LOW END HAZE

THE GUITAR WORKBOOK

YOU LOVE RIFFS. PLAY MORE.

Beginner to advanced, in ten-minute blocks. Technique, theory and riff writing, shaped by Anthrax, Slayer, Megadeth, Ozzy and Sabbath, Clutch, Testament and Skid Row.

HOW THIS BOOK WORKS

This is a workbook, so it expects a guitar in your lap. It runs from your first clean power chord to writing a full thrash song with a solo, and it is built for people who get ten minutes between dinner and bedtime, on a good day.

Three parts, three tracks. Each part has one chapter per track, and each part ends with a boss. The boss does not care how busy you were this week. It also does not care about the school run, your inbox or your lower back.

	TECHNIQUE	THEORY	RIFF WRITING
Part I: Beginner	Ch 1. Picking, power chords, palm mute, clean stops	Ch 2. Note names, shapes, circle of fifths, pentatonic, open chords	Ch 3. Rhythm first, chord riffs, motif and variation
Part II: Intermediate	Ch 4. Down-picking, gallops, tremolo, bends, pinch harmonics	Ch 5. Intervals, keys, the dark modes, pentatonic boxes	Ch 6. Thrash, doom, groove and hard rock riffs, first solo
Part III: Advanced	Ch 7. Spider chords, legato, sweeps, tapping, twin leads	Ch 8. Exotic scales, diminished shapes, odd bars	Ch 9. Song architecture, harmony guitars, solo design

Part IV: Workshops sits after the three bosses: tone and gear, ear training, rhythm reading, lead guitar phrasing, bigger chords, and two complete songs taken apart. Dip in whenever you like.

Every chapter also has a block of extra drills near its end. Skip them on a first pass and come back when a skill needs more work.

> FRETROT SAYS
> *Ten minutes. You have spent longer than that on the toilet with your phone today, and you did not come out of there any better at anything.*

The ten-minute rule

Every exercise is sized to fit a ten-minute block. One block is a real practice session. Three blocks in a week beats one heroic Saturday that never happens. You know the Saturday. It has been coming for six years.

1. **Two minutes:** warm up with the last exercise you finished.
2. **Six minutes:** one new exercise, slow, with a metronome or drum loop.
3. **Two minutes:** play something you like. This part is not optional. Skipping the fun bit is how people end up selling their gear on Marketplace to a man called Darryl.

How to read an exercise

Each exercise has a number, a tempo range and a tick box. Start at the low tempo. Move up 4 to 8 bpm only after three clean passes in a row. Tick the box when you can play it at the top tempo without tensing up. Ticks are saved on this device. Lying to a checkbox is still lying.

> **If it hurts, stop.** Tired is fine. A burning picking forearm is fine. Sharp pain in a wrist, thumb or finger joint is your body filing a complaint. Shake out, lower the tempo, lighten your grip. Blisters are fine. A blister that pops on the fretboard is a rite of passage and also disgusting. Wipe it down.

> **Practise with less gain than you think.** Distortion hides sloppy muting and uneven picking. It is beer goggles for your hands. Learn each exercise on a clean or lightly driven sound, then turn it up as a reward.

SEVEN BANDS, SEVEN LESSONS

This book leans on seven bands. You will not find their riffs or solos here. Their lawyers are scarier than our monsters. Every exercise is original, written to train the habit that makes each of them sound the way they do.

> **STEAL FROM ANTHRAX**
> The picking hand is the band. Fast, tight downstrokes, palm-muted gallops and sudden dead stops, then a half-time section that makes a room move. Chapters 1, 4 and 6 train the down-picking engine and the breakdown.

> **STEAL FROM SLAYER**
> Speed and menace. Tremolo-picked single-note lines, chromatic movement, the tritone, and tuning down a half step for extra weight. The solos are chaos on purpose. Chapters 4, 5 and 8 cover tremolo picking and the notes that sound evil.

> **STEAL FROM MEGADETH**
> Precision. Lots of riffs per song, intricate picking, quick position shifts, and the spider chord fingering that lets power chords move without the hand jumping. Chapters 7 and 9 cover spider chords and multi-riff song building.

> **STEAL FROM OZZY AND SABBATH**
> Black Sabbath is where heavy riffs start: slow, tuned down, built on power chords and the tritone, with blues-scale leads. The Ozzy solo years add the lead guitar hero: classical-flavoured runs, pedal-point licks, tapping, wide vibrato and squealing pinch harmonics. Chapters 3, 6 and 7.

> **STEAL FROM CLUTCH**
> Groove. Blues-scale riffs with swing, space between the notes, and a wah pedal used as a rhythm instrument. Heavy without being fast. Chapters 3 and 6 train the shuffle and the riff that breathes.

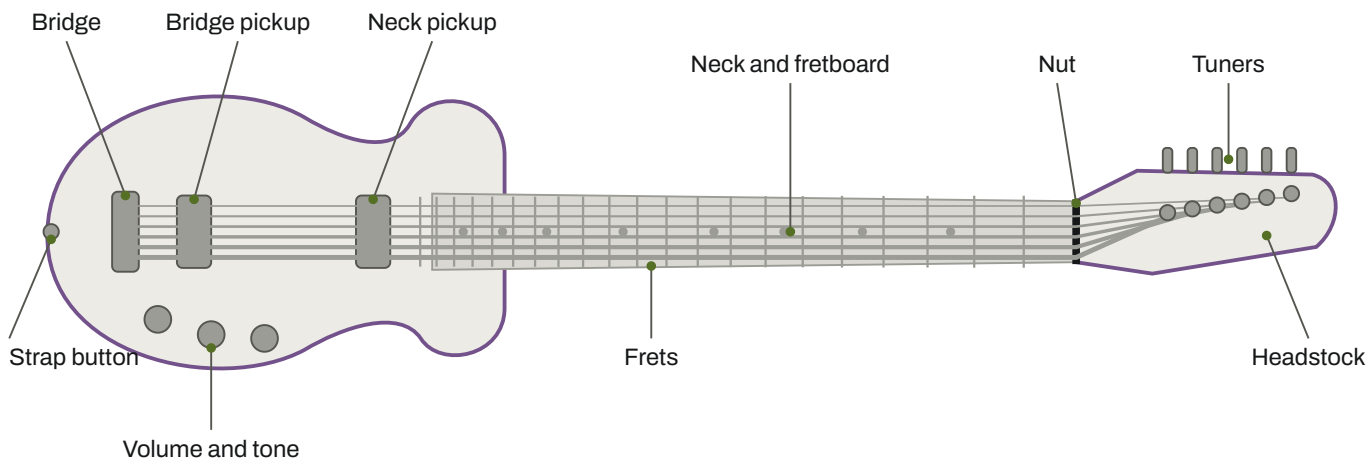
> **STEAL FROM TESTAMENT**
> Thrash rhythm with melodic, schooled lead playing on top: modes, harmonic minor, legato, arpeggios, and harmonised twin-guitar lines. Chapters 7, 8 and 9.

> **STEAL FROM SKID ROW**
>
> The song comes first. Hard rock riffs that set up a huge chorus, clean arpeggiated verses that explode into distortion, and solos you can sing. Chapters 6 and 9 cover the anthem and the ballad build.

LESSON	LEARN IT FROM	CHAPTERS
Down-picking and the gallop	Anthrax	1, 4, 6
Tremolo picking, chromatic menace	Slayer	4, 5, 8
Precision riffing, spider chords	Megadeth	7, 9
The slow heavy riff, the tritone	Sabbath	3, 5, 6
Lead guitar: bends, pedal points, tapping	Ozzy's guitarists	4, 7
Groove, shuffle, blues scale	Clutch	3, 6
Melodic and harmonised leads	Testament	7, 8, 9
Big choruses, ballad dynamics	Skid Row	6, 9

BEFORE YOU PLAY

The parts you will hear about in this book `not to scale`



Tuning

Three tunings appear in this book. Low string to high string:

TUNING	STRINGS	USED FOR
Standard	E A D G B E	Most of the book
Half step down	Eb Ab Db Gb Bb Eb	Extra weight. Every shape stays the same, everything sounds one fret lower
Drop D	D A D G B E	One-finger power chords. Only the lowest string changes, down two frets

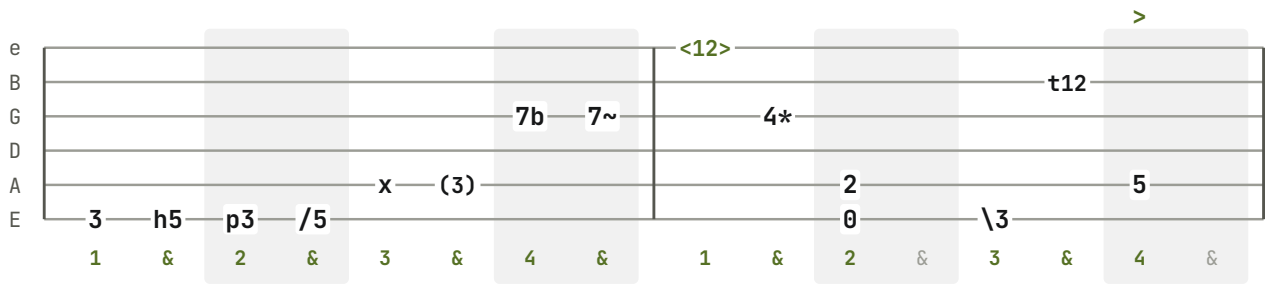
Use a clip-on tuner or a tuner pedal. Tune up to the note, never down to it: if you overshoot, go below and come back up. The string holds pitch better that way.

> **THE CLATTER SAYS**
> *Tune the fucking thing. Every time. In the whole history of music nobody has said 'great riff, shame it was in tune'.*

Reading tab

Tab is a picture of the strings. The bottom line is your lowest, thickest string. The top line, marked with a small e, is the thinnest. Numbers are frets. Zero is the open string. Numbers stacked in a column are played together. The row under the staff is the count, and the count is half the music, so read it. Ignore it and you will play all the right notes at the wrong time, with total confidence, like a wedding DJ.

Every symbol used in this book 4/4 · standard tuning



Bar 1: fret 3, hammer on, pull off, slide up, dead note, ghost note, bend, vibrato. Bar 2: natural harmonic, pinch harmonic, two strings at once, slide down, tap, accent.

SYMBOL	NAME	WHAT TO DO
`5`	Fretted note	Press just behind fret 5 and pick
`0`	Open string	Pick without fretting
`h7`	Hammer-on	Do not pick. Slam a finger onto fret 7 from the note before
`p5`	Pull-off	Do not pick. Flick the fretting finger off, sounding fret 5 below it
`/7` and `\5`	Slide	Keep pressure on and glide to the fret
`x`	Dead note	Fretting hand rests on the string without pressing. Pick for a click
`(5)`	Ghost note	A real pitch played very quietly
`7b`	Bend	Push the string across the fretboard until it sounds two frets higher, unless the note says otherwise
`5~`	Vibrato	Wobble the pitch with small repeated bends
`4*`	Pinch harmonic	Let the side of your thumb graze the string as you pick, for a squeal
`t12`	Tap	Hammer the note with a picking-hand finger
`>` above the staff	Accent	Hit this one harder than its neighbours
`<12>`	Natural harmonic	Touch the string directly over the fret wire, pick, lift

Reading the fretboard diagrams

Same view as tab: low string at the bottom, nut on the left. Green dots are roots. Purple dots are everything else. The label inside a dot is a note name, a scale degree or a finger number, and the caption says which.

FRETROT SAYS

Tick a box you have not earned and I will know. I live in the grey paste under your strings. I see everything.

Posture, in four checks

- [ ] Strap set so the guitar sits at the same height standing and sitting
- [ ] Fretting thumb behind the neck for chords and stretches, over the top for bends

- [ ] Picking forearm resting on the body, wrist loose
- [ ] Shoulders down. If they creep toward your ears, the tempo is too fast

PART I

BEGINNER

Clean picking, power chords, the map of the neck, and your first riff. The Hollow is waiting at the end. It has nothing better to do.

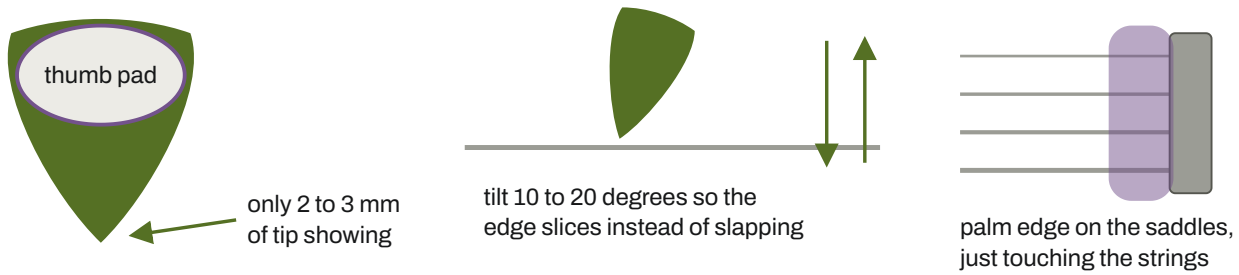
CHAPTER 1

THE PICKING HAND IS THE BAND TECHNIQUE

In heavy music the rhythm guitar is a percussion instrument. A very loud one, usually operated by someone who secretly wants to be the singer. Before any speed, you need one thing: every stroke the same volume, starting and stopping exactly when you mean it to.

Holding the pick

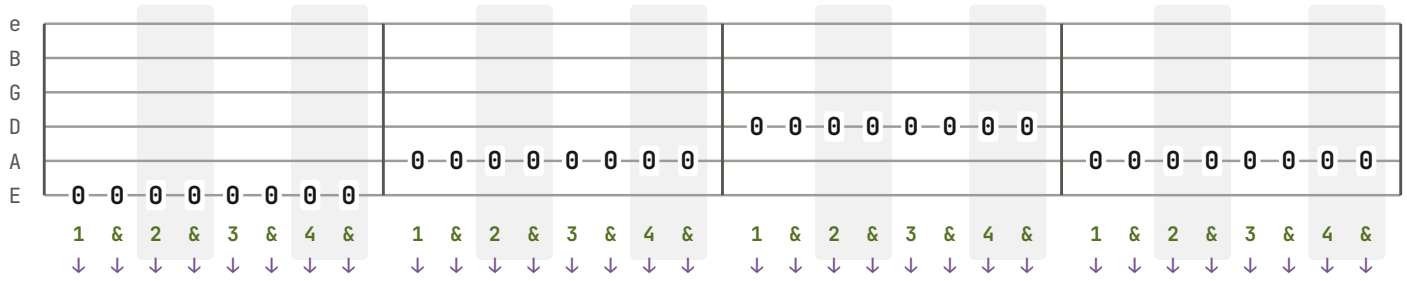
Pick grip, pick angle and where the palm mute lives



- **Grip.** Pick flat on the side of your index finger, thumb pad on top. Firm enough that it does not spin, loose enough that your forearm stays soft.
- **Motion.** From the wrist. The elbow only joins in for big strums.
- **Anchor.** Rest the heel of your hand lightly on the bridge. That hand position is also your palm mute, which is why metal players live there.

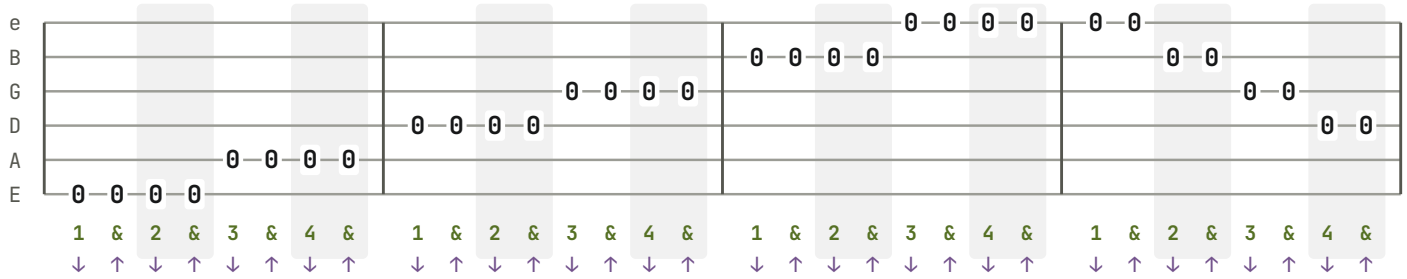
Downstrokes

Ex 1.1 **Downstrokes on the low strings** `4/4 · standard tuning · 70 to 120 bpm`



Every stroke the same depth. Count out loud. This motion is the engine of thrash rhythm guitar.

Ex 1.2 **Alternate picking across all six strings** `4/4 · standard tuning · 60 to 110 bpm`



Strict down-up. The pick direction never changes to suit the string change. The thin strings need a lighter touch.

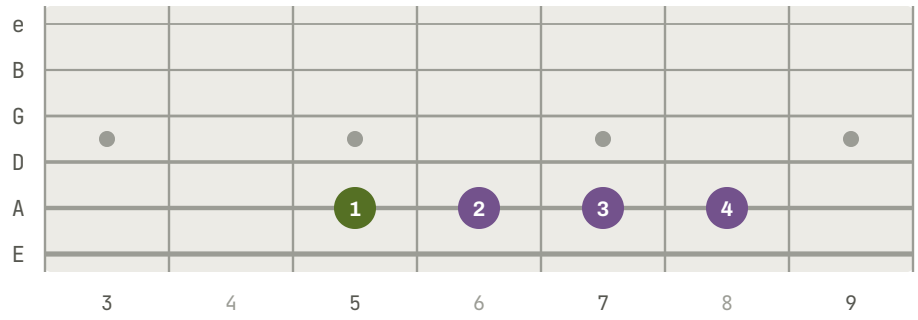
THE HOLLOW SAYS

Uneven notes taste like wet cardboard. Feed me something better.

Fretting hand: one finger per fret

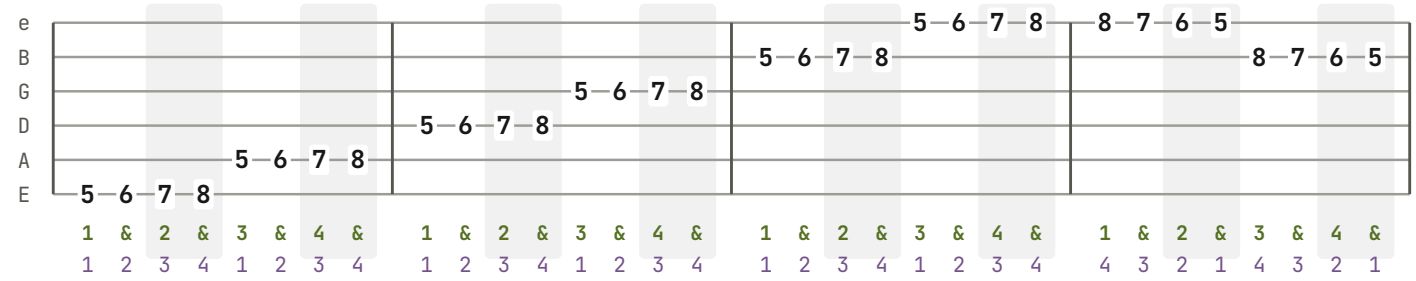
Four fingers cover four frets. Press just behind the fret wire with the fingertip, using only enough pressure to stop the buzz. Most beginners squeeze three times harder than they need to, which is where the hand cramps come from. The neck is not trying to escape.

One finger per fret, fifth position `labels are finger numbers`



Finger 1 is your index. Arch the fingers so they do not touch the strings underneath.

Ex 1.3 **The spider** `4/4 · standard tuning · 50 to 90 bpm`

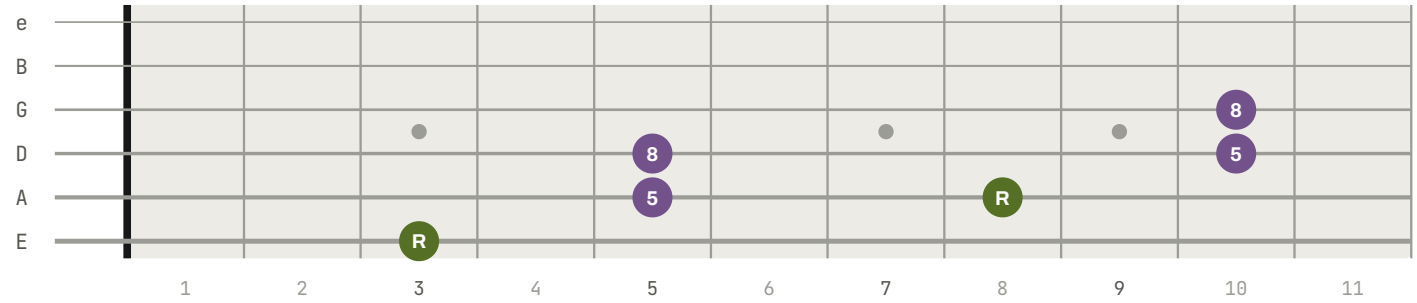


Numbers under the count are fretting fingers. Alternate pick it. Ugly, useful, and the single best warm-up in the book. It sounds like a robot falling down stairs. Do it anyway.

The power chord

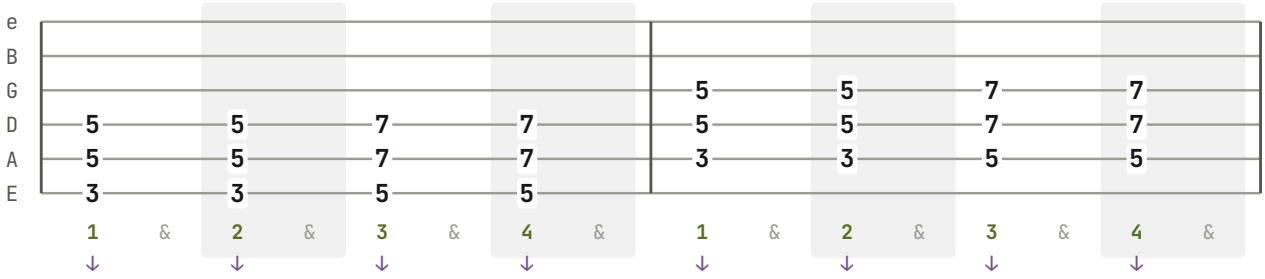
Two notes, a root and a fifth. Index finger on the root, ring finger two frets up on the next string. It has no major or minor quality, which is why it stays clear under heavy distortion. Add the pinky on the next string, same fret as the ring finger, to double the root an octave up.

Power chord from G, and the same shape from C `labels are scale degrees`



One shape, any fret, root on the E string or the A string. The name of the chord is the name of the root: G5, C5.

Ex 1.4 **Moving power chords** `4/4 · standard tuning · 70 to 110 bpm`



G5, A5, then C5, D5. Keep the hand shape frozen and move the whole arm. Mute the unused strings by letting the index finger lie lightly across them.

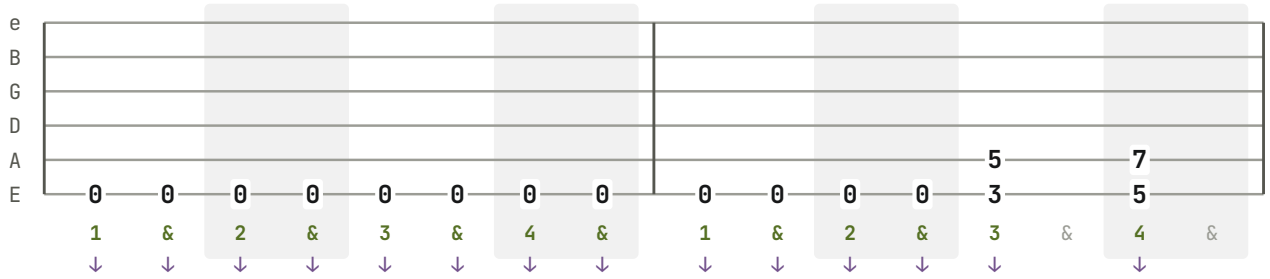
FRETROT SAYS

Your fingertips will hurt for two weeks, then go numb, then peel like a sunburnt snake. That is progress. Do not eat the peelings. People will ask questions.

Palm mute

Rest the edge of your picking hand on the strings right where they leave the bridge. The note becomes short and thick: the chug. The chug is the reason you bought a guitar. Admit it. Slide the hand toward the neck and it chokes completely. Slide it back onto the bridge and it rings. Find the spot between.

Ex 1.5 **Chug, then release** 4/4 · standard tuning · 80 to 140 bpm · palm mute the open E

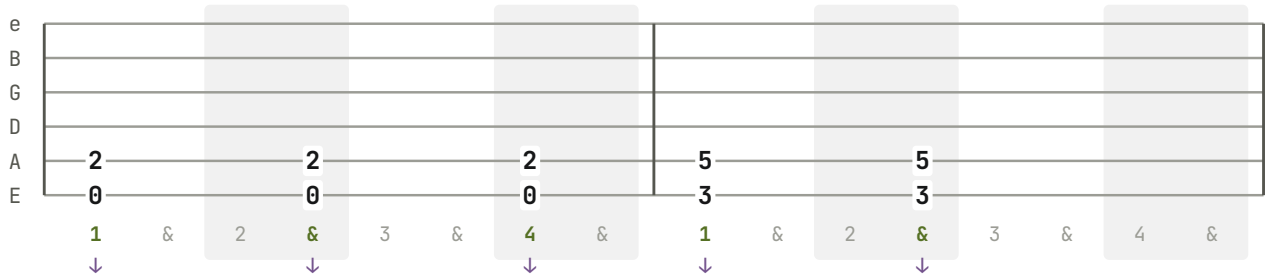


Mute the open E notes. Lift the palm for the two chords so they ring. That contrast is most of metal rhythm guitar.

Stops: the notes you end

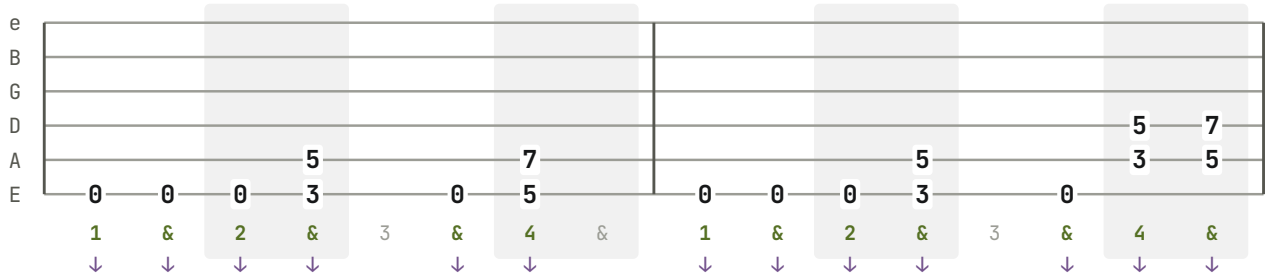
A chord that rings into a rest turns a riff into mush. Mush is for babies and airline food. Stop it with both hands: relax the fretting fingers without leaving the strings, and drop the picking palm onto the bridge.

Ex 1.6 **Play the rests** 4/4 · standard tuning · 80 to 120 bpm



Every dot is silence you create. Record ten seconds on your phone and listen for ringing or string noise.

Ex 1.7 **First riff** 4/4 · standard tuning · 90 to 140 bpm · palm mute the open E



Chug, chord, stop, chug, chord. Everything in this chapter in two bars.

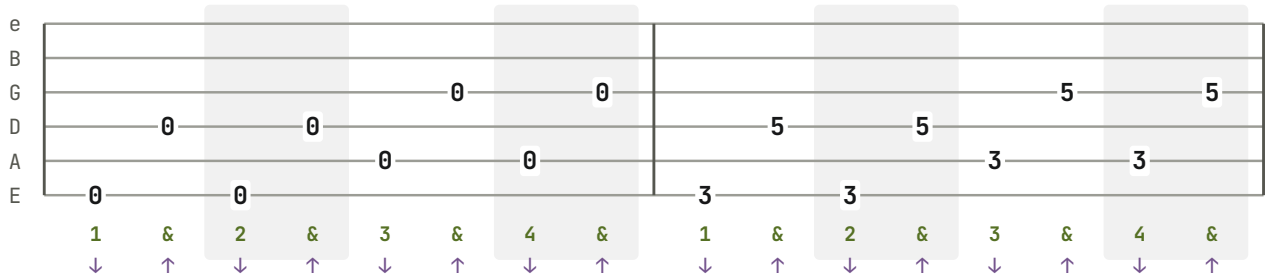
> **STEAL FROM ANTHRAX**
>
> All downstrokes, heel of the hand glued to the bridge, and total commitment to the stops. Play the first riff at 140 with nothing but downstrokes and you are already doing the job.

More drills: hands

Five short drills that widen what Chapter 1 started. Each one fixes a specific weakness.

Ex 1.8 String skipping

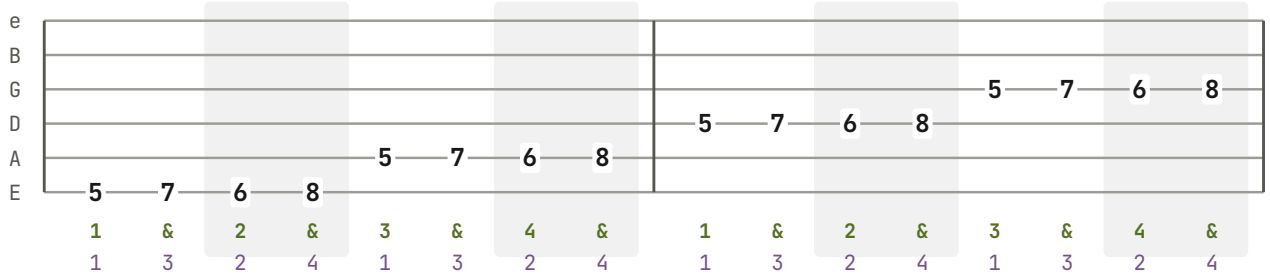
`4/4 · standard tuning · 60 to 100 bpm`



Jump over a string without touching it. Bar 2 is octaves: G and G, then C and C.

Ex 1.9 Spider, shuffled fingers

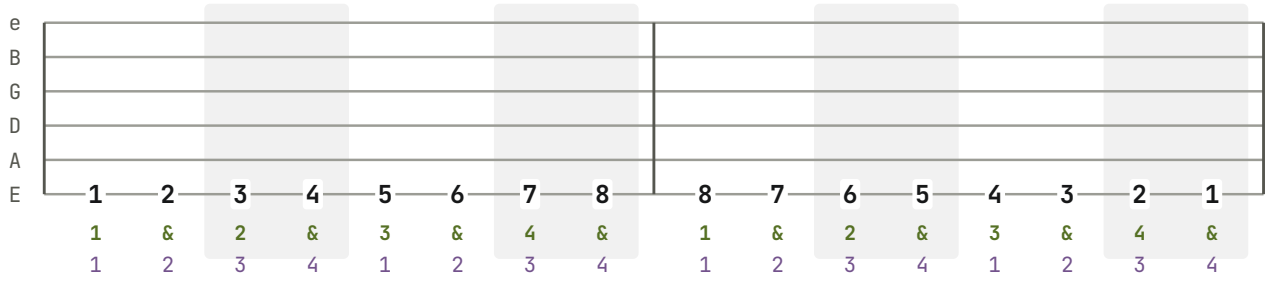
`4/4 · standard tuning · 50 to 90 bpm`



Fingers 1, 3, 2, 4. The ring finger and pinky hate this, which is the point.

Ex 1.10 Shifting along one string

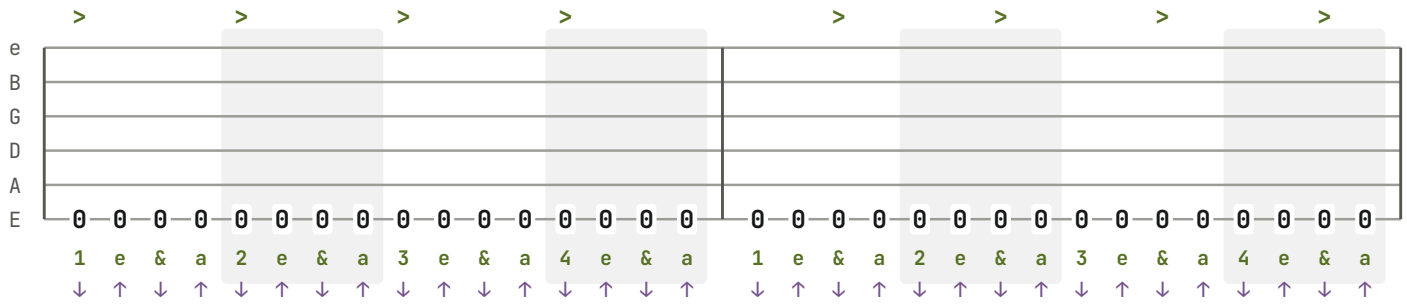
4/4 · standard tuning · 50 to 90 bpm



After finger 4, move the whole hand so finger 1 lands on the next fret. The shift should make no sound.

Ex 1.11 Accents on the beat, then off it

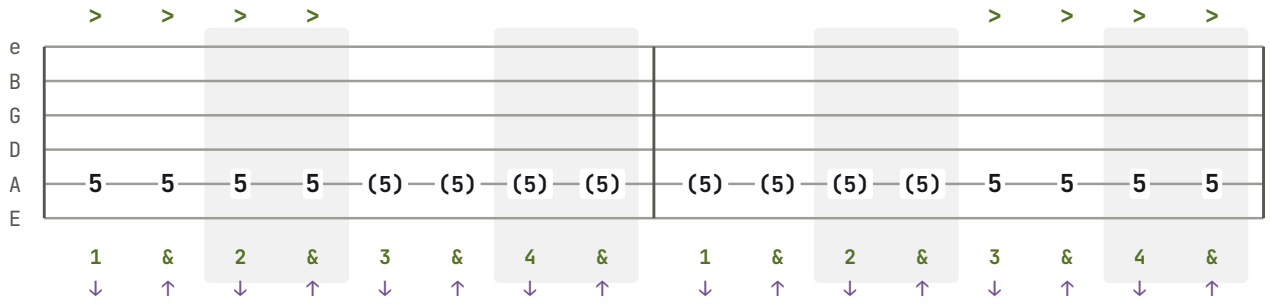
4/4 · standard tuning · 60 to 100 bpm · palm mute



Bar 1 accents the beat. Bar 2 accents the "and". Every other note stays quiet and even.

Ex 1.12 Loud and soft

4/4 · standard tuning · 70 to 110 bpm

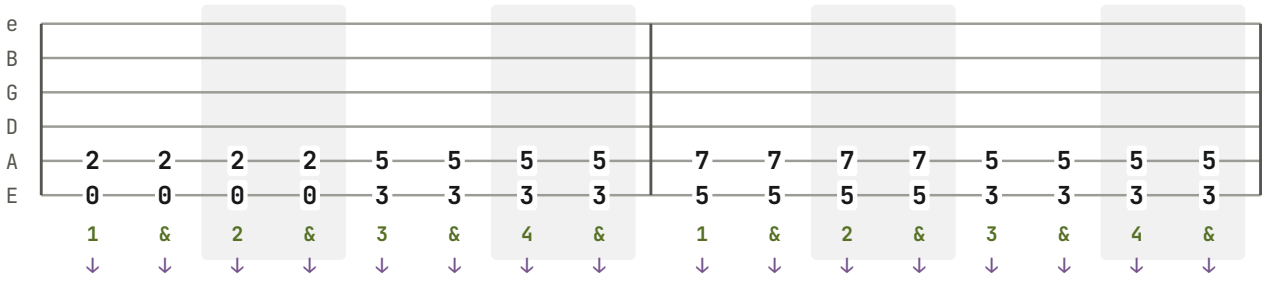


Four notes as loud as you can play cleanly, four as soft as you can. Same tempo, same length. Volume lives in your hands before it lives in the amp.

Guitar-only drills

Ex 1.13 Chord changes in eighths

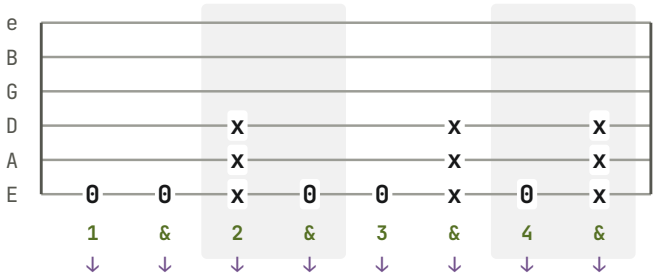
4/4 · standard tuning · 80 to 140 bpm



E5, G5, A5, G5. The change happens between the fourth and fifth strokes with no gap. Move early and land on time.

Ex 1.14 Muted strums

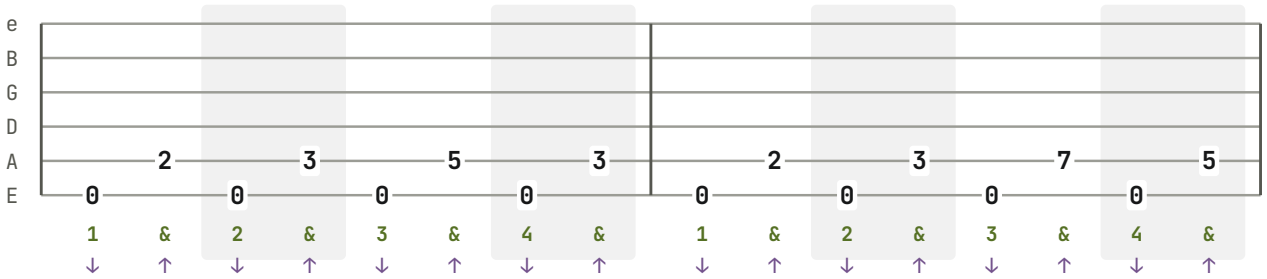
4/4 · standard tuning · 80 to 130 bpm · palm mute the open E



The x strums are all three low strings choked by the fretting hand. A percussive hit with no pitch, used constantly between chords.

Ex 1.15 Pedal picking

4/4 · standard tuning · 70 to 120 bpm · palm mute the open E



The open E alternates with a melody on the A string: B, C, D, C, then B, C, E, D. The start of every pedal-tone riff.

SKITTER SAYS

Still strangling the neck like it owes you money? Loosen up. Save the death grip for jar lids.

Chapter 1 check

- [ ] Downstrokes at 120 bpm for one minute, even volume
- [ ] The spider at 80 bpm with no buzzing
- [ ] Power chords moving cleanly between the E and A strings
- [ ] Palm-muted chug with chords that ring and stop on time

CHAPTER 2

THE MAP OF THE NECK THEORY

Theory is a set of names for sounds you already like. Names let you find those sounds again on purpose. That is all it is. Anyone who makes it sound harder is selling a course.

Twelve notes, then they repeat

FRET ON THE E STRING	0	1	2	3	4	5	6	7	8	9	10	11	12
Note	E	F	F#/Gb	G	G#/Ab	A	A#/Bb	B	C	C#/Db	D	D#/Eb	E

One fret is a **half step**. Two frets is a **whole step**. There is no sharp between E and F or between B and C. That is the whole alphabet. Nobody knows why those two pairs are different. Do not ask. People have lost weekends to it.

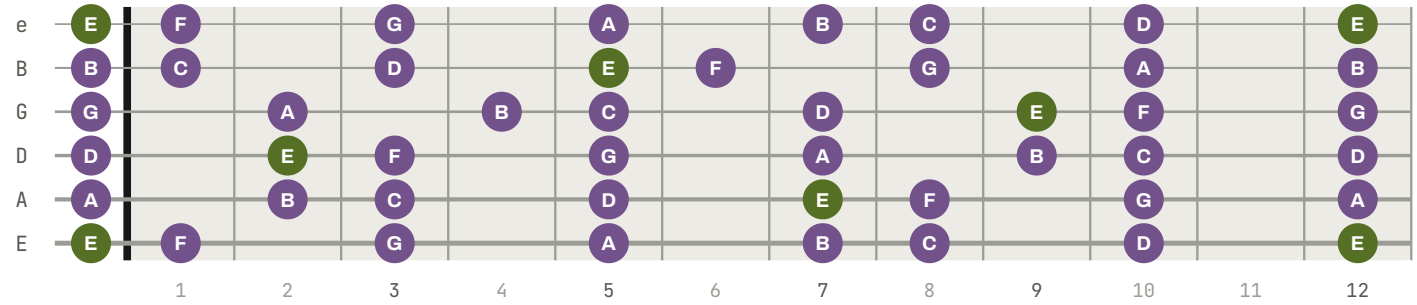
THE DRIFT SAYS

Twelve notes. That is all there are. Every song that ever made you cry or punch a wall is the same twelve little bastards in a different order.

Learn two strings first

Every power chord root sits on the E or A string. Learn those two cold. The thin e string has the same note names as the thick E string, and the rest come through the octave shapes below.

Natural notes, open to fret 12 `standard tuning · labels are note names`

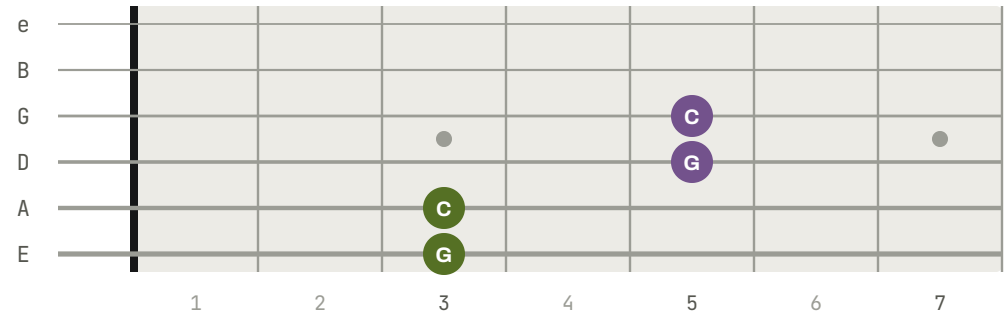


Sharps and flats are the empty frets between. Frets 3, 5 and 7 on the E string are G, A and B. Learn those three first.

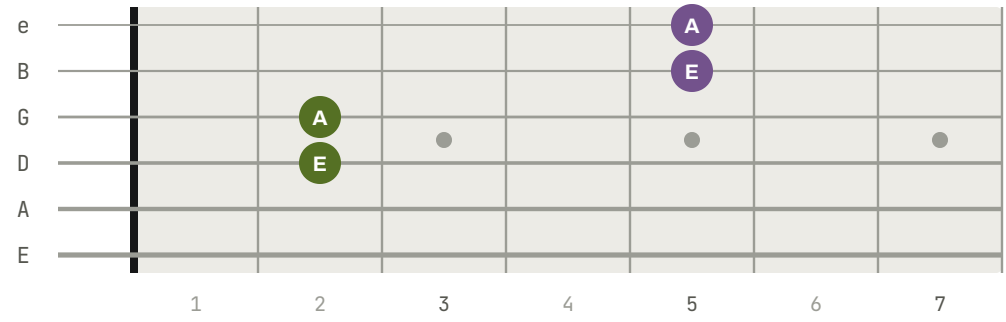
Octave shapes

The same note, higher. From the E or A string: two strings up, two frets up. From the D or G string: two strings up, three frets up, because the B string is tuned differently from the rest.

Octaves from the E and A strings `labels are note names`



Octaves from the D and G strings `labels are note names`

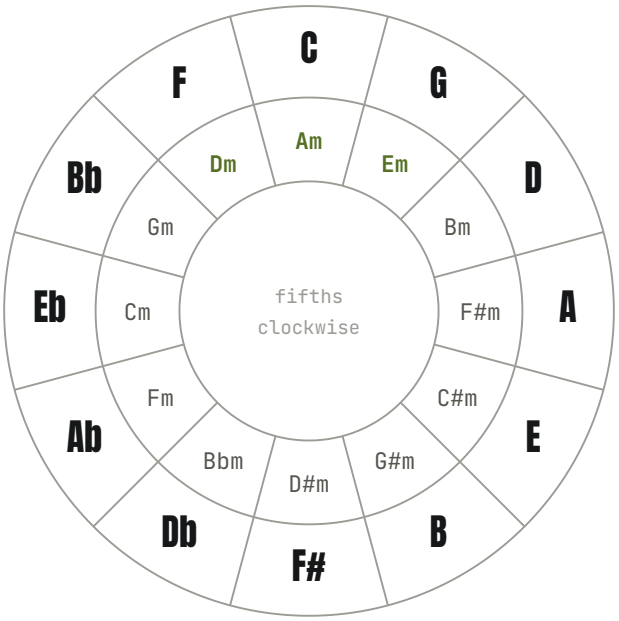


One extra fret. The B string is the reason for most of the odd-looking shapes on guitar.

The circle of fifths, the easy way

The circle is the twelve notes laid out like a clock, where every neighbour is a fifth away. You already know that distance: it is the power chord.

The circle of fifths



OUTER RING
major keys

INNER RING
relative minors (same notes)

ONE STEP CLOCKWISE
up a fifth, adds one sharp

ONE STEP BACK
up a fourth, adds one flat

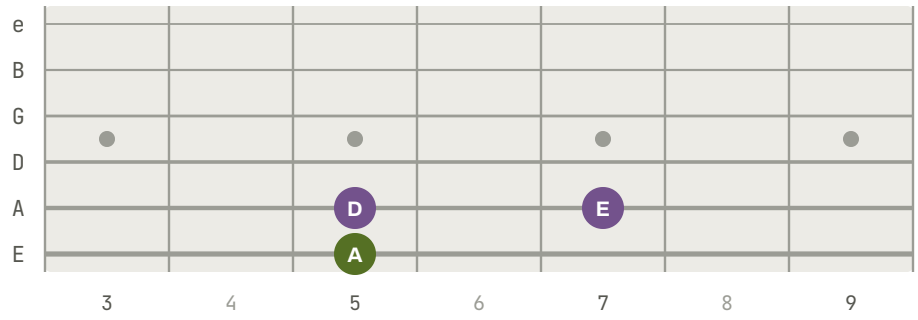
HIGHLIGHTED
Em, Am, Dm: where open strings live

STRAIGHT ACROSS
the tritone, six frets away

Clockwise from the top: C, G, D, A, E, B. "Charlie Goes Down And Ends Battle" will get you halfway round.

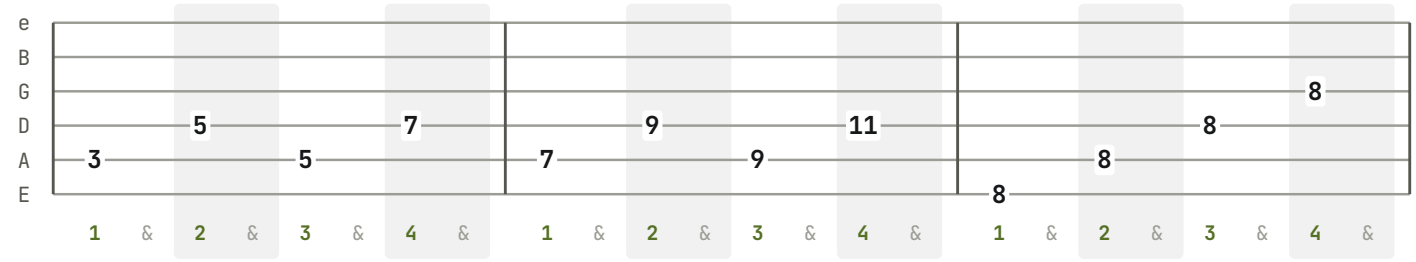
1. **Clockwise is up a fifth.** On the neck that is one string up and two frets up: the top note of a power chord.
2. **Anticlockwise is up a fourth.** On the neck that is the same fret on the next string up. Your four low strings, E, A, D, G, are four neighbours on the circle read anticlockwise.
3. **Neighbours belong together.** Pick any note. The note on each side of it gives you the three chords most songs are built from. Around E that is A and B. Around A it is D and E.
4. **The inner ring is the minor twin.** Each minor key uses exactly the same notes as the major key outside it. E minor shares its notes with G major, A minor with C major.
5. **Far apart means strange.** Notes next to each other sound related. The note straight across the circle is six frets away, and it is the most tense jump there is. Sabbath and Slayer built careers on it. More in Chapter 5.

One step either way from A `labels are note names`



From A: the same fret on the next string is D, one step anticlockwise. Two frets higher is E, one step clockwise.

Ex 2.1 **Walk the circle** `4/4 · standard tuning · 60 to 90 bpm`



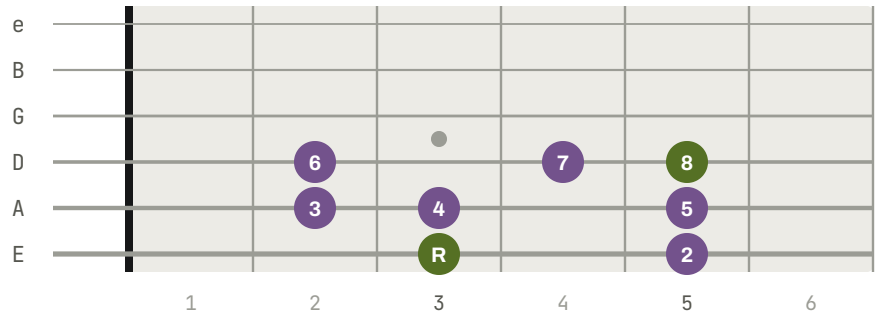
Bars 1 and 2 go clockwise: C, G, D, A, E, B, F#, C#. Say each name as you play it. Bar 3 goes anticlockwise straight across one fret: C, F, Bb, Eb.

> **What to remember.** Same fret, next string up is a fourth. Add two frets and it is a fifth.
> The three chords of most songs sit side by side on the circle. That is enough for now.
> The rest of the circle is for jazz players, who need something to do with their evenings.

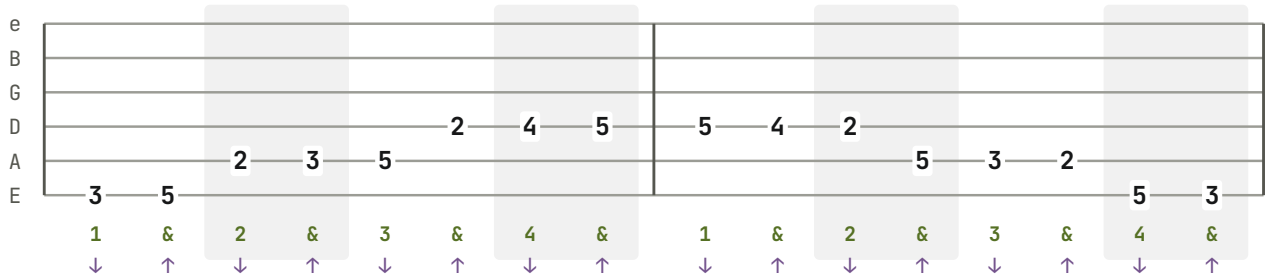
The major scale

Seven notes, built from this pattern of steps: **whole, whole, half, whole, whole, whole, half**. Number the notes 1 to 7. Those numbers are how musicians talk about every other scale. It is also how they avoid admitting they have forgotten the note names.

G major, one octave `labels are scale degrees`



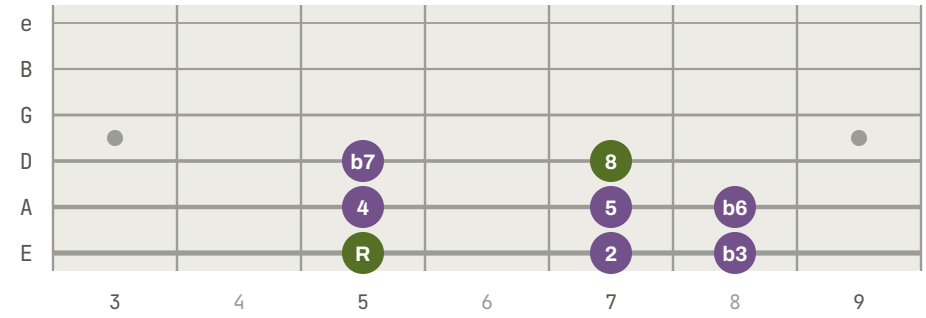
Ex 2.2 **G major up and down** `4/4 · standard tuning · 60 to 100 bpm`



The natural minor scale

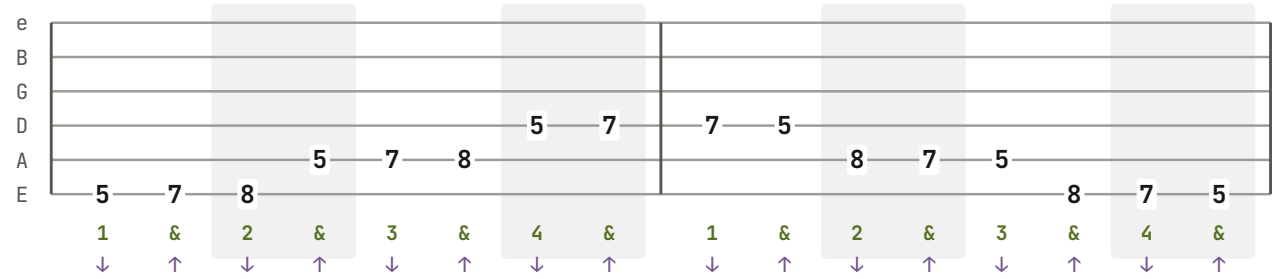
Lower the 3rd, 6th and 7th of the major scale and you get natural minor: **whole, half, whole, whole, half, whole, whole**. This is home base for nearly everything heavy. Happy people use the major scale. You are not here for them.

A natural minor, one octave `labels are scale degrees`



Compare with major: the b3, b6 and b7 are what make it dark.

Ex 2.3 **A natural minor up and down** 4/4 · standard tuning · 60 to 100 bpm



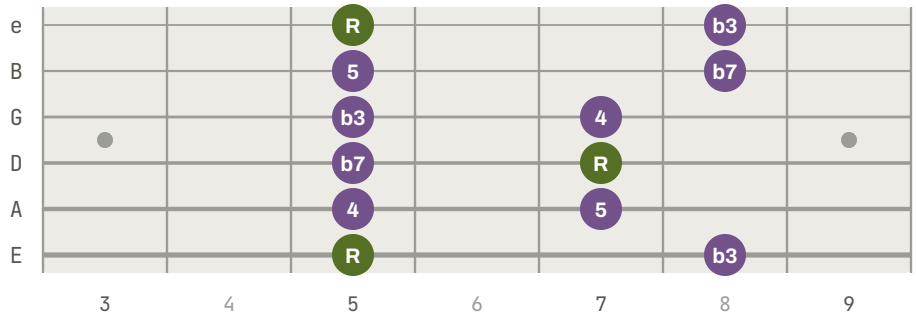
GHAST SAYS

The minor pentatonic is the cargo shorts of scales. Ugly, comfortable, pockets everywhere, and you will be wearing it for the rest of your life.

The minor pentatonic

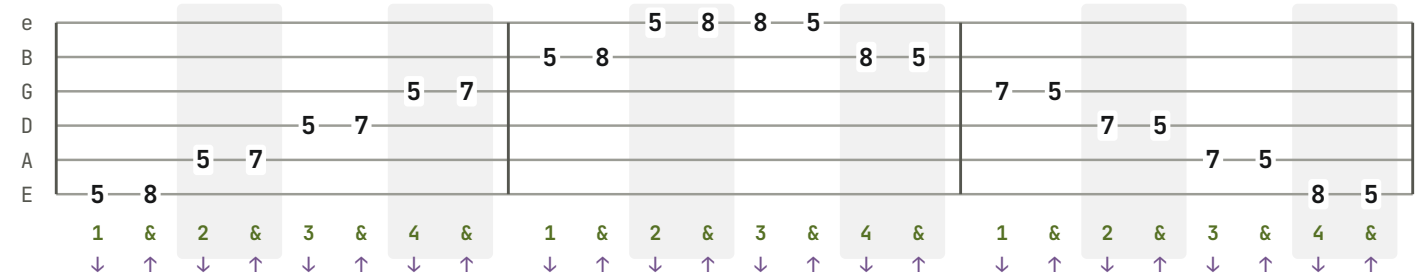
Drop the 2nd and 6th from natural minor and five notes remain: **R, b3, 4, 5, b7**. This box is where most rock and metal solos start, and plenty of them never leave. Some solos have lived in this box for forty years and raised a family there.

A minor pentatonic, box 1 labels are scale degrees

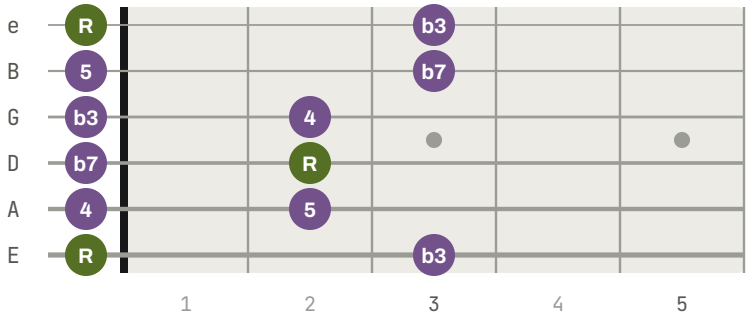


Two notes per string. Index finger on fret 5, ring finger on 7, pinky on 8.

Ex 2.4 **A minor pentatonic up and down** `4/4 · standard tuning · 60 to 110 bpm`



E minor pentatonic, open position `labels are scale degrees`

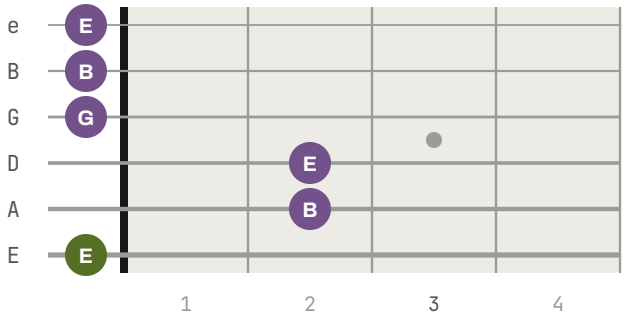


Same scale moved to the open strings. Most of the riffs in Chapter 3 come from the three low strings here.

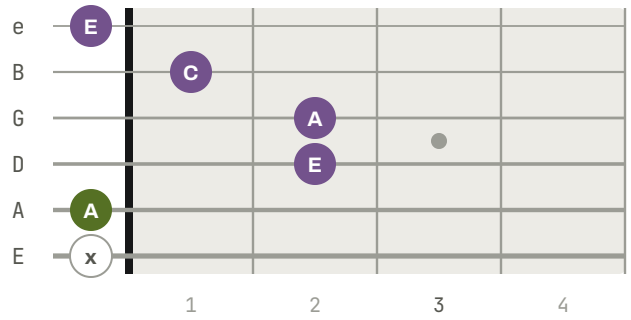
Seven open chords

Power chords run the riffs. Open chords run the clean intros, the verses and the ballads. A string marked x is not played.

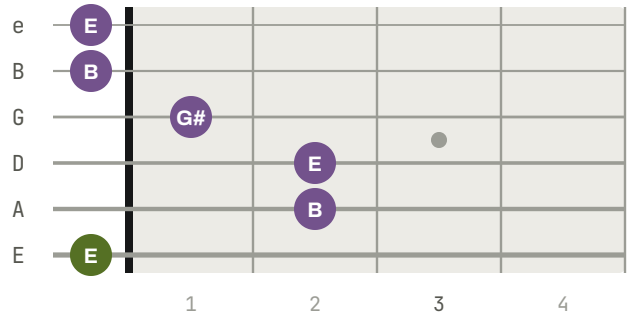
E minor `labels are note names`



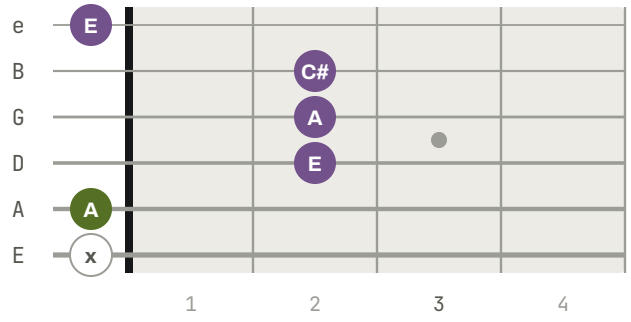
A minor labels are note names



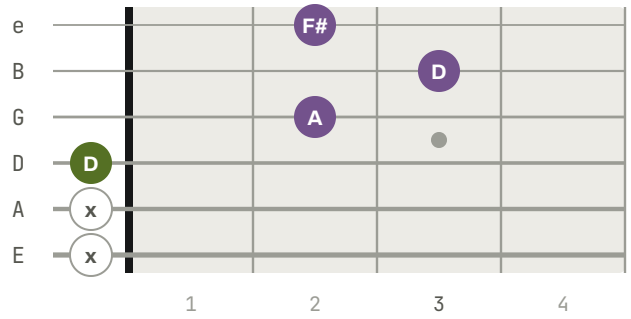
E major labels are note names



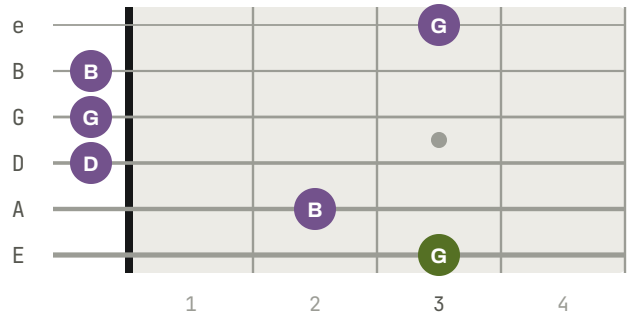
A major labels are note names



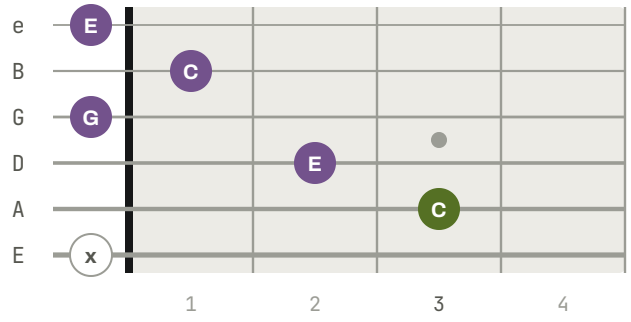
D major `labels are note names`



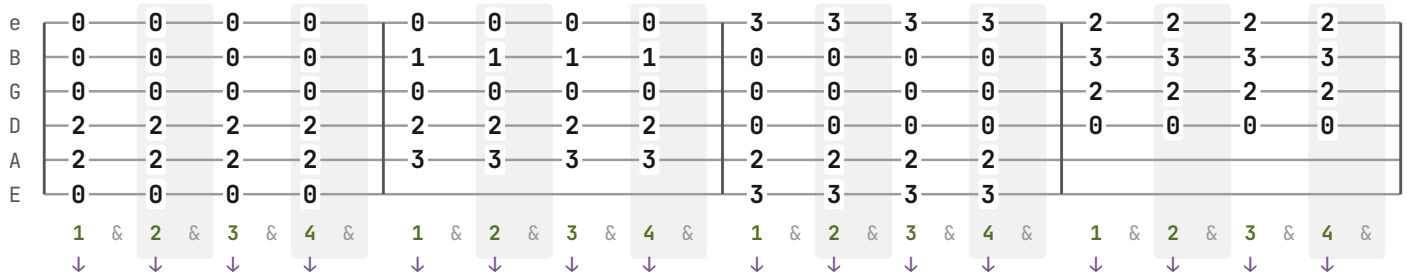
G major `labels are note names`



C major `labels are note names`



Ex 2.5 **Four chords, four strums each** 4/4 · standard tuning · 60 to 100 bpm



E minor, C, G, D. Change chord during the last strum of the bar, not after it. This progression comes back in Chapter 6 as a ballad intro.

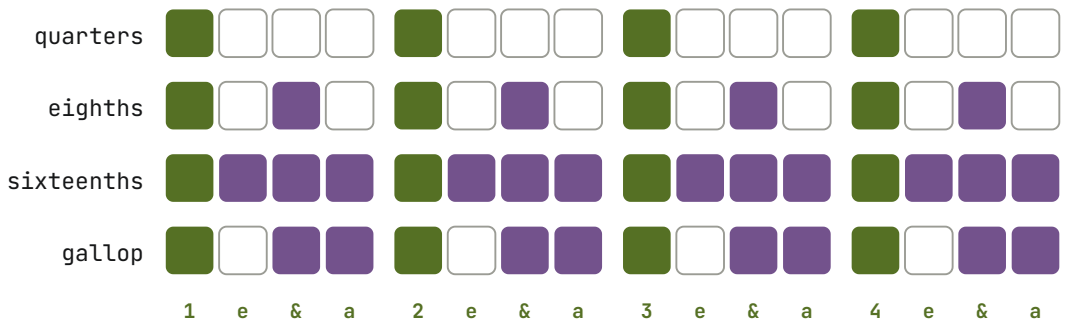
THE CLATTER SAYS

Count out loud. Yes, out loud. Yes, you will sound like an idiot. You sounded like an idiot before too. You just could not hear it over the amp.

Counting

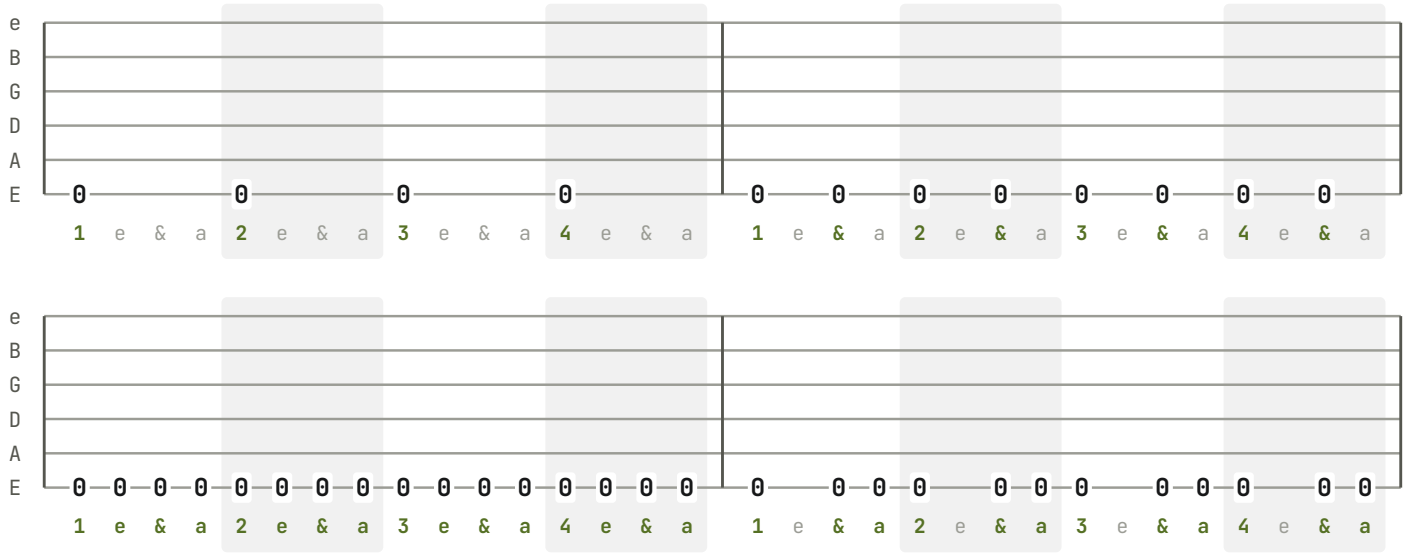
A bar of 4/4 has four beats. Split each beat in two for eighth notes, in four for sixteenths. Say the count out loud while you play. It feels silly for a week and then you stop getting lost. Getting lost is fine in a forest. In bar three it makes everyone hate you.

One bar of 4/4, three ways to slice it



Green is the beat. The gallop row is one eighth plus two sixteenths per beat. You will meet it properly in Chapter 4.

Ex 2.6 **Count it out loud** `4/4 · standard tuning · 60 to 90 bpm · palm mute`

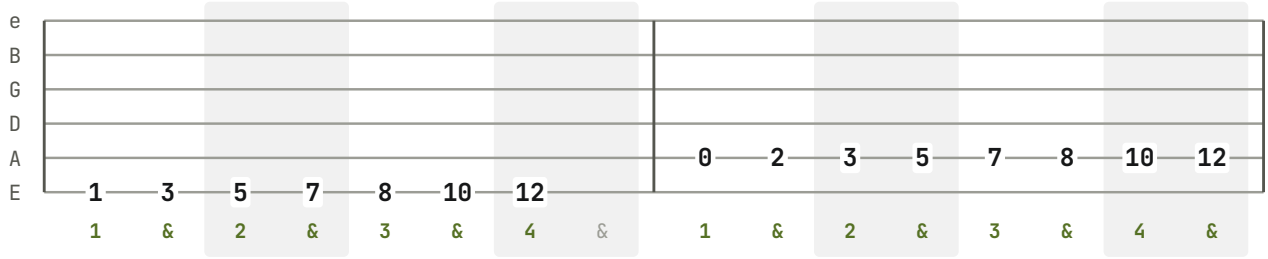


Quarters, eighths, sixteenths, gallop. The click stays the same. Only your slicing changes.

More drills: the neck

Say every note name out loud in these. Speaking it is what moves it from the page into memory.

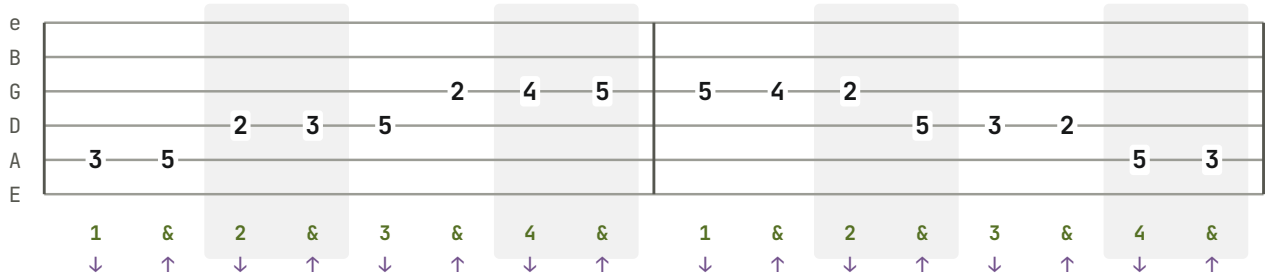
Ex 2.7 **Natural notes on two strings** `4/4 · standard tuning · 50 to 80 bpm`



E string: F, G, A, B, C, D, E. A string: A, B, C, D, E, F, G, A. One finger, sliding. Names out loud.

Ex 2.8 C major from the A string

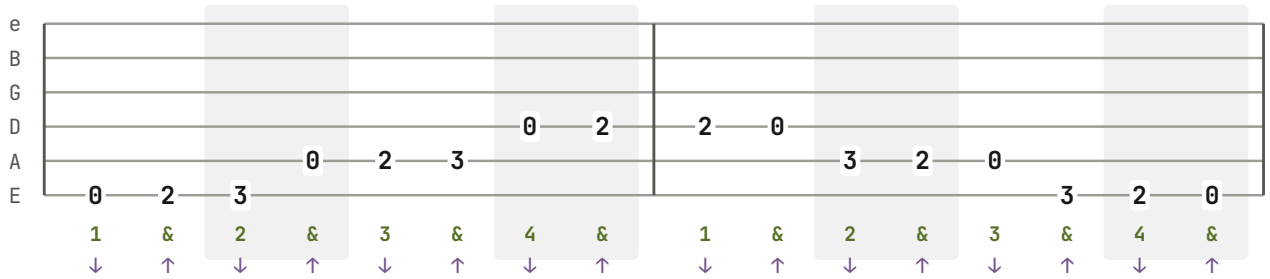
4/4 · standard tuning · 60 to 100 bpm



The same shape as G major, moved up a string. One shape gives you every major key.

Ex 2.9 E natural minor, open position

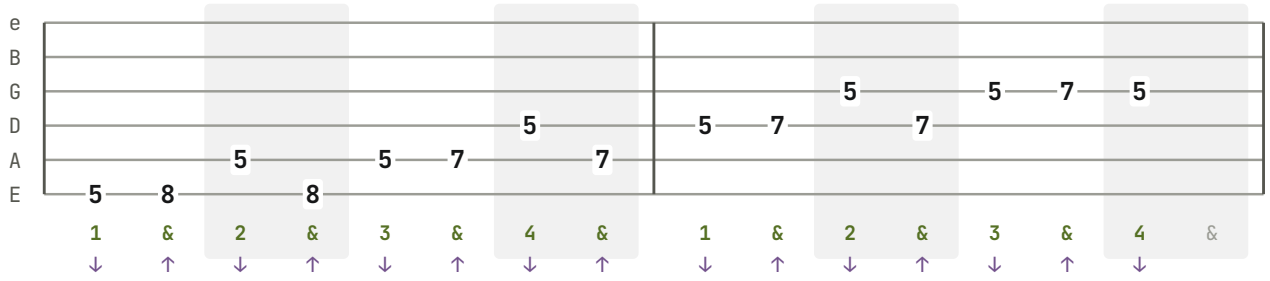
4/4 · standard tuning · 60 to 100 bpm



E, F#, G, A, B, C, D, E. This is the home scale of more heavy riffs than any other.

Ex 2.10 Pentatonic in steps

4/4 · standard tuning · 60 to 100 bpm

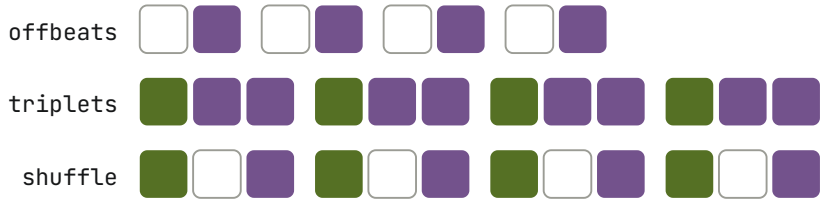


Two notes forward, one back. Sequences like this turn a scale into something that sounds like music.

More counting

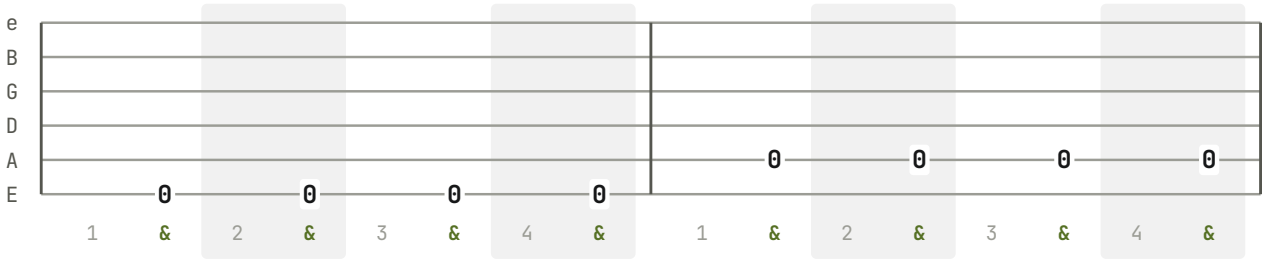
Two more feels you need before Chapter 3: the offbeat and the triplet.

Offbeats and triplets



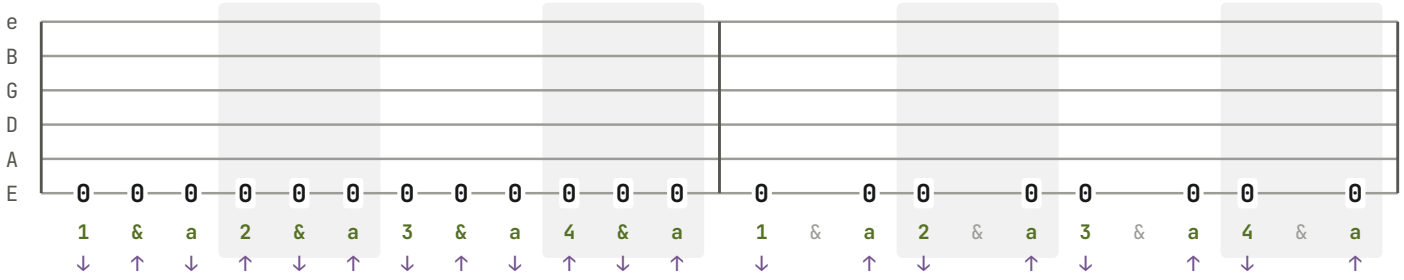
Row 1 is eighth notes with the beat left out. Row 2 splits each beat in three. Row 3 skips the middle triplet: the shuffle.

Ex 2.11 **Offbeats** `4/4 · standard tuning · 70 to 110 bpm`



Tap your foot on the beat and play only on the "and". Harder than it looks.

Ex 2.12 **Triplets, then shuffle** `4/4 · standard tuning · 60 to 100 bpm · palm mute`

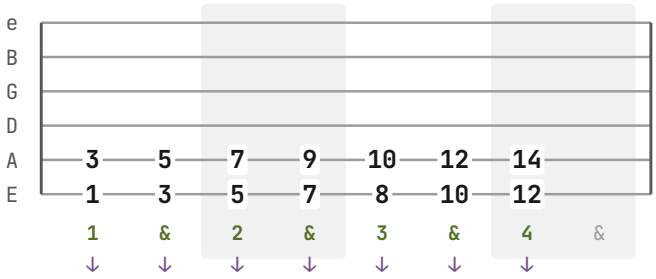


Count "one-and-a". Bar 2 leaves out every "and": long, short, long, short.

Power chords by name

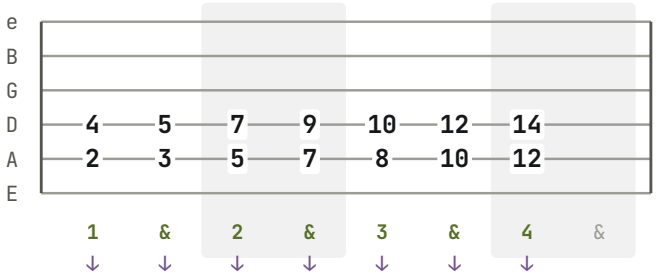
Knowing the note names on two strings means knowing every power chord. Say the chord name as you play it.

Ex 2.13 **Roots on the E string** 4/4 · standard tuning · 50 to 80 bpm



F5, G5, A5, B5, C5, D5, E5.

Ex 2.14 **Roots on the A string** 4/4 · standard tuning · 50 to 80 bpm



B5, C5, D5, E5, F5, G5, A5.

Chapter 2 check

- [ ] Name any natural note on the E and A strings within three seconds
- [ ] Name the notes one step either way on the circle of fifths from E, A and D
- [ ] Play A minor pentatonic box 1 from memory
- [ ] Change between E minor, C, G and D without stopping the strum
- [ ] Count sixteenths out loud while playing eighths

CHAPTER 3

YOUR FIRST RIFFS

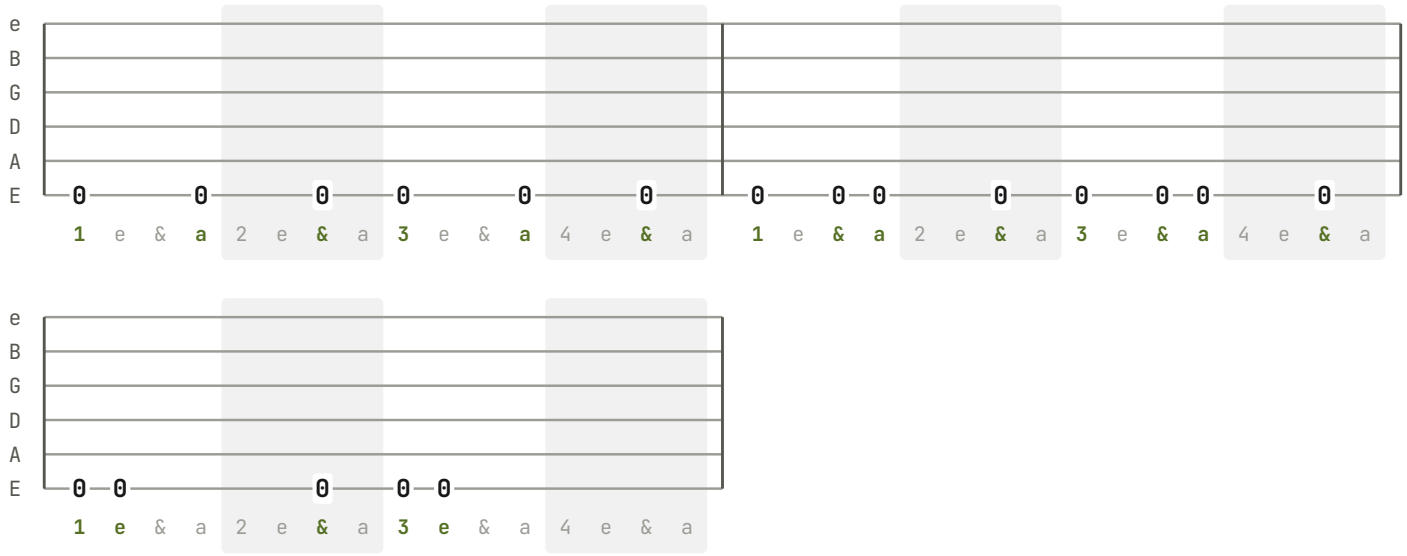
RIFF WRITING

A riff is a short idea worth repeating. You have enough notes already. What turns notes into a riff is rhythm, repetition and one small surprise. Same recipe as a good joke, or a bad date.

Rhythm first

Write the rhythm on the muted open E string before you choose any chords. If it does not groove as a chug, more notes will not save it.

Ex 3.1 **Three one-note riffs** `4/4 · standard tuning · 80 to 120 bpm · palm mute`



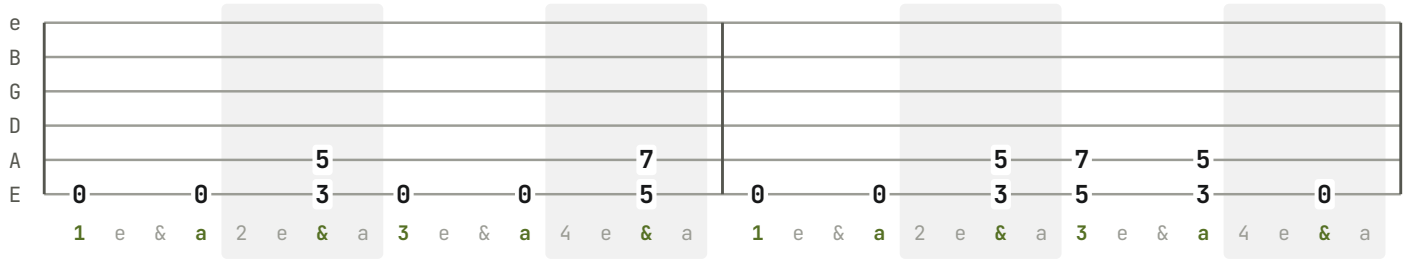
Bar 1 groups the sixteenths 3+3+2. Bar 2 is a broken gallop. Bar 3 is mostly silence. Loop each bar on its own, then pick your favourite.

Now add two chords

Take the rhythm from bar 1 and move a few hits to power chords. The rhythm stays. The riff appears.

Ex 3.2 **Same rhythm, with chords**

`4/4 · standard tuning · 80 to 120 bpm · palm mute the open E`



Open E chug with G5 and A5 on top. Bar 2 answers bar 1 by coming back down.

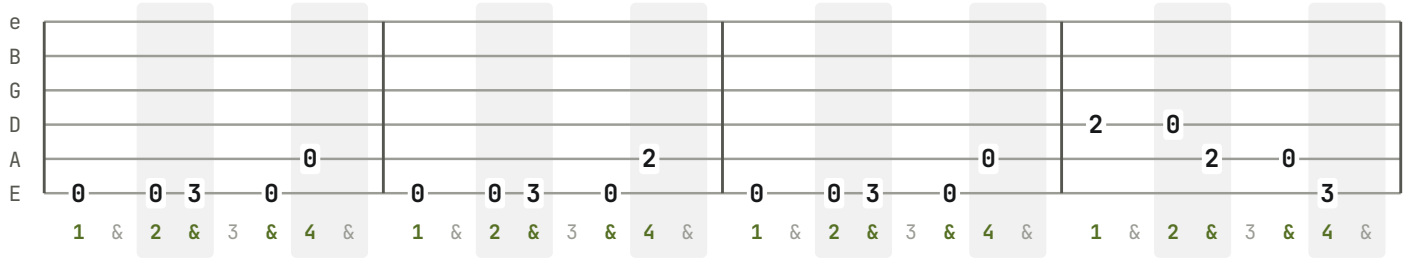
THE HOLLOW SAYS

If the riff does not work on one note, adding more notes is putting a hat on a turd.

Motif and variation: A, A, A, B

Play an idea. Play it again with one change. Play the original. Then play something different that leads back to the start. Listeners need the repeat to learn the riff and the change to stay awake. Listeners are simple animals. So are you. That is why this works.

Ex 3.3 **A four-bar single-note riff** 4/4 · standard tuning · 90 to 140 bpm

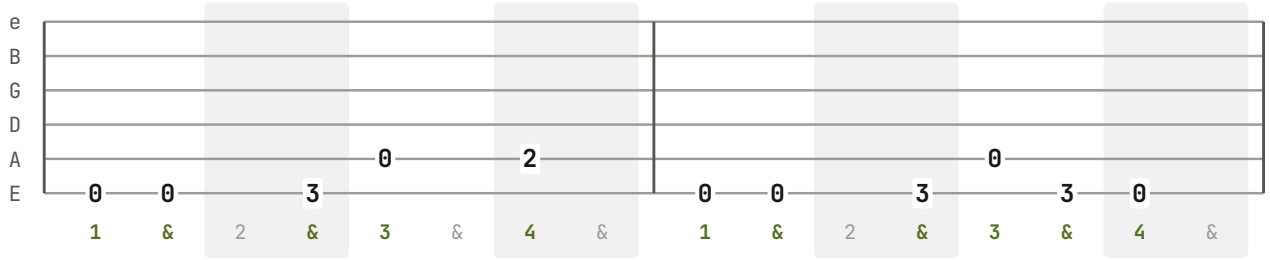


E minor pentatonic on the low strings. Bar 2 changes only the last note. Bar 4 walks down and hands you back to bar 1.

Question and answer

End the first bar on a note that feels unfinished: the fifth or the b7. End the second bar on the root. That is a question and an answer, and it works at every level of difficulty.

Ex 3.4 **Question, then answer** 4/4 · standard tuning · 90 to 140 bpm

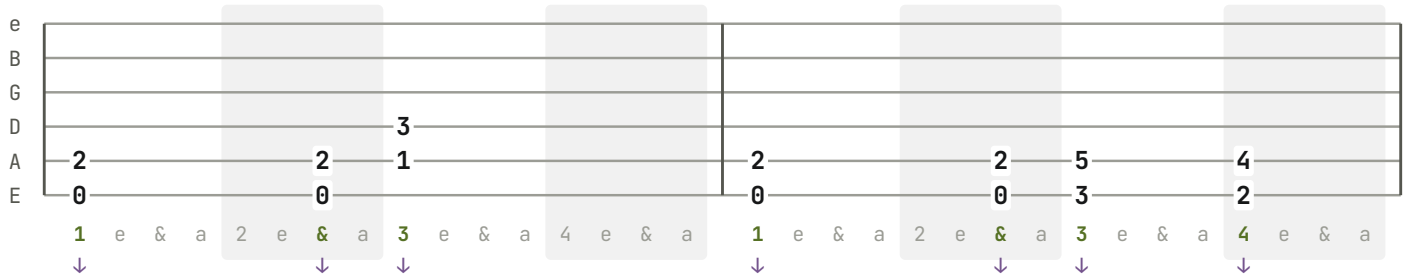


Bar 1 stops on B, the fifth. Bar 2 comes home to E.

The slow heavy riff

Slow riffs are harder than fast ones because there is nowhere to hide. Every fluffed note just stands there, naked, making eye contact. Long chords, big gaps, and one ugly note for flavour. The ugly note here is Bb, six frets from E.

Ex 3.5 **Slow and heavy** `4/4 · standard tuning · 55 to 75 bpm`



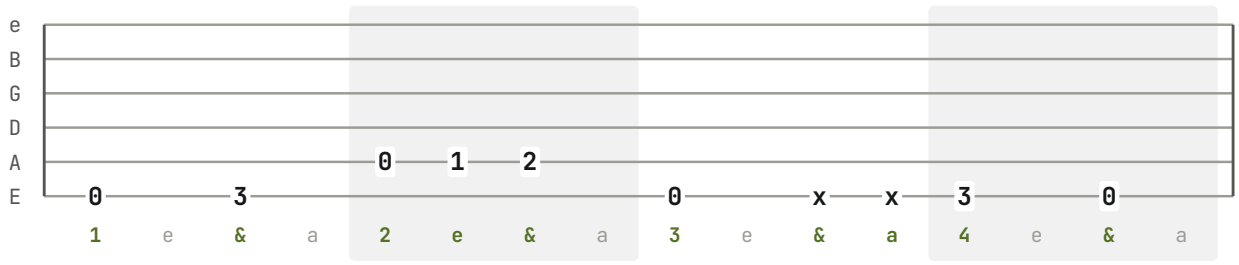
E5, then Bb5 held for two beats. Bar 2 answers with G5 falling to F#5. Let every chord ring its full length, then cut it dead.

> STEAL FROM OZZY AND SABBATH
>
> This is where heavy metal comes from. A power chord, a long silence, and the tritone. Tune down a half step and it gets heavier without changing a single fret. Resist the urge to fill the gaps.

The groove riff

Not everything heavy is fast or slow. A mid-tempo riff with the blues scale, a couple of dead notes and some air in it will move a room.

Ex 3.6 **Blues-scale groove** `4/4 · standard tuning · 85 to 110 bpm`



E, G, then a chromatic climb A, Bb, B. The x notes are dead-string clicks. Play it a little behind the beat.

> STEAL FROM CLUTCH
>
> Blues notes, swagger and space. The riff should make your head nod at a walking pace. If you are tempted to add notes, take one out instead.

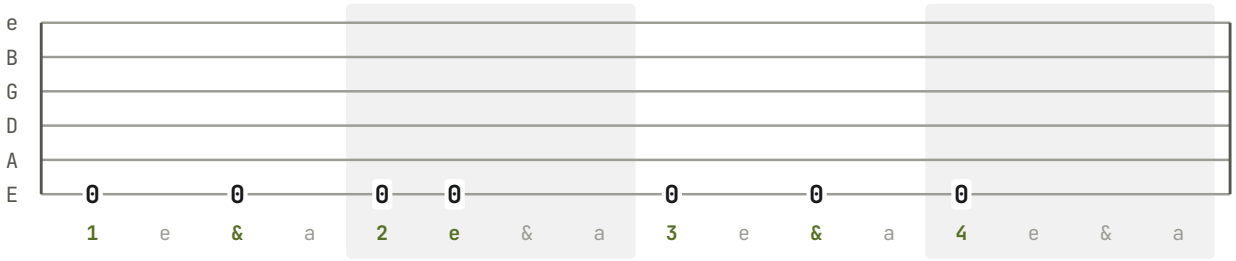
More ways to start a riff

Four more methods. When one stops working, use another.

FROM A SPOKEN PHRASE

Say a sentence with attitude. Its rhythm is a riff. Tap the syllables, then play them on one note.

Ex 3.7 **"Feed the monster twice a day"** `4/4 · standard tuning · 80 to 110 bpm · palm mute`

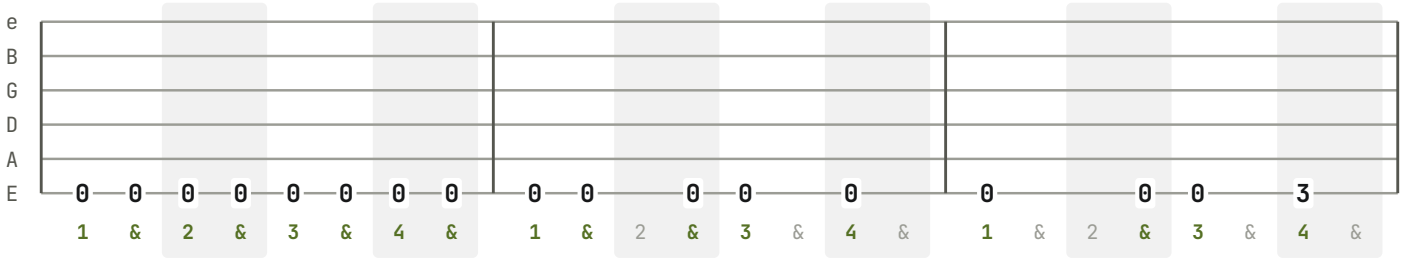


Seven syllables, seven hits. Invent your own sentence and do the same.

BY SUBTRACTION

Start with a full bar of eighth notes and delete hits until it grooves.

Ex 3.8 **Take notes away** `4/4 · standard tuning · 90 to 130 bpm · palm mute`

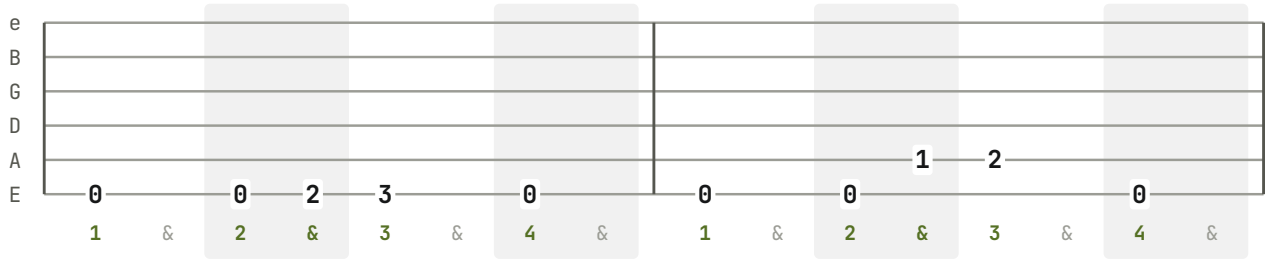


Bar 1 is everything. Bar 2 removes three hits. Bar 3 removes one more and changes one pitch. That is a riff.

WITH AN APPROACH NOTE

Slide into an important note from one fret below. It adds grease without leaving the key for long.

Ex 3.9 **Approach from below** 4/4 · standard tuning · 90 to 130 bpm

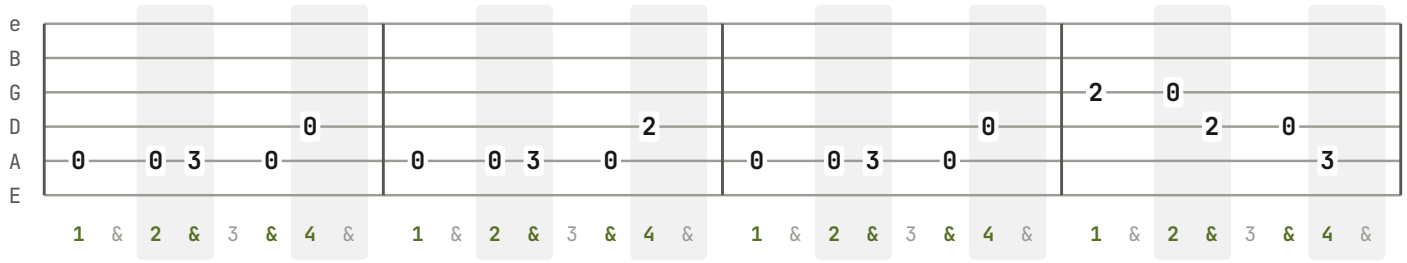


F# pushes into G in bar 1. Bb pushes into B in bar 2. The approach note is short and the target is long.

BY MOVING A RIFF YOU ALREADY HAVE

Strings are tuned in fourths, so a riff moved up one string is the same riff in a new key. This is the four-bar riff from earlier, now in A.

Ex 3.10 **The four-bar riff, moved to A** 4/4 · standard tuning · 90 to 130 bpm



Same frets, one string higher. Play the E version for a verse and the A version for a chorus and you have two sections from one idea.

TEN RIFF PROMPTS

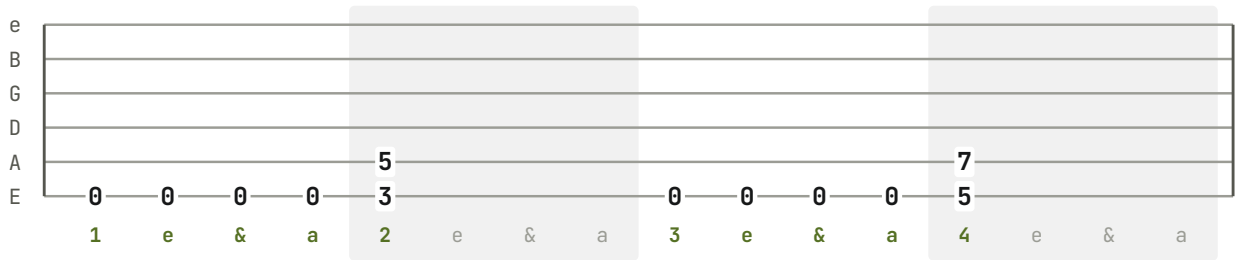
Stuck? Pick a number.

#	PROMPT
1	Only two different notes, any rhythm
2	A riff that starts on the "and" of beat 4
3	One bar of chaos, one bar of a single held note
4	Root, b2 and nothing else
5	The same three notes played forwards, then backwards
6	A riff with a full beat of silence in the middle
7	Steal the rhythm of a drum fill you like
8	Eighth notes, but accent every third one
9	Start high, end on the lowest open string
10	Write the answer first, then the question
11	Write the riff you would be embarrassed to play for anyone. Then play it for someone

Chug and answer

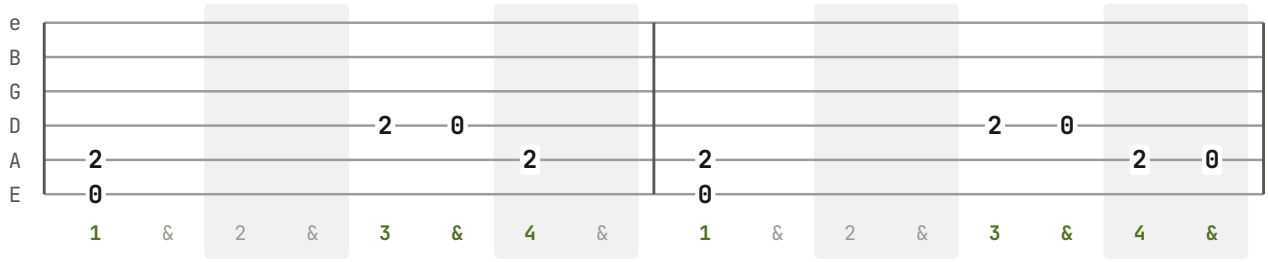
A very common riff layout: a bar of muted chug that ends in a chord, or a held chord answered by a short lick.

Ex 3.11 **Chug, then chord** 4/4 · standard tuning · 80 to 130 bpm · palm mute the open E



Four muted sixteenths set up each chord. Let the chord ring for exactly one beat, then stop it.

Ex 3.12 **Chord, then lick** 4/4 · standard tuning · 80 to 130 bpm



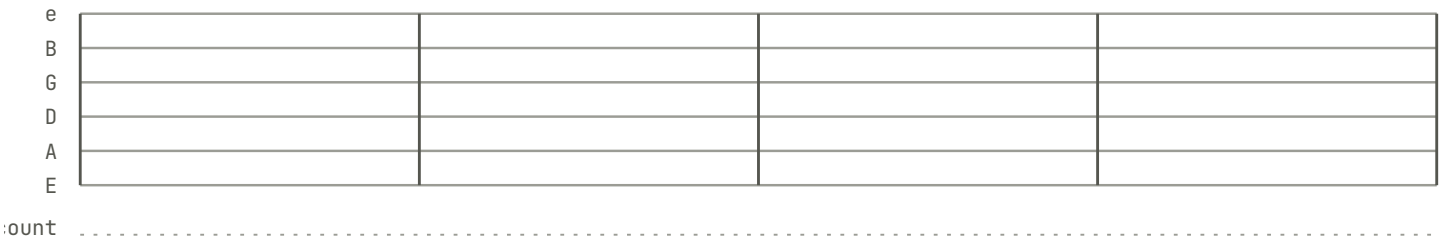
E5 held for two beats, answered by E, D, B on the way down. The chord is the question and the lick is the answer.

Recipe for your first riff

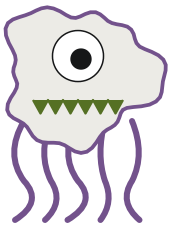
1. Set a drum loop between 80 and 120 bpm.
2. Chug a one-bar rhythm on the muted open E string until you like it.
3. Move two or three of the hits to power chords or notes from E minor pentatonic.
4. Play it three times, then write a different fourth bar that leads back.
5. Record it on your phone. Name it something stupid, like Wet Sock or Dad Bod Apocalypse. Keep it.

Write it **My first riff**

RIFF NAME _____ TEMPO (BPM) _____ SCALE _____



Print this page and pencil it in, or open Tab Lab on the site and save the riff there.



BOSS FIGHT

THE HOLLOW

It eats chords that ring too long and tempos that wander. Beat it by passing every check below in one sitting. It will wait. Waiting is most of what it does. It also smells like the inside of a gig bag left in a hot car, and you will get used to that.

- [ ] First riff (Ex 1.7) at 130 bpm, all downstrokes, stops clean
- [ ] The spider (Ex 1.3) at 80 bpm, clean
- [ ] A minor pentatonic up and down at 100 bpm from memory
- [ ] Slow and heavy (Ex 3.5) at 65 bpm with every rest silent
- [ ] One original four-bar riff, written down and recorded

PART II

INTERMEDIATE

Speed, bends, squeals, the dark modes, riffs with a job to do and your first solo. The Behemoth guards the exit and it is not small.

CHAPTER 4

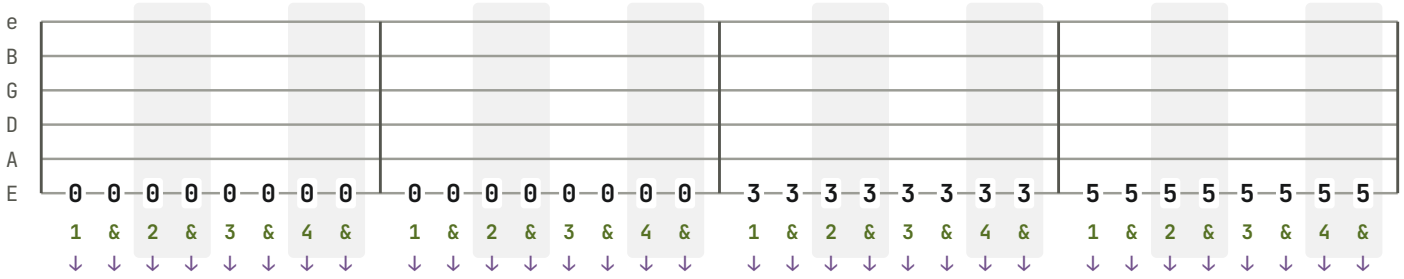
SPEED AND ATTACK TECHNIQUE

Part I gave you even strokes. This chapter makes them fast, then teaches the lead-guitar basics: bends, vibrato, slurs and the pinch harmonic.

Down-picking stamina

Fast eighth notes played with nothing but downstrokes have a weight that alternate picking cannot copy. It is tiring. Build it in bursts: one bar on, one bar off. Your forearm will swell up like a Christmas ham. This is normal and, frankly, a good look.

Ex 4.1 **The down-picking engine** 4/4 · standard tuning · 120 to 200 bpm · palm mute



Small strokes. The pick should barely clear the string on the way back up. If your forearm locks, drop 20 bpm.

WEEK	BURST	TARGET TEMPO	DAILY TIME
1	One bar on, one off	140 bpm	3 minutes
2	Two bars on, one off	150 bpm	3 minutes
3	Four bars on, one off	160 bpm	4 minutes
4	Eight bars straight	160 bpm	4 minutes
5 and on	Eight bars straight	Add 4 bpm a week	4 minutes

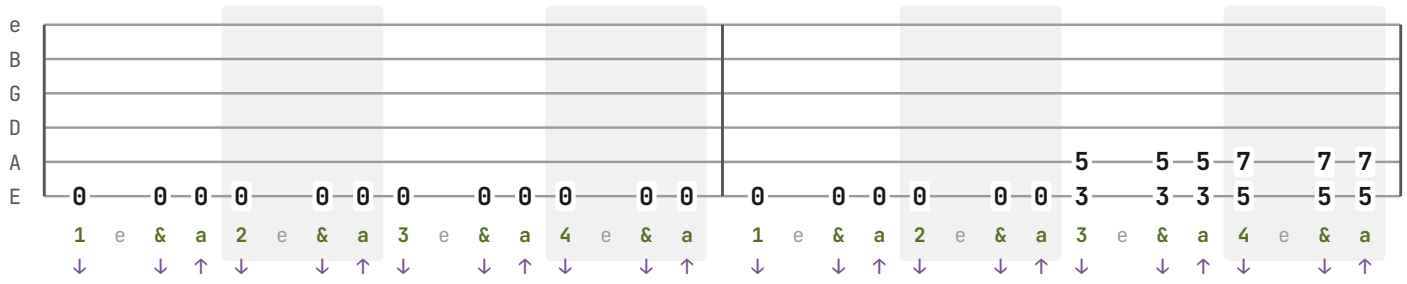
SKITTER SAYS

Your forearm is on fire. Good. That is either weakness leaving the body or a tendon filing for divorce. Learn the difference.

The gallop

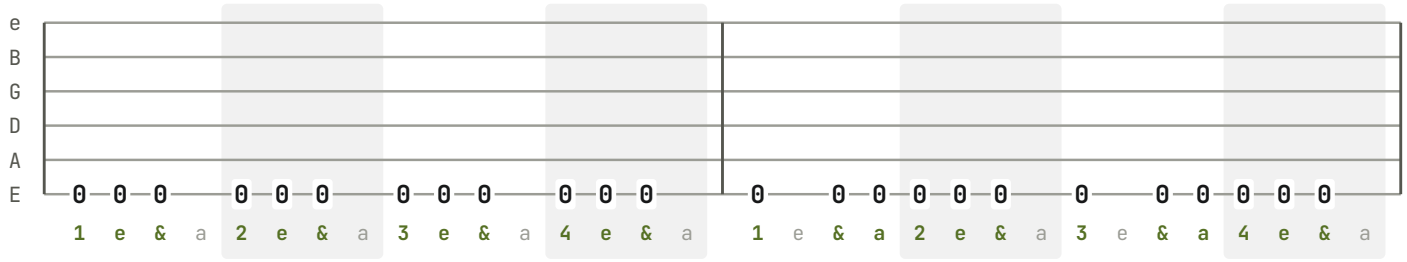
One eighth note and two sixteenths, over and over. Pick it down, down-up. The first downstroke is the heavy one.

Ex 4.2 **The gallop** 4/4 · standard tuning · 90 to 160 bpm · palm mute



Say "one, and-a, two, and-a". The eighth note must be full length. Rushing it is the classic mistake.

Ex 4.3 **The reverse gallop** `4/4 · standard tuning · 90 to 150 bpm · palm mute`



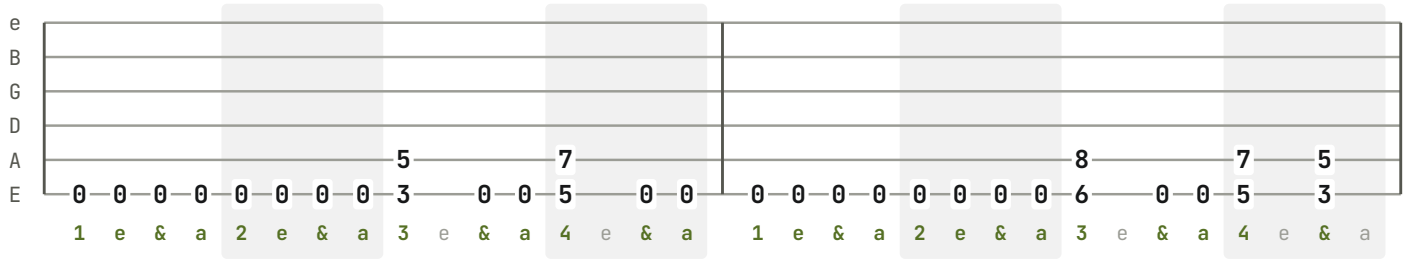
Two sixteenths then an eighth: down-up, down. Bar 2 swaps between both gallops every beat, which is where real riffs live.

> **STEAL FROM ANTHRAX**
> Gallops and straight downstrokes, palm-muted, with chords punched out on top. The picking hand stays on the bridge the whole time and only lifts for the accents.

Sixteenths with chord stabs

Alternate-pick the muted open string and throw unmuted power chords into the gaps. The picking hand keeps moving like a clock, whether or not it hits a string.

Ex 4.4 **Chug and stab** `4/4 · standard tuning · 80 to 130 bpm · palm mute the open E`

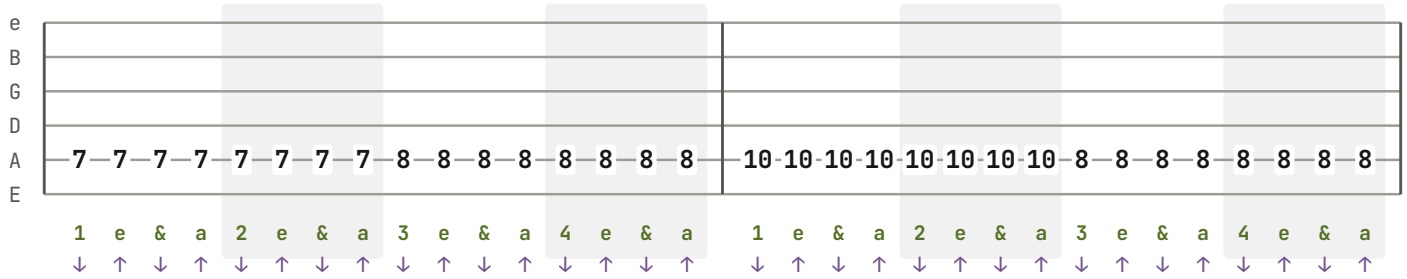


Chords are G5 and A5, then Bb5, A5, G5. Keep the down-up motion going through the rests.

Tremolo picking

One note, picked as fast as you can keep even. The pick moves from the wrist in tiny strokes, with a slight tilt so it glides through the string.

Ex 4.5 **Tremolo line** 4/4 · standard tuning · 90 to 150 bpm



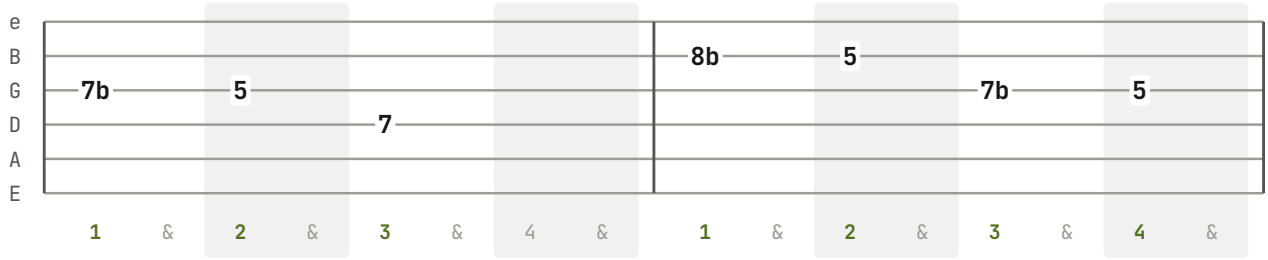
E, F, G, F on the A string: the first three notes of E Phrygian. Change fret exactly on the beat.

> STEAL FROM SLAYER
>
> A tremolo-picked line that creeps up and down by half steps, with no palm mute, sounds like something is coming. Play this one unmuted and let it be ugly.

Bends

Push the string across the fretboard until the pitch rises to the note you want. Use three fingers on the string, not one, and turn the wrist like a door handle. Always check your target: play the note two frets up first, then bend to match it.

Ex 4.6 **Whole-step bends** 4/4 · standard tuning · 60 to 90 bpm



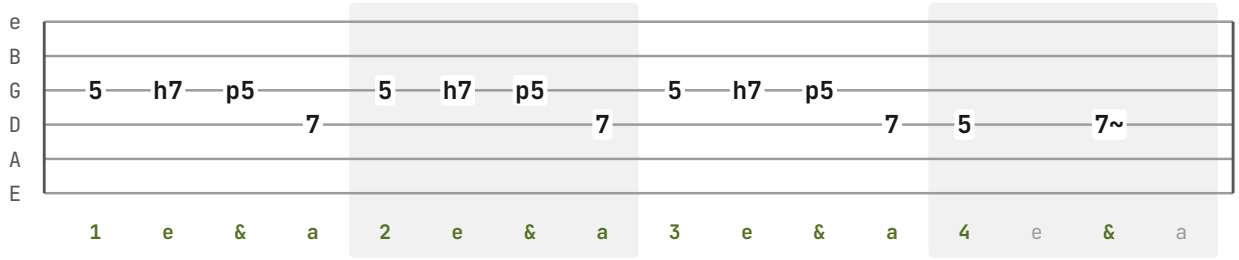
Bend fret 7 on the G string until it sounds like fret 9. Bend fret 8 on the B string until it sounds like fret 10. All inside pentatonic box 1.

> SNAPJAW SAYS
>
> *A bend that lands flat sounds like a cat being reversed over. Check the target note. Every. Single. Time.*

Vibrato and slurs

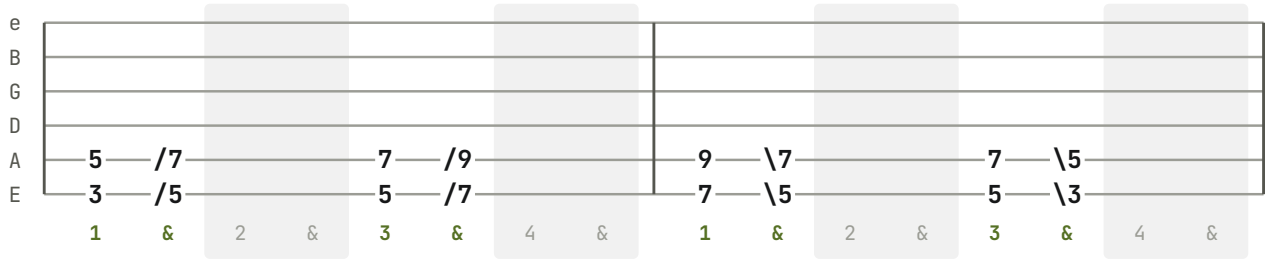
Vibrato is a series of small, even bends. It is the difference between a note and a voice. Without it you sound like a doorbell. Hammer-ons and pull-offs let one pick stroke make three notes.

Ex 4.7 **Legato lick with vibrato** `4/4 · standard tuning · 60 to 100 bpm`



Pick only the first note of each group of three, and the D-string notes. Hold the last note and give it slow, wide vibrato.

Ex 4.8 **Sliding power chords** `4/4 · standard tuning · 70 to 110 bpm`

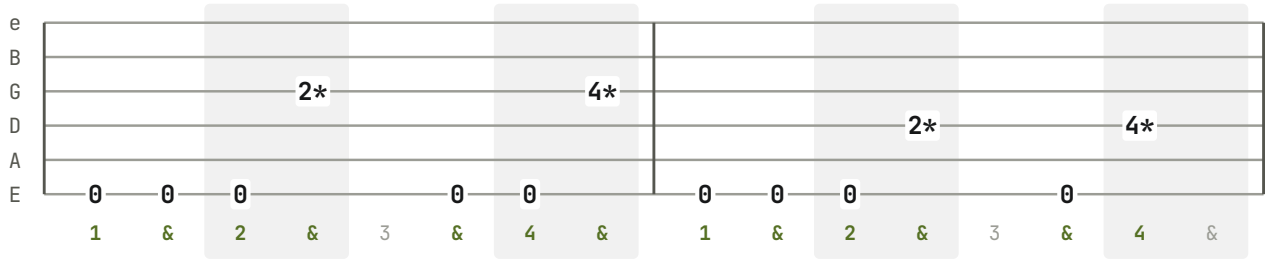


Pick the first chord of each pair and slide the whole shape. Keep the pressure on.

Pinch harmonics

As the pick goes through the string, let the side of your thumb touch it for an instant. With enough gain and the bridge pickup, the note jumps up into a squeal. The exact spot along the string changes the pitch of the squeal, so hunt for it. You will know when you find it. So will the neighbours, and their dog.

Ex 4.9 **Chug and squeal** `4/4 · standard tuning · 80 to 130 bpm · palm mute the open E`



Add vibrato to each squeal. If nothing happens, choke up on the pick so less of the tip shows.

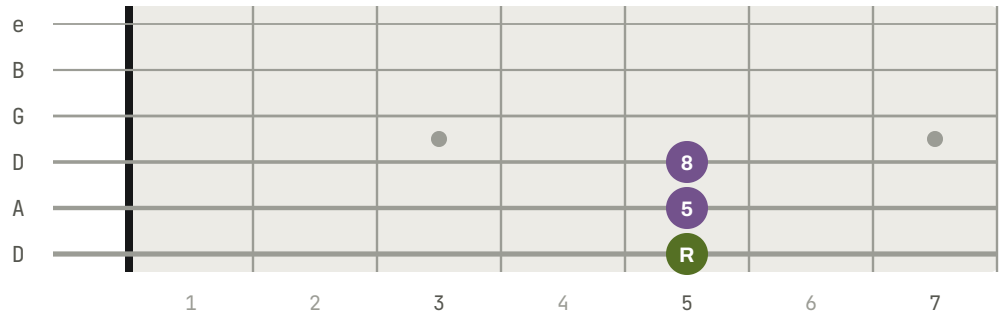
> STEAL FROM OZZY AND SABBATH
>
> The lead players in Ozzy's solo bands made the pinch harmonic with wide vibrato a signature. One squeal at the end of a riff says more than a bar of extra notes.

> THE BEHEMOTH SAYS
>
> *The pinch harmonic is a dog whistle for men in denim vests. Squeal one in public and they will appear, nodding.*

Drop D

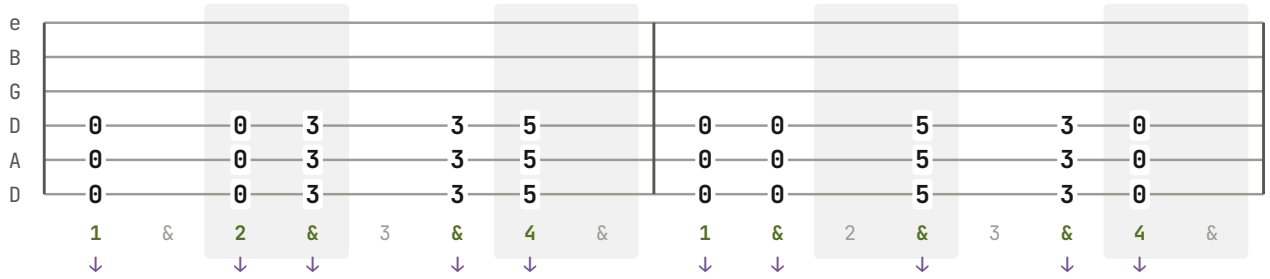
Tune the low string down to D. The three lowest strings now make a power chord under one finger.

Drop D power chord at fret 5 `drop D · labels are scale degrees`



One finger across three strings gives G, D and G. Slide the same shape anywhere.

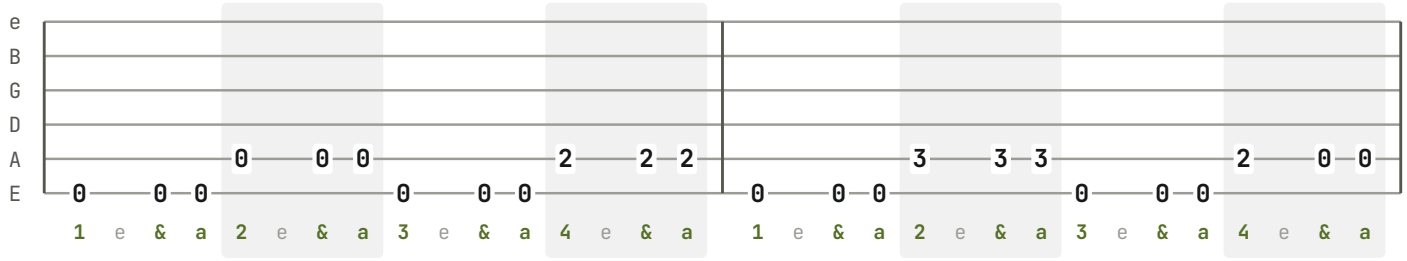
Ex 4.10 **One-finger riff** `4/4 · drop D · 80 to 130 bpm`



D5, F5 and G5 with one finger. This is why so many heavy riffs after 1990 are in drop D. Laziness is the mother of most great riffs.

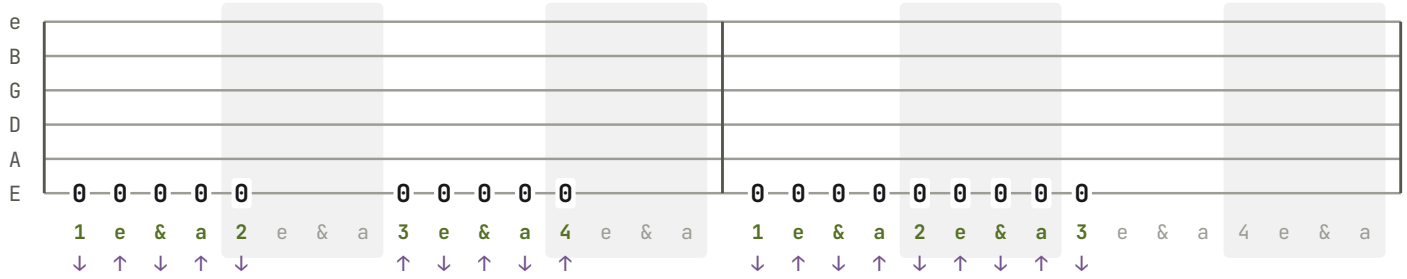
More drills: speed and control

Ex 4.11 **Gallop with string changes** `4/4 · standard tuning · 80 to 140 bpm · palm mute`



The gallop has to survive the move to the next string. Keep the hand motion identical on both.

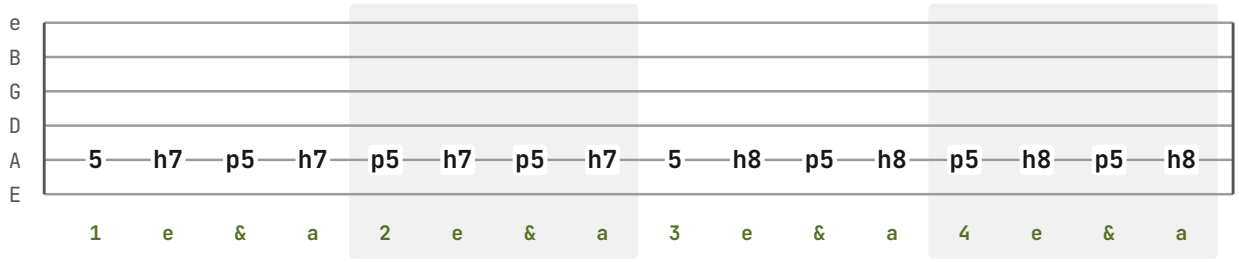
Ex 4.12 **Written-out bursts** `4/4 · standard tuning · 90 to 150 bpm · palm mute`



Five notes and stop. Then nine notes and stop. Always end on a beat. Bursts teach your hands a tempo they cannot yet hold for long.

Ex 4.13 Trill endurance

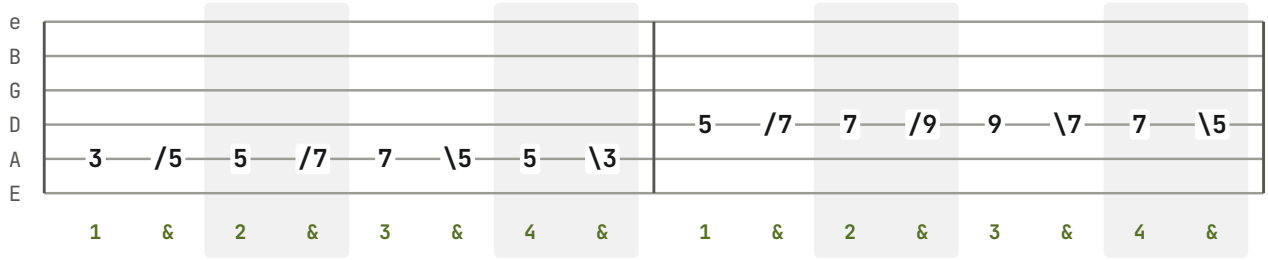
4/4 · standard tuning · 60 to 100 bpm



Pick once per half bar. Fingers 1 and 3, then 1 and 4. Stop when it gets uneven, not when it hurts.

Ex 4.14 Sliding melody

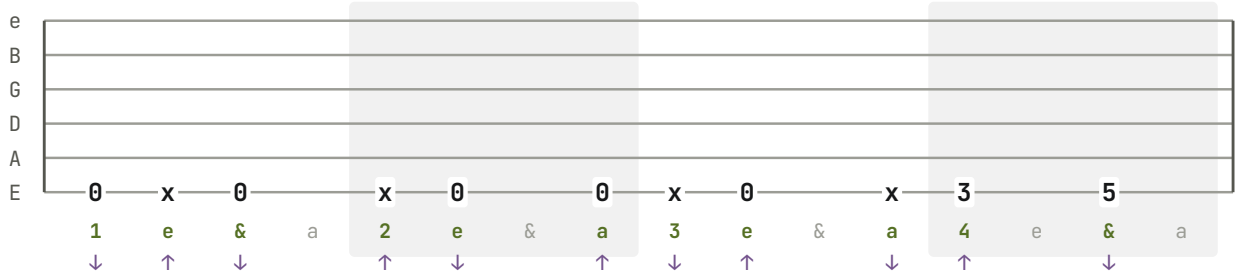
4/4 · standard tuning · 60 to 100 bpm



One finger does the whole bar. Arrive exactly on the beat, not somewhere near it.

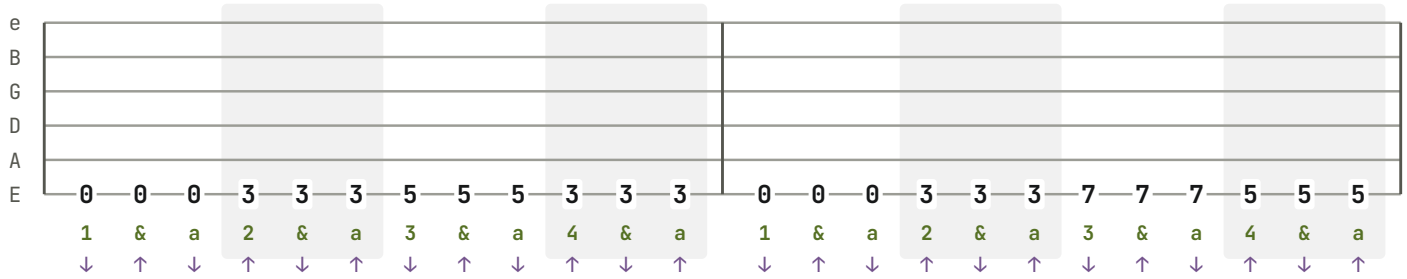
Ex 4.15 Sixteenths with holes

4/4 · standard tuning · 70 to 110 bpm



Keep the picking hand moving in constant sixteenths and miss the string on the dots. The dead notes keep you in time.

Ex 4.16 **Heavy triplets** 4/4 · standard tuning · 70 to 120 bpm · palm mute



Three even notes per beat. It should roll, not gallop. Accent the first of each three.

Descending string crossings

Runs that walk down one string and carry on down the next one trip up almost everyone. The notes are easy. The string change in the middle of a fast group is the problem, because both hands have to switch at the same instant. Three things fix it.

1. **Picking hand: know which stroke crosses.** With strict alternate picking, the crossing sometimes lands on a downstroke and sometimes on an upstroke, depending on how many notes are on each string. Practise both. When the last note on the higher string is an upstroke, you can let that same upstroke carry on through to the lower string: one motion, two notes. That is economy picking.
2. **Fretting hand: arrive early.** The finger for the first note on the new string should already be hovering there while the last note on the old string sounds.
3. **Mute what you leave.** Let the underside of a fretting finger or the picking-hand palm touch the string you just left, or it rings over the next notes.

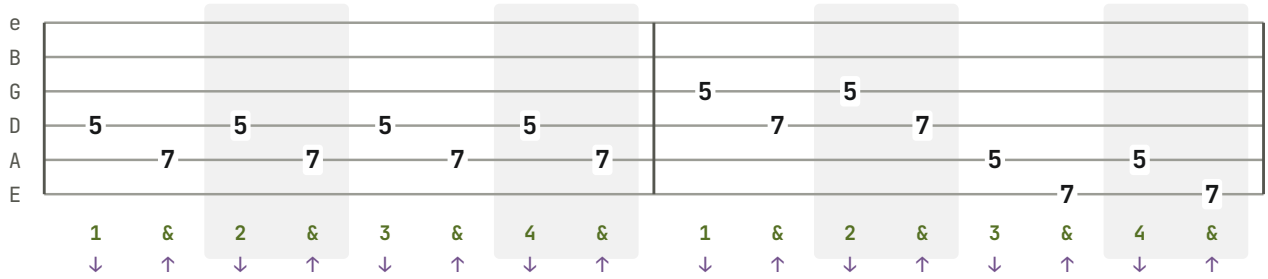
> **Drill the crossing, not the run.** Loop only the two notes either side of the string change. Then add one note on each side. Then play the whole run. Most of the run was never the problem.

THE WALKER SAYS

You fall apart at the string change because your hands panic like two drunks trying to get through one door. Send one through first.

Ex 4.17 Just the crossing

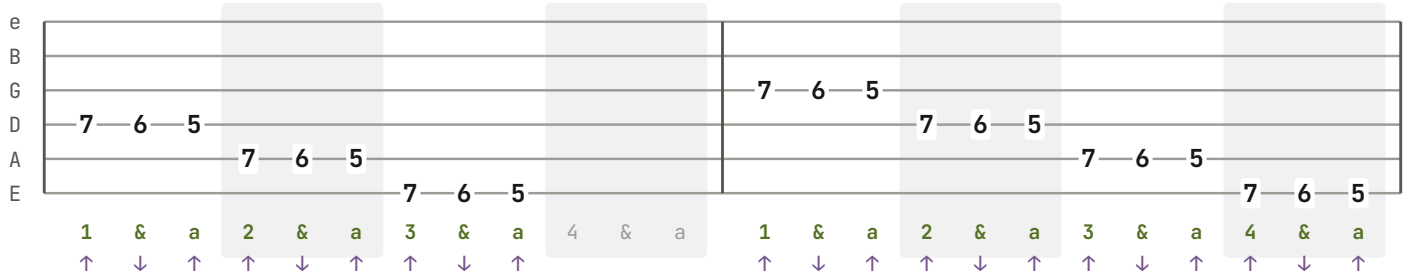
4/4 · standard tuning · 50 to 100 bpm



Two notes, back and forth. Then start the bar on an upstroke and play it again: the crossing now falls on the other stroke. Both versions should sound the same.

Ex 4.18 Three down and across

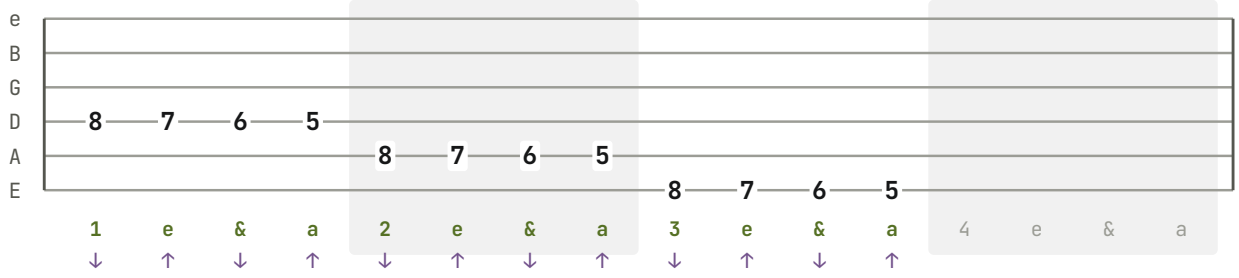
4/4 · standard tuning · 50 to 100 bpm



Start each string on an upstroke. The third note is an upstroke too, and it sweeps straight on into the next string. Fingers 3, 2, 1.

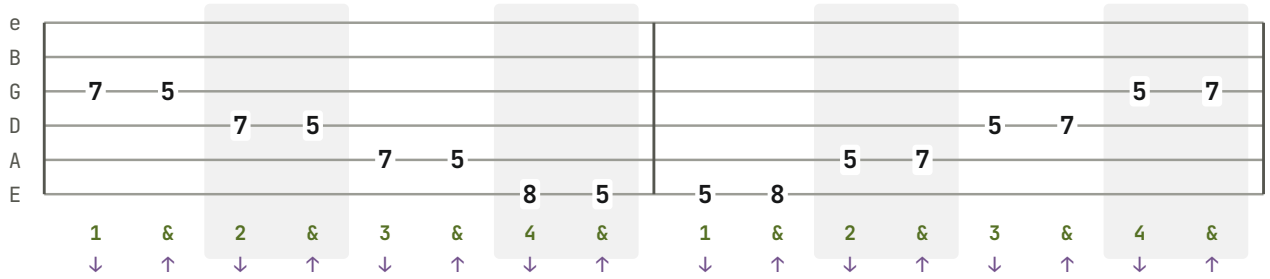
Ex 4.19 Four down and across

4/4 · standard tuning · 50 to 100 bpm



One finger per fret: 4, 3, 2, 1 on each string. With an even number of notes per string, strict alternate picking crosses on the same stroke every time. Lift the pinky toward the next string while the index is still playing.

Ex 4.20 **Two down and across** 4/4 · standard tuning · 60 to 120 bpm



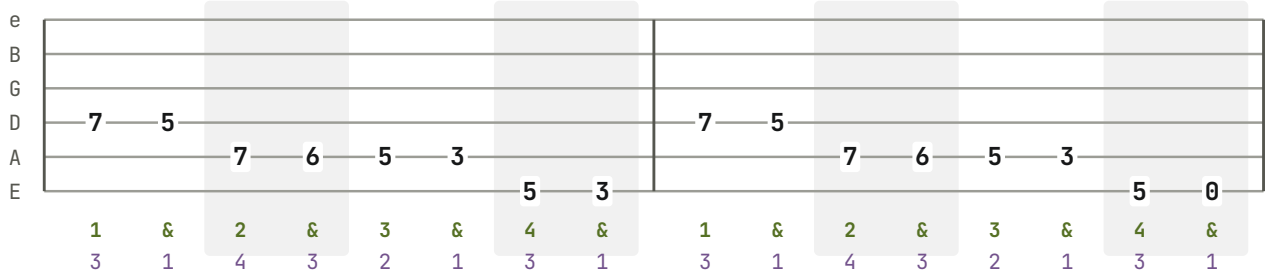
A minor pentatonic falling, then climbing back. A string change every two notes, so there is nowhere to hide.

WHEN THE RUN IS WIDER THAN YOUR HAND

A four-fret run such as 7, 6, 5, 3 does not fit under four fingers. Pick one of these and always use it for that lick.

OPTION	FINGERING FOR 7, 6, 5, 3	GOOD WHEN
Stretch	4, 3, 2, 1 with the index reaching back	Higher up the neck, where frets are close
Shift	4, 3, 2, then slide the whole hand so the index lands on 3	Low on the neck, or for smaller hands
Early shift	3, 2, 1, 1 with the index sliding from 5 to 3	The next string starts at fret 3 or lower

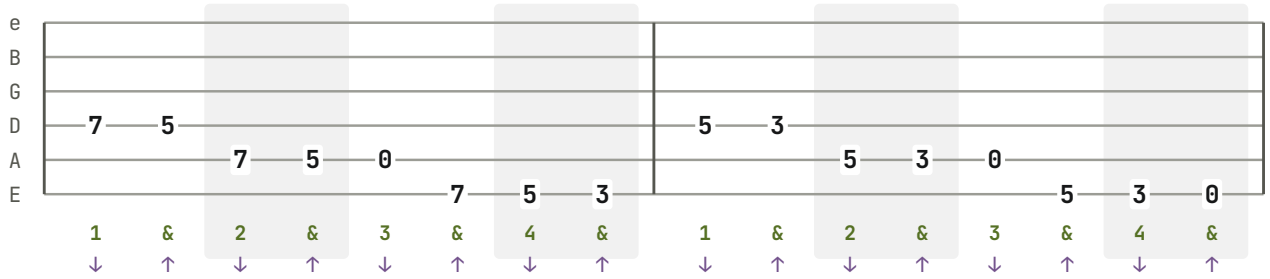
Ex 4.21 **A run with a shift in it** 4/4 · standard tuning · 50 to 100 bpm



Numbers under the count are fretting fingers. The index stretches or shifts for fret 3 on the A string. Decide which before you start.

Ex 4.22 The open string buys you time

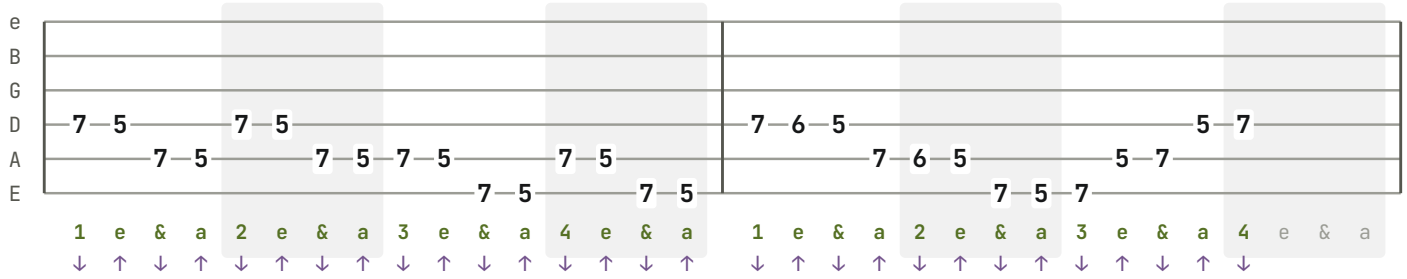
4/4 · standard tuning · 50 to 100 bpm



Whenever an open string appears in a run, nothing is being held down. That is the moment to move the fretting hand to its next position.

Ex 4.23 Crossing etude

4/4 · standard tuning · 50 to 100 bpm



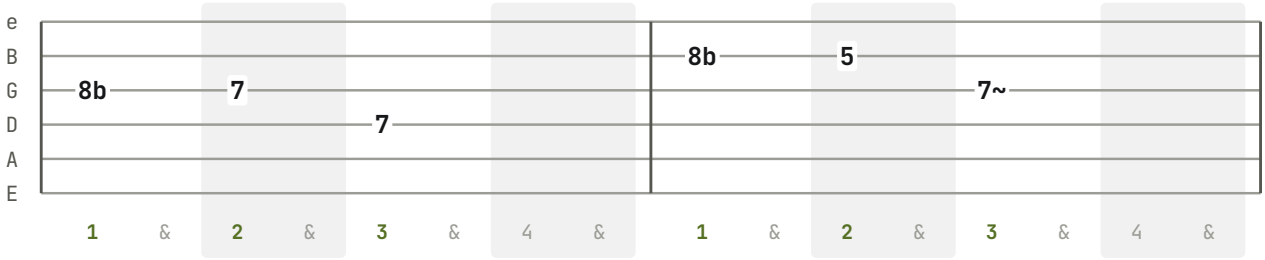
Everything above in two bars: two-note crossings, a three-note fall, and a climb back out. Start at 50. Move up only when the crossings sound the same as the notes around them.

- [ ] Just the crossing at 100 bpm, both notes equally loud
- [ ] Three down and across at 90 bpm with no gap at the string change
- [ ] The shift run at 90 bpm, same fingering every time
- [ ] Crossing etude at 80 bpm, clean, three times in a row

More lead basics

Ex 4.24 Half-step blues bend

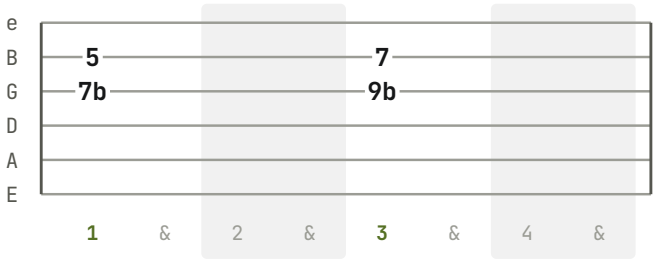
4/4 · standard tuning · 60 to 90 bpm



The first bend is only one fret: push fret 8 on the G string until it sounds like fret 9. That note is the b5 sliding into the 5. The second is a full two-fret bend.

Ex 4.25 Unison bends

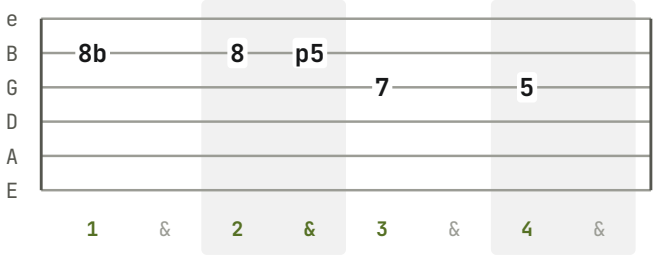
4/4 · standard tuning · 60 to 90 bpm



Hold fret 5 on the B string still and bend fret 7 on the G string up until both notes are the same pitch. When they stop wobbling against each other, you are in tune.

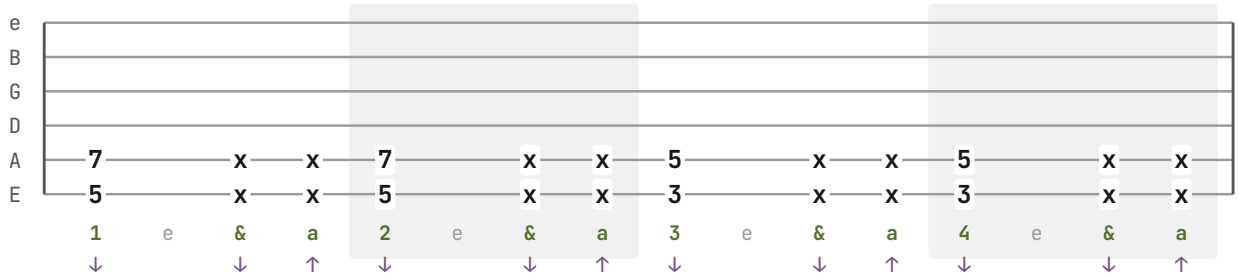
Ex 4.26 Bend and release

4/4 · standard tuning · 60 to 90 bpm



Bend up, then let the string back down without picking again so the pitch falls. Then pull off to fret 5. One pick stroke, three notes.

Ex 4.27 **Chords with muted strums** 4/4 · standard tuning · 80 to 120 bpm



Release the fretting hand without lifting it and keep strumming. The gallop rhythm continues through the muted strokes.

GHAST SAYS

Drop D: one finger doing the work of two. Insert your own joke. Everyone else has.

Chapter 4 check

- [ ] Down-picking engine at 170 bpm for eight bars
- [ ] Gallop at 140 bpm for one minute, eighth notes full length
- [ ] Tremolo line at 130 bpm, even and relaxed
- [ ] Whole-step bends in tune, checked against the target note
- [ ] A pinch harmonic on demand, three times out of four

CHAPTER 5

WHY IT SOUNDS DARK

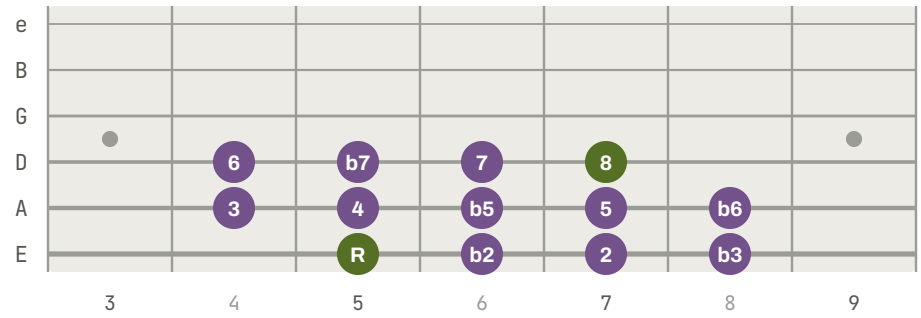
THEORY

Heavy music has a small number of favourite sounds. This chapter names them so you can reach for them on purpose. Think of it as a spice rack where every jar is labelled some variety of misery.

Intervals

An interval is the distance between two notes. Each one has a mood. Learn the shape and the mood together.

Every interval from A `labels are scale degrees from the root`



FRETS FROM ROOT	NAME	LABEL	WHAT IT DOES IN A RIFF
1	Minor second	b2	Menace. The sound of Phrygian and of most thrash
2	Major second	2	Motion, a passing step
3	Minor third	b3	Sad or heavy. Defines minor
4	Major third	3	Bright. Defines major
5	Perfect fourth	4	Open, hollow, strong
6	Tritone	b5	Unstable and ugly in the best way
7	Perfect fifth	5	Power. Neutral, fits anything
8	Minor sixth	b6	Doom, drama
9	Major sixth	6	Lift. The Dorian colour
10	Minor seventh	b7	Bluesy, rock
11	Major seventh	7	Tense, wants to resolve up
12	Octave	8	Same note, new energy

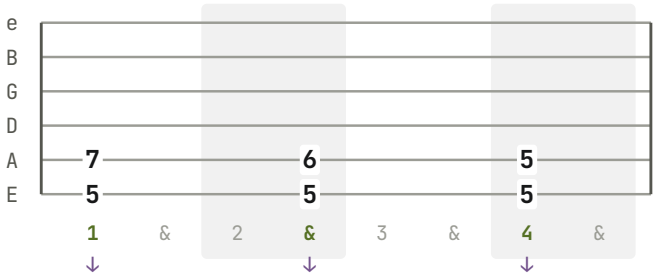
THE DRIFT SAYS

People will tell you the medieval church banned the tritone. It did not, but repeat it anyway, it is a great story. Six frets of pure who-farted-in-the-cathedral.

Three two-note chords

Under distortion, two notes are often enough. Change the top note of a power chord by one fret and the mood changes completely.

Ex 5.1 **Fifth, tritone, fourth** 4/4 · standard tuning · 70 to 100 bpm



A with its fifth, then its flat fifth, then its fourth. Solid, sour, hollow. Thrash riffs flick between these constantly.

Keys and their chords

Build a chord on each note of a minor scale and you get seven chords that sound right together. These three keys cover most of this book because their roots are open strings.

DEGREE	I	II DIM	III	IV	V	VI	VII
E minor	Em	F# dim	G	Am	Bm	C	D
A minor	Am	B dim	C	Dm	Em	F	G
D minor	Dm	E dim	F	Gm	Am	Bb	C

Small numerals are minor chords, capitals are major. The progression i, VI, VII (Em, C, D) is behind a huge share of rock and metal choruses. The move from E5 to F5 is outside the key, and it is the thrash sound. One fret. That is the entire distance between 'campfire singalong' and 'the neighbours have called someone'.

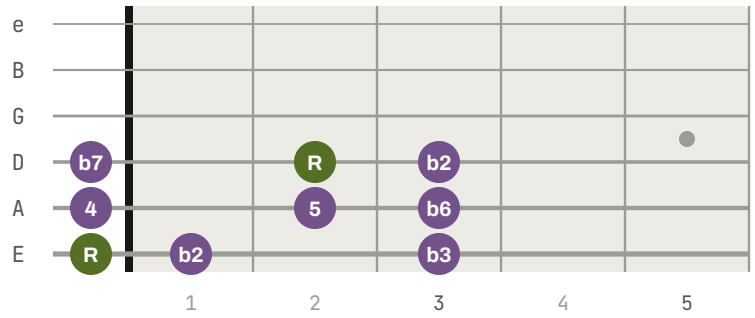
Look back at the circle of fifths in Chapter 2. Each of these keys sits next to the others on it, which is why moving a riff from E minor to A minor sounds natural. A riff whose root jumps straight across the circle, E to Bb, feels like a trapdoor.

Dark scales, one note apart

Each of these differs from natural minor by one note. Learn the note that matters and you know the scale.

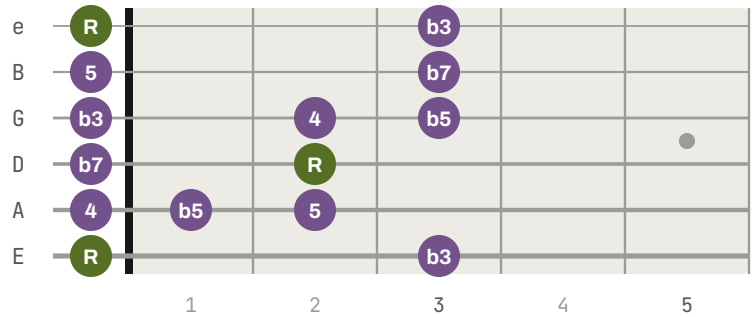
SCALE	FORMULA	THE ONE NOTE THAT MATTERS	SOUND
Natural minor (Aeolian)	R 2 b3 4 5 b6 b7	b6	Sad, serious, the default
Phrygian	R b2 b3 4 5 b6 b7	b2	Threat. Most thrash riffs
Dorian	R 2 b3 4 5 6 b7	natural 6	Minor with some light. Bluesy hard rock
Blues scale	R b3 4 b5 5 b7	b5	Pentatonic plus one dirty note
Harmonic minor	R 2 b3 4 5 b6 7	natural 7	Classical drama. Neoclassical leads

E Phrygian, open position `low three strings · labels are scale degrees`



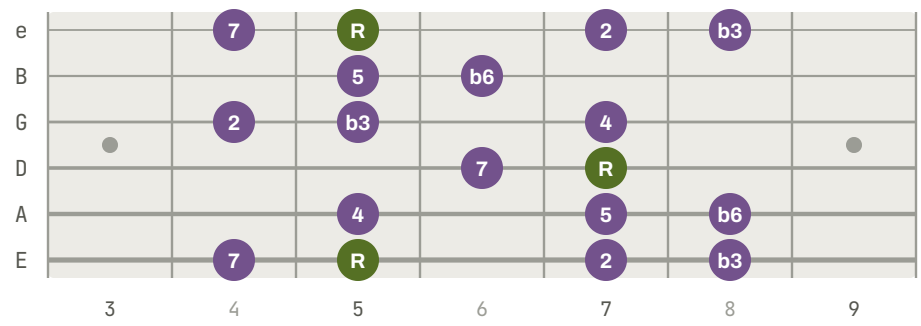
The b2 is F, one fret above the open E. That one fret is the whole flavour.

E blues scale, open position `labels are scale degrees`



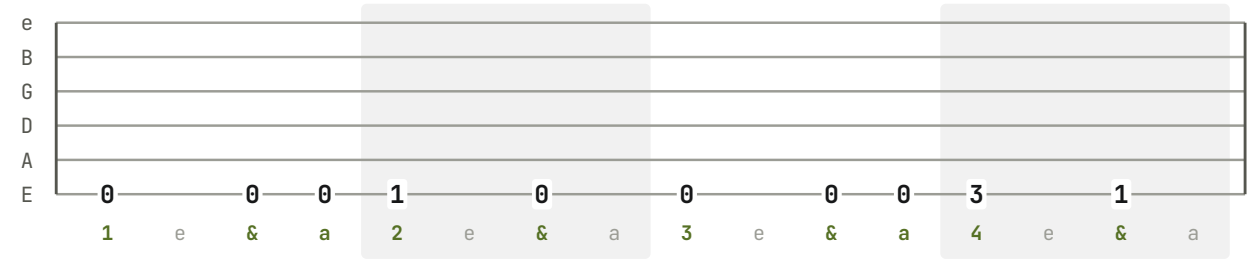
The b5 is Bb. You used it in Ex 3.6.

A harmonic minor `labels are scale degrees`



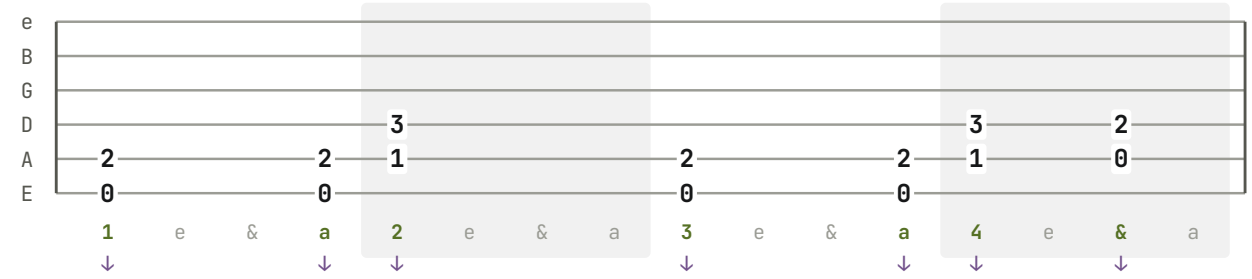
The 7 is G#, one fret below the root. The three-fret gap between b6 and 7 is the dramatic part.

Ex 5.2 **Phrygian riff** `4/4 · standard tuning · 90 to 150 bpm · palm mute`



E, F and G. The F on beat two is the b2 doing its job.

Ex 5.3 **Tritone riff** `4/4 · standard tuning · 60 to 100 bpm`



E5 to Bb5 is six frets, the most unstable jump there is. It resolves down to A5 at the end.

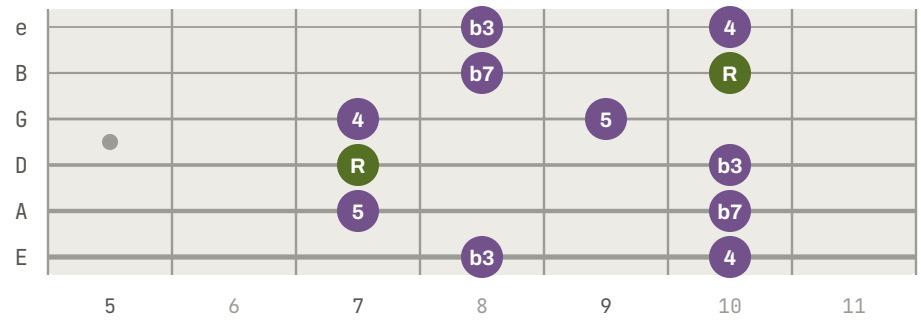
SNAPJAW SAYS

Phrygian is natural minor that has seen some shit.

Two pentatonic boxes

Box 1 you know. Box 2 sits directly above it and shares its upper notes. Connecting the two doubles your range and gets you out of the fifth-fret rut.

A minor pentatonic, box 2 `labels are scale degrees`

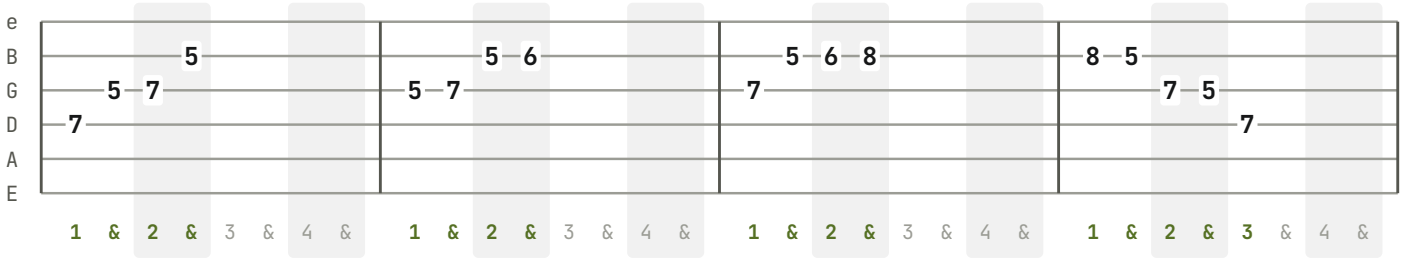


The root is on the D string at fret 7 and the B string at fret 10. Slide up from box 1 on the G string, fret 7 to 9.

Land on chord tones

A solo sounds like it belongs when the long notes are chord tones: the root, third or fifth of whatever chord the rhythm guitar is on. Run anywhere you like in between.

`Ex 5.4` **Targets over Am, F, G, Am** `4/4 · standard tuning · 70 to 110 bpm`



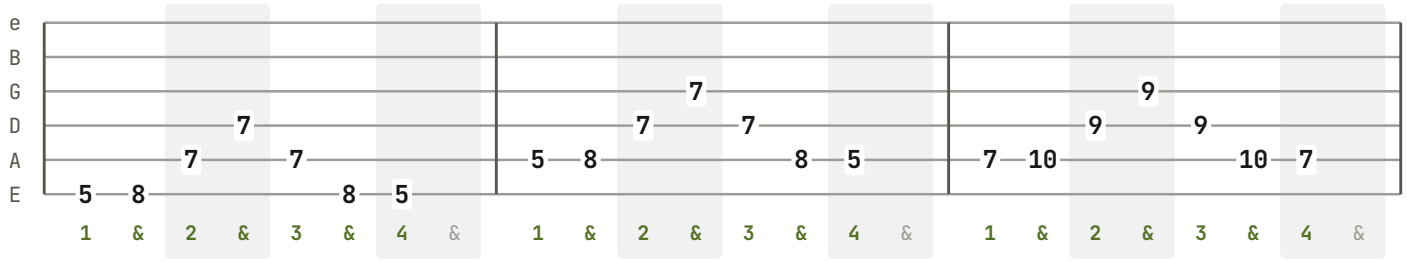
Each phrase ends on a held note: E over A minor, F over F, G over G, A over A minor. Work out which chord tone each one is.

Chord formulas

Every chord is a recipe of scale degrees. Learn the recipe and you can build any chord from any root, or outline it one note at a time.

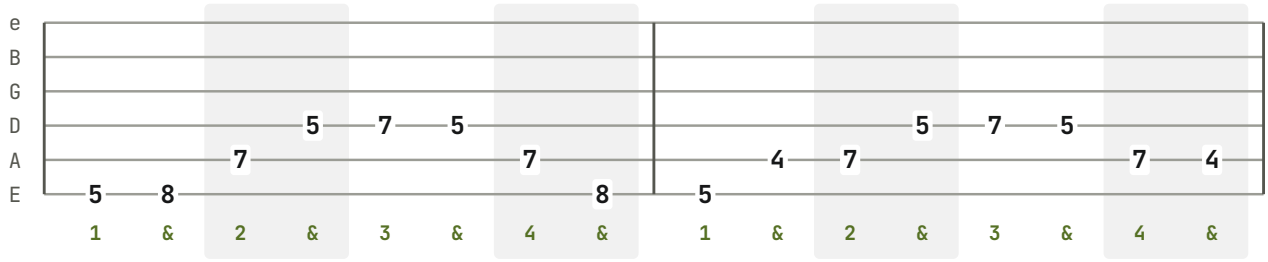
CHORD	FORMULA	SOUND
Major	R 3 5	Bright, settled
Minor	R b3 5	Dark, settled
Power (5)	R 5	Neutral, strong
Diminished	R b3 b5	Tense, unstable
Augmented	R 3 #5	Dreamlike, uneasy
Sus2	R 2 5	Open, unresolved
Sus4	R 4 5	Hanging, wants to fall to the 3
Dominant 7	R 3 5 b7	Bluesy, pushes forward
Minor 7	R b3 5 b7	Smooth minor
Major 7	R 3 5 7	Soft, wistful
Minor 7 flat 5	R b3 b5 b7	Dark and jazzy
Diminished 7	R b3 b5 6	Horror film

Ex 5.5 **Triads through A minor** 4/4 · standard tuning · 70 to 110 bpm



A minor, D minor, E minor: the i, iv and v chords of the key, each outlined root, third, fifth, octave.

Ex 5.6 **Seventh arpeggios** 4/4 · standard tuning · 70 to 110 bpm



Bar 1 is A minor 7: A, C, E, G. Bar 2 is A dominant 7: A, C#, E, G. One note changes and the mood flips from sad to bluesy.

Keys at a glance

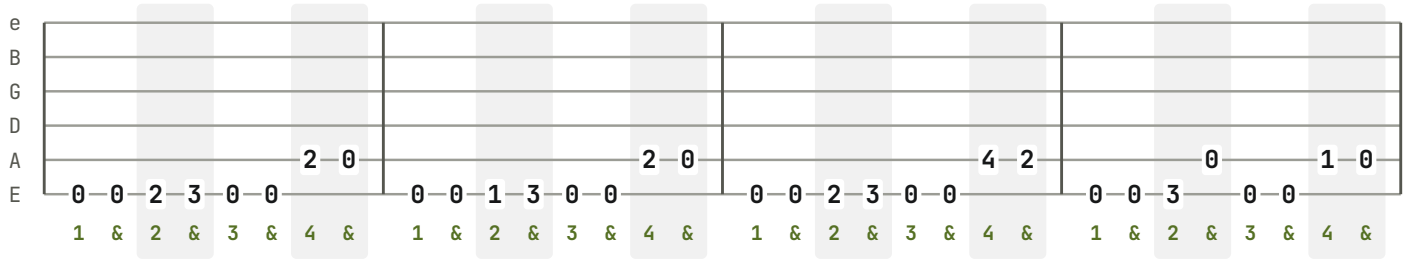
Each step clockwise on the circle of fifths adds one sharp. Each step anticlockwise adds one flat. These are the keys you will meet most.

MAJOR KEY	RELATIVE MINOR	SHARPS OR FLATS	NOTES
C	A minor	none	C D E F G A B
G	E minor	1 sharp	G A B C D E F#
D	B minor	2 sharps	D E F# G A B C#
A	F# minor	3 sharps	A B C# D E F# G#
E	C# minor	4 sharps	E F# G# A B C# D#
F	D minor	1 flat	F G A Bb C D E
Bb	G minor	2 flats	Bb C D Eb F G A

One riff, four scales

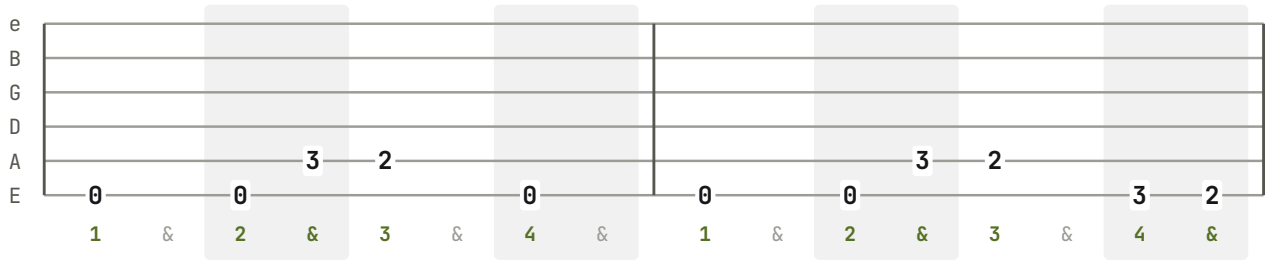
The fastest way to hear what a mode does is to play the same riff with one note changed.

Ex 5.7 **Minor, Phrygian, Dorian, blues** `4/4 · standard tuning · 90 to 140 bpm · palm mute`



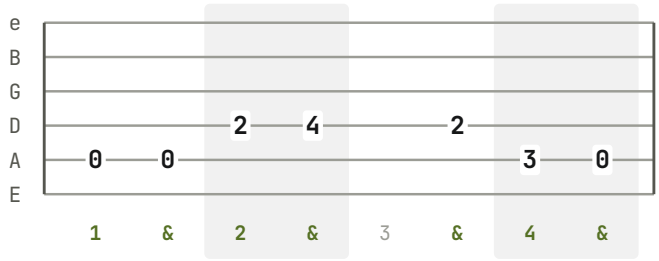
Bar 1 is natural minor. Bar 2 lowers F# to F: Phrygian. Bar 3 adds C#, the natural 6: Dorian. Bar 4 uses the blues scale with Bb.

Ex 5.8 **The flat six pulling down** `4/4 · standard tuning · 80 to 120 bpm`



C falling to B, the b6 to the 5. It is the saddest half step in the minor scale.

Ex 5.9 **Dorian riff in A** `4/4 · standard tuning · 90 to 130 bpm`



A, A, E, F#, E, C, A. The F# is the natural 6. It makes a minor riff sound tough instead of gloomy.

Progressions heavy music keeps using

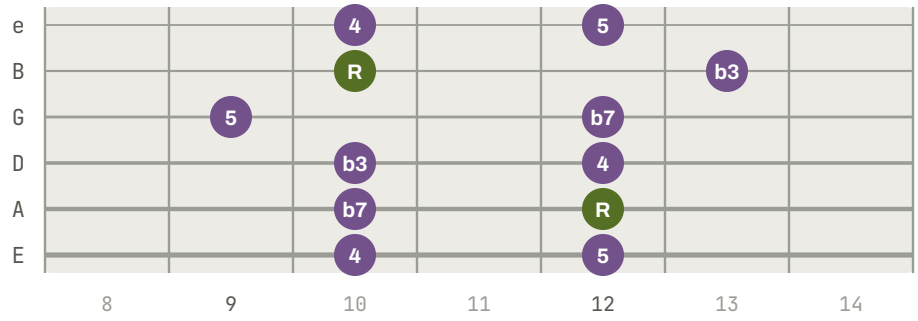
Numerals are scale degrees. Lower case is minor. Try each from E, A and D.

PROGRESSION	IN E MINOR	WHERE YOU HEAR IT
i, bVI, bVII	E, C, D	The default metal and hard rock chorus
i, bVII, bVI, V	E, D, C, B	The descending minor cadence. Dramatic, classical
i, bII	E, F	Thrash verse riffs
i, bV	E, Bb	Doom
i, iv, v	E, A, B	Minor blues, groove riffs
I, bVII, IV	E, D, A	Major-key hard rock anthem
i, bIII, bVII, IV	E, G, D, A	Dorian lift. Big, open, slightly hopeful

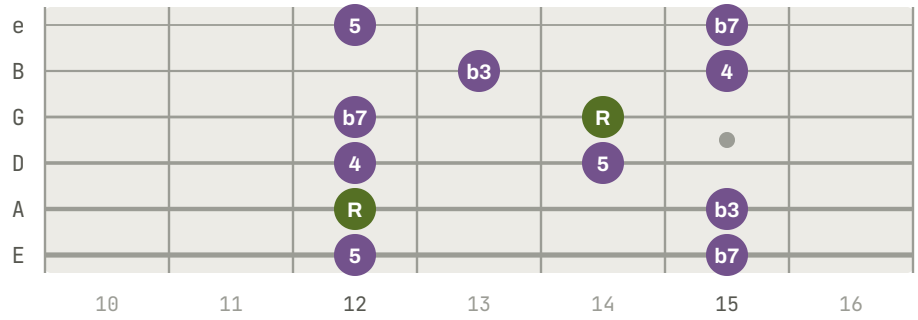
The other three pentatonic boxes

Five boxes cover the whole neck, and they repeat after fret 12. With all five, there is no dead zone anywhere.

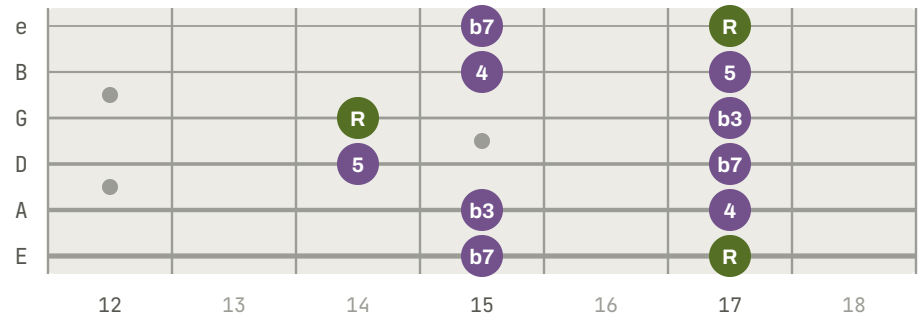
A minor pentatonic, box 3 `labels are scale degrees`



A minor pentatonic, box 4 `labels are scale degrees`

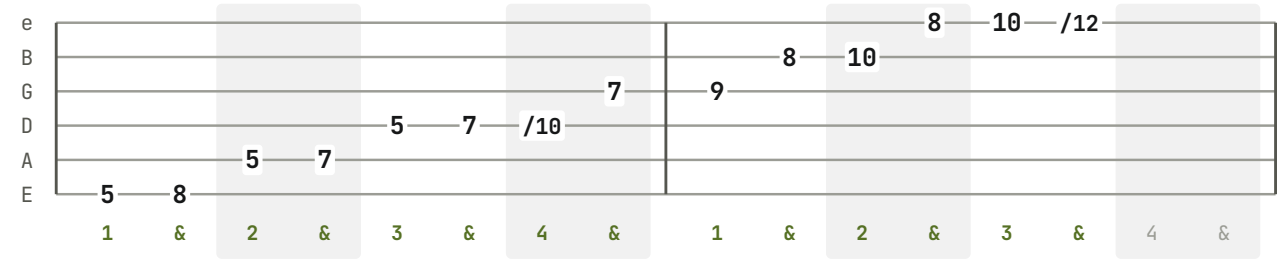


A minor pentatonic, box 5 `labels are scale degrees`



Box 5 joins back onto box 1 an octave higher, at fret 17.

Ex 5.10 ### A diagonal run through three boxes `4/4 · standard tuning · 60 to 110 bpm`

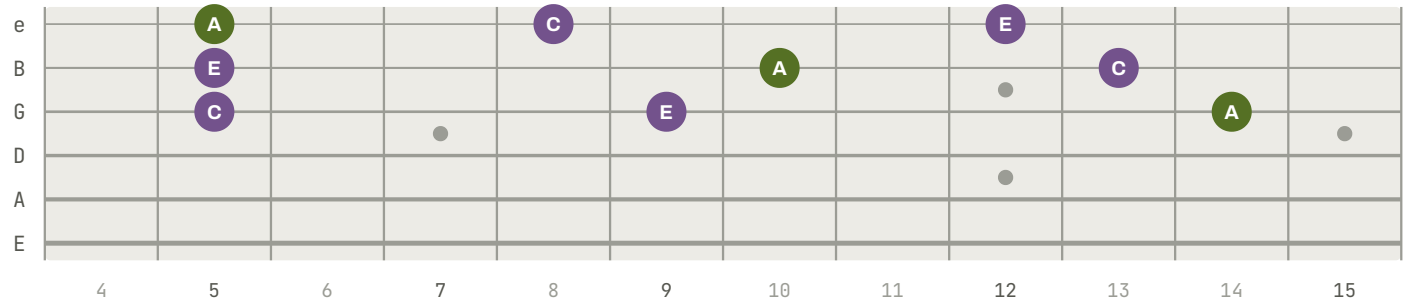


Slide up on the D string and again on the high e string. Two slides carry you from fret 5 to fret 12 without ever leaving the scale.

Triads on the top strings

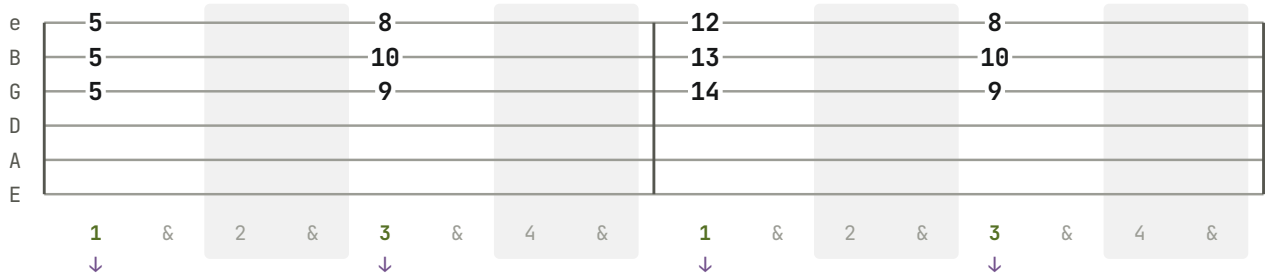
Three notes on three strings. They cut through a band better than big chords, and they are the raw material for sweeps, tapping and melodic leads.

A minor triad in three places `labels are note names`



The same three notes, A, C and E, stacked in a different order each time. These are called inversions.

Ex 5.11 **Triad climb** 4/4 · standard tuning · 60 to 100 bpm



Strum each shape and let it ring. Then pick the notes one at a time, low to high.

Chapter 5 check

- [ ] Play any interval from A when someone names it
- [ ] Name the seven chords in E minor
- [ ] Play E Phrygian on the low strings and say which note makes it Phrygian
- [ ] Move between pentatonic boxes 1 and 2 without stopping
- [ ] Improvise over Am, F, G, landing on a chord tone each bar

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CHAPTER 6

RIFFS WITH A JOB

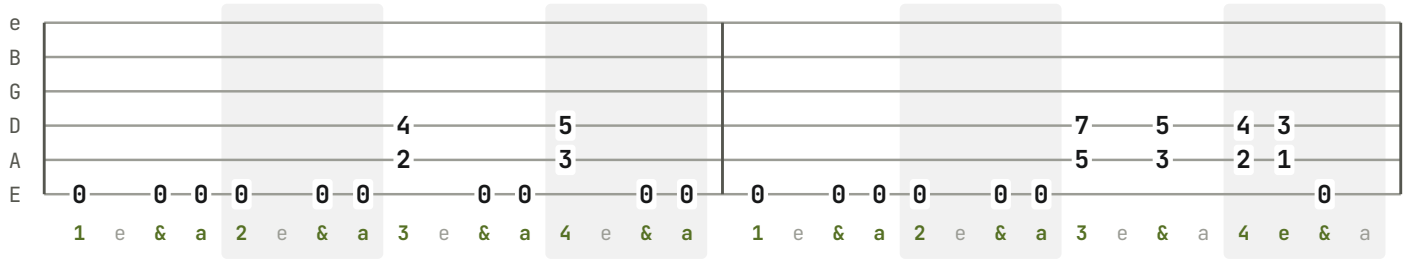
RIFF WRITING

A riff in a song has a job: drive the verse, lift the chorus, set up a breakdown, or open the song alone. Write for the job. An unemployed riff just hangs around the rehearsal room eating your snacks.

The thrash riff

Ingredients: a muted pedal note on the open string, a gallop, and unmuted chords stabbed in a half step or a tritone away.

Ex 6.1 **Pedal and stabs** `4/4 · standard tuning · 100 to 170 bpm · palm mute the open E`



The open E is the pedal. The stabs are B5 and C5. Bar 2 walks down D5, C5, B5, Bb5.

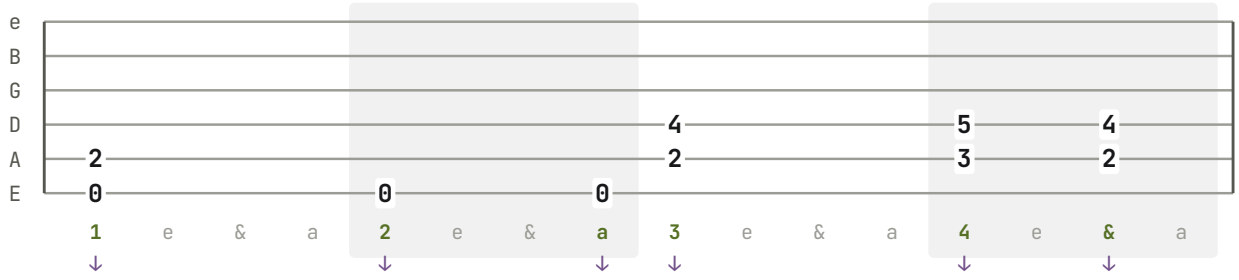
THE BEHEMOTH SAYS

A good thrash riff sounds like a filing cabinet falling down a fire escape, in time.

The half-time breakdown

Take the same chords and halve the feel. Snare moves to beat 3. You play fewer notes and each one lands like furniture.

Ex 6.2 **Same riff, half time** `4/4 · standard tuning · 100 to 170 bpm`



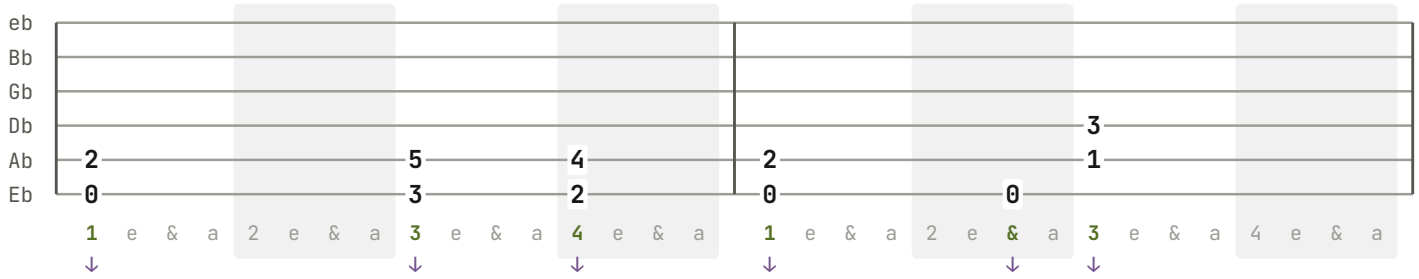
Compare with Ex 6.1. Same chords, a third of the notes. Let the first chord ring.

> STEAL FROM ANTHRAX
>
> The mosh part. After two minutes of gallops, cutting to half time with big open chords is the most effective move in thrash. Use it once per song and it works every time.

The doom riff

Slow tempo, half step down, long chords. Movement by half steps and the tritone. Leave the silence alone.

Ex 6.3 **Doom** 4/4 · half step down · 50 to 70 bpm



Written a half step down: the frets are the same as standard, the sound is lower. E5, G5 falling to F#5, then E5 to Bb5.

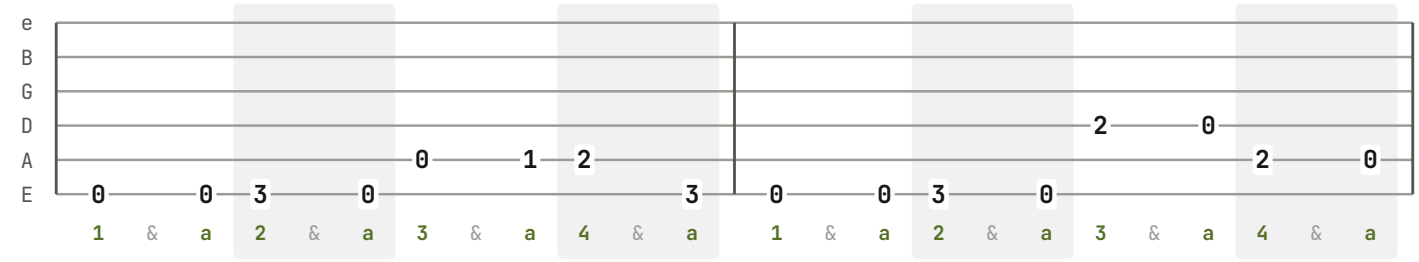
GHAST SAYS

Doom tempo check: if it does not feel like wading through a septic tank in work boots, slow down.

The groove riff

Swing it. Count each beat in three and play on the first and third parts. Blues scale, low strings, and a turnaround at the end of the bar.

Ex 6.4 **Shuffle groove** 4/4 · standard tuning · 80 to 120 bpm



Three steps per beat. The long-short lope is the shuffle. Bar 1 climbs A, Bb, B. Bar 2 comes down from the octave.

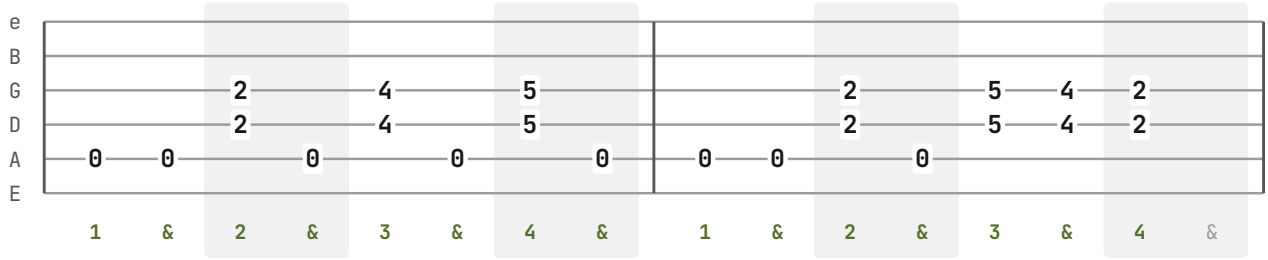
STEAL FROM CLUTCH

A shuffle riff with a wah pedal rocked in time is half of this band's swagger. If you have a wah, rock it once per beat on this exercise and listen to it turn into a second rhythm.

The hard rock riff

A muted open string with two-note chords moving above it on the next strings. Bright, bouncy, built to set up a chorus.

Ex 6.5 **Pedal and diads in A** `4/4 · standard tuning · 100 to 150 bpm · palm mute the open A`

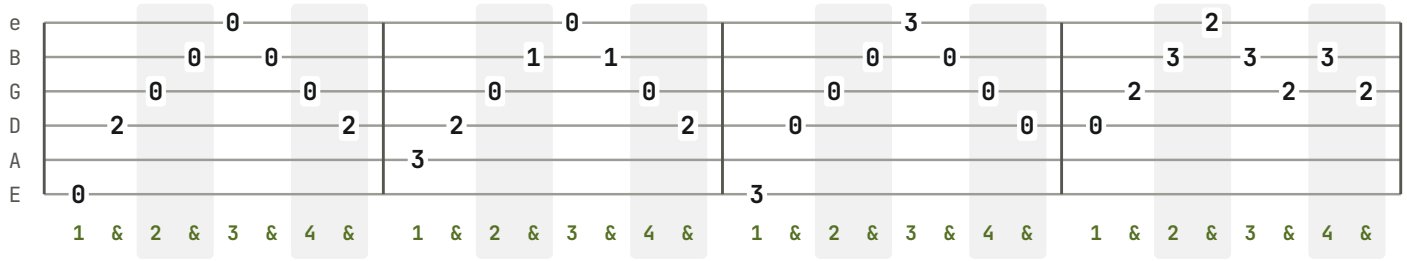


The open A chugs underneath. Each two-note shape is one finger laid flat across the D and G strings.

The clean intro

Hold an open chord and pick through its notes one at a time. Let everything ring. This is the quiet half of a power ballad, and it makes the heavy half hit harder.

Ex 6.6 **Arpeggios over Em, C, G, D** `4/4 · standard tuning · 70 to 110 bpm · clean, let ring`



The chord shapes from Chapter 2. Fret the whole chord first, then pick. Use the neck pickup and roll the volume back.

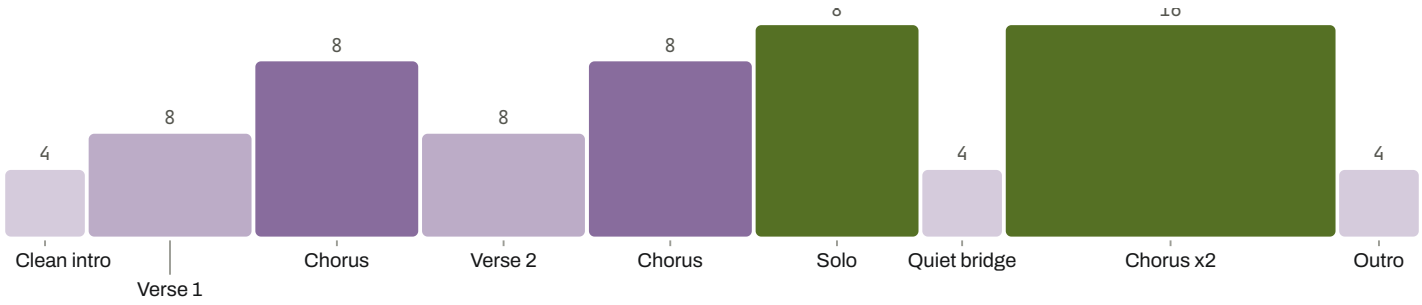
> STEAL FROM SKID ROW
>
> Clean arpeggiated verse, distorted chorus with the same chords strummed wide open. The contrast does the work. Write the chorus first, then strip it down for the verse.

Verse against chorus

A song needs contrast between sections. Change at least two of these when you move from verse to chorus: palm mute or open, single notes or chords, low strings or full strums, busy or sparse.

A power ballad: clean verse, loud chorus

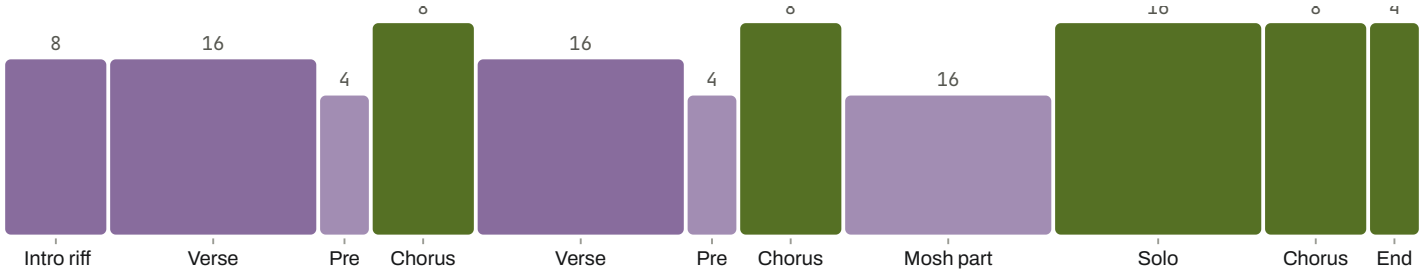
`block width = bars · height = intensity`



The solo goes over the chorus chords. The quiet bridge after it resets the listener for the last chorus.

A thrash song: mostly on, with one drop

`block width = bars · height = intensity`

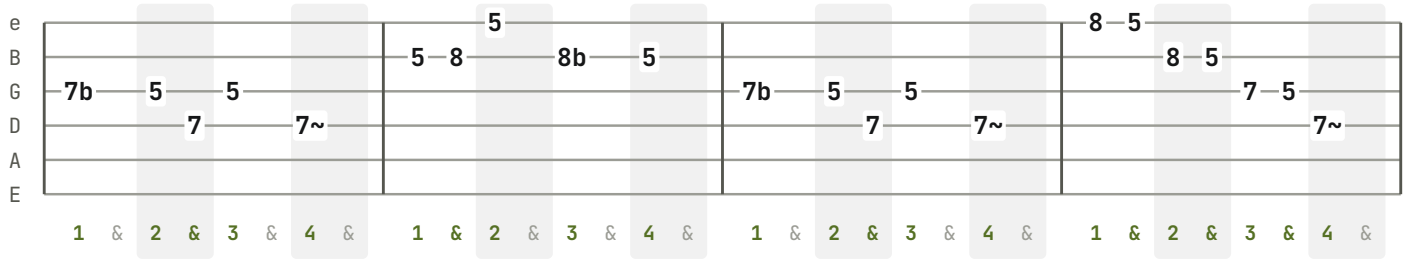


The half-time mosh part is the only rest the listener gets. It makes the solo section hit twice as hard.

Your first solo: call and response

Play a short phrase. Leave a gap. Answer it. Solos that breathe sound better than solos that run. Four bars is enough.

Ex 6.7 **Four-bar solo in A minor pentatonic** 4/4 · standard tuning · 70 to 110 bpm



Bar 1 is the call and ends on the root. Bar 2 answers higher up. Bar 3 repeats the call. Bar 4 runs down the box and lands on the root with vibrato.

More riff jobs

Ex 6.8 **The thrash riff, moved to A** 4/4 · standard tuning · 100 to 160 bpm · palm mute

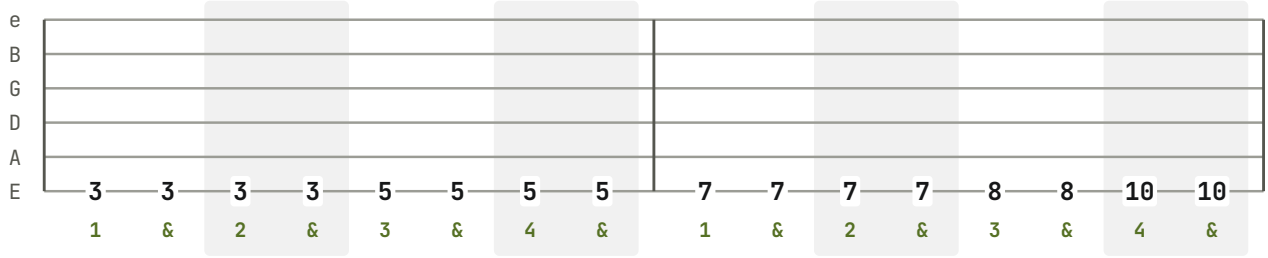


The riff from Ex 6.1 one string higher. Use E for the verse and A for the second half of the verse and the song already has movement.

THE PRE-CHORUS

Its job is to make the chorus feel inevitable. Like a sneeze. Climb, get louder, and simplify the rhythm.

Ex 6.9 **Pre-chorus climb** 4/4 · standard tuning · 100 to 160 bpm

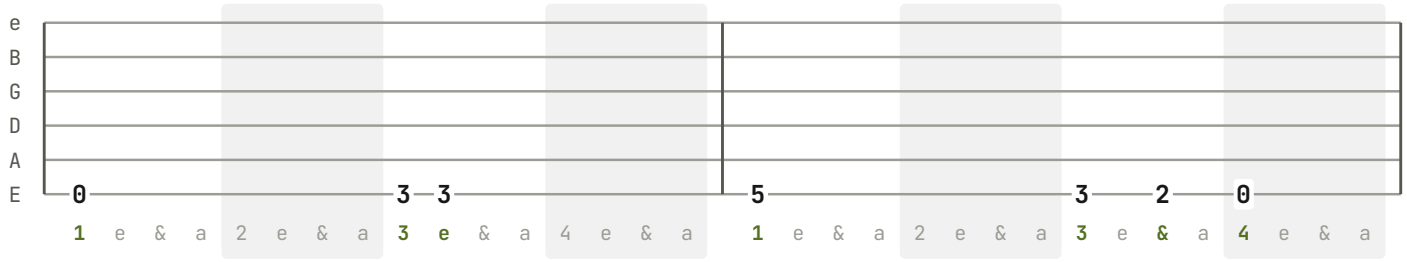


Roots rise G, A, B, C, D in straight eighths. Open up the muting as you go.

THE STOP-TIME RIFF

Everyone hits together, then everyone stops. The silence is the hook. It is also the bit where one person always comes in early. Do not be that person. You will be that person.

Ex 6.10 **Hits and holes** `4/4 · standard tuning · 90 to 140 bpm`

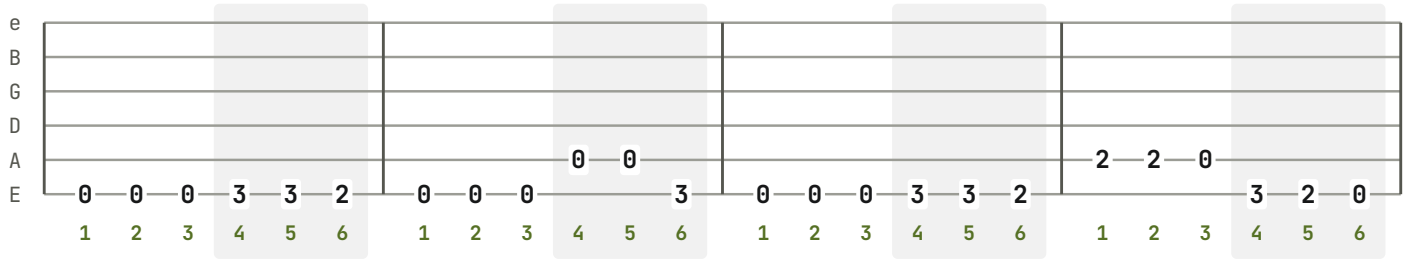


Short, loud, together. Count the rests out loud until the whole band can feel them.

THE RIFF IN THREE

Six eighth notes to the bar, felt as two big beats. It sways where 4/4 marches.

Ex 6.11 **Heavy 6/8** `6/8 · standard tuning · 150 to 220 (eighths) bpm · palm mute`



Accent the first and fourth eighth of every bar. A, A, A, B form again.

More song forms

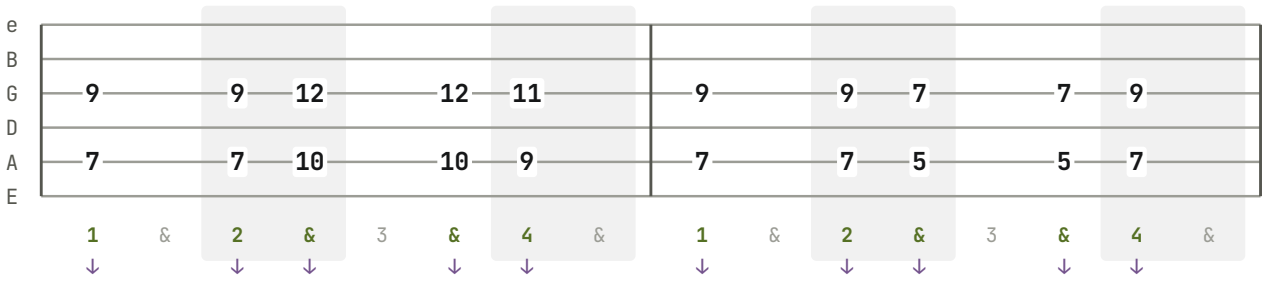
FORM	LAYOUT	GOOD FOR
Verse, chorus	V C V C bridge C	Almost everything with a vocal
AABA	A A B A	Short songs with one strong idea and one contrast
Riff chain	A B C D E, little repetition	Long thrash and prog pieces. Needs strong transitions
Build	One riff, layers added every 8 bars	Intros, instrumentals, slow burners
Bookend	Intro riff returns as the outro	Makes any song feel finished

Arranging checklist

- [ ] Each section differs from the one before in at least two ways
- [ ] The first chorus arrives within about a minute
- [ ] Something drops out before every big entrance
- [ ] The heaviest or fastest moment happens once
- [ ] You can hum the main riff after one listen

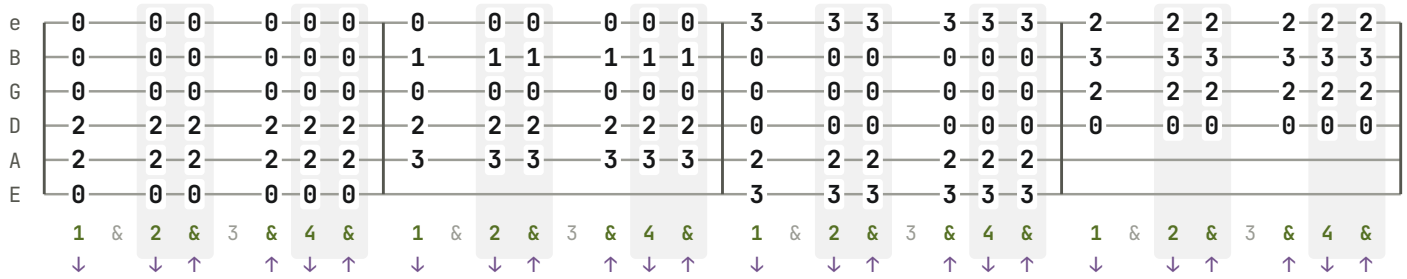
Guitar arrangements

Ex 6.12 **Octave melody** 4/4 · standard tuning · 100 to 150 bpm



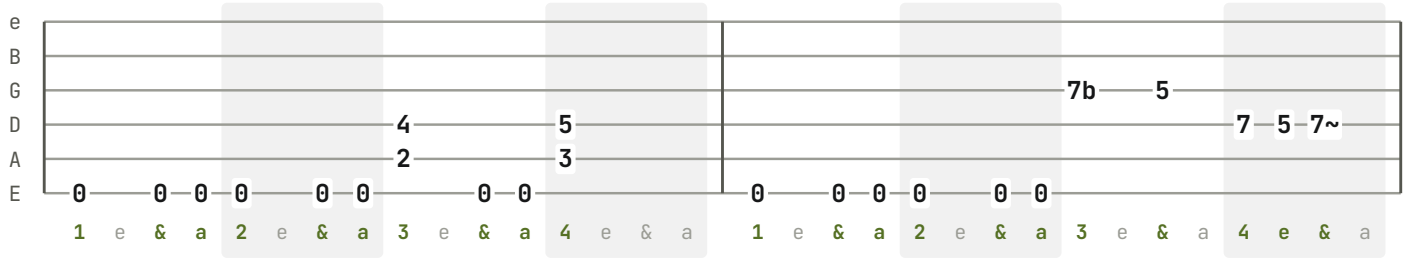
Index on the A string, pinky on the G string, and the index finger mutes the D string between them. E, G, F#, then E, D, E. A second-guitar part for over a chorus.

Ex 6.13 **Open-chord chorus** `4/4 · standard tuning · 90 to 140 bpm`



The chords from the clean intro, now strummed with distortion. Down, down-up, up-down-up. Same harmony as the verse, opposite energy.

Ex 6.14 **Riff with a lead fill** `4/4 · standard tuning · 100 to 150 bpm · palm mute the open E`



The riff stops halfway through bar 2 and a short pentatonic lick fills the gap. With one guitar in the band, this is how you play rhythm and lead at once. It is also how you end up doing two jobs for one share of the door money.

Recipe for a riff with a job

1. Pick the job: verse, chorus, breakdown or intro.
2. Pick the key and one colour note from Chapter 5 (b2, b5 or natural 6).
3. Write the rhythm on the muted open string first.
4. Add chords or notes. Use the colour note once per bar at most.
5. Write the partner section by changing two things from the list above.

Write it

Verse riff and chorus riff

SONG WORKING TITLE _____ KEY AND COLOUR NOTE _____ TEMPO (BPM) _____

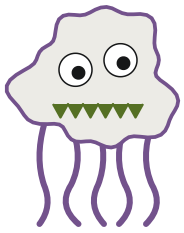
e
B
G
D
A
E

:ount . . . . . .

e
B
G
D
A
E

:ount . . . . . .

Print this page and pencil it in, or open Tab Lab on the site and save the riff there.



BOSS FIGHT

THE BEHEMOTH

Large, patient, unimpressed by sloppy gallops. It respects honesty, so tick only what you can actually play. It will know. It has eaten better players than you and shat out their pedalboards.

- [ ] Pedal and stabs (Ex 6.1) at 150 bpm, twice through
- [ ] Doom (Ex 6.3) at 60 bpm, every rest silent
- [ ] Shuffle groove (Ex 6.4) at 100 bpm with a clear swing
- [ ] The four-bar solo (Ex 6.7) from memory, bends in tune
- [ ] An original verse and chorus pair, recorded back to back

PART III

ADVANCED

Spider chords, legato, sweeps, tapping, twin leads, exotic scales, and songs with five riffs and a solo that goes somewhere. Then The Haze.

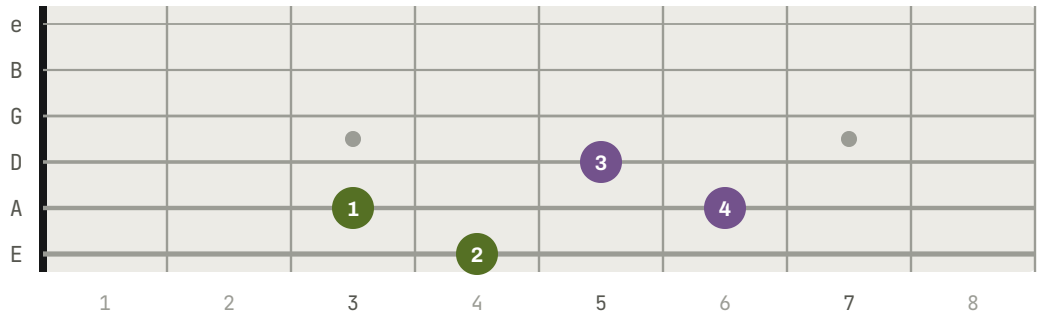
CHAPTER 7

THE WHOLE INSTRUMENT TECHNIQUE

Spider chords

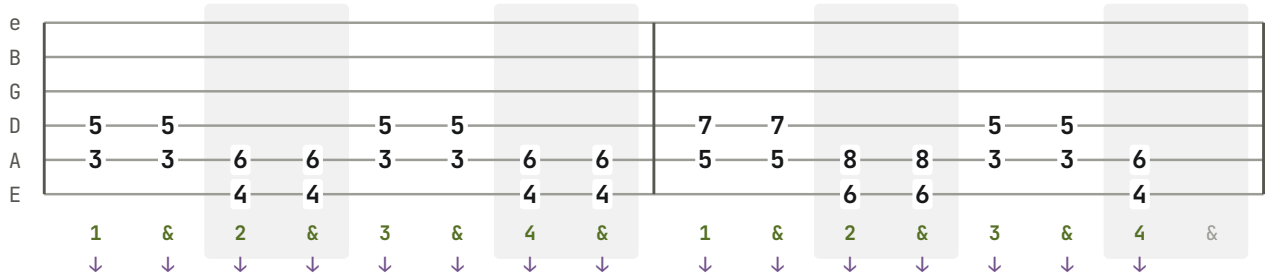
Two power chords on neighbouring strings, a fret apart, normally mean a jump of the whole hand. The spider fingering removes the jump: play one chord with fingers 1 and 3 and the other with fingers 2 and 4. The hand stays put and the fingers walk.

Spider fingering labels are finger numbers



Fingers 1 and 3 hold C5 on the A and D strings. Fingers 2 and 4 hold G#5 on the E and A strings. Hover both shapes and press only the one you are playing.

Ex 7.1 **Spider walk** `4/4 · standard tuning · 80 to 150 bpm`



C5 and G#5, then D5 and A#5. Lift the fingers you are not using just enough to mute their strings.

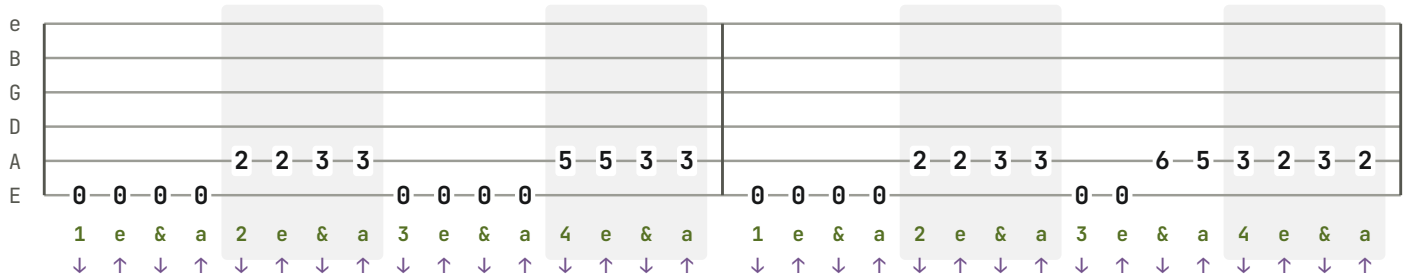
> STEAL FROM MEGADETH
>
> This fingering is the trick behind riffs that sound like the chords are moving impossibly fast. Practise it slowly until the two finger pairs feel like two separate hands.

> SKITTER SAYS
>
> *Spider chords look like your hand is having a small seizure. That is the correct technique. Carry on.*

Fast riffing across strings

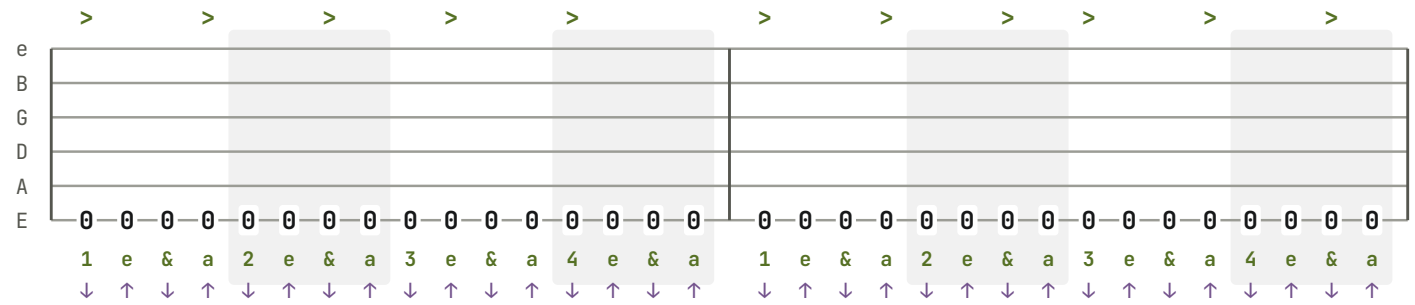
Alternate picking at speed falls apart at the string change. Drill the change itself.

Ex 7.2 **String-crossing riff** `4/4 · standard tuning · 90 to 150 bpm · palm mute the open E`



Strict alternate picking. The second half of bar 2 is one note per pick stroke with a string change in the middle: the hard part.

Ex 7.3 **Shifting accents** `4/4 · standard tuning · 90 to 150 bpm · palm mute, release on accents`

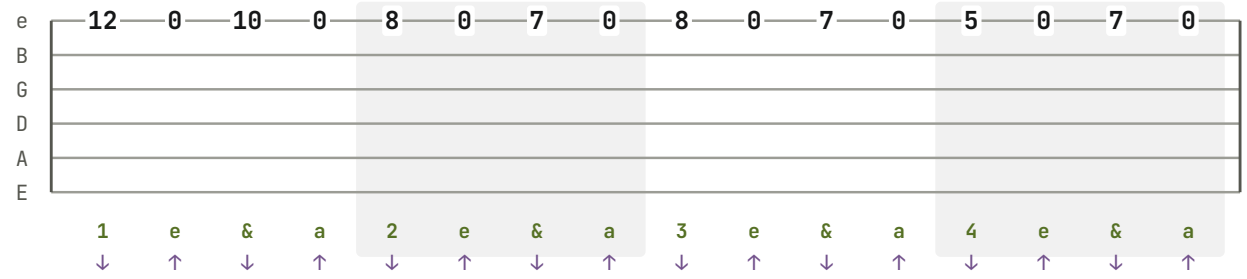


Bar 1 accents every third note: 3+3+3+3+4. Bar 2 is 3+3+2 twice. The hand never stops. Only the volume changes.

Pedal-point licks

Bounce between a moving melody and one repeated note. It sounds like two parts at once and it is the fastest route to a classical flavour.

Ex 7.4 **Pedal point on the open string** `4/4 · standard tuning · 70 to 130 bpm`



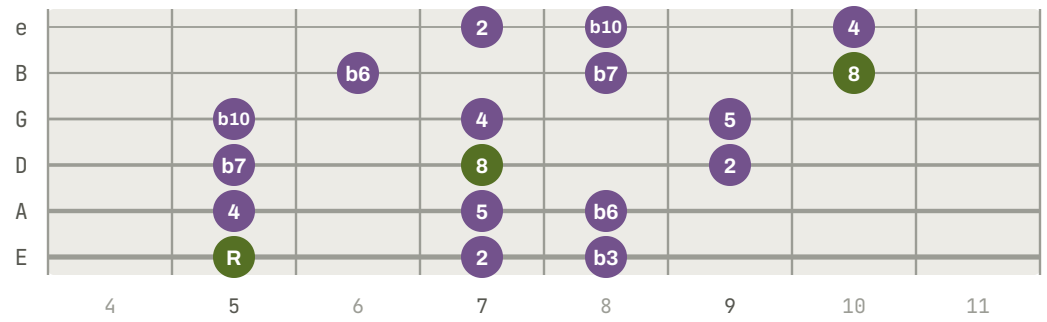
The melody walks E, D, C, B, C, B, A, B against the open E. Try it with pull-offs to the open string instead of picking every note.

> STEAL FROM OZZY AND SABBATH
>
> Pedal-point runs, trills and classical-sounding minor scales are the fingerprints of early eighties lead guitar. This one exercise, played cleanly at 130, will get you a long way.

Three notes per string

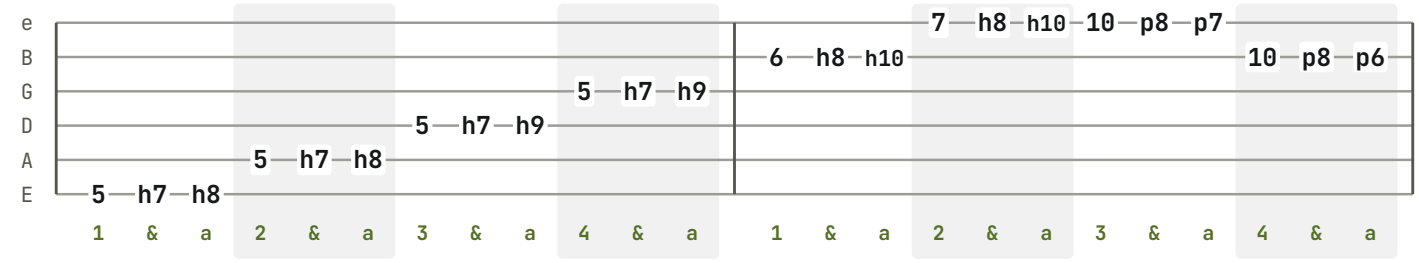
Arrange a scale with three notes on every string and the picking and fingering pattern repeats all the way across. It is built for legato and for speed.

A natural minor, three notes per string `labels are scale degrees`



Fingers 1, 2, 4 or 1, 3, 4 on each string. The shape drifts up the neck as you cross.

Ex 7.5 Legato run `4/4 · standard tuning · 60 to 110 bpm`

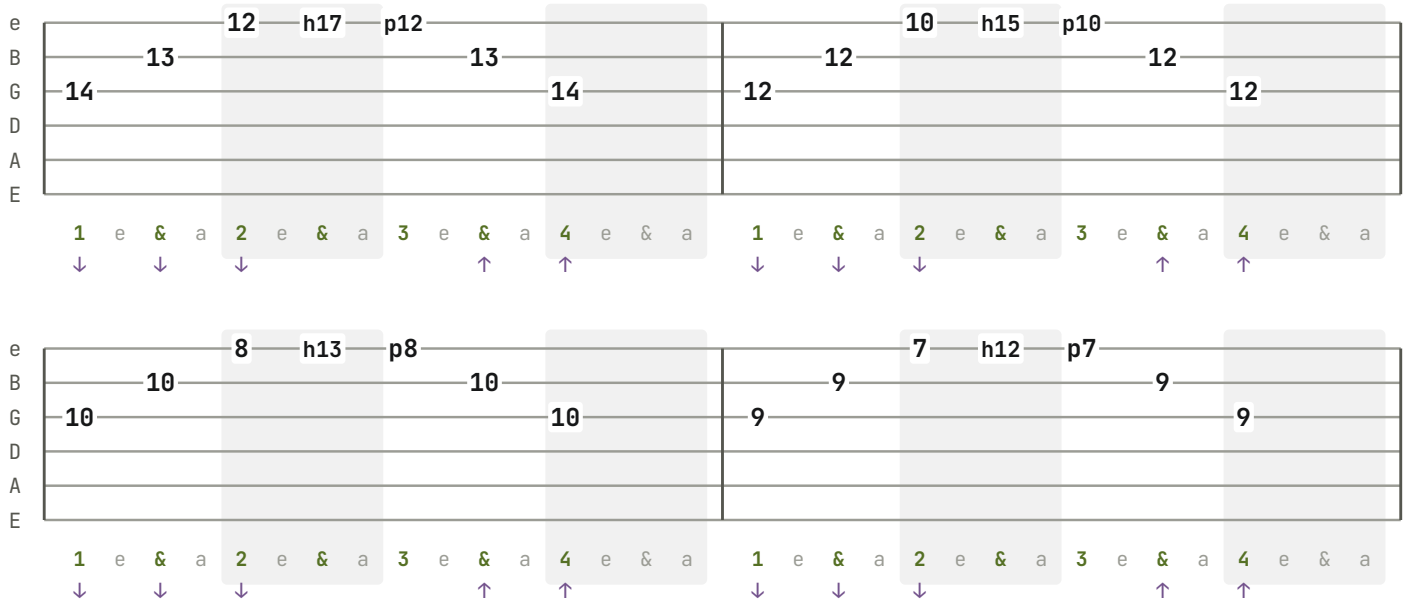


Three notes per beat. Pick only the first note on each string. Every hammered note should be as loud as the picked one.

Sweep picking

One pick stroke glides across several strings, one note per string, while the fretting hand lets go of each note as the next one sounds. Think of it as a slow strum that does not ring.

Ex 7.6 **Three-string sweeps: Am, G, F, E** 4/4 · standard tuning · 60 to 120 bpm



Three downstrokes in one motion, hammer and pull on the top string, two upstrokes back. Each bar is one triad. Mute each string as you leave it.

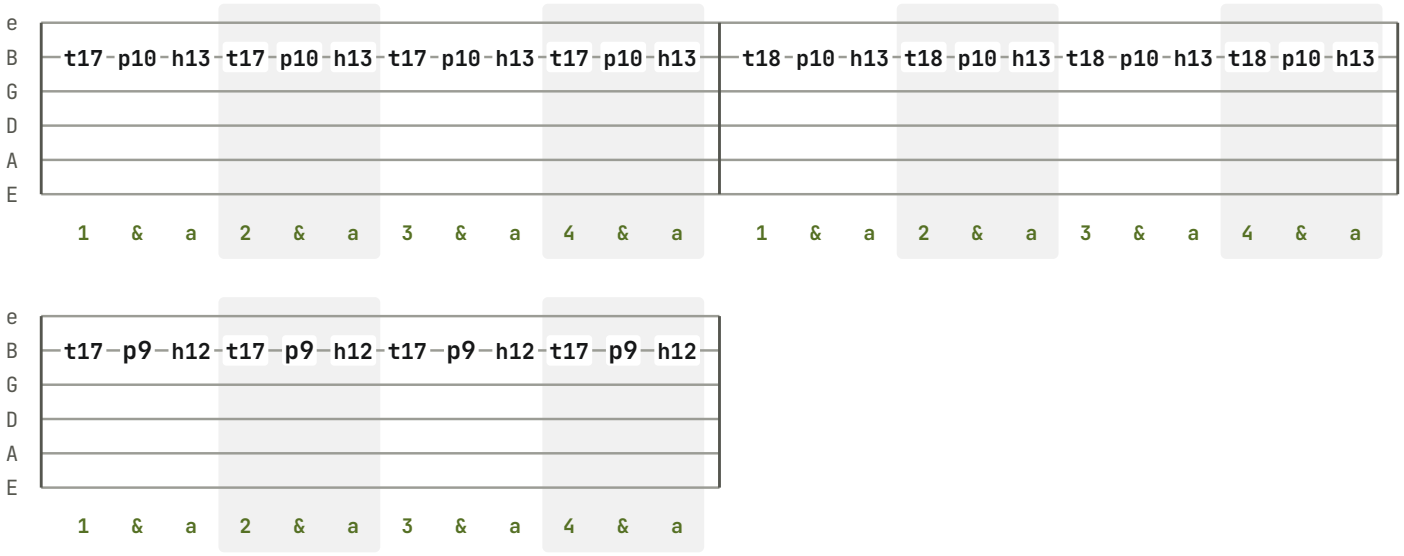
SNAPJAW SAYS

Played slow, a sweep is a strum. Played fast and clean, it is witchcraft. Played fast and dirty, it is a zipper, and everyone can hear your fly is down.

Tapping

Hammer a note with a picking-hand finger, pull it off to a fretted note, hammer the next. One string, three notes of a chord, very fast with very little effort. It has the best effort-to-applause ratio on the instrument, which is how the eighties happened.

Ex 7.7 **Tapped triads: Am, F, E** 4/4 · standard tuning · 60 to 120 bpm

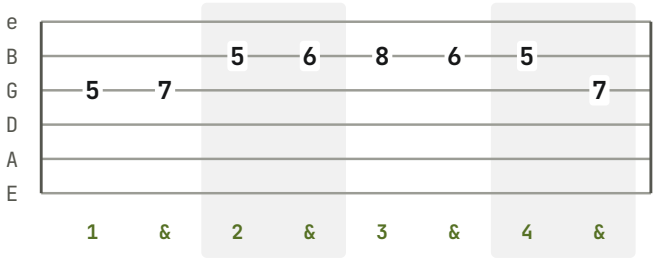


All on the B string. The tapped note changes the chord: E over A and C is A minor, F over A and C is F major. Mute the other strings with the heel of the tapping hand.

Twin leads

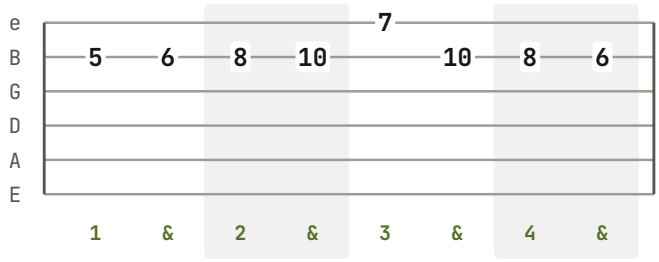
Two guitars play the same melody a third apart. One guitarist can practise both parts and record them.

Ex 7.8 **Melody, guitar 1** 4/4 · standard tuning · 80 to 130 bpm



C, D, E, F, G, F, E, D in A minor.

Ex 7.9 **Harmony, guitar 2** 4/4 · standard tuning · 80 to 130 bpm



E, F, G, A, B, A, G, F: every note is two scale steps above guitar 1. Chapter 8 explains how to find these.

> STEAL FROM TESTAMENT
>
> Harmonised lines over a thrash rhythm, plus solos that use legato, arpeggios and modes with real melodic sense. The lesson is that fast and tuneful are not opposites.

Noise on purpose

- **Whammy bar.** Dive a held note or a harmonic down and bring it back. In a chaotic solo, the bar is doing half the work.
- **Wah.** Rock it in time with the beat for groove, or sweep slowly through a held bend for a vocal cry.
- **Pick scrape.** Drag the edge of the pick down the wound strings into the first chord of a section.
- **Feedback.** Hold a note facing the amp and let it bloom. Good for the bar before a riff comes back.

> STEAL FROM SLAYER
>
> The solos are short, fast and deliberately out of key: tremolo-picked chromatic bursts, whammy dives and squeals. Used for eight bars over a fast riff, that chaos is exciting. Write one solo like that on purpose.

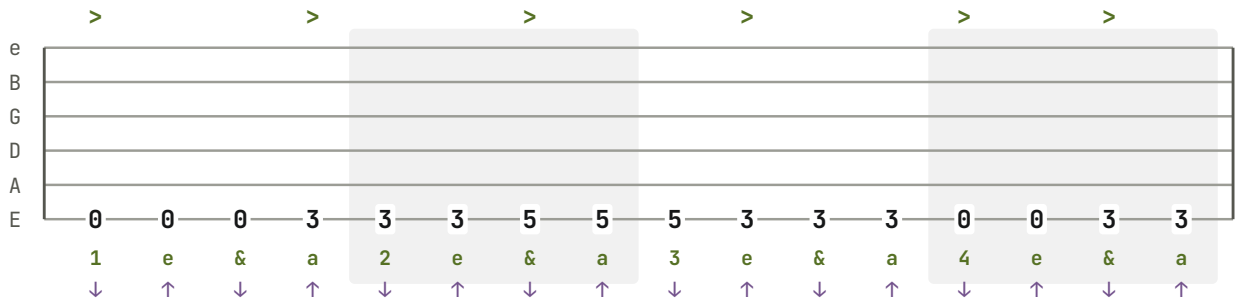
> THE HAZE SAYS
>
> *Feedback is your amp screaming because you stopped paying attention to it. Relatable.*

Speed protocol

STEP	WHAT TO DO	TIME
1	Find the tempo where it is clean and relaxed. Write it down	1 minute
2	Play at that tempo minus 10 bpm, exaggerating small movements	2 minutes
3	Bursts at that tempo plus 15 bpm: one beat on, three off	2 minutes
4	Back to the clean tempo. It will feel slow	1 minute
5	Add 4 bpm to tomorrow's clean tempo only if today was relaxed	Daily

More drills: control at speed

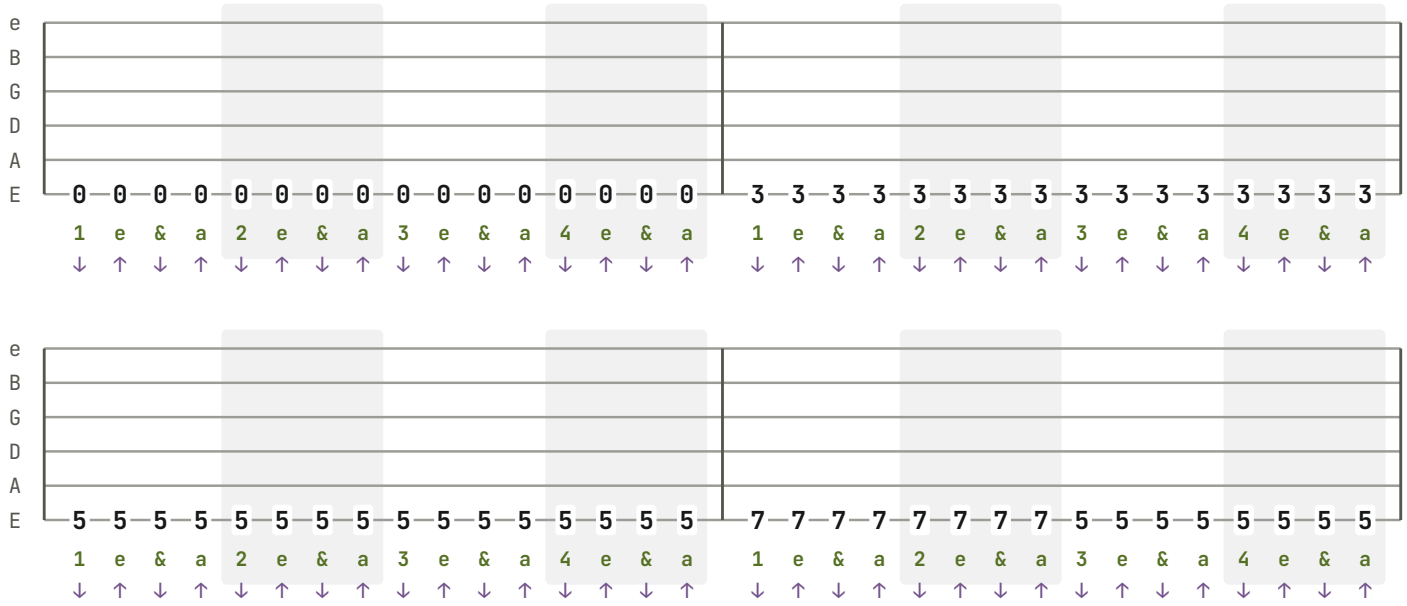
Ex 7.10 **Odd groupings inside 4/4** 4/4 · standard tuning · 80 to 130 bpm · palm mute



Sixteen sixteenths grouped 3+3+3+3+2+2. The drummer stays in four. You sound like you left and came back.

Ex 7.11 Four-bar endurance etude

4/4 · standard tuning · 90 to 150 bpm · palm mute



No rests for four bars. If the last bar is sloppier than the first, the tempo is too high.

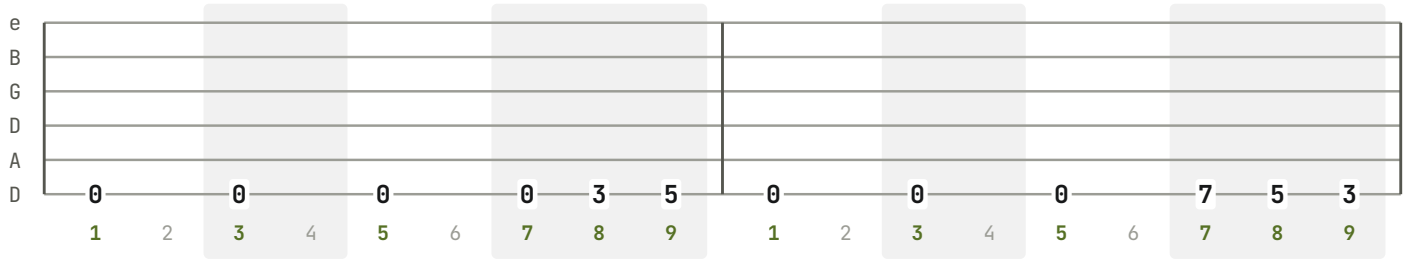
Ex 7.12 Octave pairs across the neck

4/4 · standard tuning · 80 to 140 bpm



Every jump skips a string. Mute the skipped string with the underside of the fretting finger.

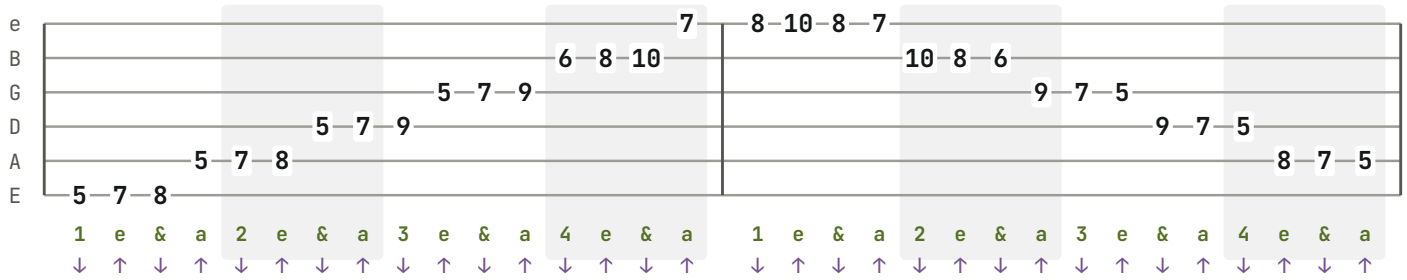
Ex 7.13 **Nine, grouped 2 + 2 + 2 + 3** 9/8 · drop D · 160 to 240 (eighths) bpm



A bar of four with one extra eighth note on the end. Count 1 2, 1 2, 1 2, 1 2 3.

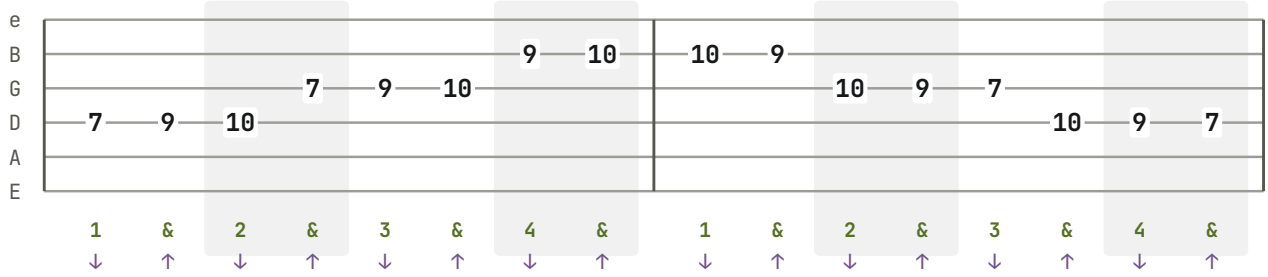
More lead technique

Ex 7.14 **Three notes per string, picked** 4/4 · standard tuning · 60 to 120 bpm



The legato run from earlier, now with every note picked. Three notes per string against four per beat means the accent falls on a different string each time.

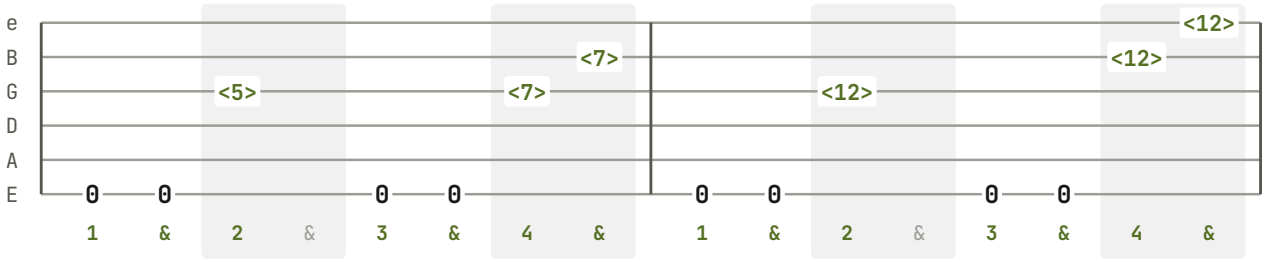
Ex 7.15 **Harmonic minor run** 4/4 · standard tuning · 70 to 130 bpm



A, B, C, D, E, F, G#, A. The stretch from F to G# and the half step into A are what make it sound classical.

Ex 7.16 **Natural harmonics in a riff**

4/4 · standard tuning · 90 to 140 bpm · palm mute the open E



Touch the string directly over the fret, pick, and lift. With gain they ring like bells between the chugs.

Chapter 7 check

- [ ] Spider walk at 130 bpm with no hand shift
- [ ] Pedal point at 120 bpm, alternate picked
- [ ] Legato run at 90 bpm with even volume
- [ ] Three-string sweeps at 90 bpm, one note sounding at a time
- [ ] Tapped triads at 100 bpm, clean and quiet between notes

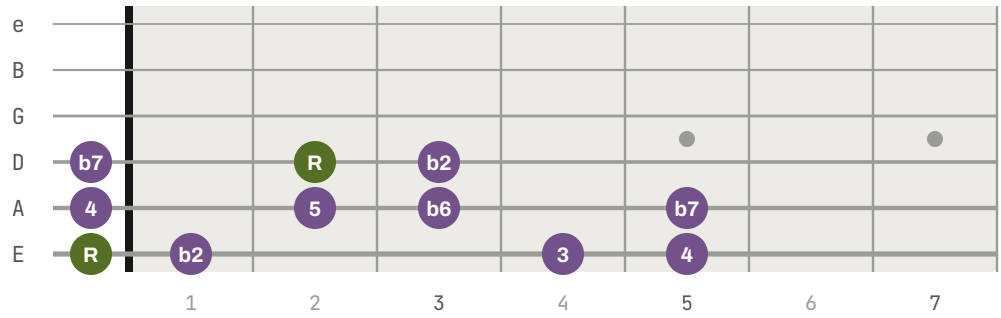
CHAPTER 8

COLOUR AND TIME THEORY

Scales with teeth

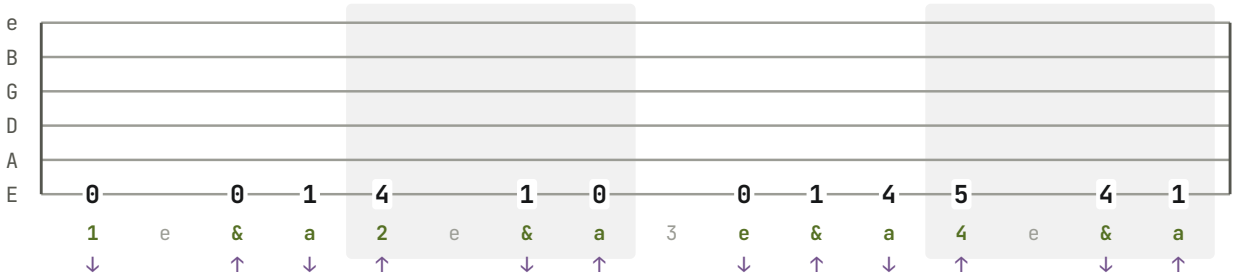
SCALE	FORMULA	WHERE IT BITES
Harmonic minor	R 2 b3 4 5 b6 7	The gap between b6 and 7: three frets, very dramatic
Phrygian dominant	R b2 3 4 5 b6 b7	b2 next to a major 3. The snake-charmer sound
Locrian	R b2 b3 4 b5 b6 b7	No stable fifth. Nothing resolves
Half-whole diminished	R b2 b3 3 b5 5 6 b7	Eight notes, symmetrical, repeats every three frets
Whole tone	R 2 3 b5 b6 b7	Six notes, no half steps, floating and seasick

E Phrygian dominant on the low strings `labels are scale degrees`



Frets 0, 1, 4, 5 on the low string. The jump from fret 1 to fret 4 is the sound.

Ex 8.1 **Phrygian dominant riff** `4/4 · standard tuning · 90 to 140 bpm · palm mute`

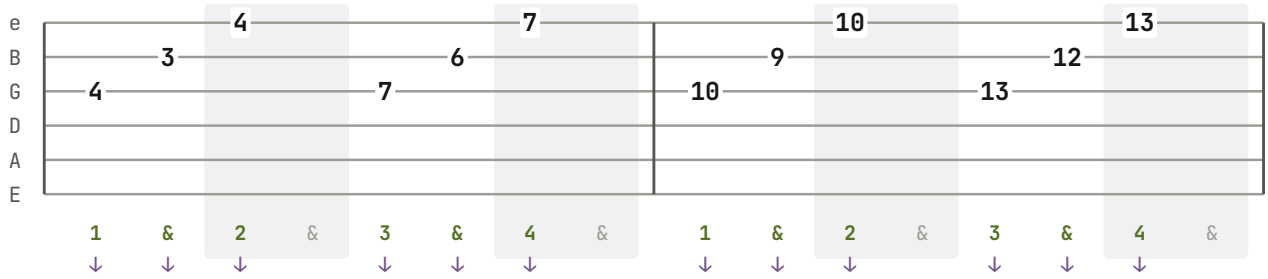


E, F, G# and A on one string. Release the mute on the G#.

The diminished shape

A diminished seventh chord repeats itself every three frets. Learn one small shape and slide it. Instant tension, widely used to climb into a solo or out of a breakdown.

Ex 8.2 **Diminished climb** 4/4 · standard tuning · 70 to 120 bpm

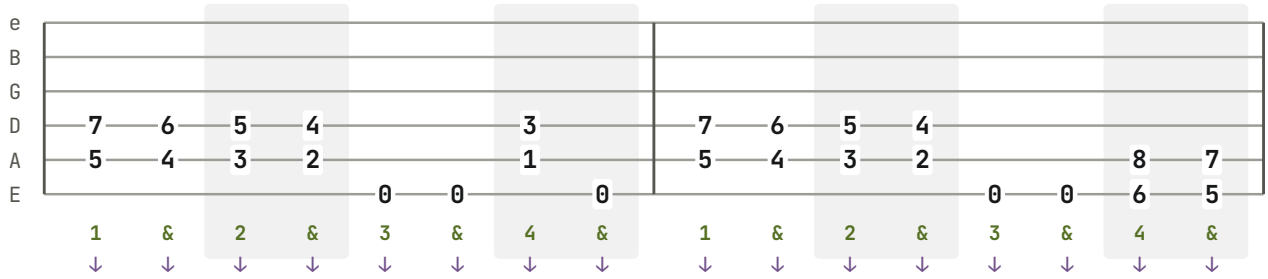


The same three-note shape moved up three frets each time. Every note comes from the same four: B, D, F and G#.

Chromatic riffs

Some of the heaviest riffs ignore scales entirely. Scales have feelings about this. Ignore those too. Slide a power chord down one fret at a time, then slam back to the open string. The rule is that the rhythm and the home note have to be strong enough to hold it together.

Ex 8.3 **Chromatic descent** 4/4 · standard tuning · 90 to 150 bpm



D5 sliding down to B5 by half steps, then the open E. Bar 2 ends with Bb5 to A5.

> STEAL FROM SLAYER
>
> Chromatic movement, the tritone and the b2, with no attempt to sound pretty. If a riff sounds too polite, move one chord a half step in either direction and see what happens.

> THE DRIFT SAYS
>
> *Diminished chords are how old films told you the villain had tied someone to the train tracks. Still works. Still filthy.*

Root motion has a mood

Where the root goes next matters more than which scale you are in.

ROOT MOVES	EXAMPLE FROM E	MOOD
Up a half step (bII)	E to F	Threat, tension
Up a minor third (bIII)	E to G	Heavy, classic rock and metal
Tritone (bV)	E to Bb	Evil, unstable
Up a minor sixth (bVI)	E to C	Epic, doom
Down a whole step (bVII)	E to D	Rock, open road
Chromatic descent	E, Eb, D, C#	Sinking, dread
Up a fourth (IV as a major chord)	E minor to A major	Dorian lift, sudden light

Harmonising a line

To write a harmony part, move every note of the melody up two steps within the scale. In A minor that gives these pairs.

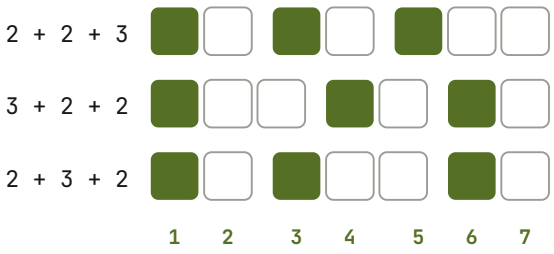
MELODY NOTE	A	B	C	D	E	F	G
Harmony a third above	C	D	E	F	G	A	B

Some of those thirds are three frets and some are four. That is correct: the scale decides. A harmony that keeps the same fret distance all the way sounds more sinister, and is also a valid choice.

Odd bars

Thrash and hard rock mostly live in 4/4, with the occasional bar that has a beat cut off or added. The listener stumbles, and the riff feels faster or heavier for it.

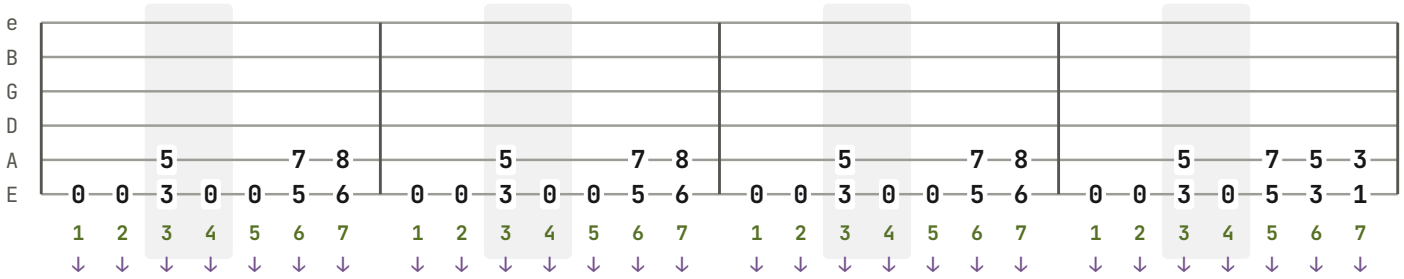
Three ways to feel 7/8



Seven eighth notes: a bar of 4/4 with the last eighth removed. Clap the green cells while counting.

Ex 8.4 A riff with a beat missing

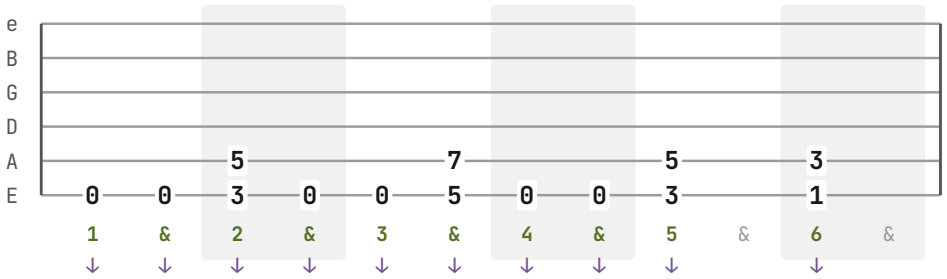
`7/8 · standard tuning · 160 to 240 (eighths) bpm · palm mute the open E`



A, A, A, B. The shaded block is the group of three. Tempo counts eighth notes.

Ex 8.5 A riff with a tail

`6/4 · standard tuning · 100 to 150 bpm · palm mute the open E`



A normal bar of four with two extra beats on the end. Use it as the last bar of a phrase to delay the return.

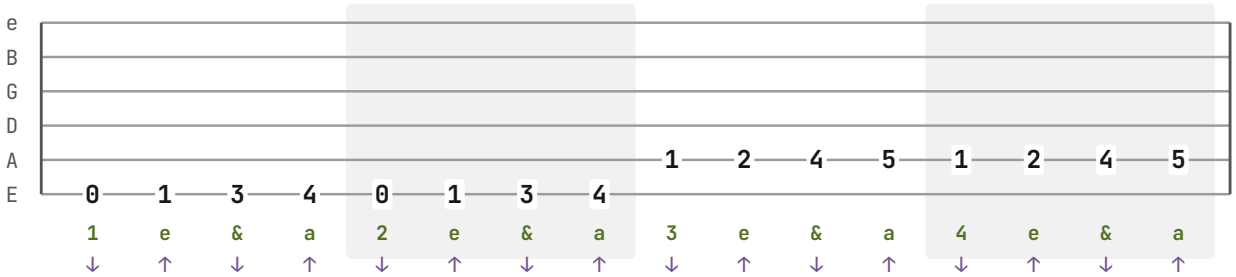
Changing key for the solo

A solo section in a new key feels like a new room. Three reliable moves, all visible on the circle of fifths:

MOVE	EXAMPLE	EFFECT
Up a fourth	Riffs in E minor, solo in A minor	Lifts without surprising anyone
To the relative major	E minor to G major	Suddenly bright and melodic
Up a whole step	E minor to F# minor	Raises the energy for a final section

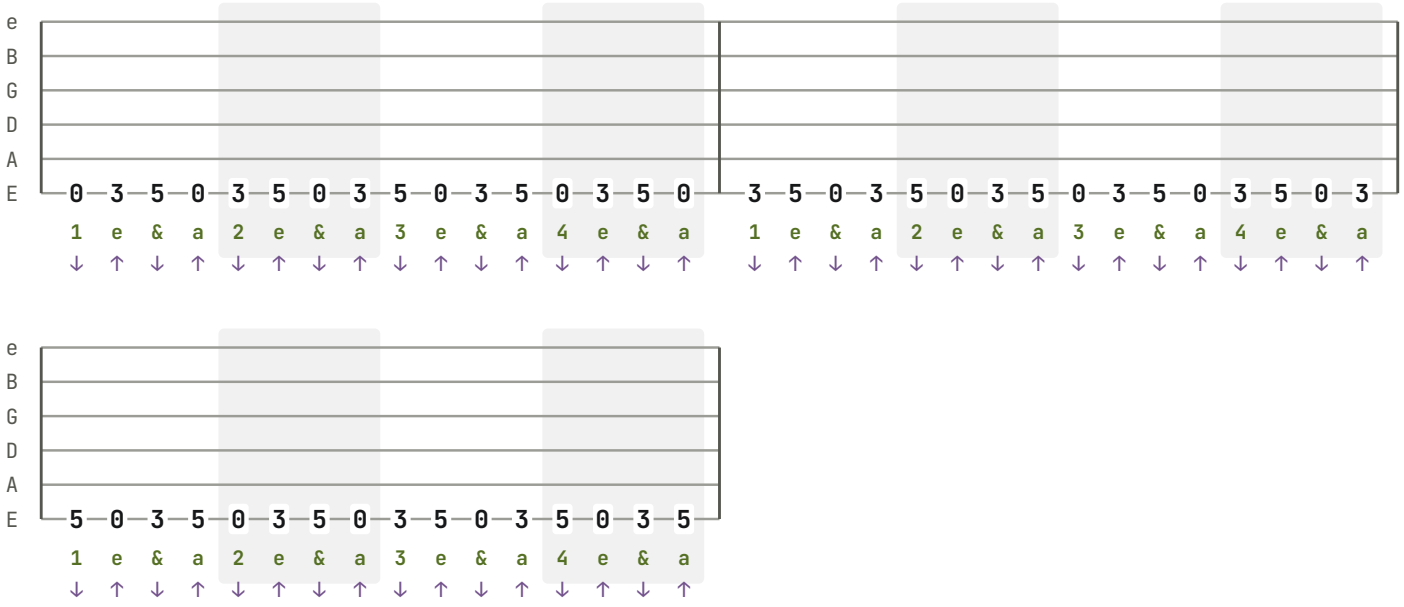
More colour, more time

Ex 8.6 **Half-whole diminished riff** 4/4 · standard tuning · 70 to 120 bpm



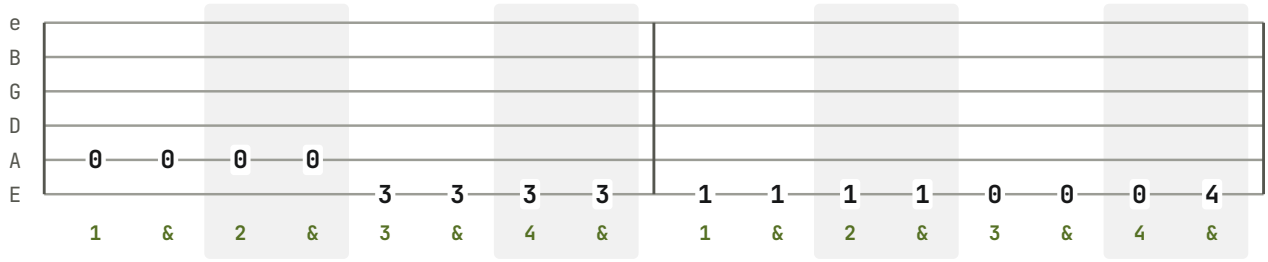
The pattern is one fret, two frets, one fret, two frets, all the way up. Unsettling, and it never resolves.

Ex 8.7 **Three against four** 4/4 · standard tuning · 70 to 110 bpm · palm mute



A three-note cell in constant sixteenths. It lines up with the beat again after three bars. Tap your foot on the beat and do not follow the riff.

Ex 8.8 **Descending minor cadence** 4/4 · standard tuning · 90 to 140 bpm



Roots A, G, F, E. The last note, G#, is borrowed from harmonic minor and pulls hard back to A.

Borrowing chords

A riff in a minor key can borrow one chord from a neighbouring scale for a single bar. Each loan has a reliable effect.

BORROWED CHORD	BORROWED FROM	IN E MINOR	EFFECT
bII	Phrygian	F	Threat
IV (major)	Dorian	A major	Lift, daylight
V (major)	Harmonic minor	B major	Strong pull back to the root
bV	Locrian, blues	Bb	Sour, heavy
I (major)	Parallel major	E major	Triumphant ending

Analyse a song you love

Pick one song and answer these on paper. Twenty minutes of this teaches more than a week of scales.

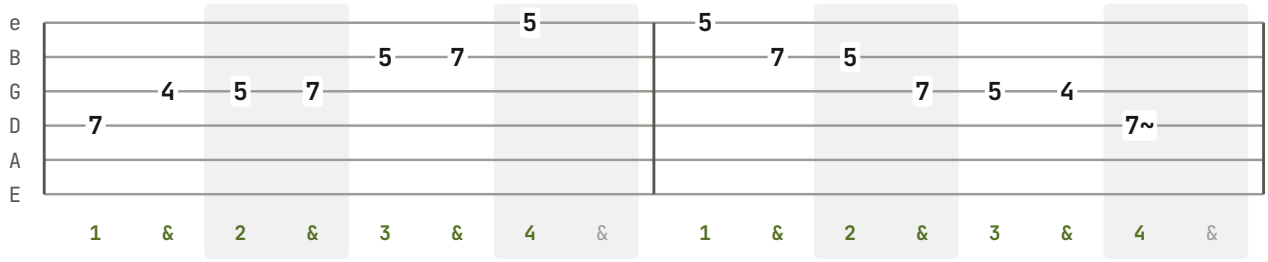
QUESTION	WHY IT MATTERS
What is the key and the home note?	Everything else is measured from it
How many riffs are there, and how long is each?	Shows how little material a song needs
Which riff notes are outside the scale?	Those are the colour notes. Steal the idea, not the notes
Where does the feel change, and how is it set up?	Transitions are a skill of their own
What does the rhythm section do under the solo?	Usually less than you think
Where is the loudest moment, and what came before it?	Contrast, every time

Which scale over which riff

Look at the riff's notes against its home note and the table tells you what to solo with.

THE RIFF USES	SOLO WITH	WHY
Only power chords in the key	Minor pentatonic or natural minor	Safe and strong
A b2 chord (E5 to F5)	Phrygian, or pentatonic avoiding the 2	The natural 2 would clash
A major IV chord (Em riff with A major)	Dorian	Its natural 6 is the third of that chord
A major V chord (Am riff with E major)	Harmonic minor over that chord	The raised 7 is the third of the V
A b5 chord	Blues scale	It already contains the b5
Chromatic chaos	Anything played with conviction	Rhythm and shape matter more than notes

Ex 8.9 **Dorian lick** 4/4 · standard tuning · 70 to 120 bpm



A, B, C, D, E, F#, A. The F# is the Dorian note. Over an A minor riff it sounds bluesy and confident.

Chapter 8 check

- [ ] Play E Phrygian dominant on the low string and name the note that defines it
- [ ] Slide the diminished shape up four positions in time
- [ ] Harmonise a four-note melody a third above in A minor
- [ ] Count and play the 7/8 riff without losing the downbeat
- [ ] Name three keys a solo could move to from E minor

CHAPTER 9

WRITING WHOLE SONGS

RIFF WRITING

A riff inventory

A thrash song is four or five riffs in the right order. So is a terrible one. The order is the difference. Before arranging anything, write the set. They should share a key or a pedal note so they sound like one song.

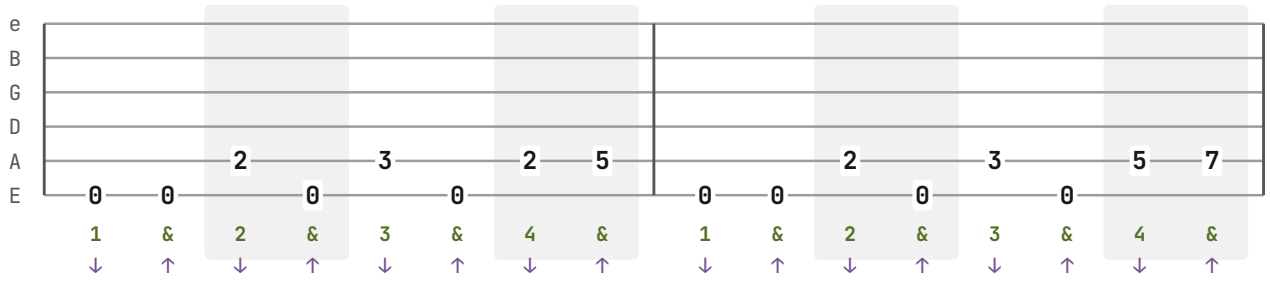
RIFF	JOB	TYPICAL CHARACTER
A	Intro and verse	Fast, palm-muted, gallop or straight sixteenths
B	Pre-chorus	Chords, rising, less muting
C	Chorus	Open power chords, simplest rhythm, room for the vocal
D	Mosh part	Half time, big spaces
E	Solo bed	Simple and steady, often in a new key

Ways to develop one riff

You do not need five unrelated ideas. Write two and make the rest from them.

TOOL	WHAT YOU DO	EXAMPLE
Repetition	Play it again, exactly	More useful than you think
Truncation	Cut the last eighth or beat off	Ex 9.2
Half time	Same notes, half the density	Riff A becomes riff D
Double time	Same chords, twice the picking	Verse riff becomes the outro
Transposition	Move the whole riff up a fourth	Second half of the verse
Harmony	Second guitar a third above	Ex 9.3
Open it up	Remove the palm mute and hold the chords	Verse riff becomes the chorus
Displacement	Start the same notes one eighth later	Pre-chorus tension

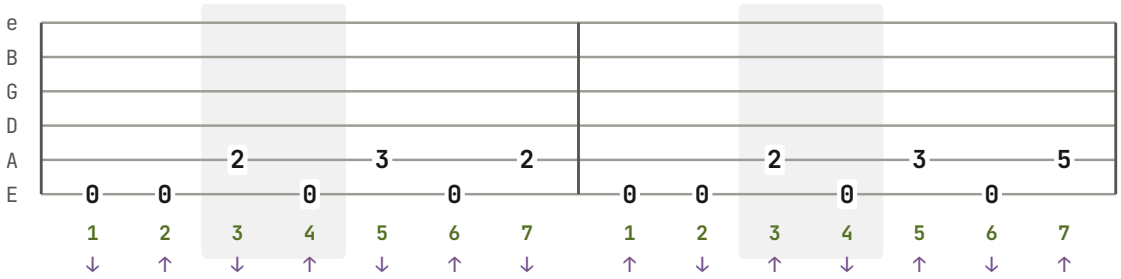
Ex 9.1 **Base riff** 4/4 · standard tuning · 120 to 180 bpm · palm mute the open E



Open E pedal with B, C and D on the A string. Bar 2 climbs to E at the end.

Ex 9.2 Truncated to seven

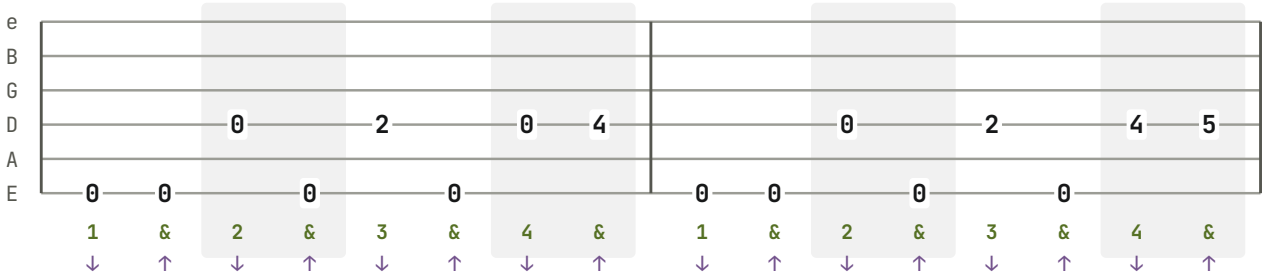
7/8 · standard tuning · 240 to 360 (eighths) bpm · palm mute the open E



The same riff with its last eighth note removed. It now turns around early and sounds more urgent.

Ex 9.3 Harmony for the base riff

4/4 · standard tuning · 120 to 180 bpm · palm mute the open E



Second guitar. The pedal stays the same. Each melody note moves up a third: B to D, C to E, D to F#, E to G.

> **STEAL FROM MEGADETH**
>
> Lots of riffs, each one precise, and transitions that turn on a single beat. The discipline is that every riff relates to the one before it. Check each new riff against the inventory table before it goes in.

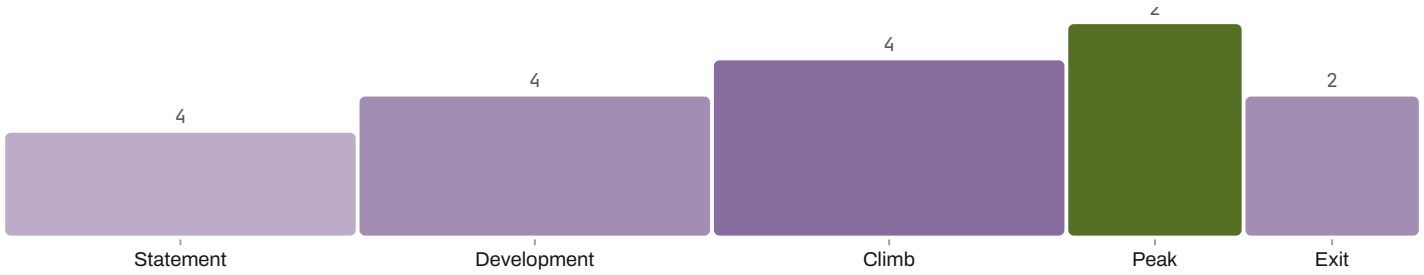
Two guitars, three arrangements

ARRANGEMENT	GUITAR 1	GUITAR 2	USE IT FOR
Unison	The riff	The same riff	Verses, maximum tightness and weight
Harmony	The riff or melody	A third above	Intros, pre-choruses, the end of a solo
Layered	Low chugging riff	Held chords or a melody an octave up	Choruses and builds

The shape of a solo

A good solo has an arc. Plan it in four-bar blocks before you play a note.

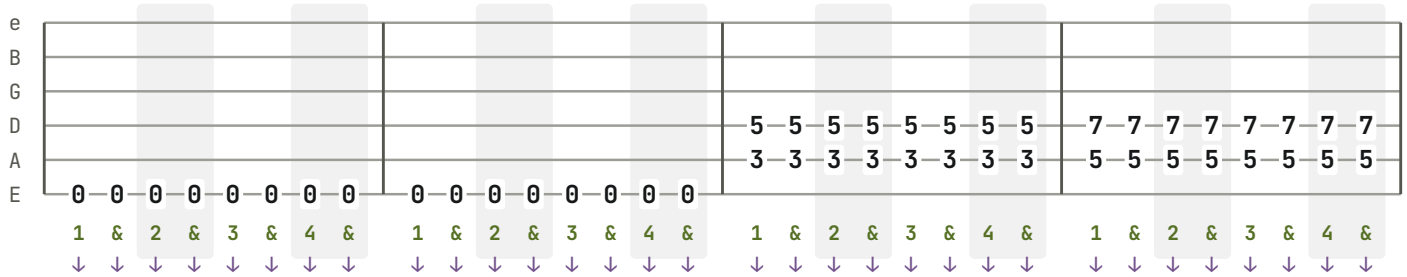
A sixteen-bar solo `block width = bars · height = intensity`



Start with a melody someone could sing. Add speed in the middle. Put the highest note and the fastest run in bars 13 and 14. Leave with a phrase that hands the song back.

BLOCK	WHAT TO PLAY	TOOLS
Statement	A singable phrase with space	Bends, vibrato, pentatonic box 1
Development	The same idea higher or busier	Box 2, slides, legato
Climb	Rising sequences	Three notes per string, pedal point
Peak	The fastest or highest moment	Sweeps, tapping, a long bend at the top
Exit	A short phrase landing on the root	Harmony line or a pinch harmonic

Ex 9.4 **A solo bed** `4/4 · standard tuning · 120 to 180 bpm · palm mute`



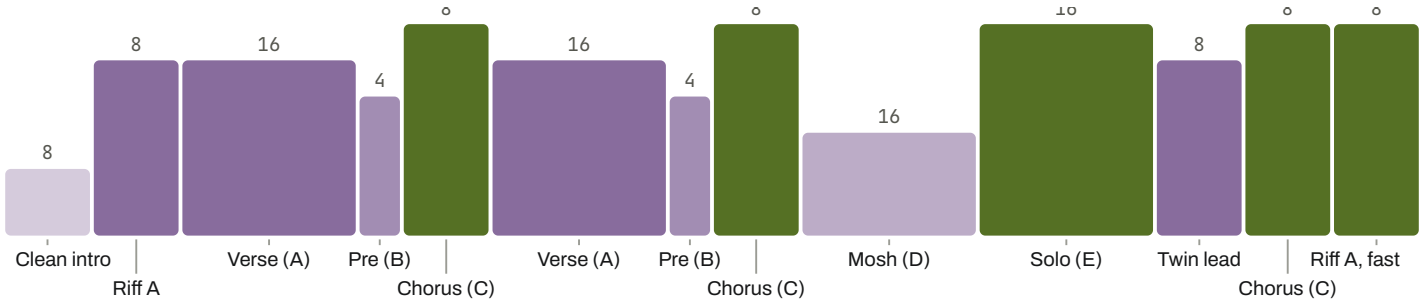
Two bars of E, one of C5, one of D5. A solo needs a rhythm part that stays out of the way. Record this for two minutes and solo over it.

> **THE HAZE SAYS**
>
> *Nobody asked for your seven-minute epic. Write it anyway. Then cut the two minutes in the middle that are clearly just you having a wank.*

Shape over a whole song

Plan the intensity before you arrange the riffs. Peaks only work if something lower came before them.

A five-riff thrash song `block width = bars · height = intensity`



The clean intro and the mosh part are the two valleys. Everything else earns its volume from them.

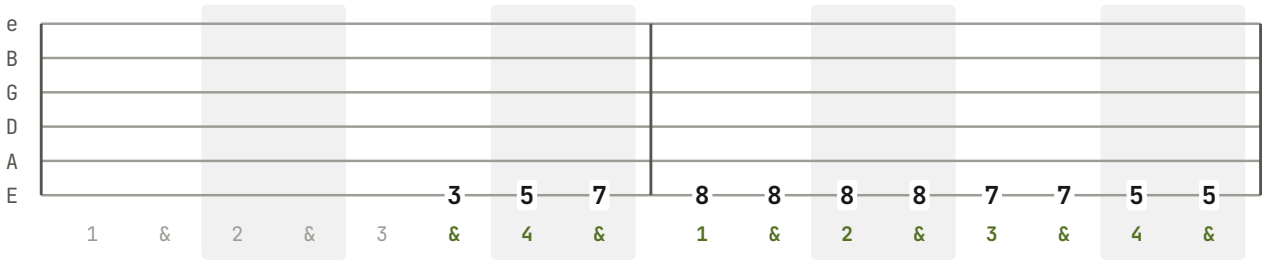
- **Earn the peak.** Hold back the twin lead, the key change and the fastest tempo until late.
- **One change at a time.** Each section adds or removes one element.
- **Transitions matter.** A one-bar drum fill, a held chord with feedback, or a pick scrape tells the listener a new riff is coming.
- **End on purpose.** Stop dead on the riff, or ring out the last chord and let it feed back.

Transitions

Two good riffs with a bad join sound like two songs. Or one song having a stroke. Pick a transition on purpose.

TRANSITION	WHAT HAPPENS	BEST BEFORE
Pickup	Three or four notes that lead into the new riff	A faster section
Hard stop	One beat of silence	A breakdown or a chorus
Held chord	Ring out for a bar, maybe with feedback	A tempo change
Drum fill only	Strings drop out for one bar	The solo
Riff preview	The new riff played once, alone, quietly	A big full-band entrance
Shared note	End the old riff on the first note of the new one	Key changes

Ex 9.5 **Pickup into a new riff** 4/4 · standard tuning · 100 to 160 bpm



Rest, then three rising notes land you on the new root. The pickup belongs to the new section, not the old one.

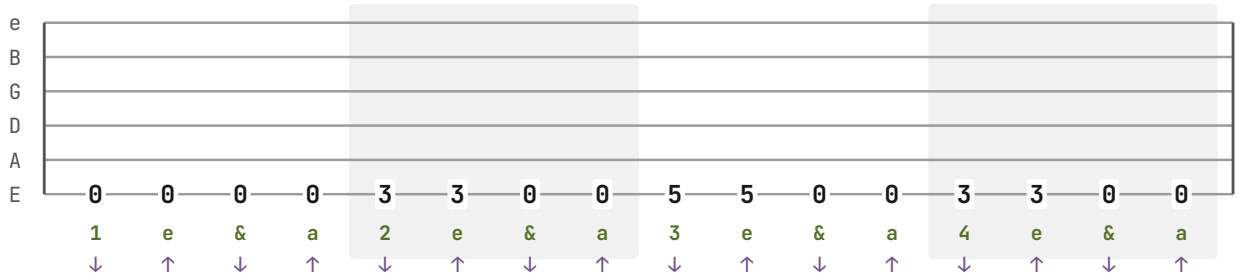
One riff, three feels

Before writing a new riff for the next section, try the current one at a different density.

Ex 9.6 **Straight** 4/4 · standard tuning · 100 to 150 bpm · palm mute

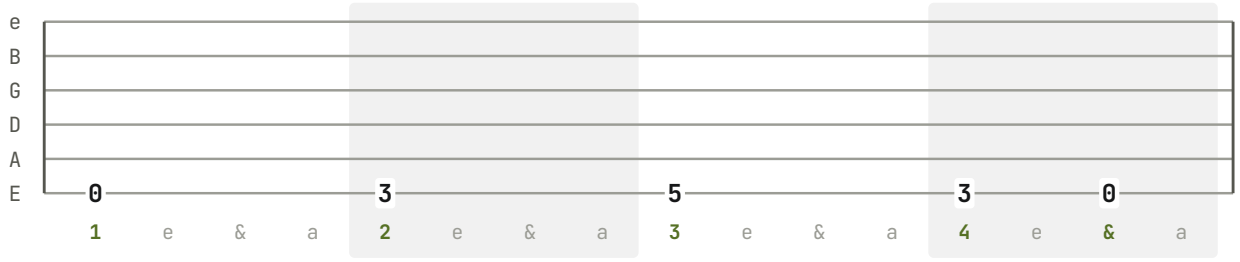


Ex 9.7 **Double time** `4/4 · standard tuning · 100 to 150 bpm · palm mute`



Every note twice. Same harmony, twice the urgency.

Ex 9.8 **Half time** `4/4 · standard tuning · 100 to 150 bpm`



A quarter of the notes. Same harmony, four times the weight.

Finishing

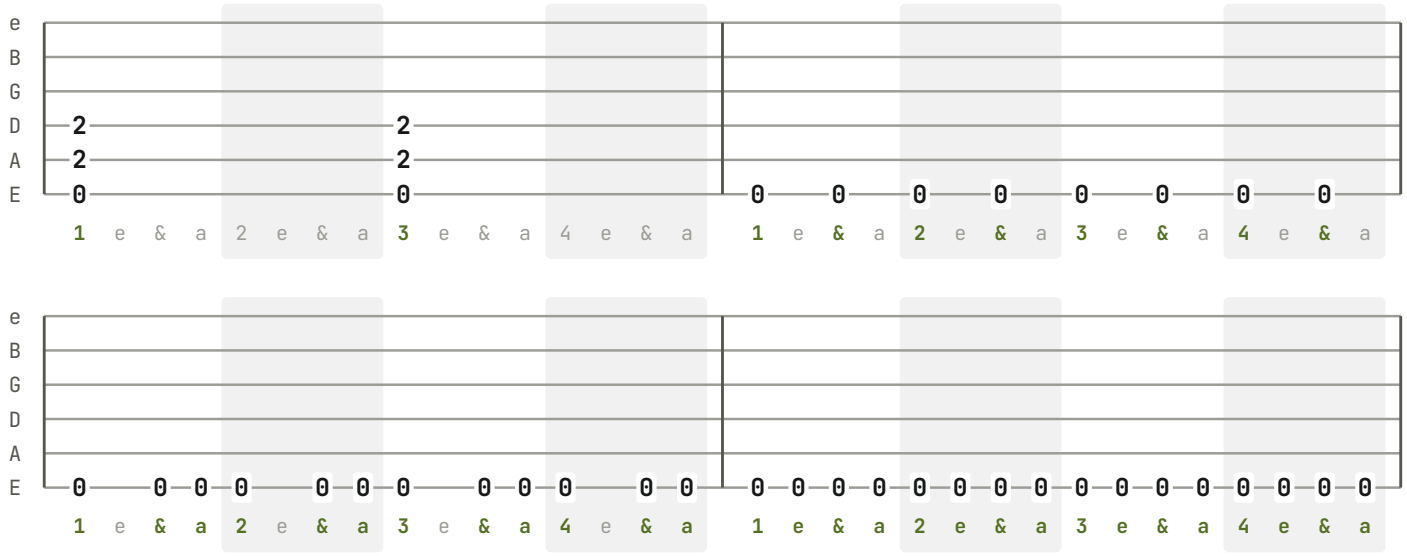
Most riffs die in a phone recording called New Recording 47, between a grocery list and a voice memo of somebody's kid screaming. Finishing is a separate skill, and it has steps.

1. Choose your best riff and decide its job.
2. Make two more sections from it with the development tools.
3. Draw the form map. Mark one peak.
4. Record a rough version of the whole thing in one sitting.
5. Listen the next day. Cut the section you skip in your head.
6. Fix the transitions. Record it again. Call it done. It is not perfect. Neither are you. Ship it.

Rhythm guitar under a solo

The rhythm part should grow with the solo. Start by getting out of the way.

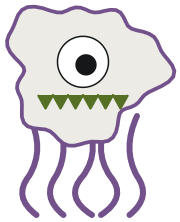
Ex 9.9 **A solo bed that builds** 4/4 · standard tuning · 100 to 160 bpm · palm mute from bar 2



Held chords, eighths, gallop, sixteenths. One bar each here; in a real solo give each stage four bars.

Ways to end a song

ENDING	HOW	FEELS LIKE
Dead stop	Everyone cuts on beat 1	Confident, aggressive
Ring out	Last chord held with feedback	Big, final
Bookend	The intro returns, alone	Complete, thoughtful
Slow down	Last riff repeated, slower each time	Doom, collapse
Fake ending	Stop, two beats of silence, one more chorus	Live favourite



BOSS FIGHT

THE HAZE

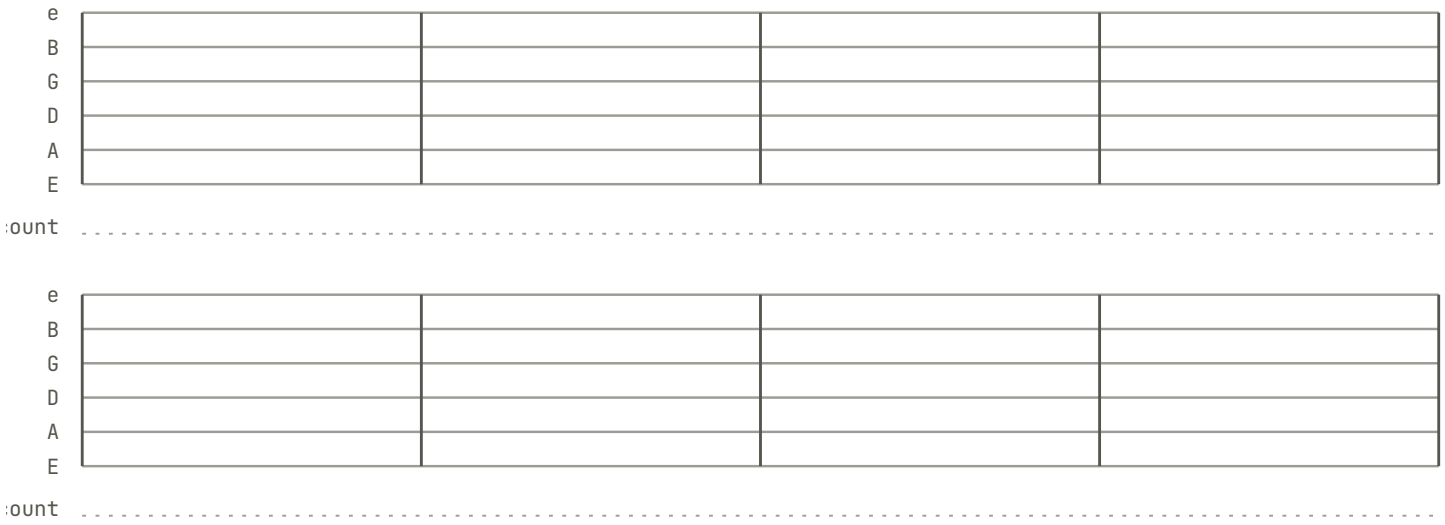
The last one. It has heard every riff you have written and it wants a whole song. Bring one with a shape. Bring a towel as well.

THE CAPSTONE: WRITE A SONG

- [ ] Riff A: a fast palm-muted verse riff
- [ ] Riff C: a chorus made by opening riff A up, or a contrasting chord riff
- [ ] Riff D: a half-time mosh part built from the same notes
- [ ] A sixteen-bar solo planned in blocks, over its own bed
- [ ] One harmony line for two guitars
- [ ] Draw the form map before recording
- [ ] Record all of it, even badly, start to finish

Write it — Capstone: riffs A and C

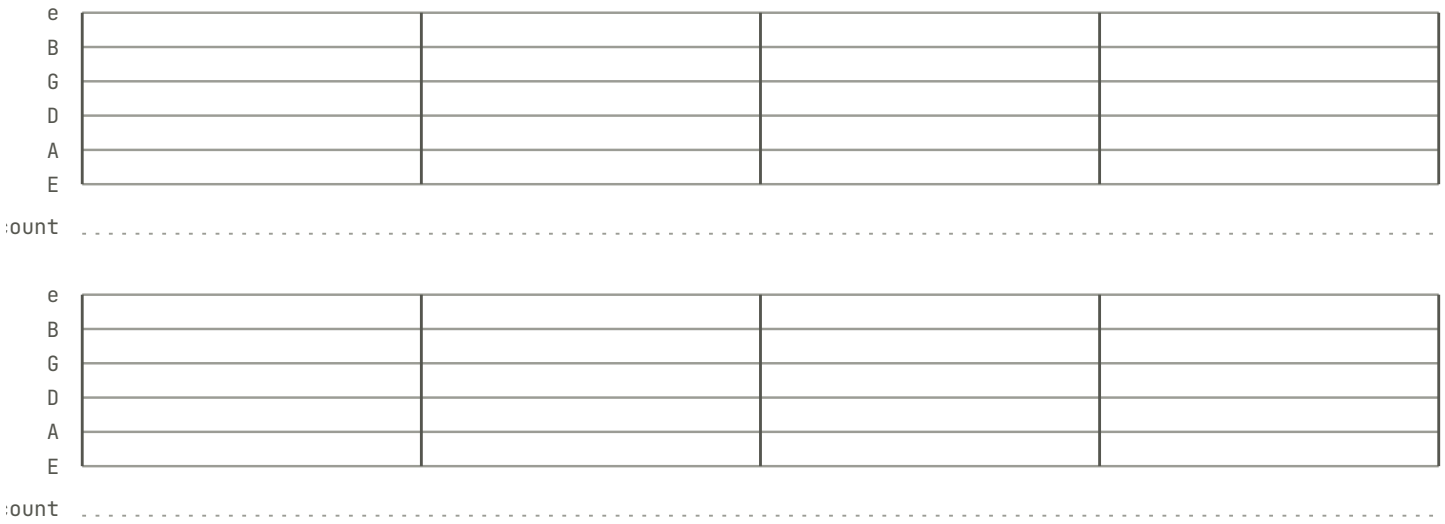
TITLE _____ KEY AND TEMPO _____ COLOUR NOTE _____



Print this page and pencil it in, or open Tab Lab on the site and save the riff there.

Write it — Capstone: riff D and the solo plan

DEVELOPMENT TOOLS USED _____ SOLO KEY _____ LENGTH (BARS) _____



Print this page and pencil it in, or open Tab Lab on the site and save the riff there.

PART IV

WORKSHOPS

Six side quests. None is required to beat a boss. All of them make you better at the main game. Think of them as the side rooms with the good loot and the weird smell.

TONE AND GEAR

Good tone is mostly your hands, then the amp settings, then everything you can buy. Start with what costs nothing. This will not stop you buying things. Nothing will. But you were told.

Where and how you pick

CHANGE	RESULT
Pick near the bridge	Tight, bright, more attack. Best for fast rhythm
Pick near the neck	Round and warm. Good for clean parts and slow leads
Thicker pick (1 mm and up)	More control and a harder attack at speed
Bridge pickup	Bite and clarity. Rhythm, pinch harmonics, fast leads
Neck pickup	Smooth and vocal. Clean arpeggios, legato, slow bends
Guitar volume rolled back to 6	Cleans up the sound without touching the amp

Starting amp settings

Knobs run 0 to 10. These are places to start, not rules.

SOUND	GAIN	BASS	MID	TREBLE	NOTES
Thrash rhythm	7	6	4	7	Tight low end. Too much gain blurs fast picking
Doom	8	7	6	5	Fuzzier and darker. Let chords sustain
Groove and blues rock	5	5	7	6	Mids carry the riff. Less gain than you think
Hard rock	6	5	6	6	Balanced, with room for the vocals
Lead	7	5	7	6	More mids so the solo cuts through
Clean	2	5	5	6	Neck pickup, a little chorus or reverb

> **The scooped-mids trap.** Turning the mids right down sounds huge alone in a bedroom and disappears in a band. The guitar lives in the midrange. Keep some. Scooped mids are the comb-over of guitar tone: it fools nobody but the owner.

A typical guitar signal chain



An overdrive pedal with its gain low and level high, in front of an already distorted amp, tightens palm mutes. Delay and reverb sound clearest after the distortion.

Ex T.1 **Tone test riff** `4/4 · standard tuning · 100 to 140 bpm · palm mute the open E`



Play this while you change one knob at a time. Listen for three things: are the mutes tight, do the chords ring clearly, does the harmonic squeal.

FRETROT SAYS

Change your strings. I can smell them from here. That grey crust is dead skin, sweat and bar nachos, and it is eating your tone. Delicious, though.

Setup checks that change everything

- [ ] Strings less than a few months old, stretched and in tune
- [ ] Intonation: the note at fret 12 matches the harmonic at fret 12
- [ ] Action low enough to play easily, high enough not to buzz when you dig in
- [ ] Pickups not so close to the strings that notes warble

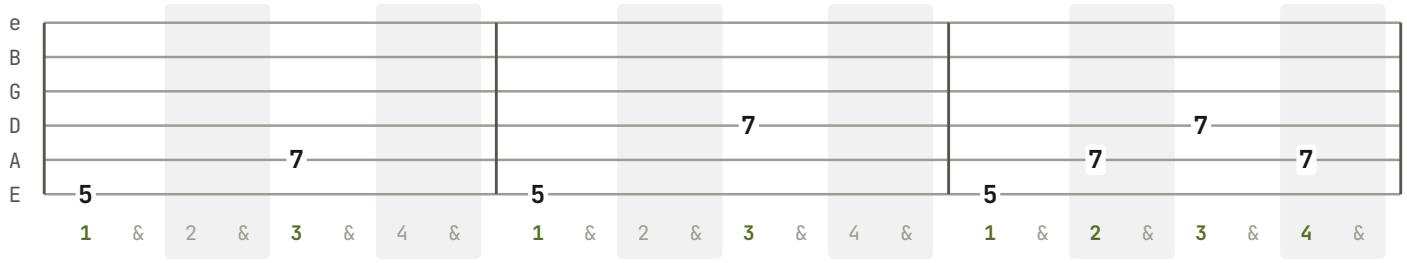
EAR TRAINING

Your ear is the part of you that writes riffs. Train it the same way as your hands: a few minutes, often.

Sing it, then play it

You do not need a good voice. You need to prove you can hear the note before your fingers find it.

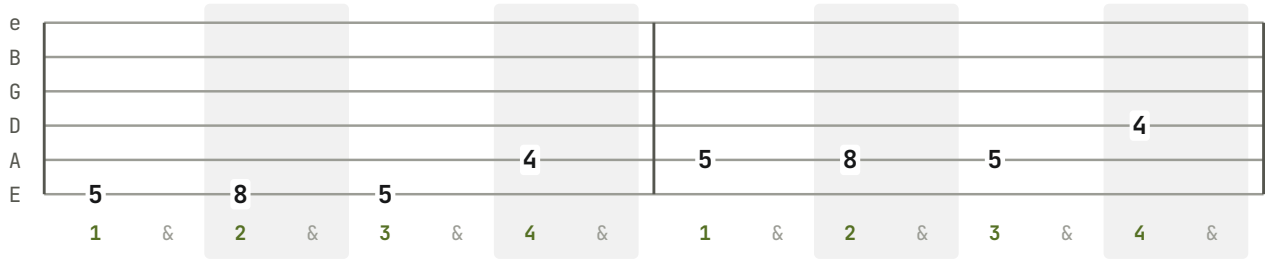
Ex E.1 **Root, fifth, octave: sing first** 4/4 · standard tuning · 60 to 80 bpm



Play the root. Sing the next note before you play it. Then check. Do this from three different roots.

Ex E.2 Minor third or major third

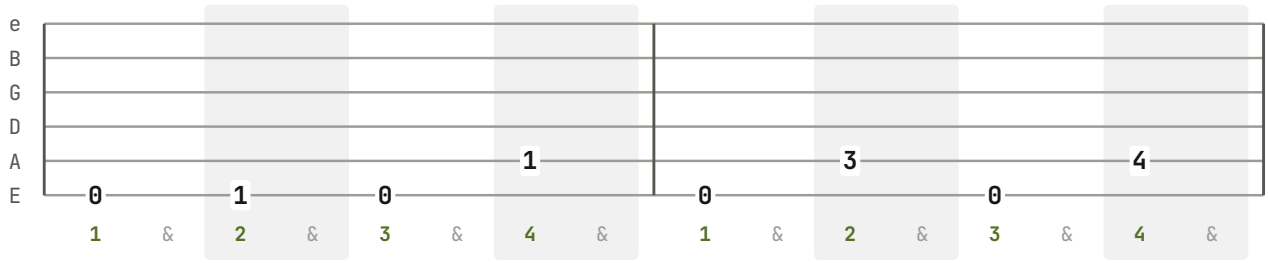
4/4 · standard tuning · 60 to 80 bpm



Root to minor third, root to major third. Close your eyes, have someone play one, and name it. This is the single most useful distinction in music.

Ex E.3 The colour notes

4/4 · standard tuning · 60 to 80 bpm



Against the open E: the b2 (F), the b5 (Bb), the b6 (C) and the natural 6 (C#). Learn each as a feeling, not a name.

INTERVAL	HOW TO RECOGNISE IT
Half step (b2)	Two notes grinding against each other
Minor third (b3)	Sad, the start of most minor riffs
Major third (3)	Bright, like the start of a fanfare
Fourth (4)	Hollow and strong, like a call to attention
Tritone (b5)	Wrong on purpose. A siren
Fifth (5)	A power chord played one note at a time
Octave (8)	The same note, higher

THE CLATTER SAYS

Sing it. Nobody is listening. And if they are, they have already heard you practise, so the damage is done.

Working out a riff by ear

1. Hum the riff until you can hum it without the recording.
2. Find the lowest, most repeated note. That is usually the home note.
3. Find the home note on your lowest two strings.
4. Work out the rhythm on that one note first.
5. Add the other notes one at a time. Most will be within three frets of home.
6. Check against the recording at half speed if you can.

Daily ear habits

- [ ] Sing the root of a song while it plays
- [ ] Name one interval a day from the table
- [ ] Work out one short riff by ear each week before looking it up

---

RHYTHM READING

You can play heavy music for life without reading notes. Reading rhythm is different: it lets you learn riffs faster, write them down, and talk to drummers.

Note lengths

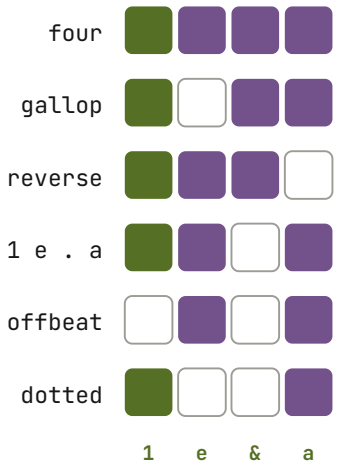
NAME	LENGTH IN 4/4	STEPS ON A SIXTEENTH GRID	COUNT
Whole note	4 beats	16	1 (2 3 4)
Half note	2 beats	8	1 (2)
Quarter note	1 beat	4	1
Eighth note	Half a beat	2	1 &
Sixteenth note	Quarter of a beat	1	1 e & a
Dotted quarter	1 and a half beats	6	1 (& 2)
Dotted eighth	Three quarters of a beat	3	1 (e &)
Eighth-note triplet	A third of a beat	grid of 12	1 & a

A **dot** adds half the note's length again. A **tie** joins two notes into one longer note. A **rest** is silence of the same length.

The six sixteenth-note cells

Almost every rhythm in this book is built from these one-beat cells. Learn to recognise each by sight and by sound.

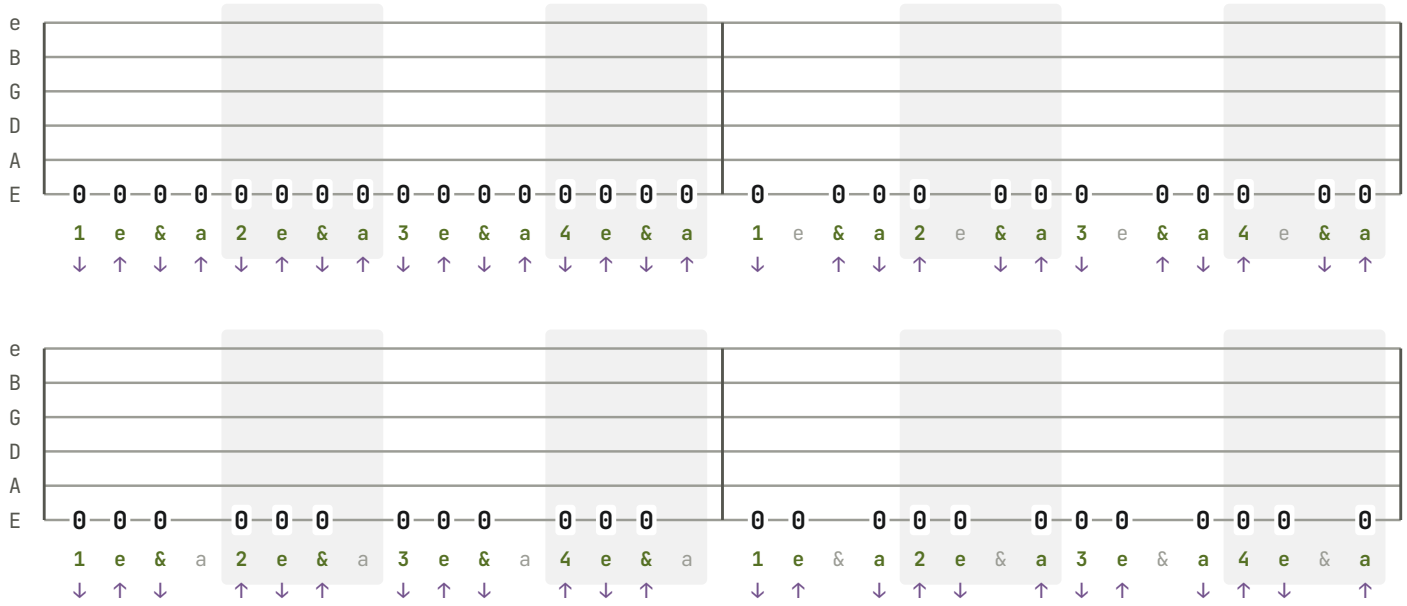
Six one-beat cells



Clap each row four times in a row with a metronome. Then clap two different rows back to back.

Ex R.1 One cell per bar

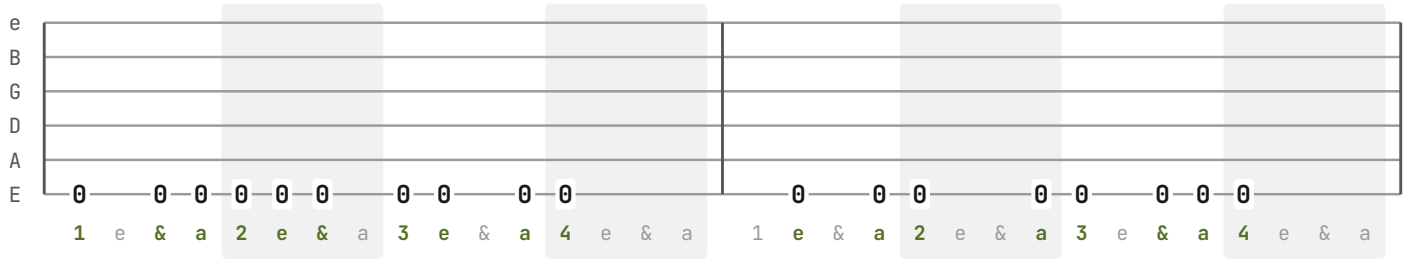
4/4 · standard tuning · 60 to 100 bpm · palm mute



Four, gallop, reverse gallop, and the 1-e-a cell. Say the count out loud the first few times.

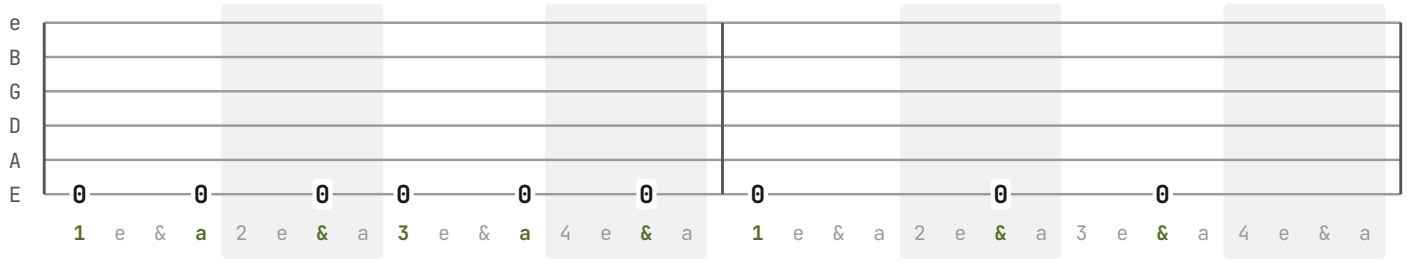
Ex R.2 Mixed cells

4/4 · standard tuning · 60 to 100 bpm · palm mute



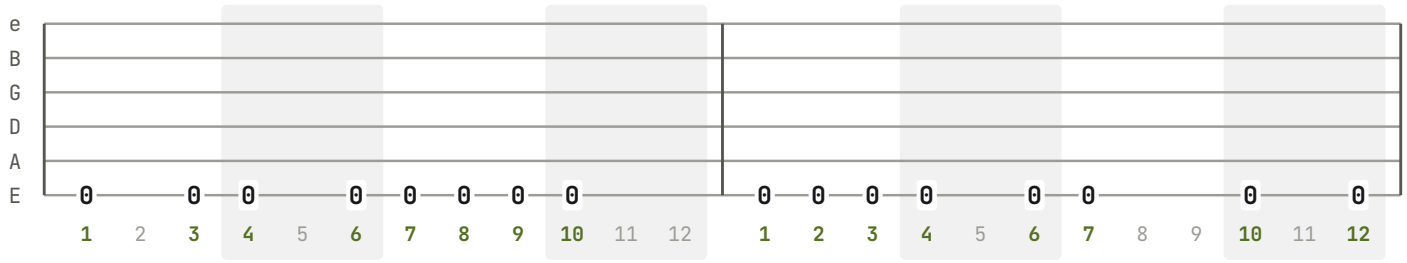
Read ahead one beat at a time. Name each cell before you play it. Bar 2 starts with a rest on the beat.

Ex R.3 **Dotted rhythms** `4/4 · standard tuning · 70 to 110 bpm`



Bar 1 is dotted eighths: three steps each, the 3+3+2 feel. Bar 2 is a dotted quarter, a quarter, and another dotted quarter: six steps, four steps, six steps.

Ex R.4 **Twelve-eight** `12/8 · standard tuning · 150 to 220 (eighths) bpm`



Four big beats, each split in three. Slow blues and a lot of doom live here.

Writing your riffs down

Use the blank staves in the riff journal. Write the count row first, mark which steps have a hit, then add fret numbers. If you can write it, you can remember it and share it.

LEAD GUITAR WORKSHOP

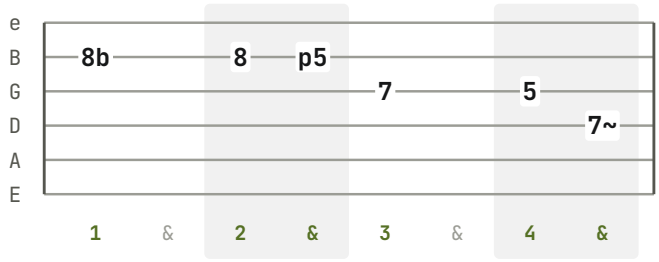
A solo is a short song inside the song. These studies are about phrasing: what to do with a few notes so they say something.

THE HAZE SAYS

Playing every lick you know in one solo has a name. It is called a guitar shop on a Saturday, and people get asked to leave.

Ex L.1 Bend, release, resolve

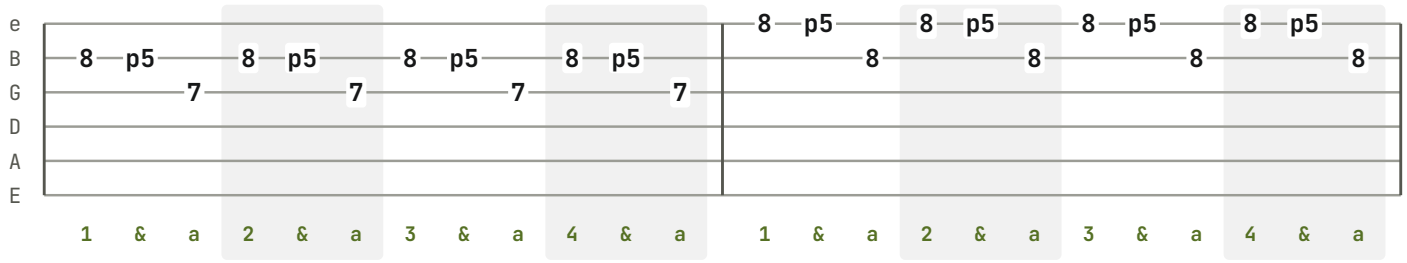
4/4 · standard tuning · 60 to 90 bpm



Up, back down, pull off, then walk to the root and hold it with vibrato. Most classic rock phrases are a version of this.

Ex L.2 Repeating licks

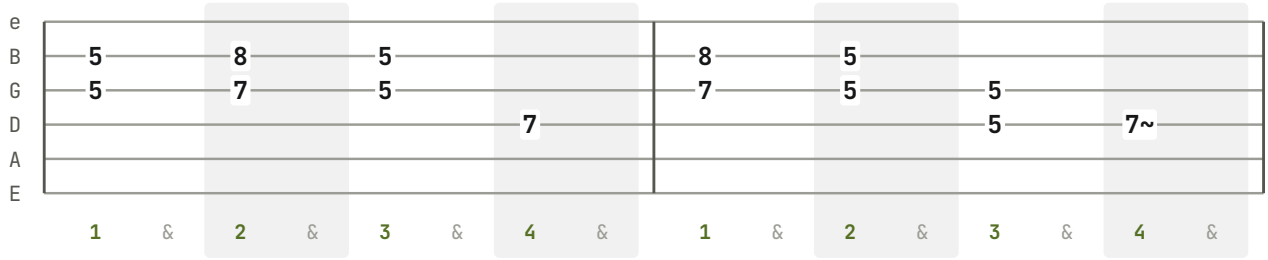
4/4 · standard tuning · 60 to 110 bpm



A three-note cell played over and over builds tension by itself. Move it up a string in bar 2. Stop the repeat with a long bend.

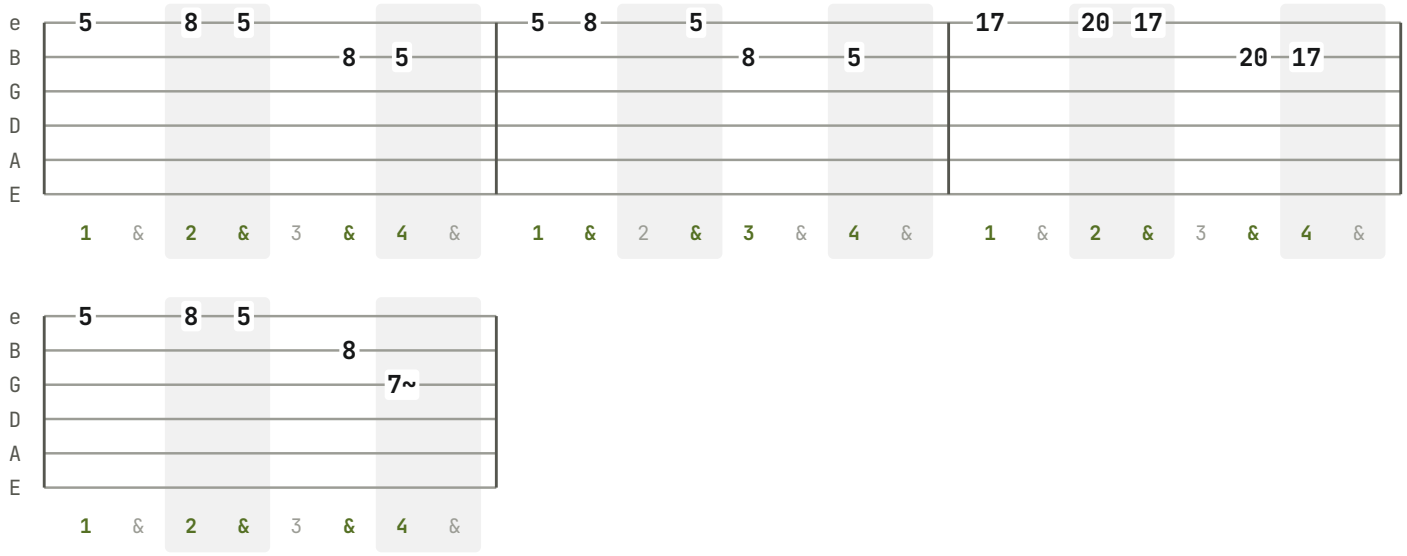
Ex L.3 Double stops

4/4 · standard tuning · 70 to 110 bpm



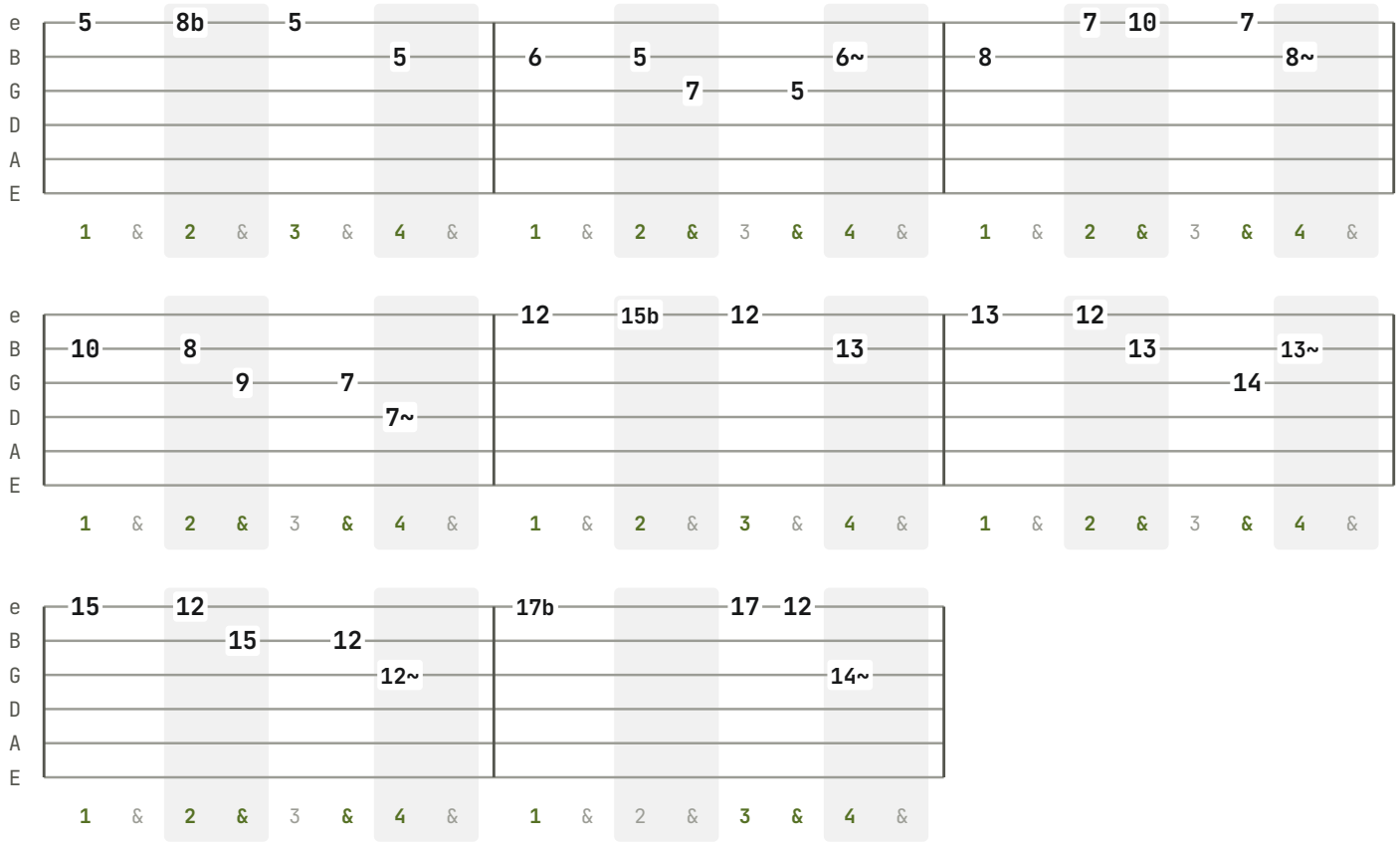
Two notes at once inside pentatonic box 1. Dig in with the pick. They sound thicker and meaner than single notes.

Ex L.4 **One motif, four ways** `4/4 · standard tuning · 70 to 110 bpm`



The original, the same notes with a new rhythm, the same lick an octave up, and the original with a new ending. That is a whole solo section from five notes.

Ex L.5 **Eight-bar solo study** 4/4 · standard tuning · 70 to 110 bpm



Over A minor, F, G, A minor, twice. Each phrase ends on a note of the chord underneath. Bars 5 to 8 repeat the shape of bars 1 to 4 an octave higher, and the last bar holds the highest bend.

HABIT	WHAT IT SOUNDS LIKE
Leave gaps	The listener gets to hear what you just played
Repeat yourself	A phrase played twice becomes a melody
End phrases on chord tones	The solo sounds like part of the song
Save the highest note	The peak has somewhere to go
Vibrato on every long note	The guitar sounds like a voice

BIGGER CHORDS

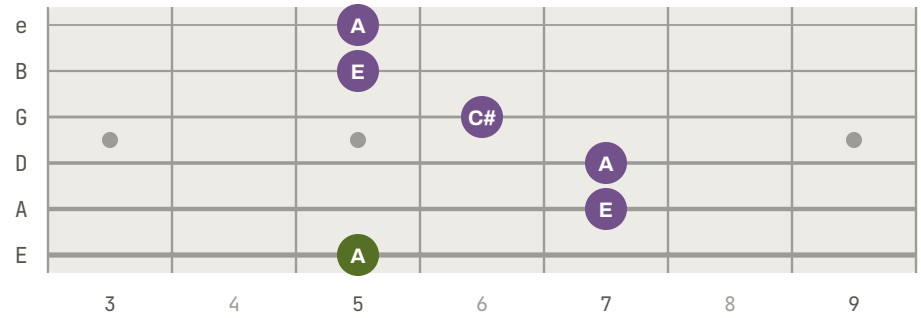
Power chords and open chords cover a lot. These shapes cover the rest: movable major and minor chords, suspended chords for colour, and the stacked-fifth shape that sounds huge under distortion.

Barre chords

Lay the index finger flat across all six strings and build an open-chord shape in front of it. The barre is a movable nut.

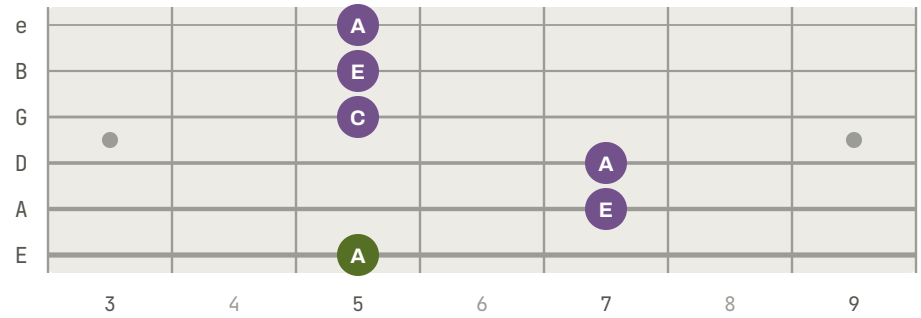
> **FRETROT SAYS**
> *Barre chords will hurt, buzz and sound like shit for about three weeks. Then one morning they will not. Nobody knows why. It is the closest thing guitar has to puberty.*

A major, E-shape barre at fret 5 `labels are note names`



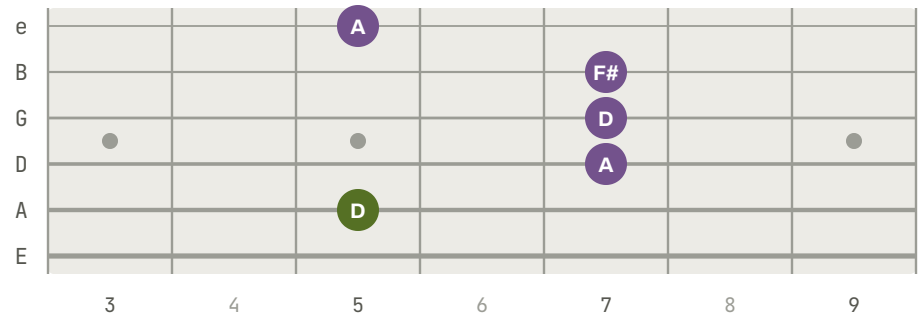
Move it anywhere. The root is under your index finger on the low E string.

A minor, E-shape barre at fret 5 `labels are note names`



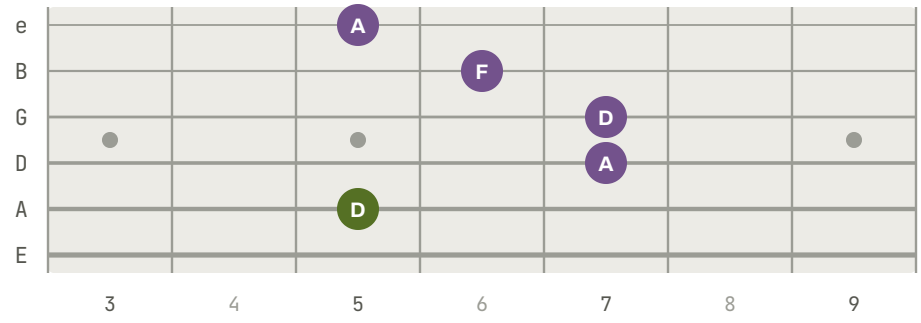
Lift one finger from the major shape. The note on the G string drops a fret.

D major, A-shape barre at fret 5 `labels are note names · do not play the low E`

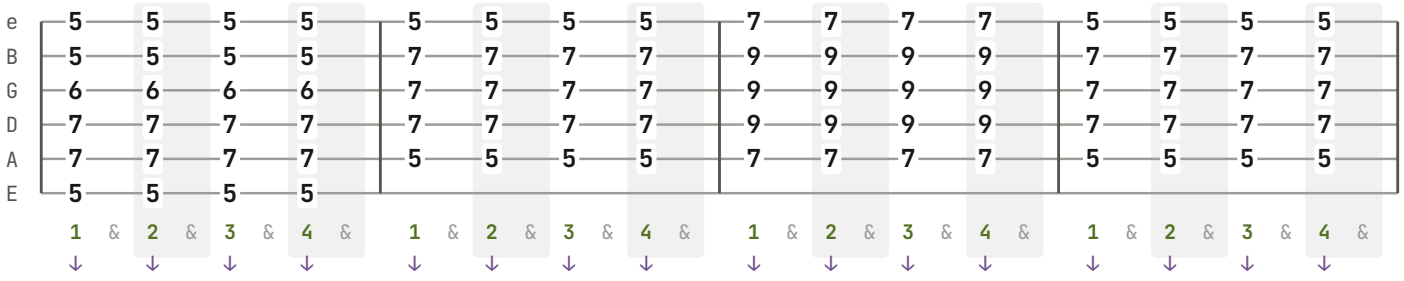


The root is on the A string. Flatten the ring finger across three strings, or use three fingers.

D minor, A-shape barre at fret 5 `labels are note names · do not play the low E`



Ex B.1 **Barre chord changes** `4/4 · standard tuning · 60 to 100 bpm`

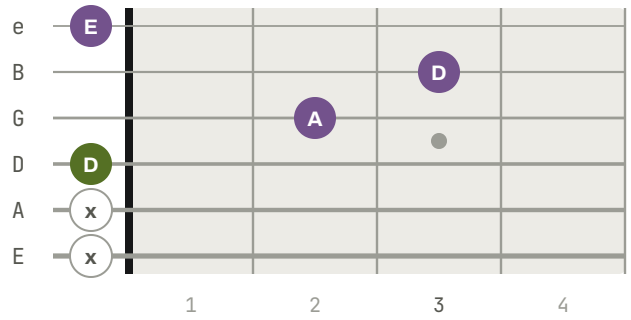


A, D, E, D. Squeeze only while the chord sounds and relax between strums, or the hand gives out in a minute.

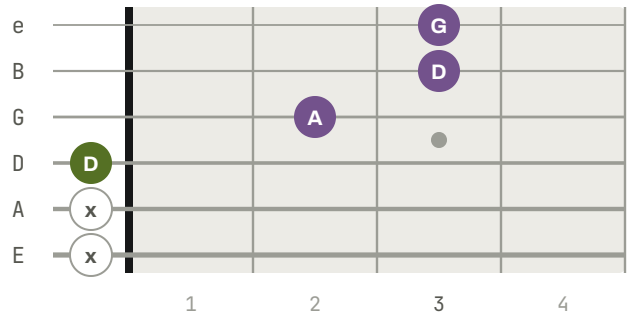
Suspended and seventh chords

Change one note of an open chord and it stops sounding finished. That unfinished quality is the point.

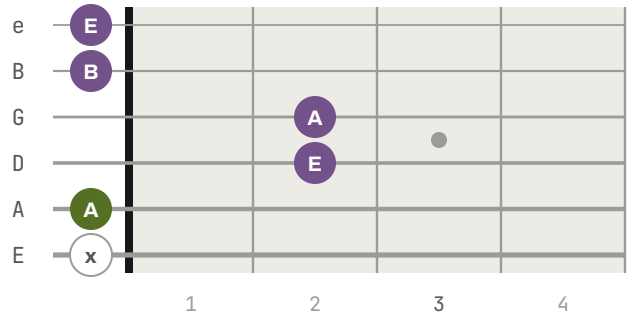
D sus2 labels are note names



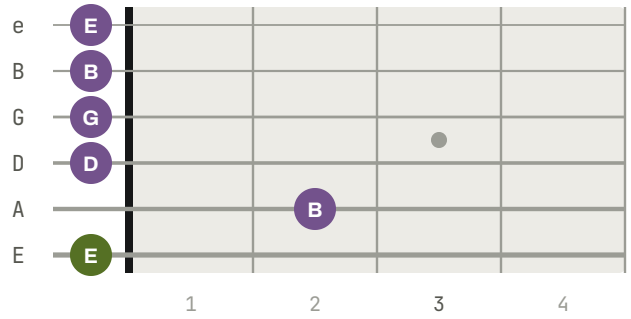
D sus4 labels are note names



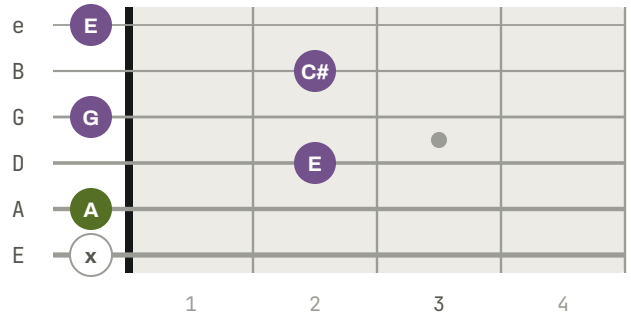
A sus2 labels are note names



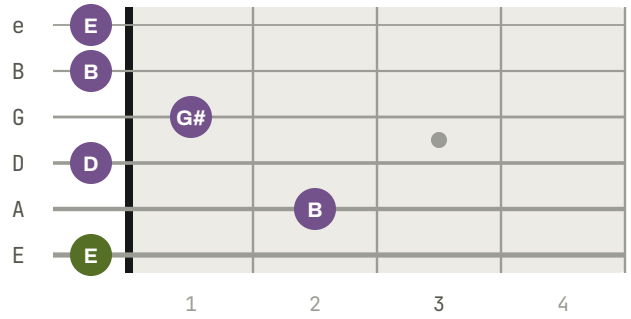
E minor 7 labels are note names



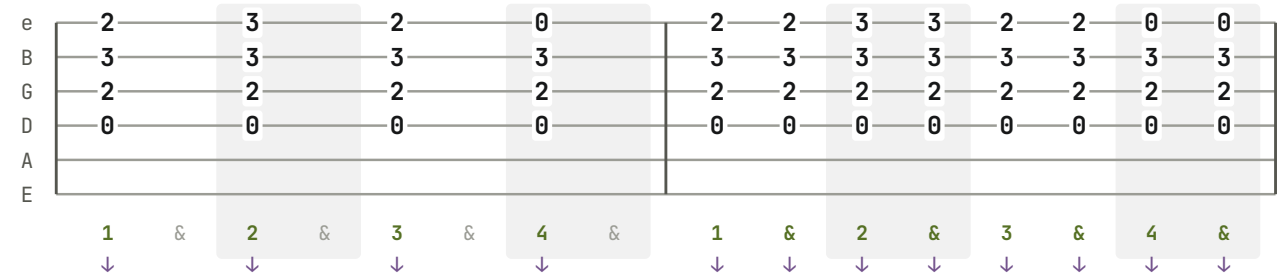
A7 labels are note names



E7 labels are note names



Ex B.2 **D, sus4, D, sus2** `4/4 · standard tuning · 70 to 120 bpm`

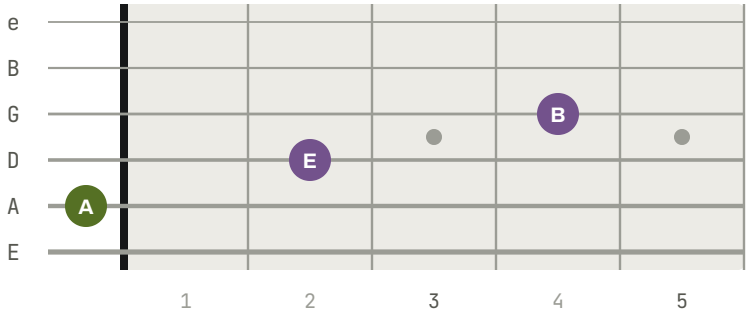


Only the pinky and the open string change. This move is all over hard rock intros and verses.

Stacked fifths

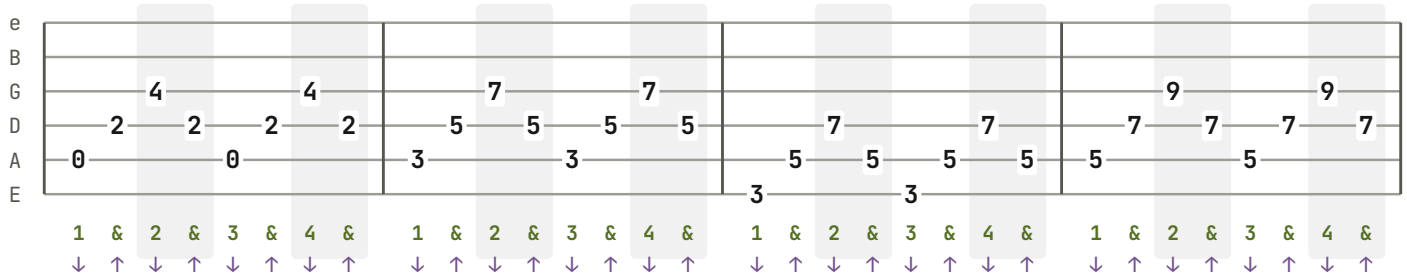
A power chord with another fifth on top. It is neither major nor minor, it survives heavy distortion, and it sounds twice the size of a normal power chord.

A5 add 9: three notes a fifth apart `labels are note names`



The same shape with the root fretted is a three-fret stretch: index, ring, pinky.

Ex B.3 **Stacked-fifth arpeggios** 4/4 · standard tuning · 70 to 120 bpm · let ring



A, C, G, D, each as three stacked fifths. Clean with a little chorus it is a ballad intro. With distortion, strummed, it is a wall.

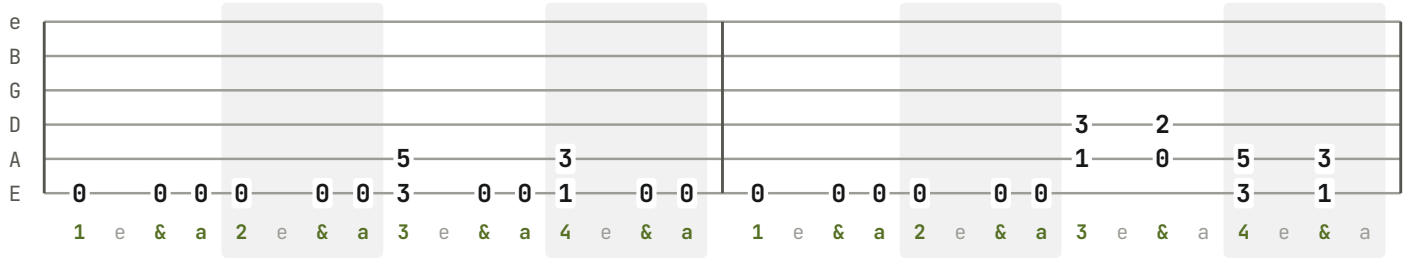
FULL SONGS, WORKED

Two complete original guitar parts, taken apart. Each shows how a small number of ideas becomes a whole song.

Song one: a three-minute thrasher in E

Standard tuning, 160 bpm. Colour note: F, the b2. Every section is built from the verse riff.

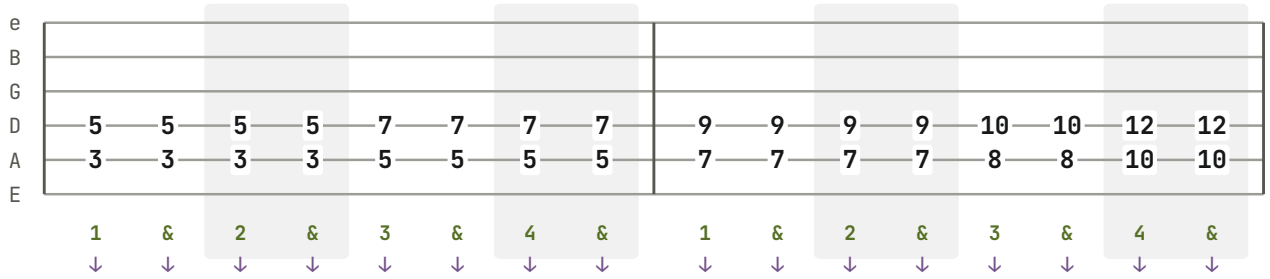
Ex F.1 **Riff A: verse** 4/4 · standard tuning · 130 to 170 bpm · palm mute the open E



Gallop pedal on E with stabs of G5 and F5. Bar 2 turns around through Bb5, A5, G5, F5.

Ex F.2 Riff B: pre-chorus

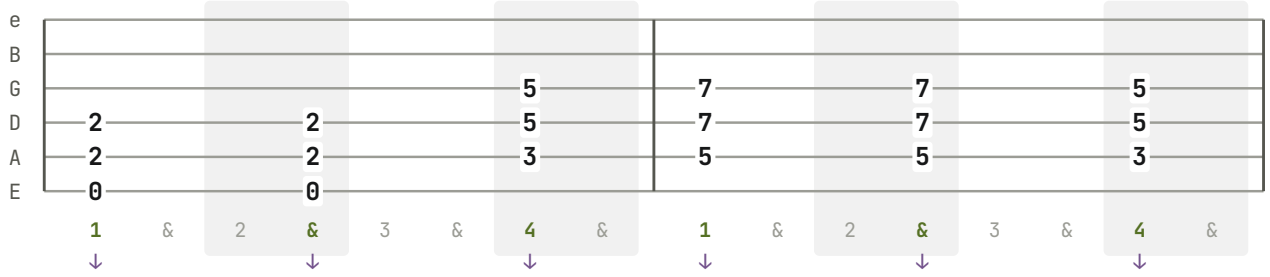
4/4 · standard tuning · 130 to 170 bpm



C5, D5, E5, F5, G5: a straight climb in eighths with the palm mute coming off as it rises.

Ex F.3 Riff C: chorus

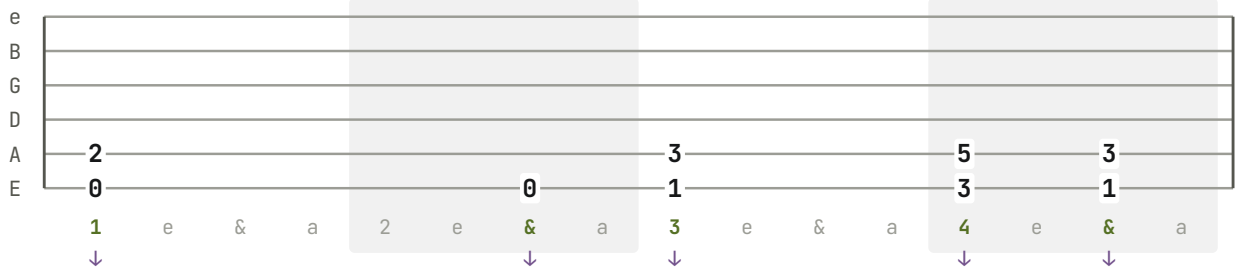
4/4 · standard tuning · 130 to 170 bpm



E5, C5, D5, C5, wide open and ringing. The simplest rhythm in the song, so the vocal has room.

Ex F.4 Riff D: mosh part

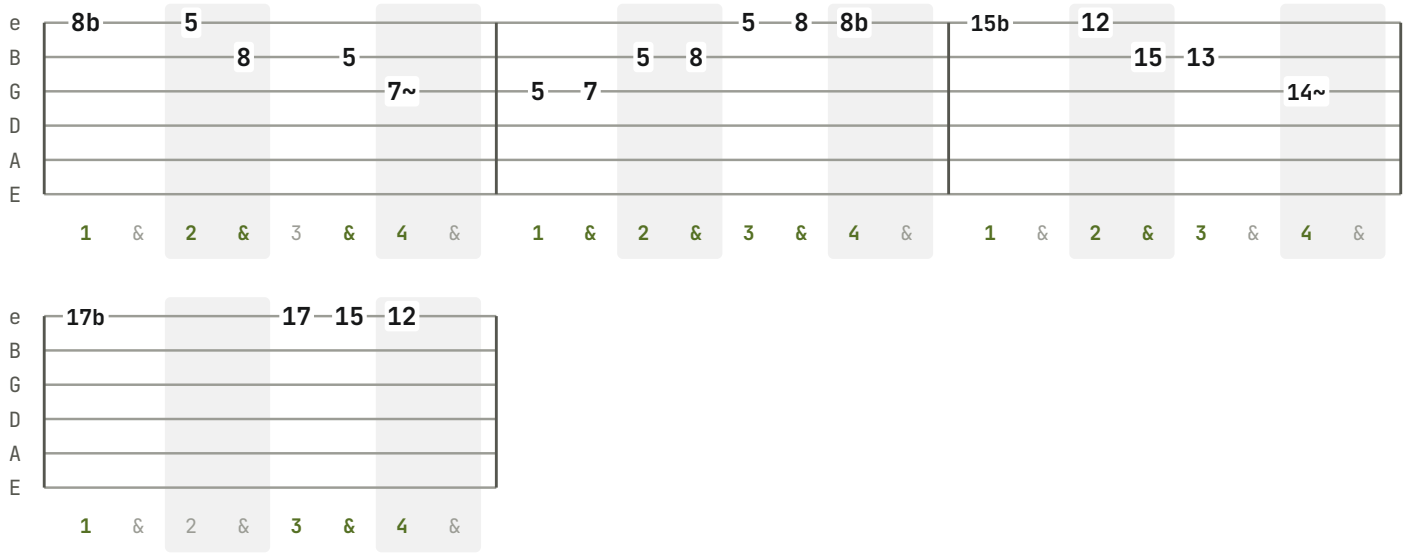
4/4 · standard tuning · 130 to 170 bpm



The verse chords at a quarter of the density, over half-time drums.

Ex F.5 Solo opening, in A minor

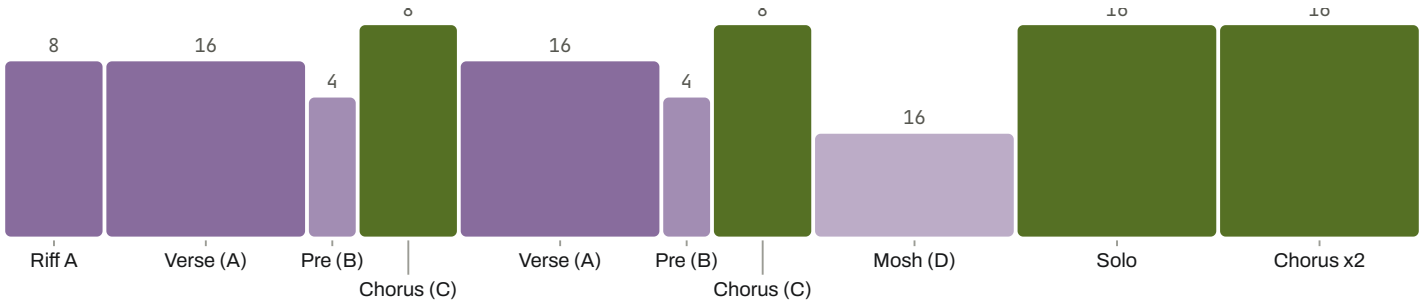
4/4 · standard tuning · 130 to 170 bpm



The solo moves up a fourth to A minor. Two bars in box 1, then a jump to fret 12 and the highest bend of the song.

Song one

block width = bars · height = intensity



Four riffs and a solo, about three and a half minutes.

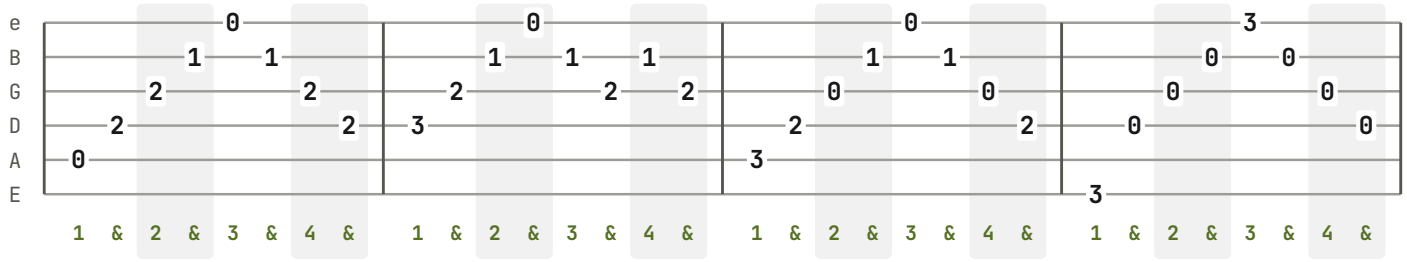
DECISION	REASON
One colour note for the whole song	Makes every riff sound related
Chorus simpler than the verse	The vocal needs the space, and it feels bigger
Mosh part reuses verse chords	No new material to learn or remember
Solo in a new key	Feels like a new room without a new riff

Song two: a power ballad in A minor

Clean verse, heavy chorus, the same four chords throughout: A minor, F, C, G.

Ex F.6 Verse: clean arpeggios

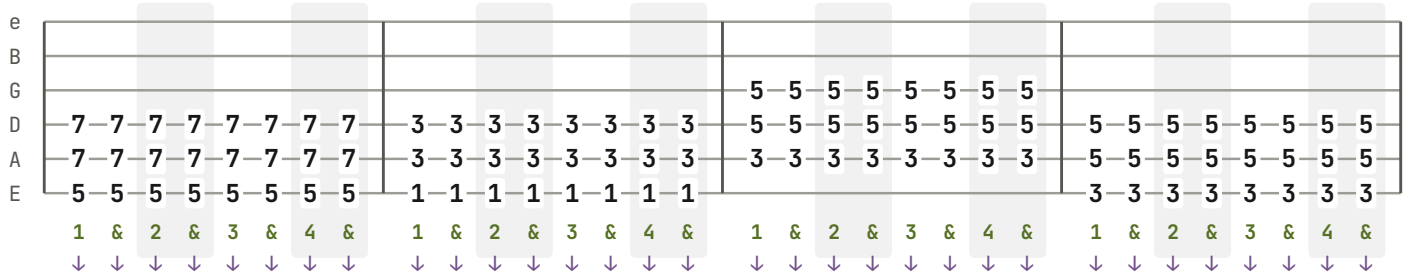
`4/4 · standard tuning · 60 to 80 bpm · clean, let ring`



A minor, F major 7, C, G. Neck pickup, a little chorus or reverb.

Ex F.7 Chorus: power chords

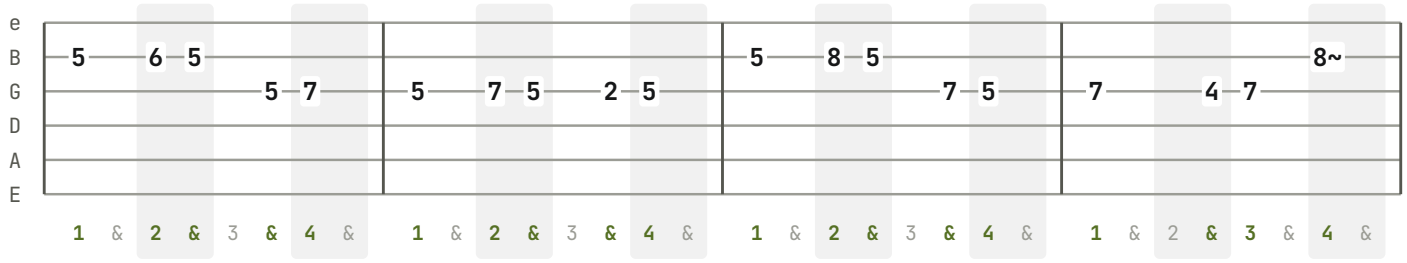
`4/4 · standard tuning · 60 to 80 bpm`



A5, F5, C5, G5 in driving eighths with distortion. Same chords as the verse, opposite energy.

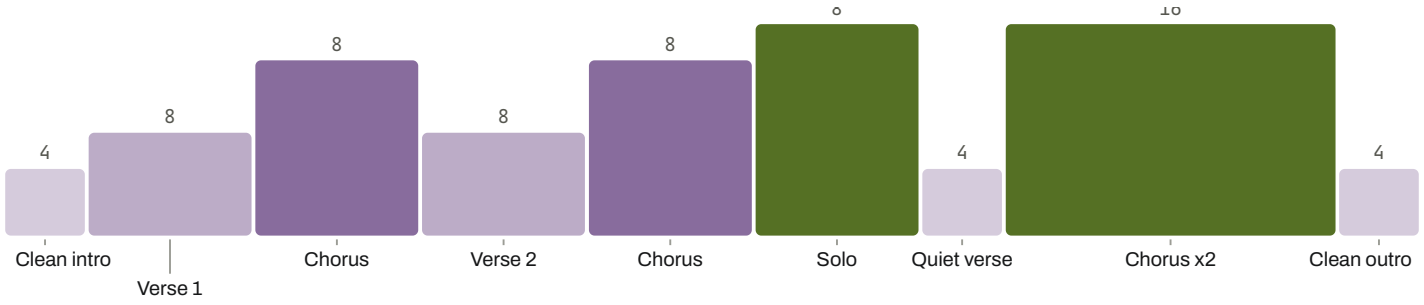
Ex F.8 Lead melody over the chorus

`4/4 · standard tuning · 60 to 80 bpm`



A singable line: each bar starts on a note of the chord underneath. Play it once plainly, then again with bends and slides into the long notes.

Song two `block width = bars · height = intensity`



One progression, three textures, about four minutes.

PRACTICE PLANS

You do not need a plan every day. You need to never spend your ten minutes deciding what to do. Deciding is how ten minutes of practice turns into ten minutes of watching a stranger review a pedal. Pick a row and go.

Sessions by length

TIME	WARM-UP	TECHNIQUE	THEORY	WRITING	FINISH
10 min	2 min: last finished exercise	6 min: one new exercise			2 min: play anything
20 min	3 min: spider or gallop	7 min: one exercise, with tempo ladder	5 min: one scale or shape, said out loud		5 min: riff journal or jam
30 min	4 min	10 min: one rhythm exercise, one lead exercise	6 min	7 min: write or develop one riff	3 min: play it for fun
Barely alive	2 min: open strings	5 min: something you already ticked off, slowly			3 min: one riff you love

Weekly rotation

DAY	FOCUS	WHY
1	Rhythm technique	Fresh hands
2	Theory	Small, mental, good for a tired day
3	Writing	Uses both
4	Lead technique	Bends, legato, speed
5	Free play or a song you like	So you still enjoy this

Miss a day and nothing happens. Miss a week and start with the last thing you ticked. Nobody is coming to check. The monsters already assume the worst.

Twelve weeks through the book

WEEKS	PART	GOAL BY THE END
1 to 2	Ch 1	Clean power chords, palm mute, first riff at 130
3	Ch 2	Notes on E and A strings, pentatonic box 1, four open chords
4	Ch 3 and The Hollow	One original four-bar riff recorded
5 to 6	Ch 4	Gallop at 140, bends in tune
7	Ch 5	E Phrygian, two pentatonic boxes, chord-tone targets
8	Ch 6 and The Behemoth	Verse and chorus pair, four-bar solo
9 to 10	Ch 7	Spider chords, legato run, one sweep shape
11	Ch 8	Phrygian dominant, harmony lines, 7/8 riff
12	Ch 9 and The Haze	A full song recorded

Twelve weeks is the fast version. Twelve months is also fine. Twelve years is a cry for help. The monsters are not going anywhere.

Tempo log

Write down the tempo where an exercise was clean and relaxed. Saved on this device only.

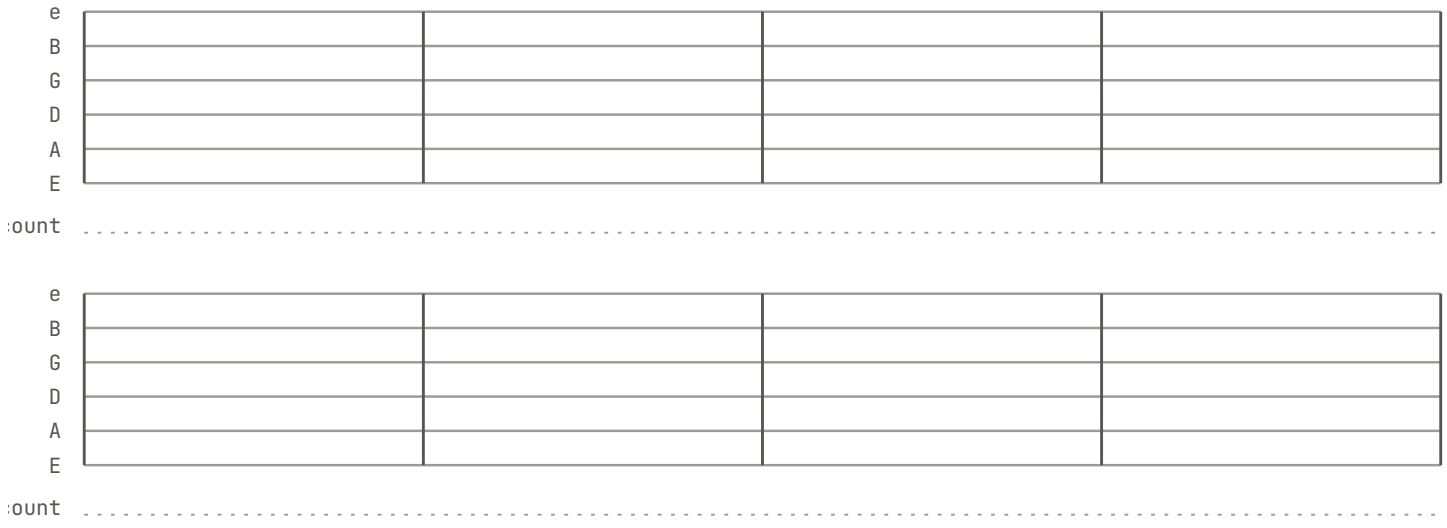
DATE	EXERCISE	CLEAN TEMPO	NOTE TO SELF

Riff journal

Any riff, any time. Date it. Most will be bad. The good ones come from the same place. It is a sewer with the occasional diamond in it. Keep wading.

Write it — Riff journal 1

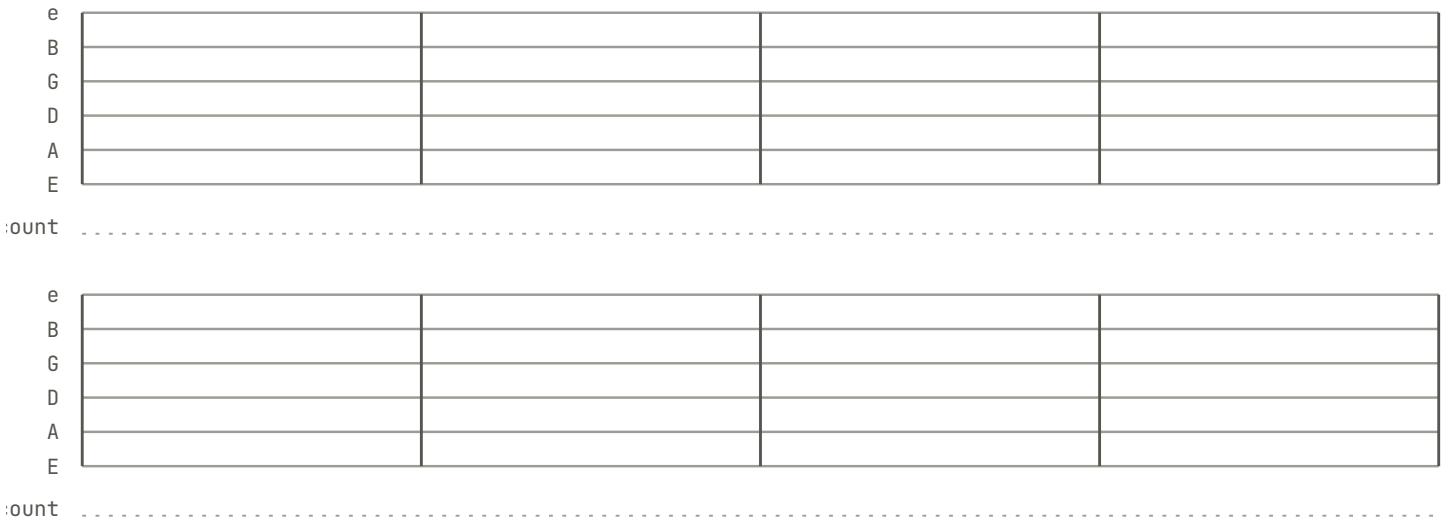
DATE	KEY AND TUNING	TEMPO



Print this page and pencil it in, or open Tab Lab on the site and save the riff there.

Write it Riff journal 2

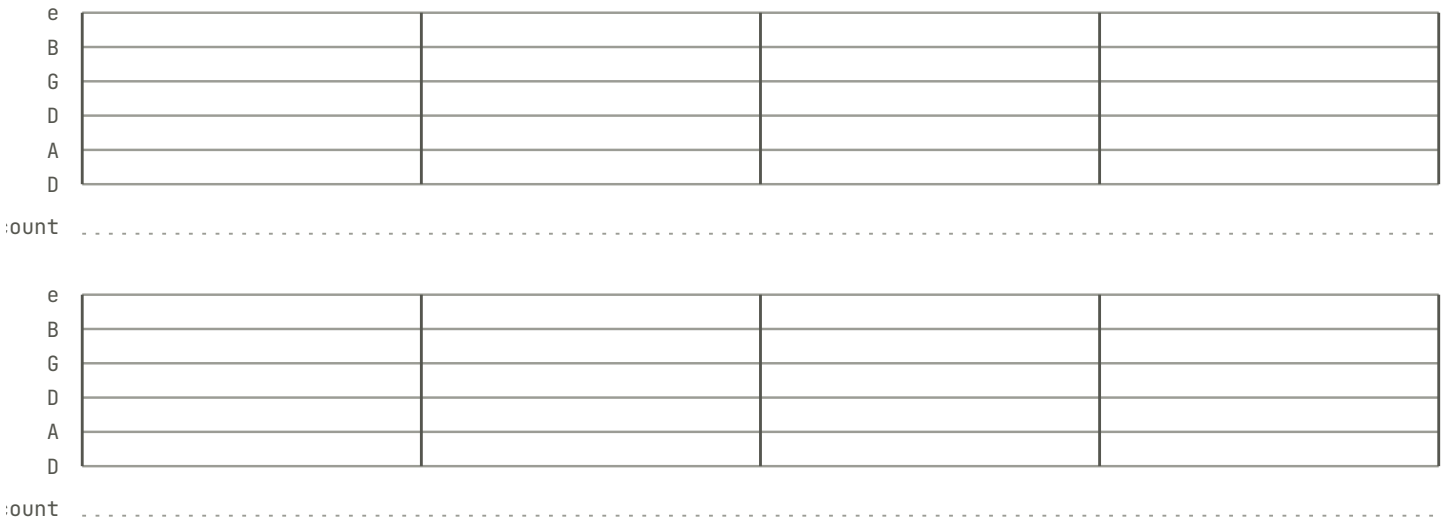
DATE _____ KEY AND TUNING _____ TEMPO _____



Print this page and pencil it in, or open Tab Lab on the site and save the riff there.

Write it Riff journal 3

DATE _____ KEY AND TUNING _____ TEMPO _____

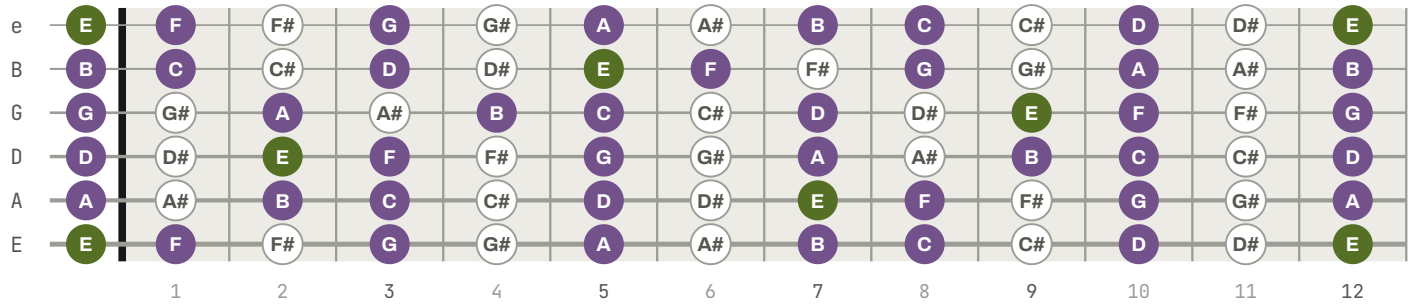


Print this page and pencil it in, or open Tab Lab on the site and save the riff there.

REFERENCE

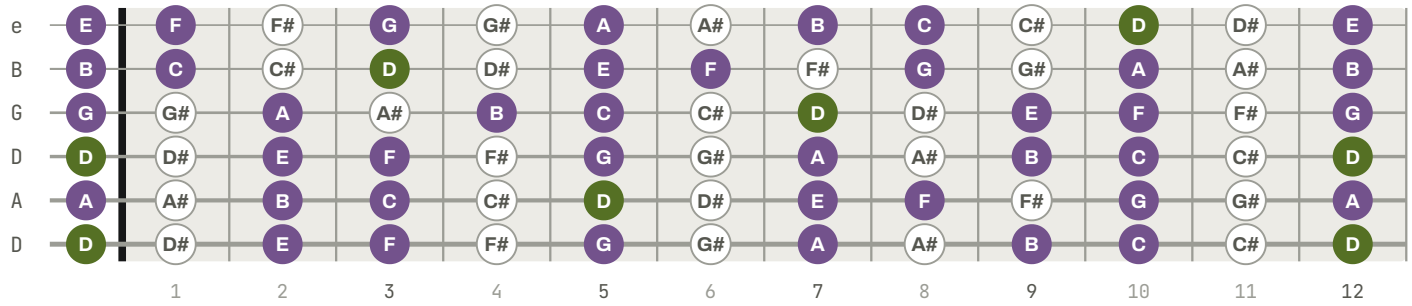
Full fretboard maps

Every note, standard tuning `standard tuning · sharps shown hollow`



Each sharp is also the flat of the note above: F# is Gb, A# is Bb.

Every note, drop D `drop D · sharps shown hollow`



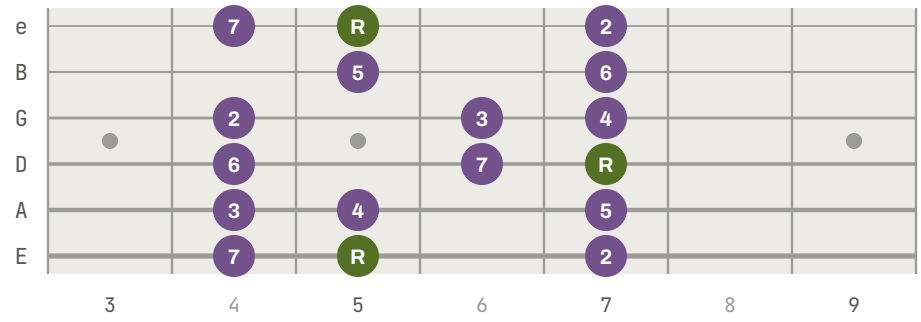
Only the low string moves. Everything on it is two frets higher than you remember.

For half step down tuning, use the standard map. Every shape is identical and every note sounds one fret lower.

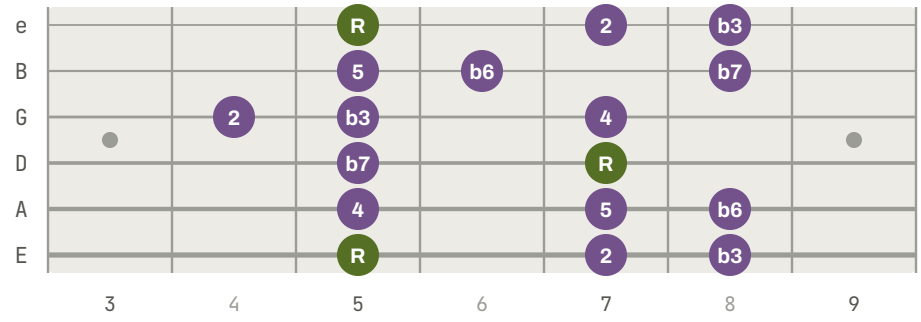
Scale library

All shown from A, around the fifth fret. Slide the whole shape to change key. Labels are scale degrees.

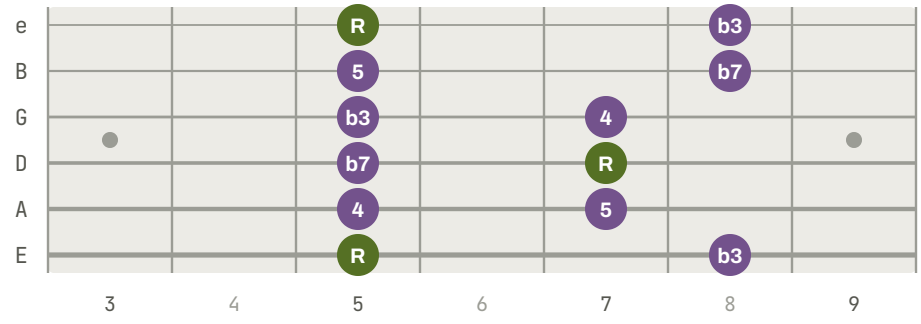
A major R 2 3 4 5 6 7



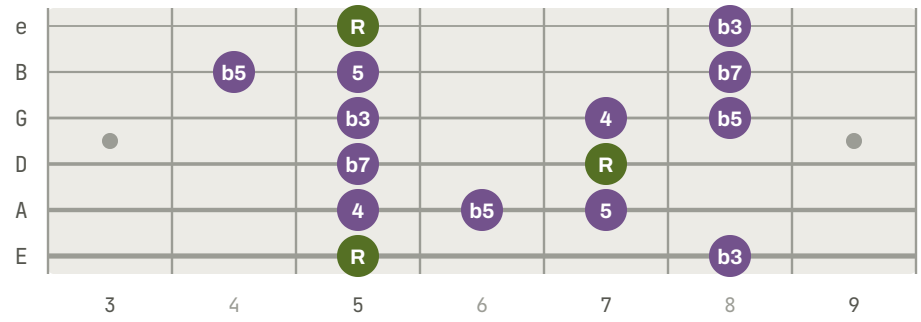
A natural minor R 2 b3 4 5 b6 b7



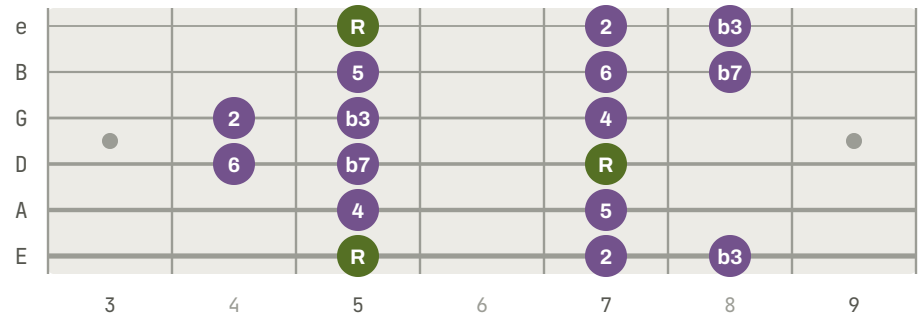
A minor pentatonic R b3 4 5 b7



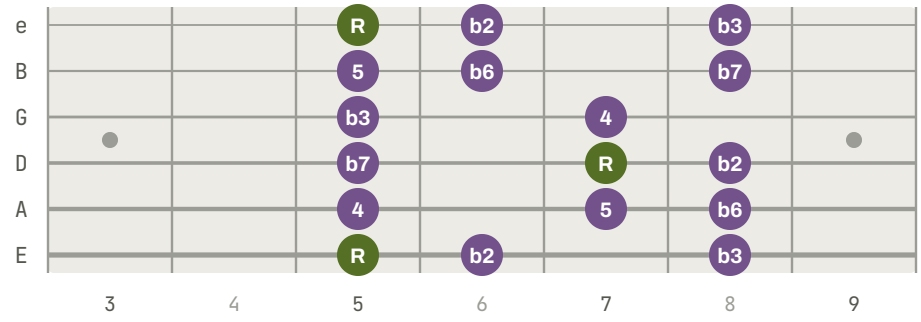
A blues R b3 4 b5 5 b7



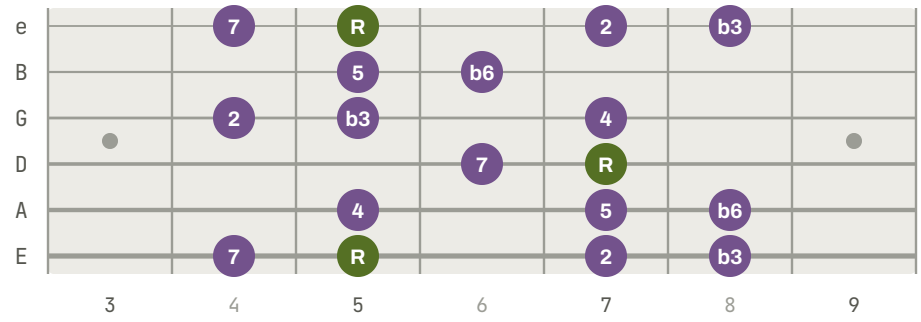
A dorian R 2 b3 4 5 6 b7



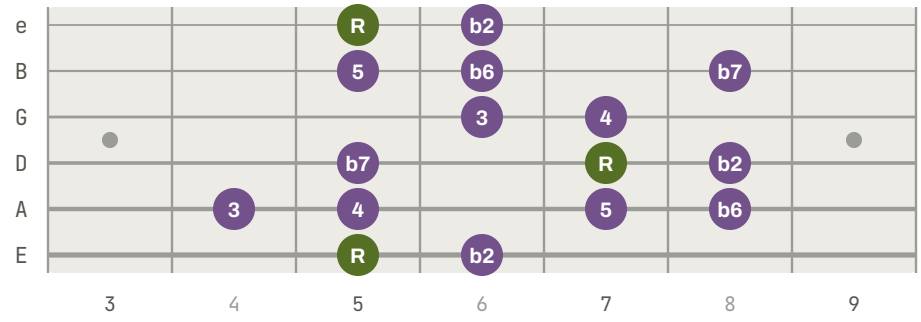
A phrygian R b2 b3 4 5 b6 b7



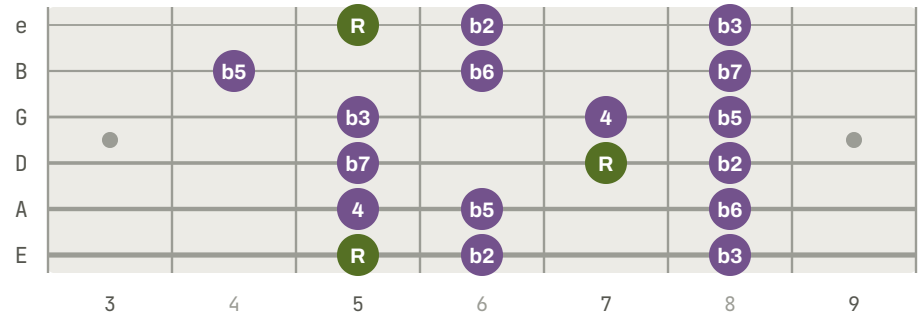
A harmonic minor R 2 b3 4 5 b6 7



A phrygian dominant R b2 3 4 5 b6 b7



A locrian R b2 b3 4 b5 b6 b7



Listening homework

Listen to the guitars only. One pass per song, with a question in mind. Then go and write something that does the same job with different notes. That is called influence. Using the same notes is called a lawsuit.

BAND	SONG	LISTEN FOR
Anthrax	"Caught in a Mosh"	The down-picked verse riff, and what happens when the half-time section arrives
Anthrax	"Indians"	How the stops and starts are as tight as the notes
Slayer	"Raining Blood"	Tremolo-picked lines and chromatic riffs with no interest in being pretty
Slayer	"South of Heaven"	A slow, sinister intro. Speed is not the only way to sound dangerous
Megadeth	"Holy Wars... The Punishment Due"	Count the riffs, and notice how each change of feel is set up
Megadeth	"Hangar 18"	A long run of traded solos over a rhythm part that keeps building
Black Sabbath	"Black Sabbath"	Three notes and the tritone. The riff that started all of this
Black Sabbath	"Children of the Grave"	A galloping chug years before thrash
Ozzy Osbourne	"Crazy Train"	A minor-key riff against a bright verse, and a solo with a clear shape
Ozzy Osbourne	"Mr. Crowley"	Classical-flavoured solos that tell a story
Clutch	"Electric Worry"	A blues riff played with total swagger
Clutch	"The Regulator"	Space, dynamics and patience
Testament	"Over the Wall"	Thrash rhythm with a melodic, composed solo
Testament	"Practice What You Preach"	A groove riff and lead playing that sings
Skid Row	"18 and Life"	Clean arpeggiated verse into a heavy chorus
Skid Row	"Youth Gone Wild"	How a simple riff sets up an anthem chorus
Skid Row	"Slave to the Grind"	Their heaviest riffing, close to thrash

Glossary

TERM	MEANING
Accent	A note played louder than those around it
Alternate picking	Strict down-up-down-up strokes
Arpeggio	The notes of a chord played one at a time
Bend	Pushing a string sideways to raise its pitch
Chord tone	The root, third or fifth of the current chord
Diad	A two-note chord
Gallop	One eighth and two sixteenths, repeated
Half time	Same tempo, with the backbeat half as often
Legato	Notes sounded by hammer-ons and pull-offs instead of picking
Mode	A scale with a different note treated as home
Motif	A short idea that gets repeated and changed
Palm mute	Damping the strings at the bridge with the picking hand
Pedal note	A repeated note that other notes move against
Pinch harmonic	A squeal made by the thumb grazing the string during the pick stroke
Power chord	A root and its fifth, with no third
Spider chord	Two power chords fingered with different finger pairs so the hand does not shift
Sweep	One pick motion across several strings, one note per string
Tremolo picking	One note picked as fast as you can keep even
Tritone	Six frets. The flat fifth

Every exercise and riff in this workbook is original. None is a transcription. The notes on each band describe their well-known style in general terms and were written from general knowledge, not from a specific source.