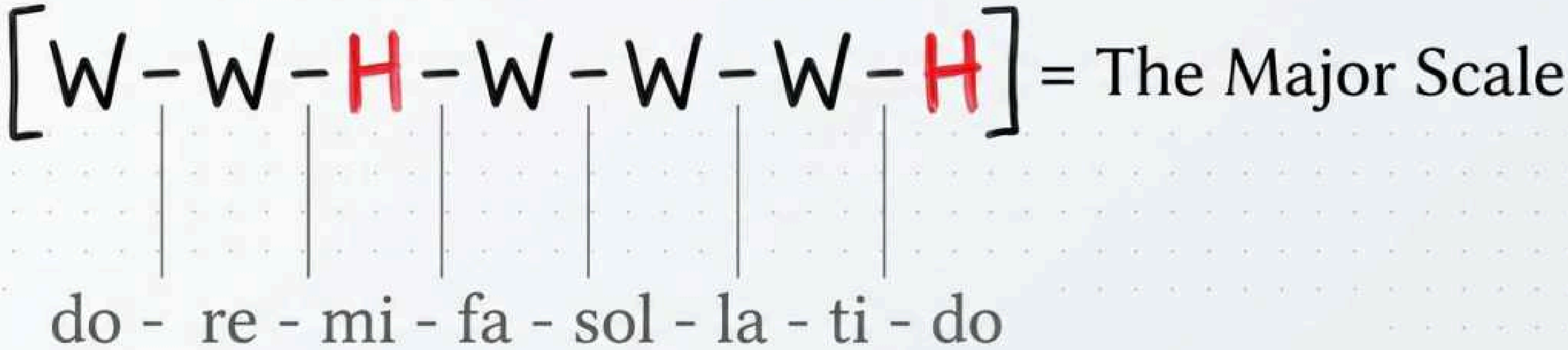
The Major Scale Formula

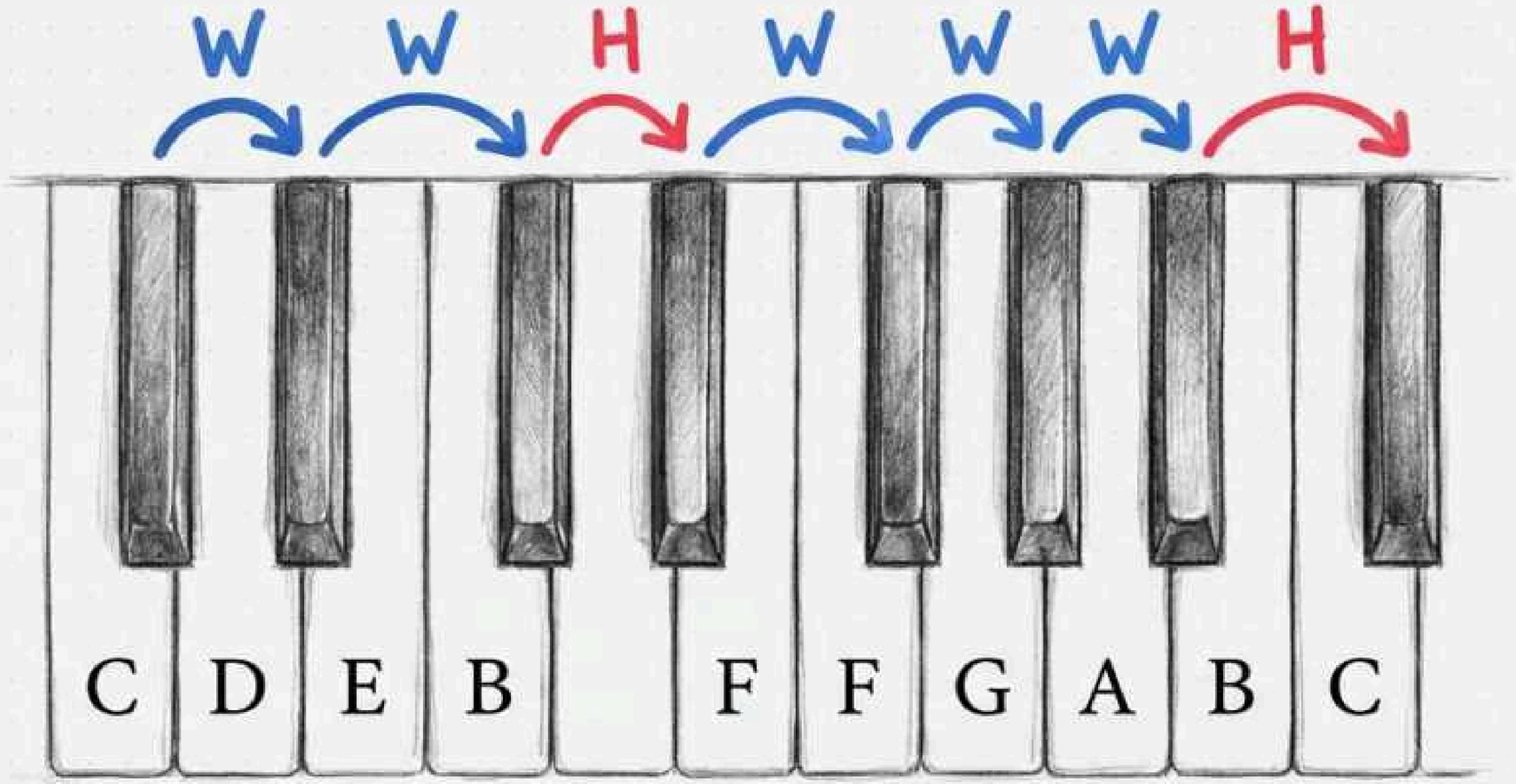
¶ 3.1



A scale is defined by the distances between its notes, not the specific notes used.

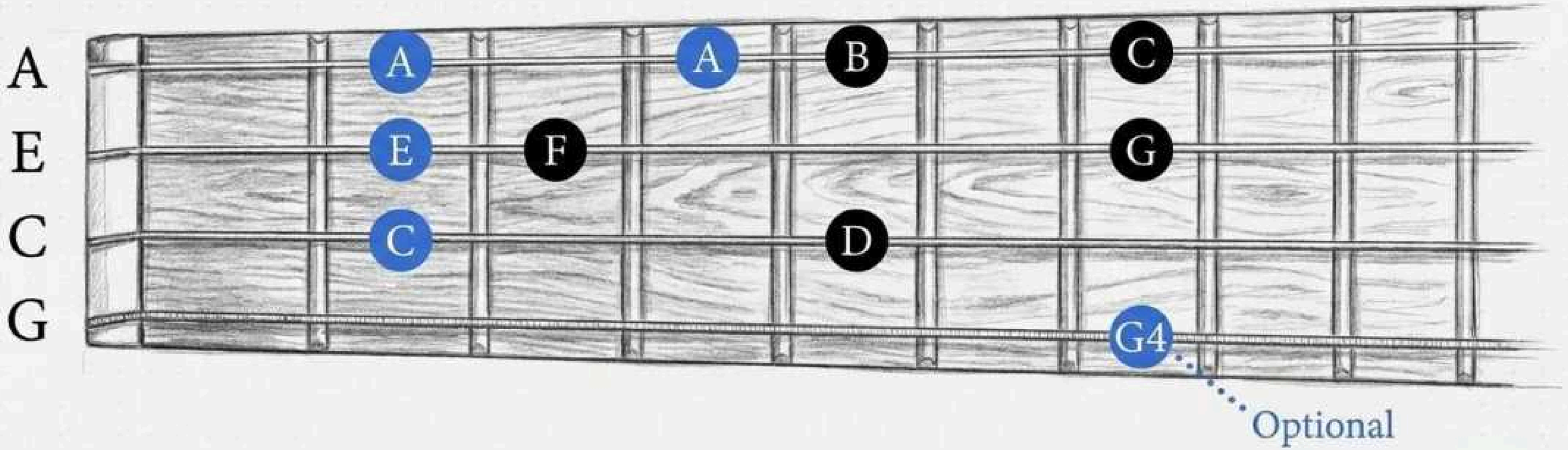
Building C Major on the Piano

¶ 3.2



- The C major scale uses just the natural notes (the white keys).
- The two natural half steps fall exactly between E-F and B-C. No sharps or flats needed.

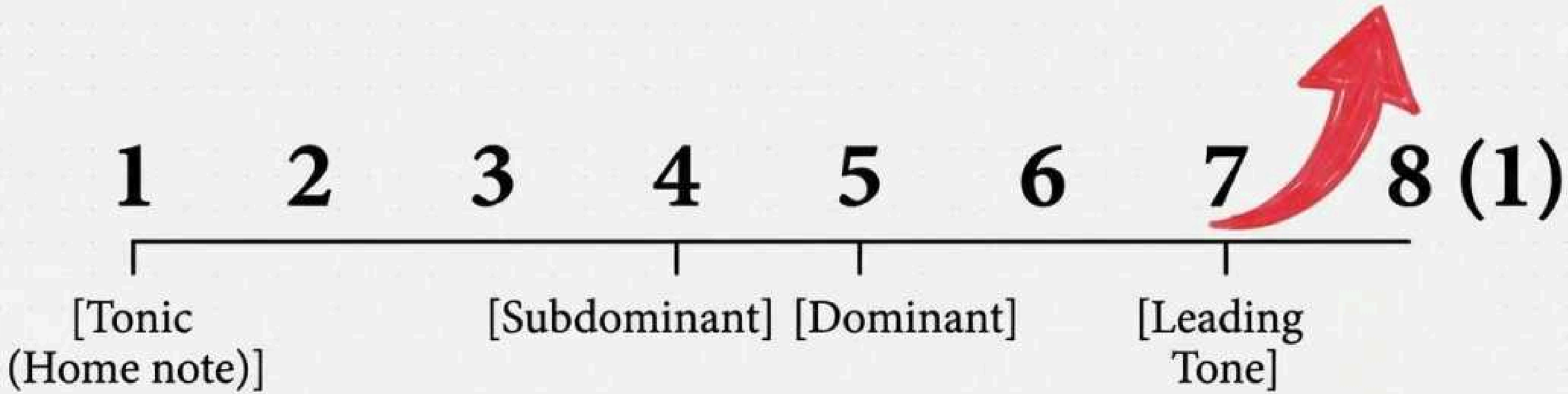
C Major on the Ukulele



- Playable entirely in first position with zero shifting.
- Campanella style: The open re-entrant G4 string can act as an extra note for specialized scale playing.

Scale Degrees and Functions

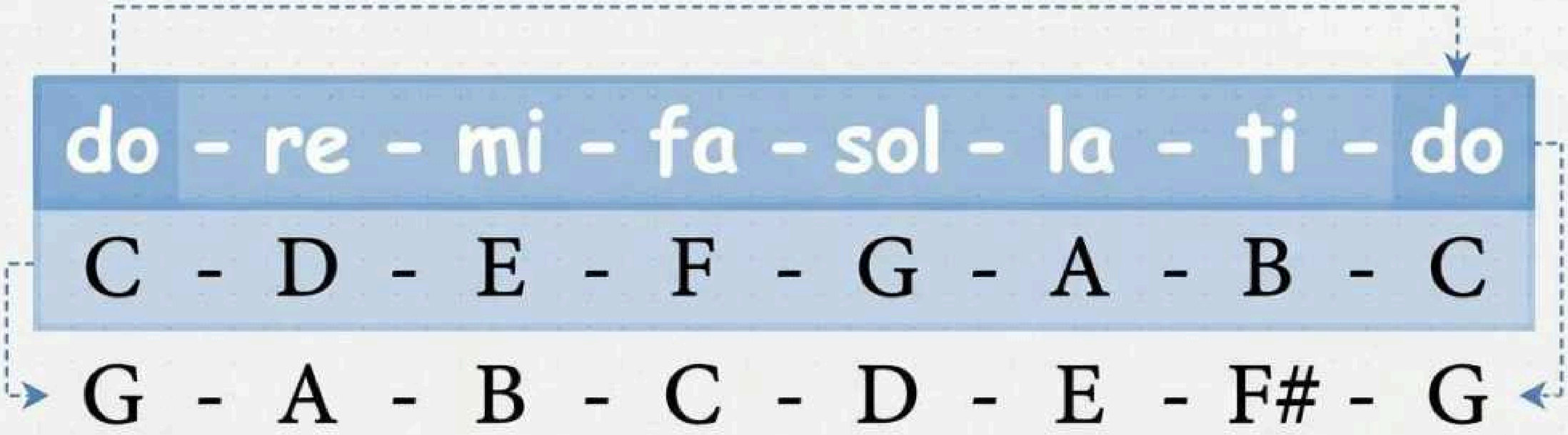
¶ 3.4



The 7th degree leans powerfully upward, seeking resolution back to home.

Movable ‘Do’ Solfège

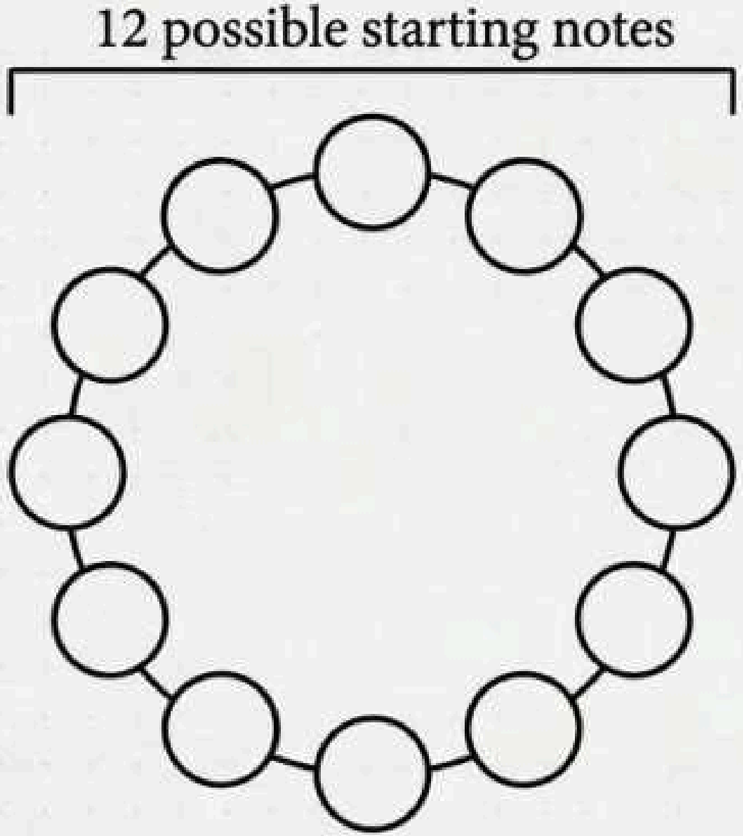
¶ 3.5



Syllables describe position in the scale, not particular pitches. ‘Do’ is always the Tonic. This relative system allows the same musical patterns to work across every key.

Defining a Key

Key = Major Scale Pattern + Tonic (Home Note)



- A song in the Key of C uses mostly C major notes and ends on C.
- Because the major scale is strictly a step pattern, it can be built on any of the twelve musical notes.
- This results in twelve distinct major keys, all sharing the exact same internal relationships.

Building G and F Major

¶ 3.7

Error! E to F is H.

W, W, H, W, W

G → A → B → C → D → E → ~~F~~ → G

W H

E → F♯ → G (Result: 1 Sharp)

Error! A to B is W.

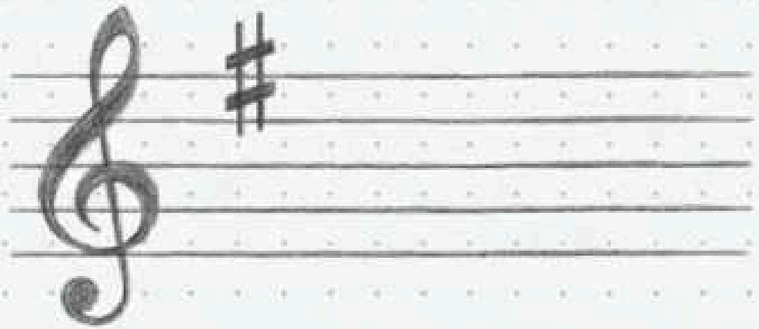
W, H, W, W, H

F → G → A → ~~B~~ → C → D → E → F

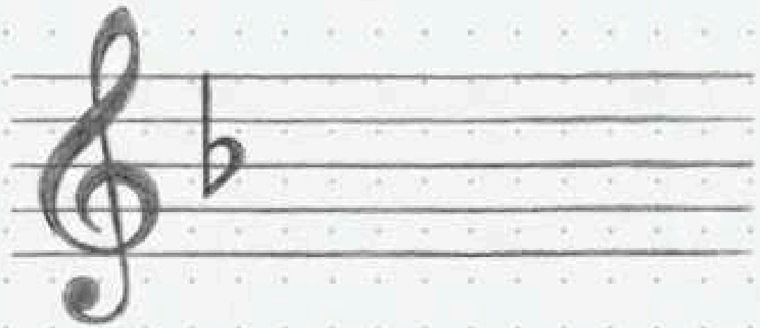
A → B♭ → C → D → E → F (Result: 1 Flat)

Key Signatures

¶ 3.8



One Sharp (F#) = G Major / E minor

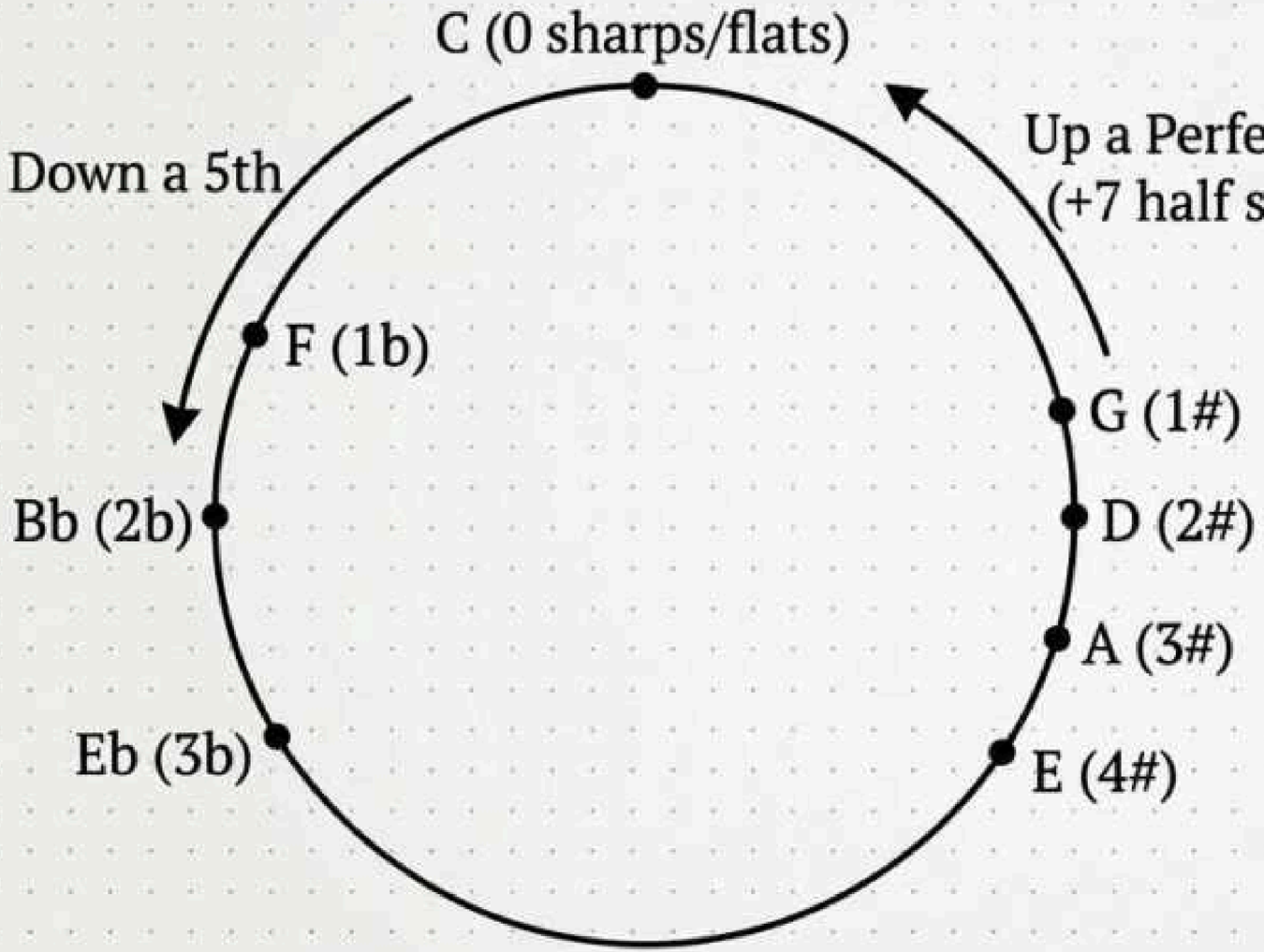


One Flat (B♭) = F Major / D minor

Sharps or flats are written once at the start. Every major key uses either sharps or flats, never both. Identifying the key signature predicts exactly which notes to expect, even in tab-only music.

The Circle of Fifths

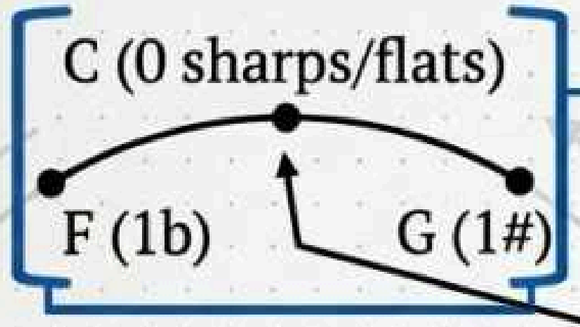
¶ 3.9



Arranged geometrically by mathematical intervals of a perfect fifth.

The Musician's Map

¶ 3.10



The three major chords of a key (I, IV, V) cluster together perfectly adjacent.

Neighboring keys share 6 of 7 notes.

- Order of added sharps follows the clockwise path: F#, C#, G#, D#

Relative Minor Keys

¶ 3.11

Tonic (1) 6th Degree

C - D - E - F - G - A - B - C



A - B - C - D - E - F - G - A

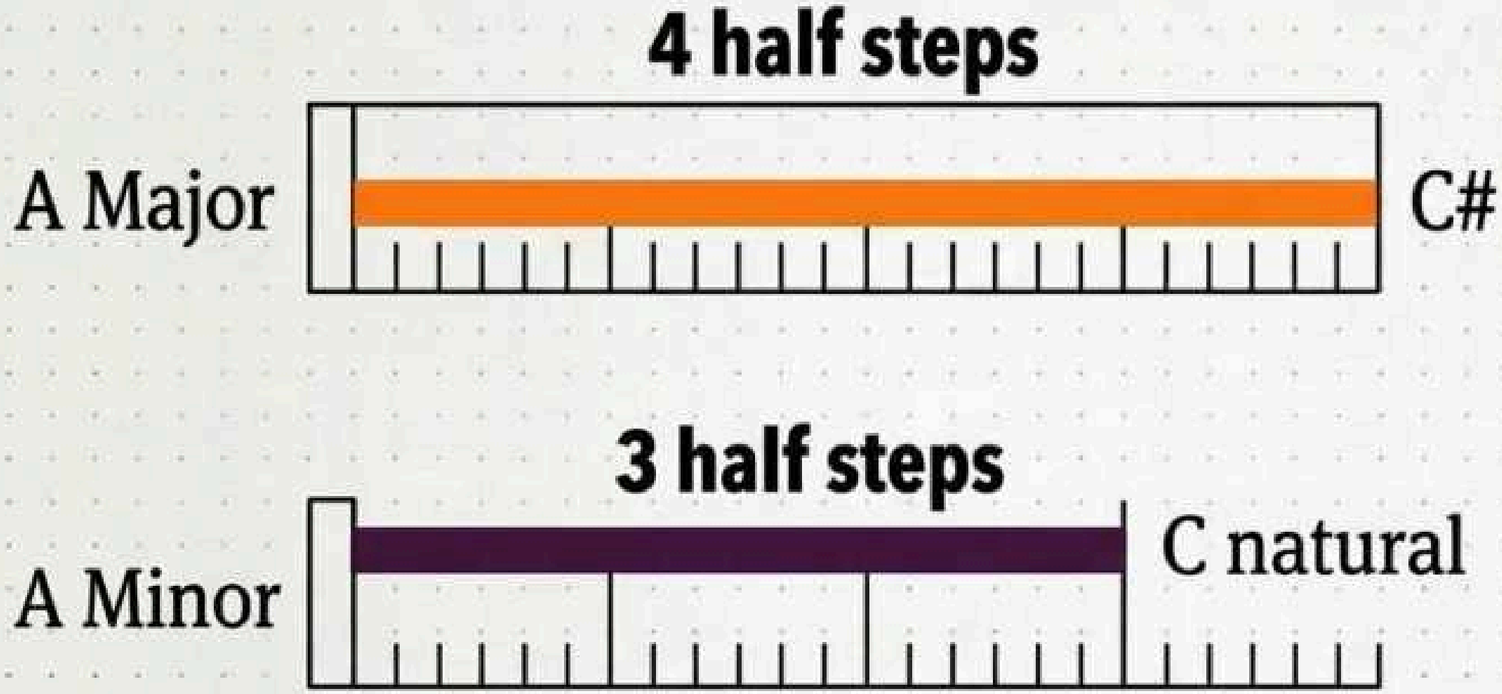
Natural Minor Pattern = W-H-W-W-H-W-W

Every major key has a relative minor that uses the exact same notes and key signature, but has a different home note.

- C major <-> A minor
- G major <-> E minor
- F major <-> D minor

Major vs. Minor Quality

¶ 3.12

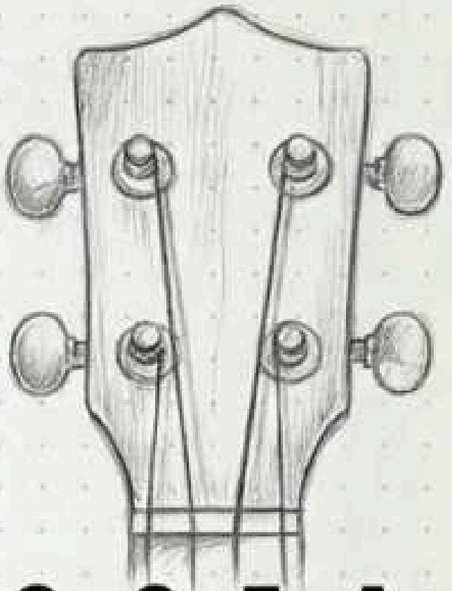


The third degree determines the quality. Minor keys sound darker or sadder mainly because the third note is flattened, closing the distance to only three half steps above the tonic.

The Major Pentatonic Scale ¶ 3.13

1 Ⓒ 2 Ⓓ 3 Ⓔ ~~4 (F)~~ 5 Ⓖ 6 Ⓐ ~~7 (B)~~

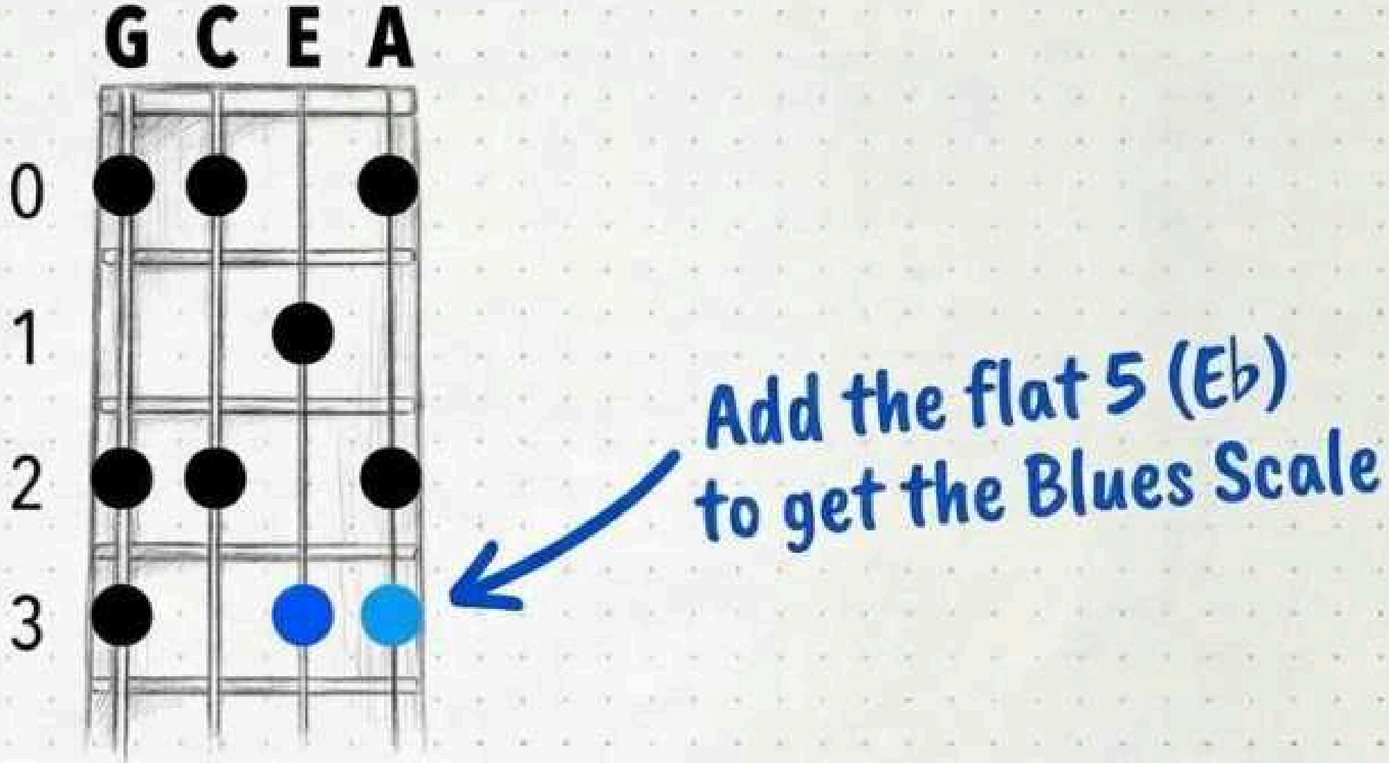
Drops the 4th and 7th degrees
to remove the half steps.
Result: No clashing notes.



G - C - E - A

The ukulele's four open strings
all naturally exist within the
C major pentatonic scale!

Minor Pentatonic & Blues Scale ¶ 3.14



Minor Pentatonic = A C D E G.

This simple, heavily-used box shape lies conveniently right around the open strings and the 3rd fret.

Ukulele-Friendly Keys

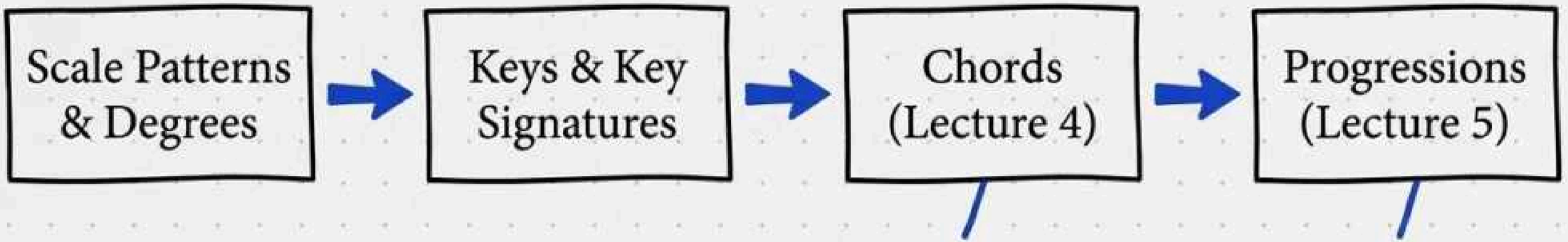
¶ 3.15

Friendliest Tier	C major (features the completely open C6 chord)
Great Tier	G, F, A minor, D, A major (very common, heavily utilize open strings)
Tough Tier	Keys with many flats (Eb, Ab). Require multiple barre chords.

Key ergonomics depend heavily on the availability of open strings. Because of this, ukulele songbooks favor C, G, F, and D. For tough keys, transposing or using a capo (Lecture 5) is highly useful.

¶ 3.16

The Musical Framework



The Golden Rule: When you know the key, you know exactly which chords to expect.