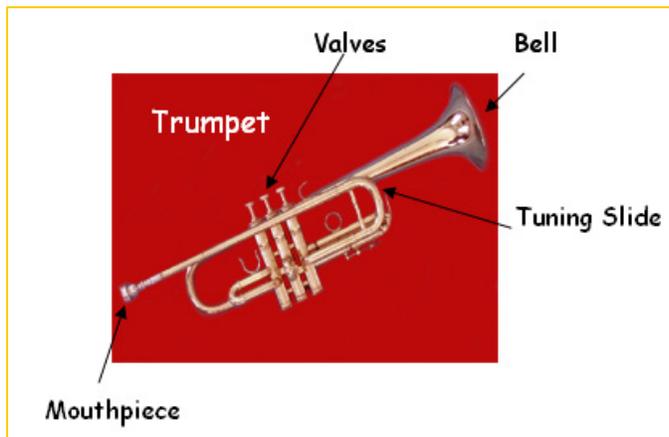
Brass Family

The brass family of instruments can be played both loudly and brilliantly. They are wind instruments which today are made mostly of metal, although some of the older varieties were made out of wood, tusk, animal horn, or shell. They use either cup-shaped or funnel-shaped mouthpieces.



Brass instruments began first as animal horns which were cut off at the smaller end. The earliest known one was the Hebrew *shofar*, made from a ram's horn. It is still used today in Jewish Festivals. Valved instruments were developed in the mid-1800s in Germany. Because they were made largely of brass (an alloy of copper and zinc), they became known as the brass family of instruments. Today they are usually lacquered or silver-plated to make them easier to maintain.

Like the woodwinds, the player uses air to make the sound, except that in brass instruments the player's buzzing lips in the mouthpiece start the air moving. This produces a vibration which sets the column of air in motion within the length of tubing in the instrument. Because the tube is so long, it is bent and coiled so the player can hold it more easily. The pitch is determined by the length of the air column in the tube, which can be changed by opening and closing valves or moving a slide. The player must also use lungs and lips to produce the many different pitches possible in each instrument. Brass instruments provide the dramatic sounds that rise crisp and clear above the rest of the orchestra.



Trumpet

Trumpet (Play Track 16 on the audio CD for its sound.)

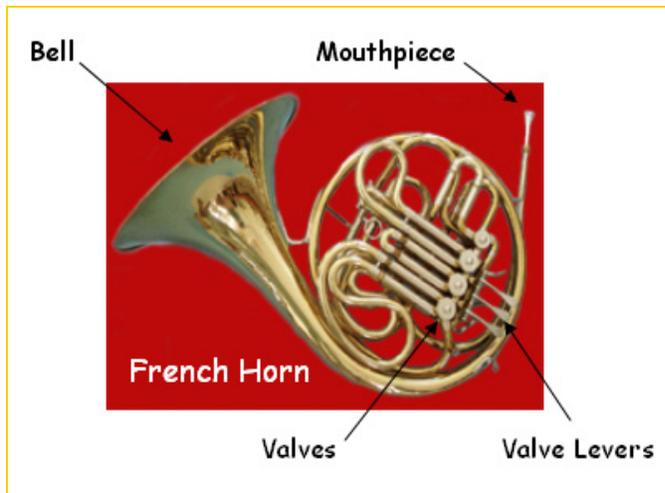
One of the most dominant of all the instruments in the orchestra is the trumpet. As the soprano voice of the brass family, it is the highest pitched of the brass instruments. Its

brilliant sound produces high brassy notes. Sometimes the player uses a mute to make a completely different sound. There are many types of mutes, each with its own sound.

The first trumpet was used in Egypt 4,000 years ago but it did not have valves. Throughout the years since then, the trumpet has been connected with nobility and fanfares. It also plays an important role in marching bands and in jazz music.

The trumpet of today is made of 4 feet of coiled tubing. Trumpet players buzz their lips into a cup-like mouthpiece to make the sound. Three valves are used to open and close different lengths of the trumpet tubing to allow the player to change pitches. The player can also change pitches by tightening or loosening his/her lips.

The trumpet usually carries the melody when playing in the orchestra. There are usually two or three trumpets in an orchestra.

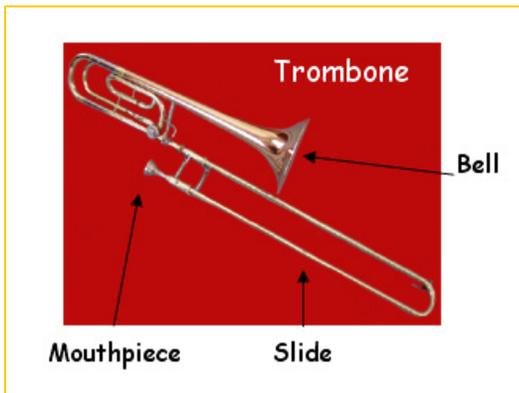


Horn (French Horn) (Play Track 17 on the audio CD for its sound.)

The most mellow-sounding, middle voice of the brass section is the horn. It is a softer member of the brass section and its velvety tone blends well with strings and woodwinds. Its quality can also be full and bold, making it a very versatile instrument.

Originally horns were used for hunting and signaling. The first natural horn, using no valves, was documented in about 1550. Valved horns did not appear until the early 1800's.

The horn, consisting of 16 feet of long coiled tubes, is four times as long as the trumpet. It is usually made of brass but it has more conical tubing than the trumpet or trombone. Like the trumpet, the players use their lips and valves to change pitches. The horn player places his/her right hand inside the bell of the instrument. Because the funnel-shaped mouthpiece is so small, many consider the horn to have unique challenges for the player. There are usually four or five horns in an orchestra.

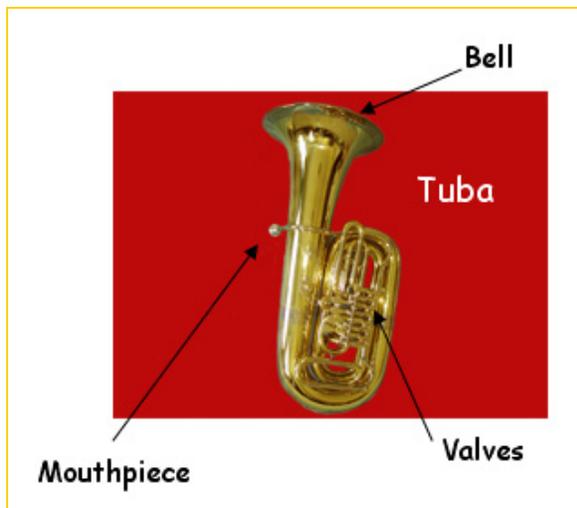


Trombone

Trombone (Play Track 18 on the audio CD for its sound.)

Although the trombone is a loud and brassy-sounding instrument, it has a deep, rich, full sound, the sound of grandeur and nobility. The trombone is the tenor voice of the brass section. It was first seen in the 15th century, making it the oldest instrument of the modern brass family. Today, it also plays an important role in jazz music.

The trombone is made of brass and uses a mouthpiece. The trombone is the only member of the brass family that does not have valves. It produces notes by a slide, which is actually two brass tubes which fit into each other. The player moves the outer one in and out to change the pitches. The pitch changes according to the length of tubing the air passes through, from the player's lips to the bell at the other end of the instrument; the greater the distance the air travels, the lower the pitch. This makes it challenging to play smooth and fast but it allows the trombone player to slide over many notes, which is called a "glissando." There are usually three trombones in an orchestra.



Tuba

Tuba (Play Track 19 on the audio CD for its sound.)

The tuba is the largest, lowest sounding, and youngest instrument in the brass section. It produces a full, rich and powerful tone that provides a rhythmic and harmonic pulse for the orchestra, and not much melody. However, in *Tubby the Tuba*, one of our featured pieces, the tuba does serve an important melodic role. The tuba is used in marches and other compositions where it is important to have a strong beat and bass line.

The tuba rests on the player's lap. Stretched out straight, the tube of a tuba could be as long as 35 feet. The player uses a mouthpiece and has four or even five valves to help change the pitches. Tubas can be made in many different shapes and ranges. The tuba is used in the orchestra to provide foundation for the harmony. There is usually only one tuba in an orchestra.