

Instrument Tuning

Tuning basics

Tuning your instrument is the most basic skill you must master to become a real player.

- Always begin with the A string. A is the orchestral standard note, and all instruments are tuned to the A.
- You can use an electronic tuner for all four strings, or you can tune the A string to a tuning fork, and then tune the remaining strings to the A and to each other. An electronic tuner gives you all four notes that you need but is more expensive and needs batteries. A tuning fork produces only the A, but is reliable, cheap, compact, and never needs batteries.
- If you're a beginner, your teacher may prefer that you start with the tuning fork and only consider an electronic tuner when that is mastered. It's best to ask before you buy either one.
- You tune your instrument by turning the pegs (just under the scroll) until the right pitch is achieved when you pluck the string or draw the bow across it.
- When your instrument is well tuned, it will gradually go slightly off tune in one or more strings. When it does, you can make slight adjustments with the fine tuners attached to the tailpiece. But with time and weather changes, the strings will go out of tune and you'll need to tune with the pegs again.

The tuning fork

A tuning fork is a specially made two-tined fork that produces a specific constant note (A440) when struck against something or with something. The note lasts quite awhile, and while it is sounding, you turn the peg or fine tuner to make your A string sound exactly the same. Once you have the A string correct, you tune the other strings to the A string. You can read more about tuning forks at

http://en.wikipedia.org/wiki/Tuning_fork.



- A major advantage of the tuning fork is its simplicity: it needs no batteries, is small and easily kept in your instrument case.
- Some tuning forks are mounted on “resonator boxes.” These make the sound louder and it lasts longer, but they are not easily portable. Your luthier will probably have one, and your teacher might, too.

The electronic tuner

Most electronic tuners are pocket-size and require batteries (so you’ll need to carry extra batteries). (There are larger, more expensive ones that are used by luthiers and other professional music technicians and players.)

- The simplest electronic tuners use LED lights or a needle to indicate approximately whether the pitch of the note played is lower, higher, or approximately equal to one pitch (often "A" or "E") or for a small number of set pitches.
- Chromatic tuners cover all 12 notes of the scale.
- One of the most useful electronic tuners combines a metronome and a tuner in one unit.
- Some electronic tuners offer additional features that are most useful to professional players.

See more about electronic tuners at http://en.wikipedia.org/wiki/Electronic_tuner.

How to tune

As discussed above, you can use a tuning fork or an electronic tuner to strike the note(s) to which you tune your instrument. It doesn't take long for your ears to learn to hear the "grind" of a pair of strings slightly out of tune with each other.

These are the notes the strings (from highest to lowest and left to right, with you facing your instrument) should make. Below the notes are the order in which you should tune them:

Instrument	Left (highest)		Right (lowest)	
Violin	E 2	A 1	D 3	G 4
Viola	A 1	D 2	G 3	C 4
Cello	A 1	D 2	G 3	C 4
Bass	G 2	D 3	A 1	E 4

Tuning with the pegs

- First, check the bridge to be sure it is in position and straight.
- Always begin with the A string. If your pegs fit well (they don't stick and they aren't too loose in the peg holes) tune with the violin on your shoulder, while bowing the string. Relax the string a bit, lowering its pitch, then draw the bow across it and turn the peg just a little." Keep bowing and turning the peg until the string reaches its true pitch, as compared to the tuning fork or measured by the electronic tuner.
- If the pegs slip when you turn them, you may need to push in slightly as you turn them. If they stick or slip a lot, you can hold the instrument in your lap, pluck the string, then turn the peg as you brace the bottom of the pegbox with your other hand. (In this case, before long you should take the violin to your luthier and have the pegs adjusted or replaced.)
- The secret to successful peg-turning is to listen carefully to the string as it comes closer to the correct pitch. By listening as you twist the peg, you will soon know how much peg movement is needed.
- Now tune the other strings to the A string or to the proper pitch on the electronic tuner.
- Steel strings are more sensitive to turns of the peg than nylon strings, and gut strings are the least sensitive.
- Sooner or later, you probably will twist a peg so hard that the string breaks. Don't be too concerned; use the experience to learn how NOT to do that and practice at changing strings.
- Because wood swells and shrinks with changes in the weather, sometimes pegs get tight, and sometimes they pop loose. For this reason, it's a good idea to **work the pegs** every so often, even if the violin stays in tune so well that all it usually needs is a tweak of the fine tuners.

Using fine tuners

- When you have your instrument well tuned and the weather hasn't changed much, may only need to use the fine tuners on the tailpiece before you start playing. Use your tuning fork or electronic tuner, and make tiny turns with these tuning screws in the same order as when tuning with pegs.
- **Note:** The levers of fine tuners screwed all the way down and never relaxed can leave a mark in the finish of your violin, so occasionally back them out and tune the strings with the pegs.