

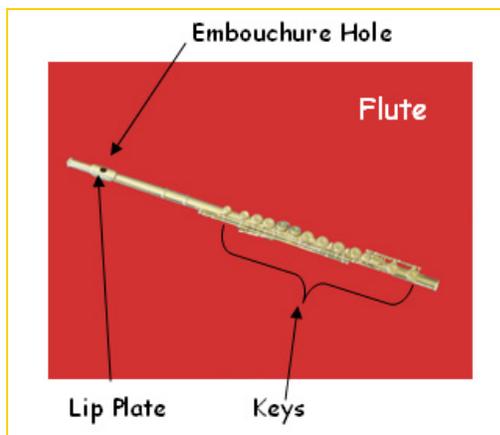
Woodwind Family

The ancestors of modern-day woodwinds were used during the Stone Age, when people blew across the stem of a hollow reed to make a sound. Later, several reeds of different lengths were lined up beside each other. These were called Pan Pipes. The ancient Greeks and Romans had many different woodwind instruments.

In the beginning all of the woodwind instruments were made of wood. That is why they are called the woodwind family. Today, most of them are still made of wood, except for the flute which is usually made of metal.



All woodwind instruments consist of a hollow tube with holes and keys. The air inside the tube begins to vibrate when the player blows into the instrument (or across an opening, as in the flute), producing a sound. By covering some of the holes in the instrument, the player can change the pitches we hear. The column of air in the tube of a woodwind instrument is set into vibration differently in each one. The length of the air column determines the pitch. Various holes are stopped by the player's fingers or by keys which changes the effective length of the air column. The player's lungs and mouth muscles control how loud the instrument plays as well as the tone quality produced.

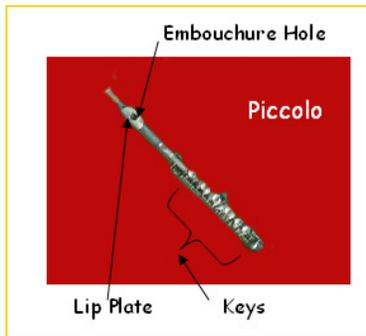


Flute (Play Track 11 on the audio CD for its sound.)

Because the flute can play very bright and joyful tones, it is one of the most popular members of the orchestra. The flute and piccolo are the only woodwind instruments that do not use reeds.

One of the earliest instruments known to man was the flute, used in Egypt over 4,000 years ago. Originally flutes were made of bone or wood. Today they can be made of wood, silver, gold, platinum, glass, or alloys. The player fits three hollow tubes together to assemble the flute. Its sound is produced by blowing across the aperture (*embouchure* hole) on the lip plate, sort of like blowing across a soda bottle.

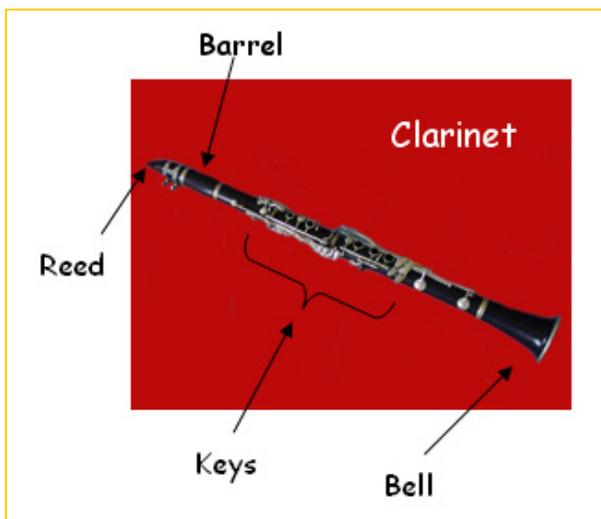
The flute has a wide range of tone and pitch. The flute often plays very technical solos as well as long lyrical passages. The sounds of the high notes are high and bird-like. It is the most flexible of all the woodwinds, capable of very fast runs and trills. There are usually two flutes in an orchestra.



Piccolo

Piccolo (Play Track 12 on the audio CD for its sound.)

The word piccolo in the Italian language means "little." The piccolo is sometimes called the "little flute" because it is a smaller relative of the flute. It is pitched an octave higher than the flute and can be made of wood, silver, or alloys. This tiny instrument is fingered and blown just like a flute. Although its lowest notes are very weak, the shrill highest notes can be heard even above the largest orchestra. There is usually only one piccolo in an orchestra.



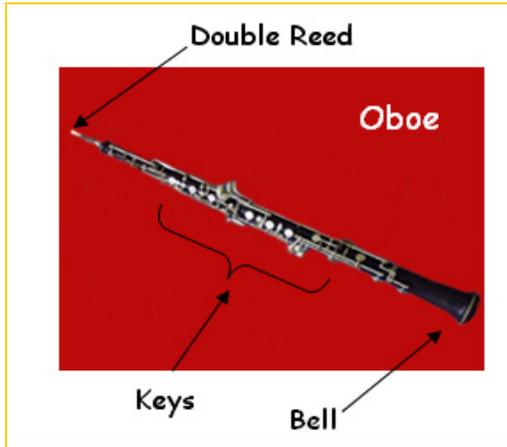
Clarinet

Clarinet (Play Track 13 on the audio CD for its sound.)

The clarinet is a single reed instrument. It was developed in Germany over 300 years ago, based on an older instrument called the *chalumeau*. The 26 inch long instrument can be made of wood, ebonite, or plastic, and is usually black in color. In order to produce sound, a reed made of cane must be attached to a mouthpiece. The air that is blown by the player causes the reed to vibrate against the mouthpiece to make the sound. In the 1840's the Boehm system of keys was added to the clarinet.

With a range of four octaves, the clarinet has the widest range of all the woodwind instruments. It is also capable of playing a wide variety of styles of music from classical to jazz. Among its many flexible tones and registers are warm, mellow sounds and high piercing sounds. There are usually two clarinets in an orchestra.

Oboe

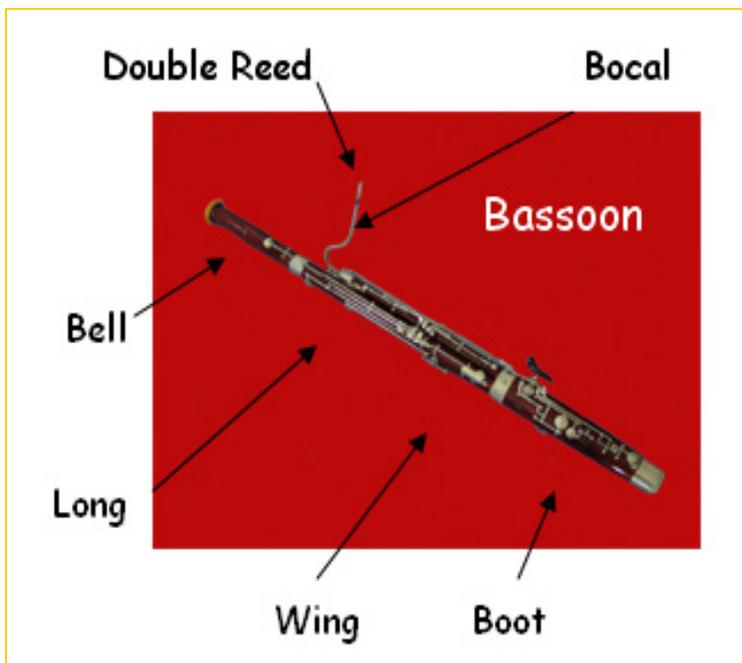


Oboe (Play Track 14 on the audio CD for its sound.)

The word oboe comes from *hautbois*, which is a French word meaning "high wood." The first oboe was seen in France about 1660. It is made of wood or ebonite. The 21 inch long oboe is a "double reed" instrument. The double reed consists of two pieces of cane carefully carved and fitted together to vibrate against each other. From a distance, the instrument looks very much like a clarinet except for the double reed.

The oboe is a very challenging instrument to play because of the difficulty of producing a good tone. The sound is made by the vibration of air between the two narrow reeds, which gives it a very plaintive sound. The reed must be soaked in water before it will produce a musical sound. Notes are changed on the oboe by a key mechanism which includes two octave keys. Because the oboe has a very stable pitch, it is a reliable source for the tuning of the orchestra. The orchestra tunes to an "A" sounded by the oboe player. There are usually two oboes in an orchestra.

Bassoon



Bassoon (Play Track 15 on the audio CD for its sound.)

The first example of a bassoon was seen in the 16th century. Like the oboe, it is also a "double reed" instrument but with a low, deep, and mellow voice. At 8 $\frac{1}{2}$ feet long, it is the largest and lowest sounding woodwind. To make it playable, it is doubled over so that it stands 4 feet off the ground. The bassoon is made of wood with a metal crook called a *bocal*, which holds the reed.

The bassoon is often the backbone of the woodwind section. It has a very versatile and expressive sound and can play both very low and very high. Because of the distinctive sound that is easy to identify - deep, reedy, and nasal - it often plays "the clown" in orchestral music, frequently playing humorous sounding music. The bassoon is also capable of playing very beautifully and soulfully. There are usually two bassoons in an orchestra.