

How String Instruments Work

Sound is simply waves in the air which can be detected by ears. Things make sounds by **vibrating**, or moving back and forth rapidly. This sets up sound waves in the surrounding air.

The strings are made to vibrate by bowing or plucking. The string itself makes only a quiet sound; the vibrations pass into the body of the instrument, which **resonates** (vibrates at the same pitch). This **amplifies**, or makes louder, the notes the musician plays.

Each of the strings can produce a range of notes. The **pitch** of the note-how high or low it sounds - depends upon three things: the **length, thickness or weight**, and **tension** (or tightness) of the string.

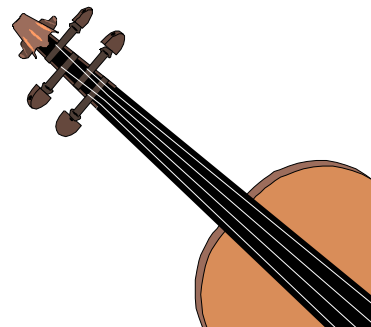
LENGTH

As a player moves a finger up the fingerboard (toward the bridge), the length of the string is shortened, and the pitch becomes higher. Moving the finger down the string (toward the peg box) makes the note lower.



THICKNESS OR WEIGHT

The strings come in different thicknesses or weights. The heavy strings vibrate more slowly than the thin strings of the same length, so they produce a deeper note.



TENSION

As a string player tightens the string with tuning pegs, the string vibrates more quickly producing a higher note. The pitch is lowered by loosening the tension.

