TUBA

Even if you tune your instrument correctly, there are still some factors that will cause it to play out of tune. There are MANY factors that will affect pitch, but here is a summary of the most common:

FACTOR	AFFECT
Vowel Shape	An incorrect tongue position can greatly affect pitch. To correct sharpness in pitch, open up the space inside your mouth by saying "TOE." Drop the floor of your mouth. To correct flatness in pitch, arch your tongue by thinking of the syllable "TEE." Focus on increasing your air support and aiming the air stream forward.
Endurance Strength	As an individual plays over a period of time, the pitch may go sharp. However, playing when overtired will create flatness in pitch.
Air Support	Slow, weak air speed will cause unsupported tone which may cause sharp pitch. Fast, over-blown air speed will cause wide, unsupported tone which may cause flat pitch.
Temperature	Warm air temperature will cause the pitch to be sharp. Cold air temperature will cause the pitch to be flat. For best results, play in a space that is around 72 degrees Fahrenheit.
Dynamics	Playing louder dynamics will cause the pitch to be sharp. Playing softer dynamics air temperature will cause the pitch to be flat.
Equipment	An instrument that is not in good working order will cause poor pitch overall. Dents and mechanism misalignment are both signs of an instrument in need of a repair. Have the instrument checked by an instrument repair shop once a year.
Partials	Brass instruments are built off something called the harmonic series. Due to this configuration, different partials have different pitch tendencies: 1st, 2nd, 4th, 8th, 9th, 11th- okay in pitch 3rd, 6th, 12th partials: slightly sharp 5th, 10th partials: moderately flat 7th partial: very flat
Valve Combinations	The construction of the instrument causes different pitch tendencies with different valve combinationsL 0, 2, 1 - okay in pitch 12- moderately sharp 23- moderately flat 13, 123- very sharp