

Music Theory 101

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Pitch is how we perceive frequency.

down \leftarrow \rightarrow up

C, C#, D, D#, E, F, F#, G, G#, A, A#, B

C, Db, D, Eb, E, F, Gb, G, Ab, A, Bb, B

intervals

A semitone is the smallest interval in Western music - it is the distance between two adjacent notes on a piano. A tone (or whole step) is made up of two semitones.

Interval Name	Semitones
Minor 2nd	1
Major 2nd	2
Minor 3rd	3
Major 3rd	4
Perfect 4th	5
Tritone	6
Perfect 5th	7
Minor 6th	8
Major 6th	9
Minor 7th	10
Major 7th	11
Perfect Octave	12

scales, keys, key signatures, modes, chords

A scale is a set of musical notes ordered by pitch, which serves as the building block for melodies, harmonies, and keys. Think of it as a musical palette from which composers and performers choose notes.

some scales:

- major (1 - 2 - 3 - 4 - 5 - 6 - 7)
- natural minor (1 - 2 - b3 - 4 - 5 - b6 - b7)
- harmonic minor (natural minor w/ raised 7th)
- melodic minor (raises 6th and 7th on ascending, natural minor descending)
- major pentatonic (1 - 2 - 3 - 5 - 6)
- minor pentatonic (1 - b3 - 4 - 5 - b7)
- blues (1 - b3 - 4 - b5 - 5 - b7)

why scales matter:

- scales define the notes available for melody and harmony
- chords are built from notes within a scale
- modes are variations of scales starting on a different scale degrees
- understanding scales helps in improvisation, composition, and ear training

"dia" = "through" or "across"

"tonic" = "tone" (referring to whole steps)

Diatonic literally means "through the tones" - referring to the pattern of whole tones (whole steps) and semitones (half steps) that make up the scale.

This pattern naturally contains the perfect 5th and the major/minor 3rd intervals, which are crucial for harmony and tonality.

A key signature tells you which notes are sharpened (#) or flattened (b) consistently throughout a piece. It is written at the beginning of a staff in sheet music. It defines the key or tonal center, i.e., which scale the music is based on.

A mode is a type of scale derived by starting on different degrees of a parent scale.

A chord is a group of notes played simultaneously, usually built by stacking intervals like thirds. The simplest and most common chords are triads, made from three notes: root, third, and fifth.

circle of fifths

The circle of fifths is a foundational concept in music theory that visually represents the relationship among the 12 tones of the chromatic scale, their corresponding key signatures, and the major and minor keys.

helps musicians understand:

- key signatures (how many sharps or flats are in a key)
- the relationship between major and minor keys
- modulation (changing keys)
- chord progressions

C, G, D, A, E, B, Gb/F#, Db, Ab, Eb, Bb, F

moving clockwise, each step goes up a perfect fifth (or down a perfect fourth), increasing in sharps and decreasing in flats (if coming from a flat key)