Properties of Sound (1 of 2)

All music is sound combined with silence. All sound has four fundamental properties. So all music is just a manipulation of the following four elements:

Duration (Length)

This is simply how long a sound can be heard. In music, we measure this in "beats" or "counts" and use different types of notes to indicate how long a note should be held. Whole notes, for example, are held for 4 beats, while sixteenth notes only get one-fourth of a beat.

Intensity (Volume)

In music, we use the letter "p" to indicate playing softly (because the Italian word 'piano' means 'softly'). We use the letter "f" to play loudly ('forte' means 'loudly'). These are called dynamics markings. The more p's, the quieter you play, the more f's, the louder. It's generally agreed that about 3 f's (fff) would be about as loud as a person could play.

ppp—Softest
pp—very soft
p—soft
mp—kind of soft
mf—kind of loud
f—loud
ff—very loud
fff—Loudest

Crescendo

Decrescendo

The letter "s" ('subito' or 'suddenly') or "m" ('mezzo' or 'moderately') can be added to the p's or f's. "sf" would be suddenly loud, and "mp" would be moderately soft.

Slower changes to volume are indicated by crescendo's (cre-shen-doe: getting slowly louder) and decrescendo's (slowly softer). These look like large, sideways V's.

Properties of Sound (2 of 2)

Timbre (Tambour)

This is the hardest of the four to explain. It is the 'quality or character of the sound'. It is the part of the sound that allows you to distinguish between the different instruments. For example, even when they're playing the same note, you can tell the difference between the sound of a piano and a saxophone.

When your friend calls out your name, you can often tell who it is just by the sound of their voice. It may not be higher or deeper than someone else's, and they don't have to have a thick accent. It just *sounds* like them. That's timbre.

Frequency (Pitch)

This is how high or low a sound is. In music, we use a five-line graph (staff) to indicate how high or low a note should be. Each position on the staff is given a letter, and the letters are then associated with fingerings on the instrument, like on the graph below.

While this is a quality that is easy to hear, it is also a scientific measurement. Notes that sound higher have a shorter wavelength, and therefore, a higher frequency.