

JUST INTONATION

Learning to play in tune requires skill, knowledge, and a well developed ear. It's one of the most important factors that contribute to a mature sounding ensemble and one of the biggest shortcomings of young bands. It's just not pleasant to hear a group play out of tune. All students have the ability to play in tune, but it does require consistent effort.

1. **Skill** - The skill is the ability to play your instrument with a beautiful tone quality and with a relaxed, full air column.
2. **Knowledge** - The knowledge part of the equation comes from your awareness of what notes are most out of tune. Every instrument has a few notes that are harder to play in tune than others...what are yours? You also have to know how different pitches interact with one another.
3. **Ear Training** - Over time you will learn to hear what "in tune" and "out of tune" sound like. This awareness will help you lock into the pitch center of any group that you are playing with.

It may come as a surprise that if you play two different pitches together, and they are both played perfectly in tune individually, they can sound out of tune when played at the same time. We learn, as mature musicians, that sometimes you have to play intentionally out of tune (as far as a tuner is concerned) to make two different notes match each other. Making an adjustment to one note for the sake of making both notes match, is called "Just Intonation".

Below is a chart that shows you what the correct adjustment is for each pitch of the chromatic scale to make it sound in tune (or match) with the root (the bottom note). For each interval, the chart tells you how far flat or sharp you need to play the top note to make the notes match. For example, the distance between C and E is a Major 3rd (a very common interval in music). In order to make those two notes sound like they match, you would need to play the E 14 cents flat relative to the C. In the key of Bb, the note D is a major 3rd higher. To try this on your own, play a concert D 14 cents flat relative to a reference tone and see how much better the two notes go together.

Please keep this reference sheet in your folder during the year so you can see what adjustments are appropriate for every note of the chromatic scale. Also practice making these adjustments with a tuner or with a reference tone so that you can develop your skill in hearing what "in tune" sounds like!

(SEMITONE) MINOR 2ND +12	(WHOLE TONE) MAJOR 2ND +4	MINOR 3RD +16	MAJOR 3RD -14	PERFECT 4TH -2	(TRITONE) AUGMENTED 4TH +17
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PERFECT 5TH +2	MINOR 6TH +14	MAJOR 6TH -16	DOMINANT 7TH -31	MINOR 7TH +18	MAJOR 7TH -12
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