

## LESSON 7

### Bowed String Instruments

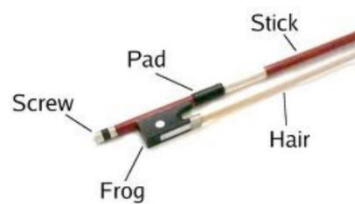
#### Generic Parts of a Bowed String Instrument

Sound is produced by pulling the rosined bow across the string(s) or by plucking the string (pizzicato). The violin and viola rest between the shoulder and the chin, whereas the cello and string bass must be played upright.

**Strings:** There are usually four strings on each instrument; however, the number of strings can vary depending on the demands of the musician. Strings were first made of sheep gut, or simply gut, which was stretched, dried, and twisted. Modern strings may be gut, solid steel, stranded steel, or various synthetic materials such as perlon, wound with various metals, and sometimes plated with silver.

**Tuning Pegs:** Strings are tuned by adjusting the tuning peg to tighten or loosen the string tension and using the fine tuners located on the tailpiece

**The Bow:** The bow is strung with a fine quality of white horsehair. It consists of a specially shaped stick with other material forming a ribbon stretched between its ends, which is used to stroke the string and create sound.



#### Playing Techniques

**Left-hand pizzicato or Stopped note:** a note on a stringed instrument where the string is plucked with the left hand (the hand that usually stops the strings) rather than bowed.



**Snap pizzicato:** n a stringed instrument, a note played by stretching a string away from the frame of the instrument and letting it go, making it "snap" against the frame. Also known as a Bartók pizzicato.



**Natural harmonic or Open note:** On a stringed instrument, denotes that a natural harmonic (also called flageolet) is to be played.



**Up bow or Sull'arco:** On a bowed string instrument, the note is played while drawing the bow upward. On a plucked string instrument played with a plectrum or pick (such as a guitar played pickstyle or a mandolin), the note is played with an upstroke.

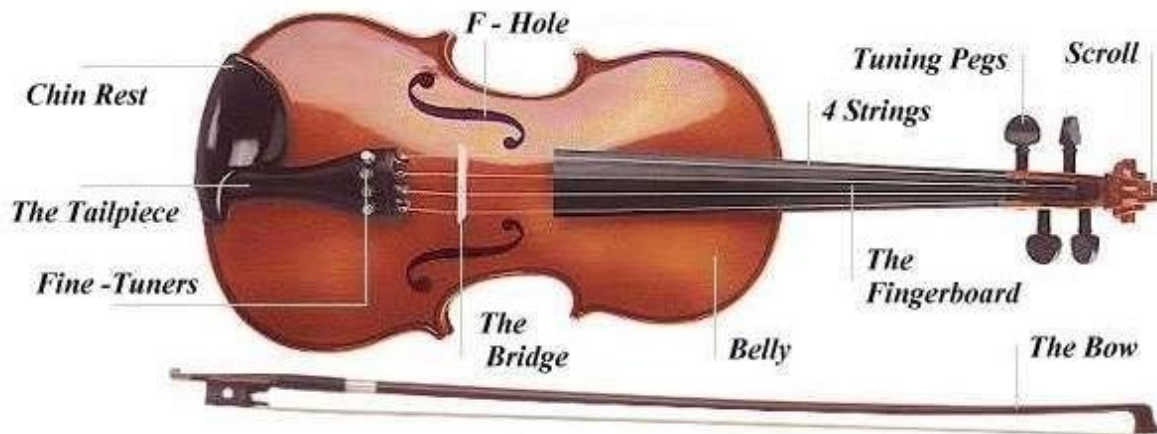


**Down bow or Giù arco:** Like sull'arco, except the bow is drawn downward. On a plucked string instrument played with a plectrum or pick (such as a guitar played pickstyle or a mandolin), the note is played with a down stroke.



## The Violin

**Other Names:** fiddle



The violin is the leading instrument of the orchestra. Throughout its entire range of over four octaves the most rapid passages may be executed with all degrees of power from the faintest whisper to the most brilliant fortissimo.

**Orchestra:** In Symphony or Grand Opera Orchestras there are likely to be about thirty violins in all, grouped in the proportion of sixteen first and fourteen second violins.

**Stringing:** violins are mounted with four strings. A series of fifths is employed in order that scale and passage work may lie more conveniently under the hand.

**Notation:** Music that is written for the violin uses the treble clef.

**Transposing Instrument:** The violin is a non-transposing instrument.

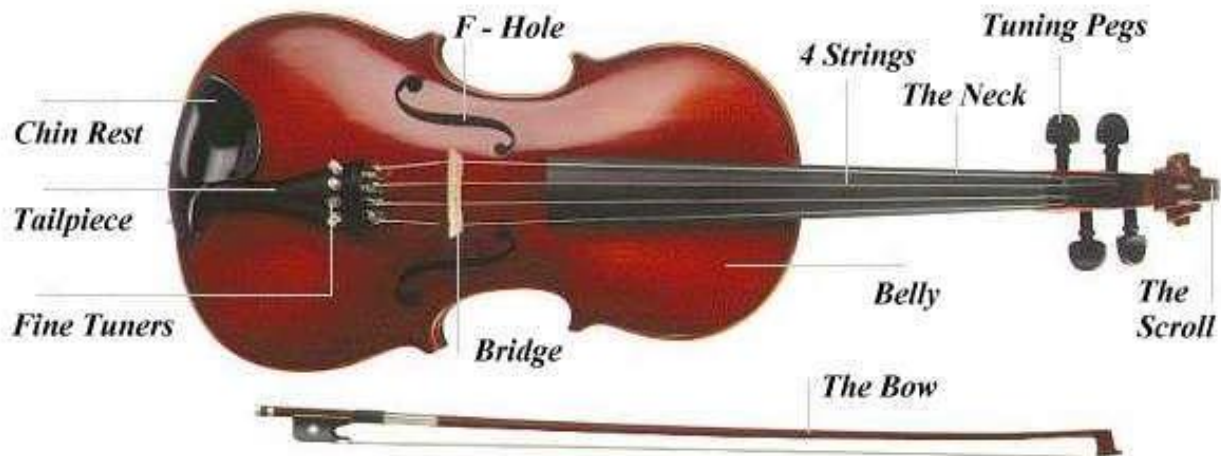
**Tuning:** The tuning G–D–A–E is used for most violin music. The violin's four strings are normally tuned in fifths: the lowest string is G, with D, A and E above it.

**Playing Range:**



## The Viola

**Other Names:** French: alto; German: Bratsche



In appearance and in the manner of holding and playing the viola is essentially the same as the violin. It is however slightly larger and its longer, heavier. The use of the viola as a solo instrument is rather rare, but its timbre (tone quality) is somewhat nasal and possesses a certain quality of sadness compared to the more open and brilliant tone of the violin. Violas are most frequently used as harmony instruments, either alone or in combination with the second violins.

**Orchestra:** There are usually 12 violas in an orchestra

**Stringing:** Violas are mounted with four strings. A series of fifths is employed in order that scale and passage work may lie more conveniently under the hand.

**Notation:** Viola parts are written in the alto clef (middle C on the third line). This clef is the best suited to the compass of the instrument. Ledger lines being seldom required for very high passages the treble clef is employed. As the viola is tuned exactly one octave above the cello, pieces written for the cello can be easily transposed to the alto clef.

**Transposing Instrument:** The viola is a transposing instrument.

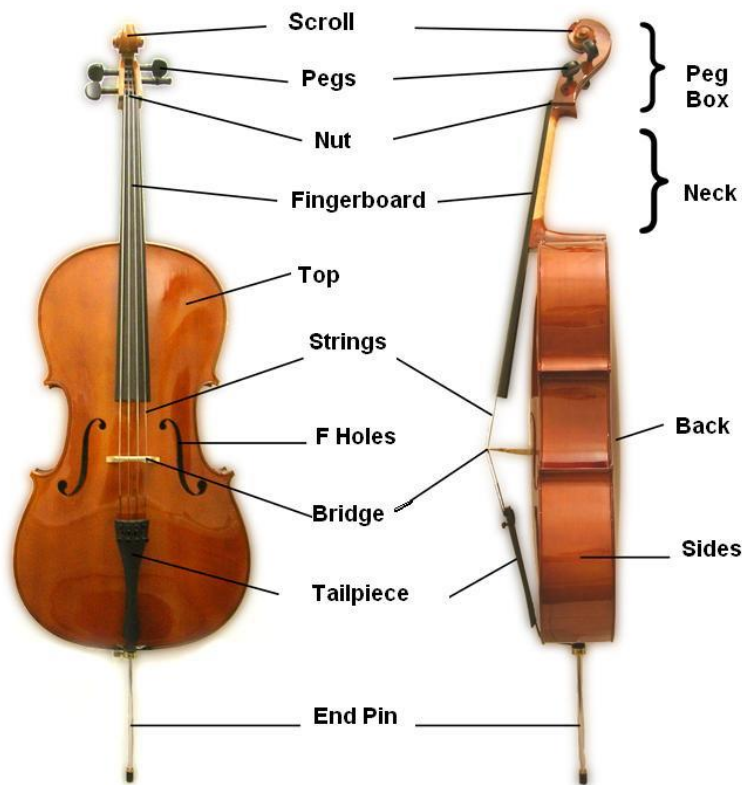
**Tuning:** The viola's four strings are normally tuned in fifths: the lowest string is C, with G, D and A above it. This tuning is exactly one fifth below the violin, so that they have three strings in common—G, D, and A—and is one octave above the cello.

**Playing Range:**



## The Cello

**Other Names:** Violoncello



The cello is a part of the standard orchestra, as part of the string section, and is the bass voice of the string quartet (although many composers give it a melodic role as well), as well as being part of many other chamber groups.

A large number of concertos and sonatas have been written for the cello.

Unlike the violin or viola but similar to the double bass, the cello has an endpin that rests on the floor to support the instrument's weight.

**Symphony Orchestra:** There are usually 8 to 12 cellos in an orchestra

**Stringing:** Cellos are mounted with four strings.

**Notation:** Cello parts are usually written in the bass clef, but the tenor clef – middle C on the fourth line – is frequently employed where the parts run rather high. For the highest solo passages the treble clef (the G clef of the violin, piano, etc. is used.

**Transposing Instrument:** The cello is a transposing instrument.

**Tuning:** The strings from low to high are generally tuned to C<sub>2</sub>, G<sub>2</sub>, D<sub>3</sub> and A<sub>3</sub>, an octave lower than the viola.

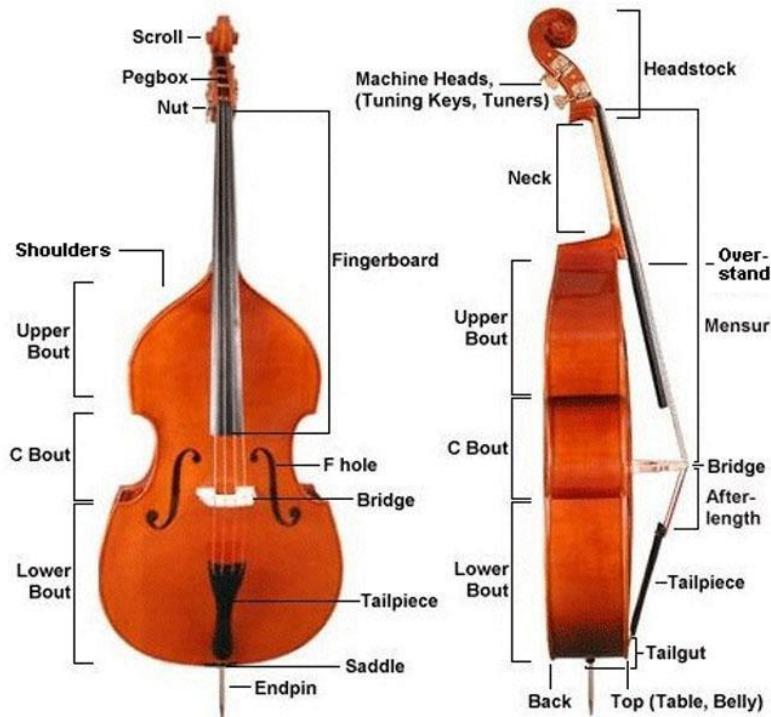
**Playing Range:**



## The Double Bass

### Other Names:

Bass, upright bass, string bass, acoustic bass, acoustic string bass, contrabass, contrabass viol, bass viol, standup bass, bull fiddle and bass fiddle



The double bass is the largest and lowest-pitched bowed string instrument in the modern symphony orchestra. The double bass is a standard member of the orchestra's string section and is featured in concertos, solo and chamber music in Western classical music. The bass is used in a range of other genres, such as jazz, 1950s-style blues and rock and roll, rockabilly, psychobilly, traditional country music, bluegrass, tango and many types of folk music.

**Symphony Orchestra:** Usually there are 6 to 8 double basses in the Symphony Orchestra.

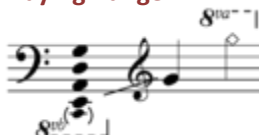
**Stringing:** Basses are mounted with three four or five strings. In modern Symphony Orchestras the five string bass is making rapid headway.

**Notation:** Parts for the double bass are written an octave above their actual sound in order to avoid the constant use of the ledger lines below the staff.

**Transposing Instrument:** The bass is a transposing instrument. Its pitch differs from its staff representation.

**Tuning:** The double bass is the only modern bowed string instrument that is tuned in fourths (like a viol), rather than fifths, with strings usually tuned to E1, A1, D2 and G2.

### Playing Range:



## STRING INSTRUMENT TEST

1. Bowed string instruments produce sound by \_\_\_\_\_ the rosined bow across the string(s)  
or by \_\_\_\_\_ the string (\_\_\_\_\_).
2. The violin and viola rest between the \_\_\_\_\_ and the \_\_\_\_\_, whereas the cello and string bass must be played \_\_\_\_\_.
3. The Violin is also called the \_\_\_\_\_.
4. There are usually \_\_\_\_\_ violins in an orchestra grouped in the proportion of \_\_\_\_\_ first and \_\_\_\_\_ second violins.
5. Music that is written for the violin uses the \_\_\_\_\_ clef.
6. The violin's four strings are normally tuned in fifths: the lowest string is \_\_, with \_\_, \_\_ and \_\_ above it.
7. There are usually \_\_\_\_\_ violas in an orchestra
8. Viola parts are written in the \_\_\_\_\_ clef.
9. The viola's four strings are normally tuned in fifths: the lowest string is \_\_, with \_\_, \_\_ and \_\_ above it.
10. The Cello is also called \_\_\_\_\_.
11. There are usually \_\_\_\_\_ to \_\_\_\_\_ cellos in an orchestra
12. Cello parts are usually written in the \_\_\_\_\_ clef, but the \_\_\_\_\_ clef is frequently employed where the parts run rather high. For the highest solo passages the \_\_\_\_\_ clef is used.
13. The cello strings from low to high are generally tuned to \_\_, \_\_, \_\_ and \_\_, an octave \_\_\_\_\_ than the viola.
14. The Double Bass is also called \_\_\_\_\_.
15. Usually there are \_\_ to \_\_ double basses in the Symphony Orchestra.
16. Parts for the double bass are written an octave \_\_\_\_\_ their actual sound.
17. The double bass is tuned in fourths with strings usually tuned to \_\_, \_\_, \_\_ and \_\_.

## STRING INSTRUMENT TEST

1. Bowed string instruments produce sound by **pulling** the rosined bow across the string(s) or by **plucking** the string (**pizzicato**).
2. The violin and viola rest between the **shoulder** and the **chin**, whereas the cello and string bass must be played **upright**.
3. The Violin is also called the **fiddle**.
4. There are usually **30** violins in an orchestra grouped in the proportion of **sixteen** first and **fourteen** second violins.
5. Music that is written for the violin uses the **treble** clef.
6. The violin's four strings are normally tuned in fifths: the lowest string is **G**, with **D**, **A** and **E** above it.
7. There are usually **12** violas in an orchestra
8. Viola parts are written in the **alto** clef.
9. The viola's four strings are normally tuned in fifths: the lowest string is **C**, with **G**, **D** and **A** above it.
10. The Cello is also called **violoncello**
11. There are usually **8** to **12** cellos in an orchestra
12. Cello parts are usually written in the **bass** clef, but the **tenor** clef is frequently employed where the parts run rather high. For the highest solo passages the **treble** clef is used.
13. The cello strings from low to high are generally tuned to **C2**, **G2**, **D3** and **A3**, an octave **lower** than the viola.
14. The Double Bass is also called **contrabass**.
15. Usually there are **6** to **8** double basses in the Symphony Orchestra.
16. Parts for the double bass are written an octave **above** their actual sound.
17. The double bass is tuned in fourths with strings usually tuned to **E1**, **A1**, **D2** and **G2**.