EQ Tips & Cheat Sheet

Vocals	• Presence is found at 5 kHz-“s”, “sh”, “z” or “zh” sounds in the voice are magnified at 7.5-10 kHz • Boom is found between 200-240 kHz • Fullness is found at 120 Hz
Electric Guitar	• Fullness is found at 240 Hz • Bite is found at 2.5 kHz • Depth or air is found at 8kHz
Bass Guitar	• Bottom is found between 60-80 Hz • Attack is found between 700-1000 Hz • String Noise is found at 2.5 kHz
Snare Drum	• Fatness is found at 240 Hz • Crispness is found at 5 kHz
Kick Drum	• Bottom is found between 60-80 Hz • Slap is found at 4kHz
Hi Hat & Cymbals	• Sizzle is found between 7.5-10 kHz • Clank is found at 200 Hz
Toms	• Attack is found at 5kHz • Fullness is found between 120-240 Hz
Acoustic Guitar	• Harshness & bite are found at 2 kHz • Boom is found at 120-200 Hz-Cut (mute certain frequencies) is found between 7-10 kHz

BASS: 60 HZ - 250 HZ

The bass region is where you control the sense of ‘fatness’ and ‘thickness’ of a sound and mix. Most bass and rhythm instruments have their fundamental frequencies situated here. Too little volume here and a mix will sound ‘anemic’ and ‘weak,’ but too much and you’ll venture into the territory of ‘boomy.’ This is where the battle between your kick drum and bass will occur, with each fighting for their own space without hurting the definition and clarity of the other.

LOW MIDS: 250 HZ - 500 HZ

The low midrange is one of the most vital regions of the spectrum due to its ability to control the sense of ‘muddiness.’ Too much volume here will create a ‘muffled’ and ‘boxy’ mix, while too little can make a mix feel ‘see through.’ In general, you will cut frequencies when equalizing here, generally with a medium-Q to create smooth scoops. This is typically the fault of a lack of acoustic treatment in the recording environment.

MIDRANGE: 500 HZ - 2 KHZ
The midrange is one of the most sensitive regions when seeking to impact an instrument's or vocal's prominence in a mix without adjusting volume too much, along with the upper mids. Care should be taken to never boost too much here and to focus on cutting elsewhere, or you risk creating a sense of 'honk' as mentioned above. Boosting too much towards 1 kHz to 2kHz can become 'tinny' and lead to ear fatigue in the listener. Often you won't do too much here, as most tracks don't need to be the lead (except for the actual lead). Be extra careful in this 1 kHz to 2 kHz range because our sensitivity to these frequencies changes depending on the volume. They can easily become too loud or not loud enough if you don't check your mixes at differing volumes. This sensitivity is shown and explained by the Fletcher-Munson Curve.

UPPER MIDS: 2 KHZ - 4 KHZ
The upper mids are similar to the midrange in that so much tonal activity is crammed in here that the smallest boosts and cuts can create relatively drastic changes in a mix, especially for vocals, guitar, and the attack of percussion instruments. Along with the next region, boosts here can create a sense of 'solidness' or 'presence,' which are important for prominent lead tracks.

PRESENCE: 4 KHZ - 6 KHZ
The presence range is responsible for clarity, intelligibility, and general definition of most non-bass sounds. For instance, combined with compression, presence can help a vocal track stand out in the mix by providing a sense of 'solidness' and 'hardness' to the recording. Too much can become irritating, while too little can make a sound feel distant, un-engaging, and transparent.

BRILLIANCE: 6 KHZ - 20 KHZ
The brilliance region is where the 'sparkle' and 'air' of a track lies. It's very whispy, containing only harmonic frequencies. Boosts here should be performed with a very wide-Q or a shelf. If you boost too much you will increase the volume of hiss noise, create piercing cymbals, sharp guitars, and intolerable sibilance. If you boost just right you'll add a flair of high fidelity to your mix.