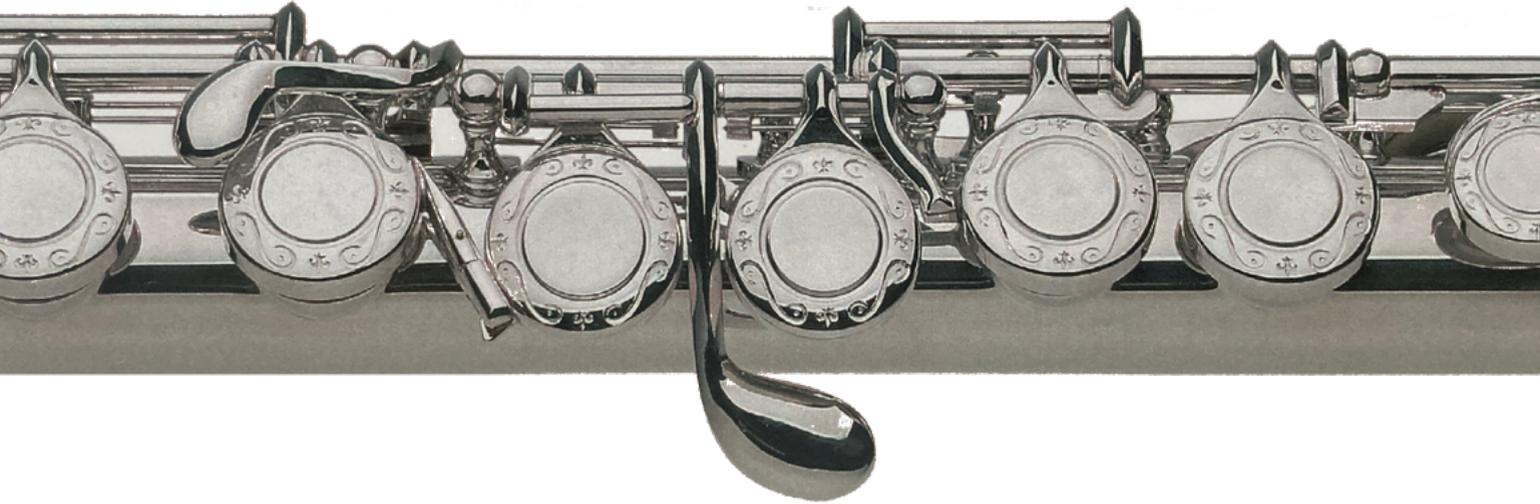


The Murray Flute Companion

A practical guide to learning and playing



by Lynne Lasser

contents

about the Murray Mechanism/Lasewski Scale flute.....	1
visual overview and schematic	4
basic fingering options	6
selected trills.....	14
exercises to demonstrate the difference between open and closed g# and open and closed d#.....	18
patterns demonstrating the logic.....	20
open g# conversion exercises (from Alex Murray)	29

about the Murray Mechanism/Lasewski Scale flute

what's the difference between the Murray flute and the standard Boehm flute?

In short, more than 55 years of experimentation and development by Alexander Murray geared toward making the flute that Boehm dreamed of making: A flute that is better in tune, more natural to play, simple in design and mechanically reliable.

what's the difference between the final Murray flute design (2004) and its predecessors?

Even the early Murray flutes of the 1970s were better in tune and easier to play than the most commonly used Boehm flutes (with closed g# and Briccialdo thumb, although neither were Boehm's preference). There are variations in the acoustic scale, trill key placements, design of the f# touch and d# crescent, and foot joint design over the years, and the mechanism overall became ever more sleek. Standard features of the Murray mechanism include Coltman C#, reverse thumb, open g#, open d#, Murray trills, f# touch, d# crescent. Flutes in the Lasewski scale (late 1990s) also have a tapered head joint and go down to low C (not B). See page 4 for visual reference.

Players benefit from:

- lighter, more reliable mechanisms and better venting because all keys are sprung open
- logical fingerings that move up and down the flute in a natural order based on the pitch ascending and descending (see Patterns)
- trill fingerings playable as regular notes, with new trills and tremolos made viable
- no breaks in tone color throughout the range
- quick, even response and tremendous carrying power
- many alternate fingerings for facility, speed, and dynamics (see Basic Fingering Options)
- better weight distribution to balance the flute in your hands instead of grip it
- a lightweight, elegant design that is simple and mechanically reliable
- a tapered head joint and half-hole mechanism (automatic and optional) which combine to facilitate excellent octaves (Lasewski)

about the Lasewski scale

In the 1990s, Alex Murray adopted the Lasewski scale for his flutes. Ron Lasewski was a mathematician/physicist, Baroque flute enthusiast, and longtime colleague and friend of Alex Murray. Lasewski wanted to know what physical characteristics made his Baroque flutes sound the way they did. He studied their acoustic characteristics — especially, the distance between the first and second partials and the third and fourth partials of each note — and recorded corresponding physical measurements.

Over time, he programmed a computer to model what the acoustic result would be in pitch and timbre to any physical adjustment to hole size, placement, venting or bore dimensions. He made some thirty-odd Baroque flutes using his “Traverso” program, studying and learning from the results.

Now applied to Murray’s flute in C, the program’s ability to predict how one change to the flute could affect every note in the range took Murray light years ahead in his ability to experiment for optimal results. Even with the aid of Traverso, it still took 13 tries to make the Lasewski scale head joint, according to Murray. Jack Moore made most of the artisanal Murray flutes over the years, along with master craftsmen like Tom Green and David Wimberley. If you try to play the Murray Lasewski flutes with a regular (cylindrical) head joint, it won’t work, the octaves will be out of tune. There were some very early Murray prototypes made by Armstrong intended for students.

who is making the Murray flute?

Jack Moore (deceased) and David Wimberley made Murray flutes as well as Tom Green. Tom is retired now, but he gave his tools and Murray flute schematics to Miguel Arista.

is anyone making a murray piccolo?

Keefe makes a Murray piccolo. I have also seen Murray piccolos from Seaman and Opperman that may be available secondhand. Adam Pettry (Pettry Piccolos) is willing to make a Murray piccolo. Bulgheroni makes an open g#, reverse thumb piccolo at no extra charge. It should be said, open g# mitigates the need for other standard popular mechanisms to help facilitate high e and g#.

my story

I switched to the Murray flute during my Master's studies at U of I, studying with Alex Murray. I don't know why it took me so long; I guess I figured plenty of great players played the standard flute and if I just practiced a little harder... And like many others, I was afraid to change, thinking I would lose years of practice. But in the end, I found my technique at a standstill and decided to try the Murray flute to see where it would take me.

Alex never foisted his designs on anyone, but if you asked, he supported you generously. I started on an open g# model and quickly recognized the benefits. All things told, it took about six weeks of daily practice to become reliable on the full Murray flute and my technique improved a ton after that. I was also far less inclined to back pain and issues with my hands.

When I committed to playing Murray flute, Alex managed to arrange the sale of my old Muramatsu so I could buy Jack Moore #33 — the flute Nancy Toff left off with in [Development of the Modern Flute](#). I played that flute from 1985 - 1998, when Tom Green made my Murray/Lasewski scale flute. Alex bought back JM #33 some years after for another Murray flutist.

I charted my journey as I transitioned to the Murray flute, noting both the fingering exercises and physical exercises I did to balance the flute between my hands now that gripping was simply out of the question. These notes became a practical guide I created for my Master's thesis.

It's worth noting that I continued playing my old, standard system Haynes piccolo while I was transitioning to Murray flute and afterwards. I thought it would be hard to go back and forth but surprisingly, it really wasn't.

meet the murray flute



The tapered headjoint (narrowed at the top) was designed with the Lasewski scale to bring the octaves in tune.



2004



1998

At top, the last flute Alex Murray had made in 2004 (Murray - Lasewski - Moore) and its playable keys as they correspond to the fingering diagram in this guide.

The work in later years focused on the foot joint: Left, the 2004 “Finale” — the D# lever lays slightly over the D key, bringing it closer for the fourth finger, and the D key is lightly felted to accommodate it. Moreover, the foot joint is merged with the body of the flute, all one piece, requiring a larger case but streamlining the mechanism.

In my 1998 model (Murray - Lasewski - Green) and many preceding it, the foot joint is still separate and the D# lever hovers around the outer edge of the D key. Its position is somewhat adjustable by the player via rotation of the entire foot joint relative to the body but the D# lever cannot be placed directly over the D key as in the later model.

“The multiplicity of touchpieces at the lower end owe their existence to the very fact that the right little finger has been released from its bondage and set free to make use of them,”— Philip Bate, *The Alex Murray Flute*, *The Galpin Society Journal*, 973.

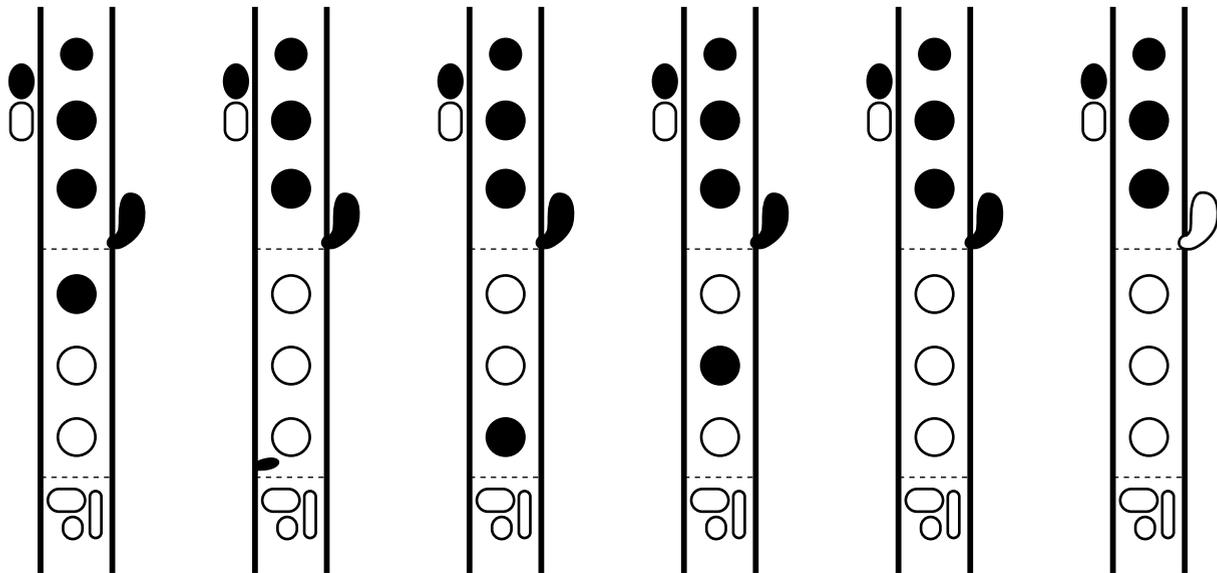
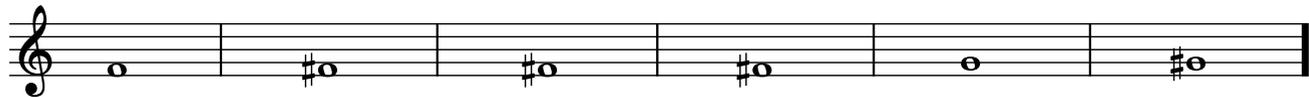
basic fingering options

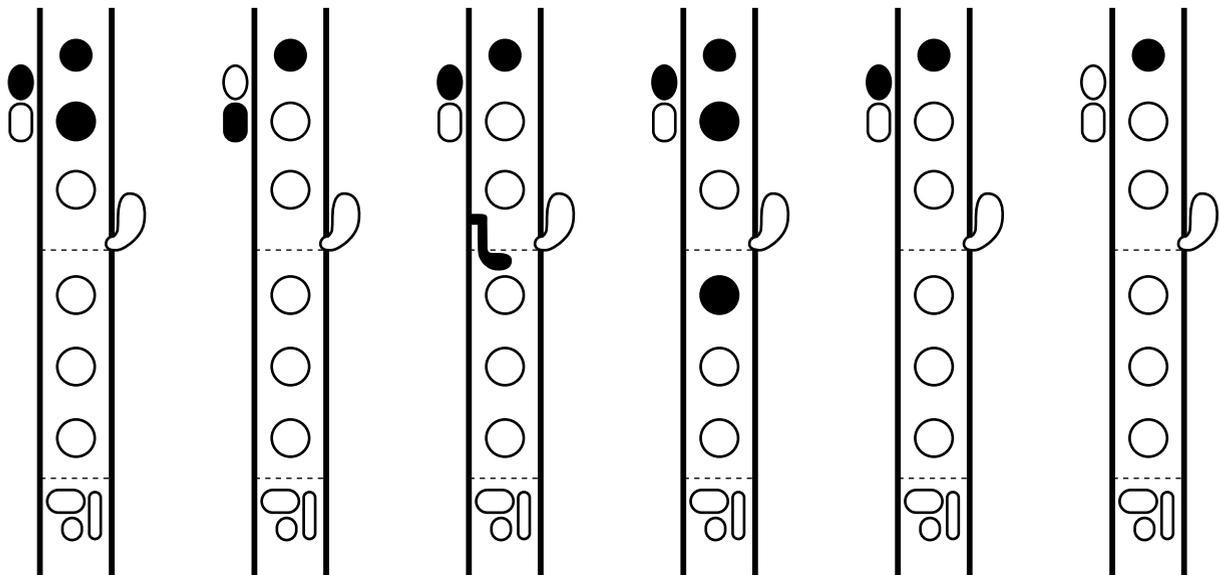
The image displays six musical notes on a treble clef staff, each with a corresponding fingering diagram below it. The notes are E, F#, G, A, B, and C. The fingering diagrams show the placement of fingers (represented by black dots) on the strings of a guitar. The diagrams are arranged in two columns of three. The first column shows the fingering for E, F#, and G. The second column shows the fingering for A, B, and C. The diagrams use black dots for fingers and white ovals for the thumb. A dashed line indicates the position of the fretting hand.

The notes and their fingering options are:

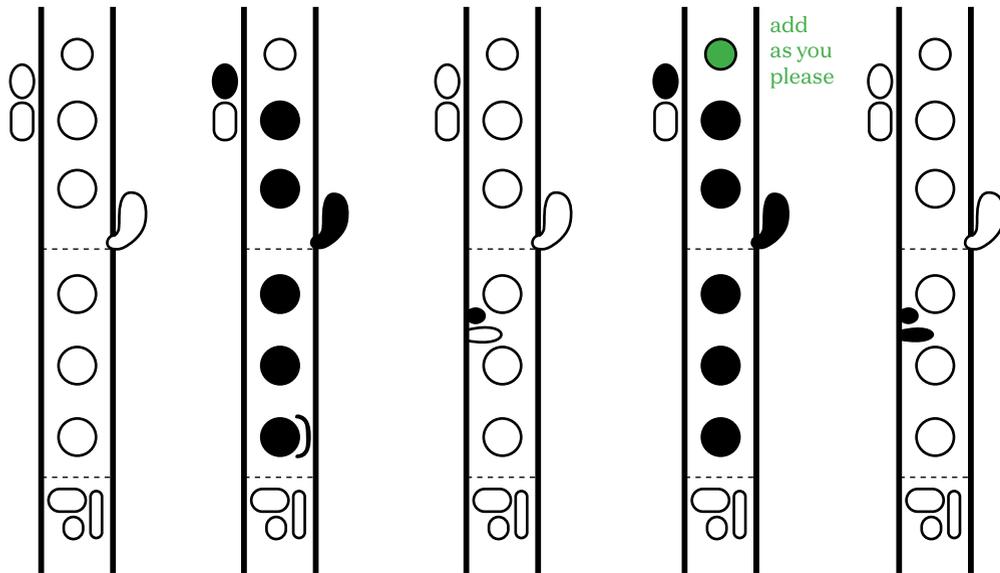
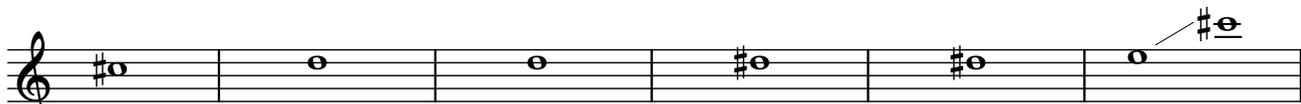
- E: Index (1) on the 1st string, 1st fret; Middle (2) on the 2nd string, 2nd fret; Ring (3) on the 4th string, 2nd fret; Thumb (4) on the 5th string, 1st fret.
- F#: Index (1) on the 1st string, 1st fret; Middle (2) on the 2nd string, 2nd fret; Ring (3) on the 4th string, 2nd fret; Thumb (4) on the 5th string, 1st fret.
- G: Index (1) on the 3rd string, 2nd fret; Middle (2) on the 2nd string, 3rd fret; Ring (3) on the 4th string, 3rd fret; Thumb (4) on the 5th string, 2nd fret.
- A: Index (1) on the 2nd string, 2nd fret; Middle (2) on the 3rd string, 2nd fret; Ring (3) on the 4th string, 2nd fret; Thumb (4) on the 5th string, 2nd fret.
- B: Index (1) on the 2nd string, 2nd fret; Middle (2) on the 3rd string, 2nd fret; Ring (3) on the 4th string, 2nd fret; Thumb (4) on the 5th string, 2nd fret.
- C: Index (1) on the 3rd string, 2nd fret; Middle (2) on the 2nd string, 3rd fret; Ring (3) on the 4th string, 3rd fret; Thumb (4) on the 5th string, 2nd fret.

low register: C - G#





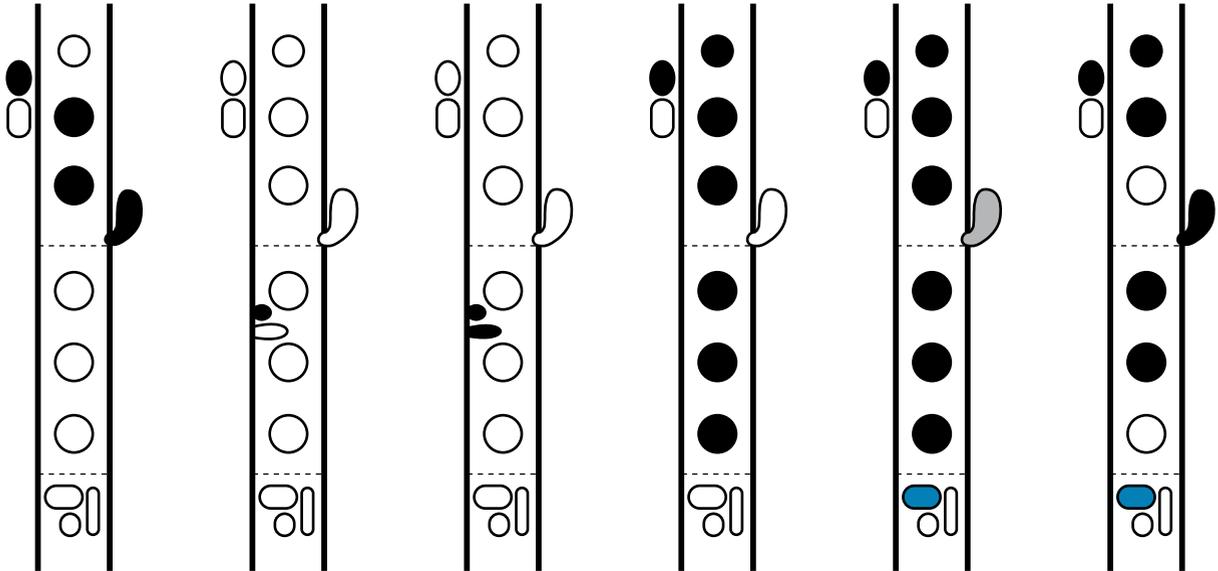
middle register: A - E



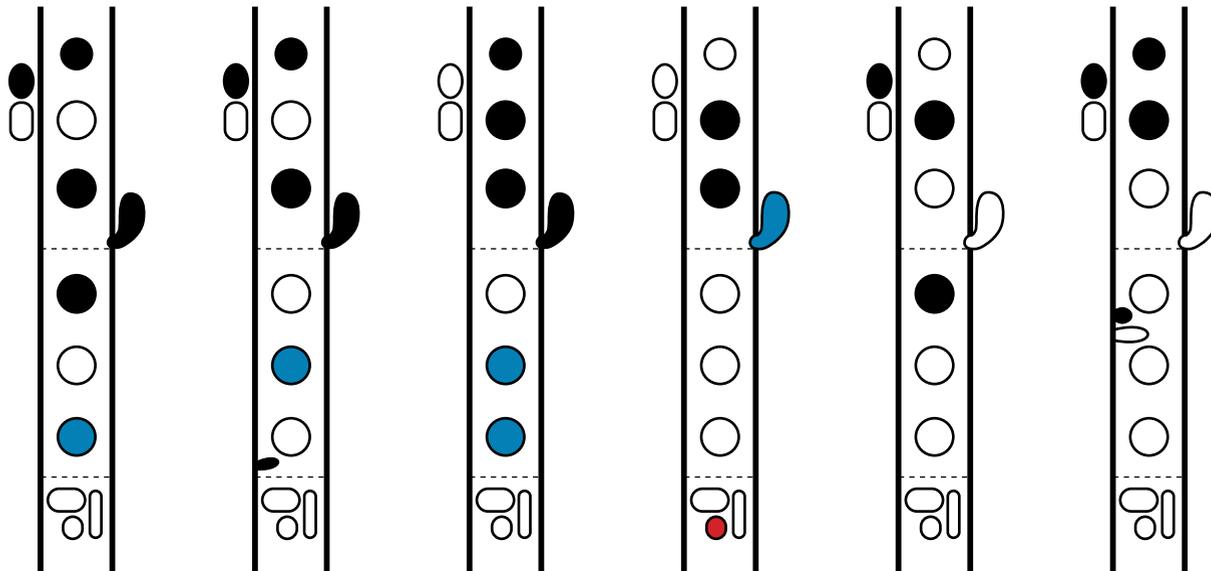
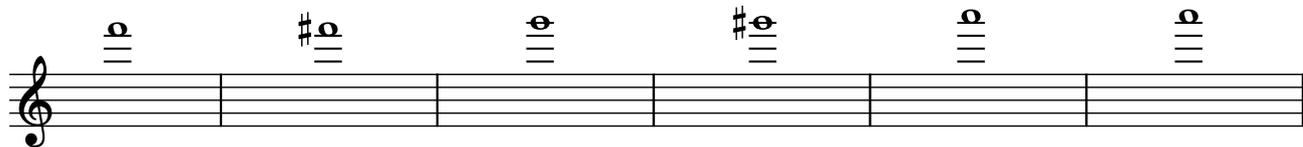
add
as you
please

see
lower
octave

■ add to flatten ■ add to sharpen ■ crack slightly

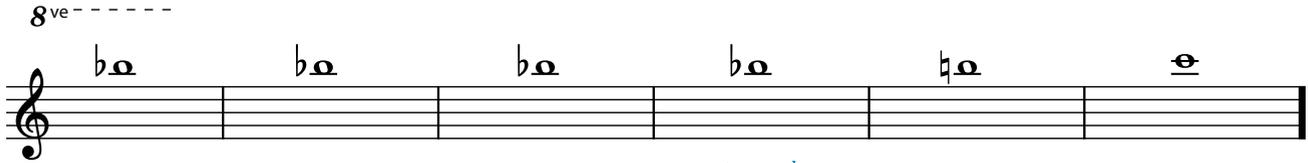


high register: D-A

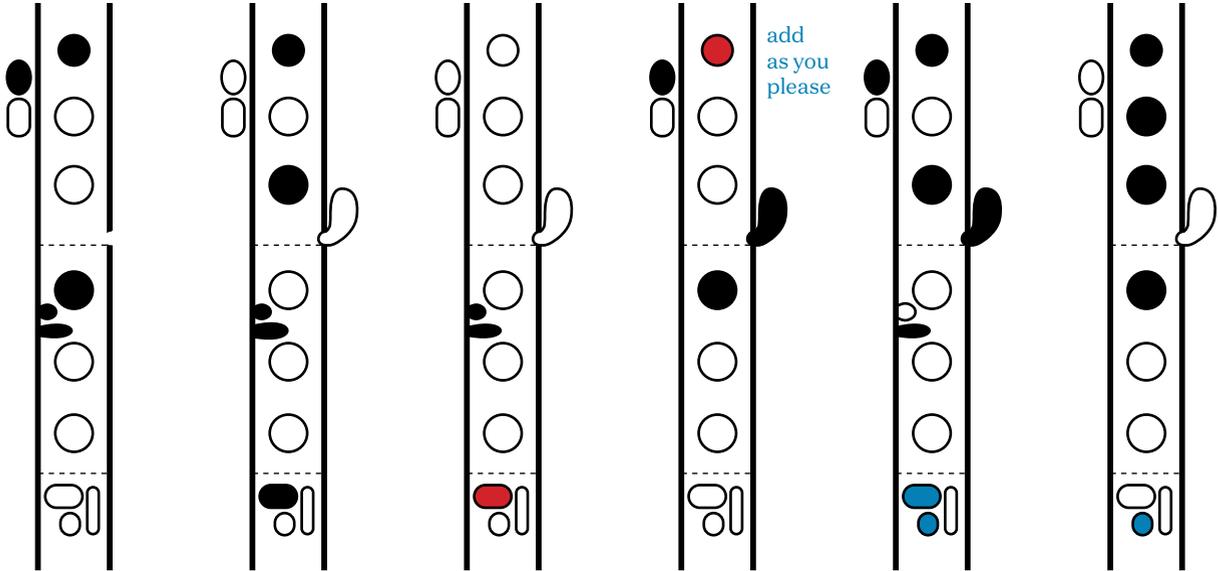


sharpens
slightly but

add to flatten
 add to sharpen
 crack slightly



at speed

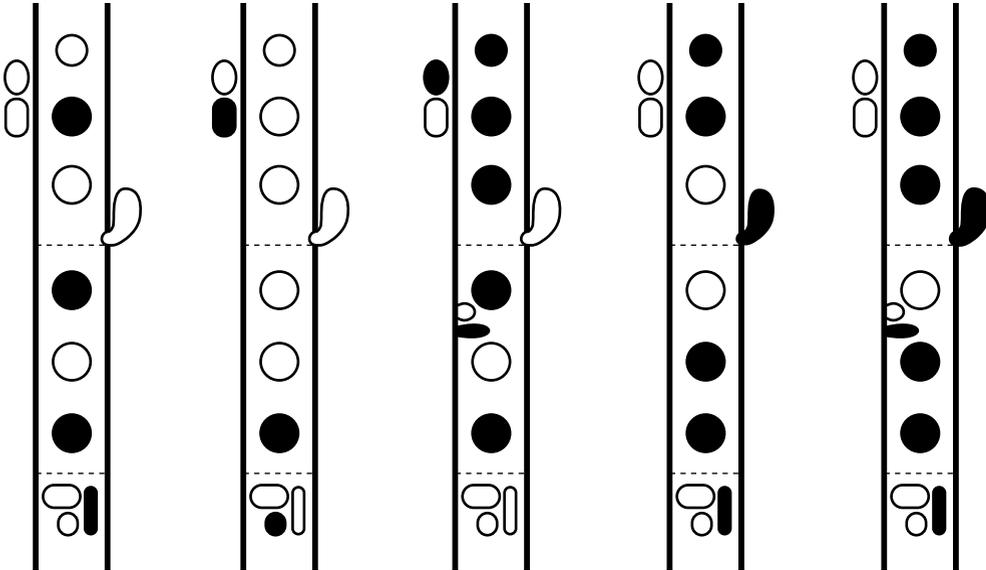
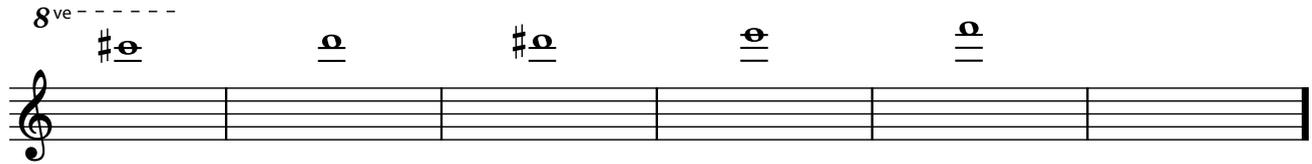


add as you please

D# or C#
to flatten

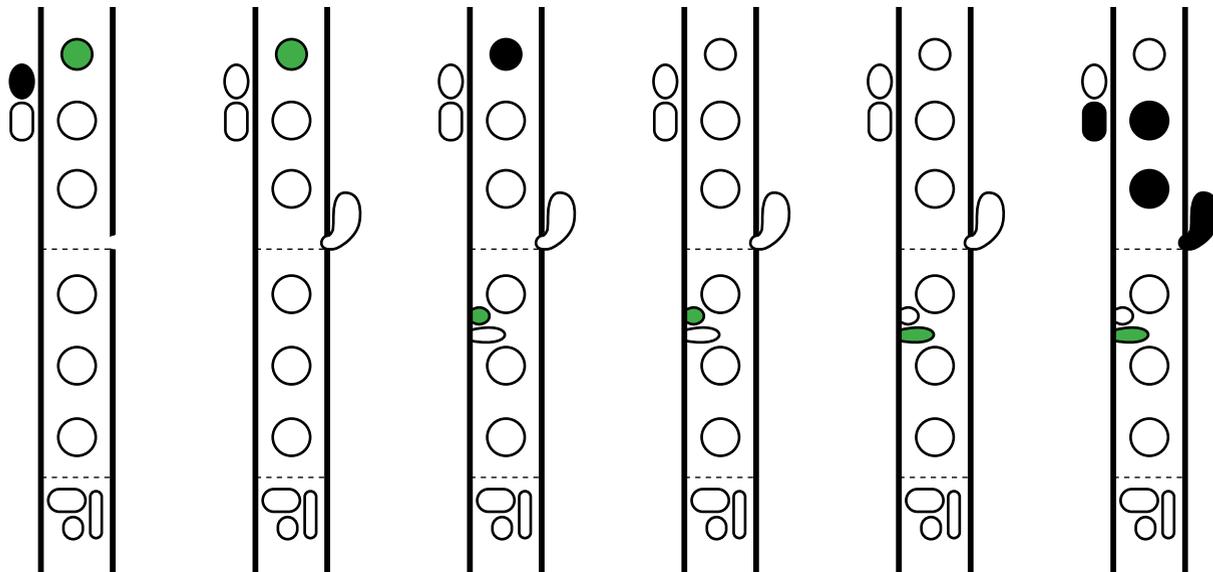
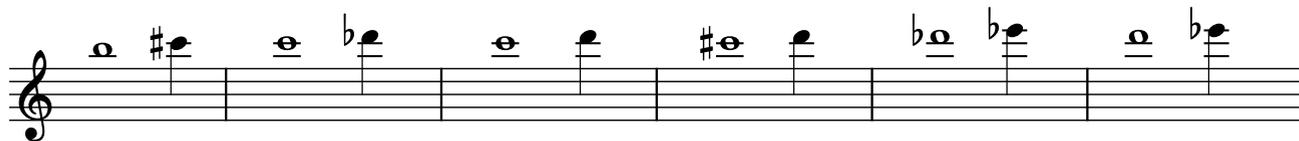
stiffer
but flutter

high register B \flat - F

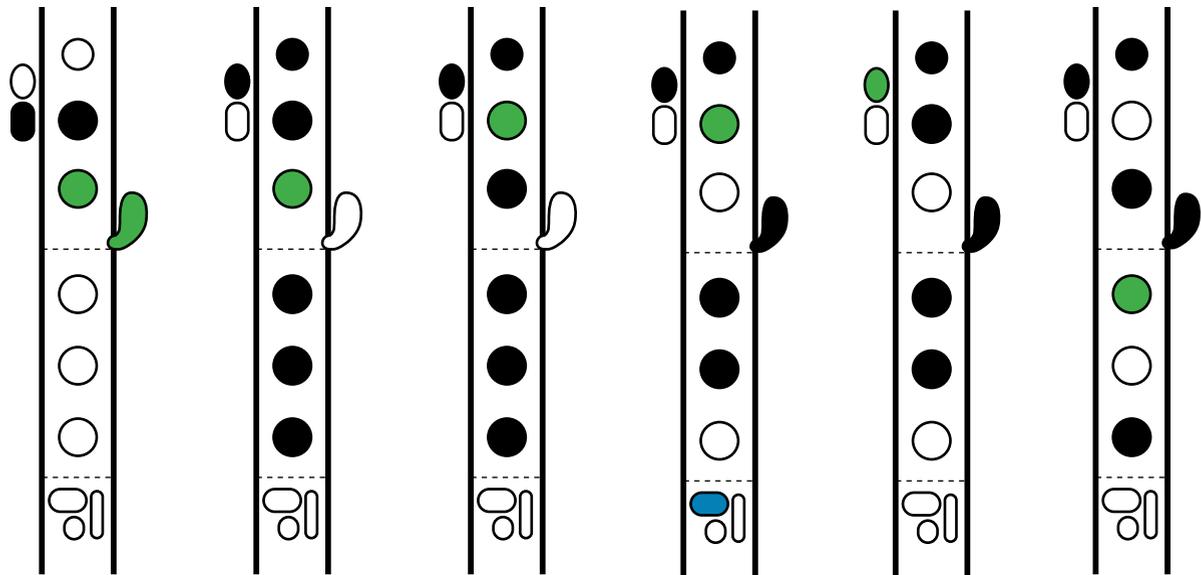
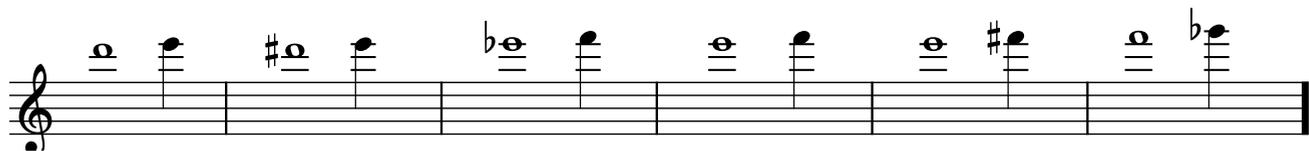


selected trills

■ add to flatten ■ add to sharpen ■ trill

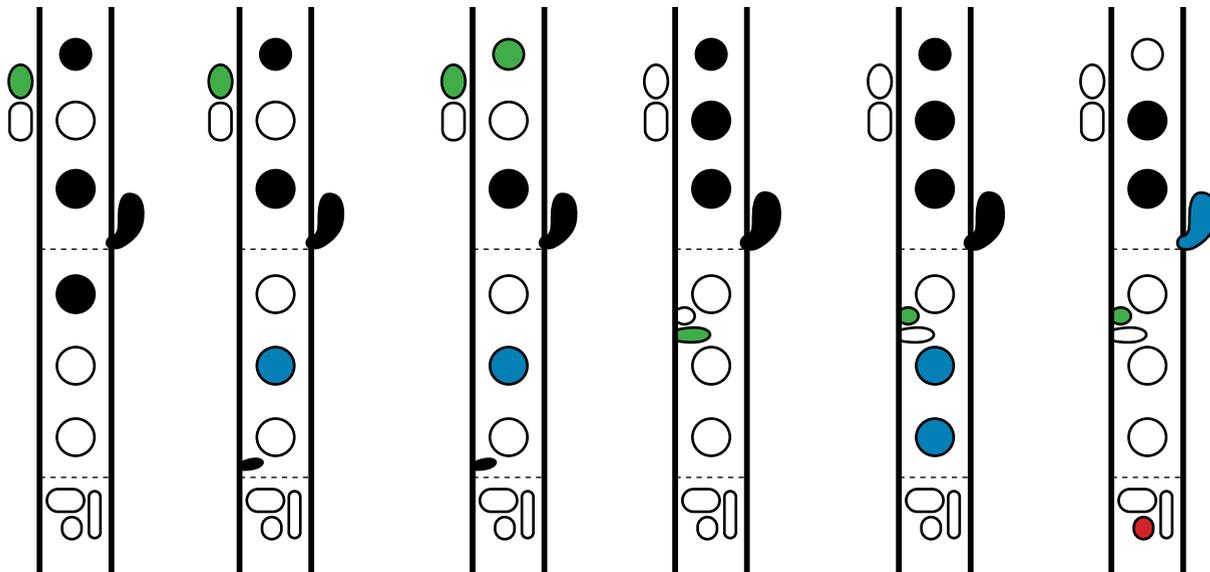
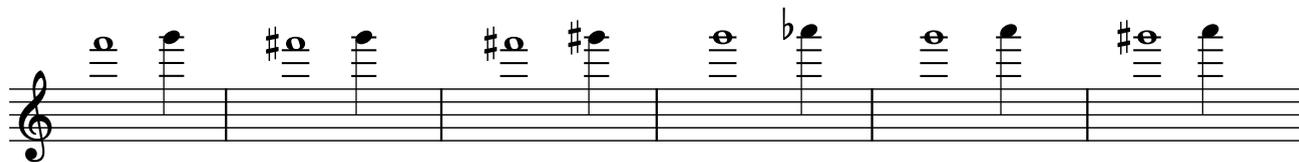


selected trills

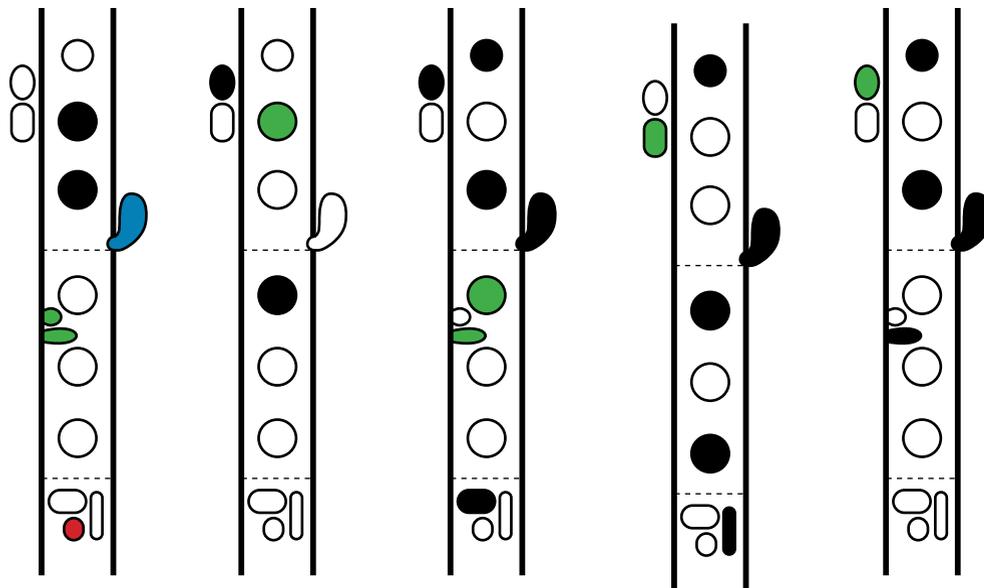
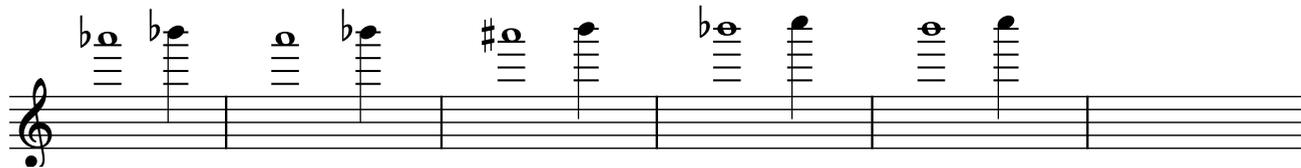


selected trills

■ add to flatten ■ add to sharpen ■ trill



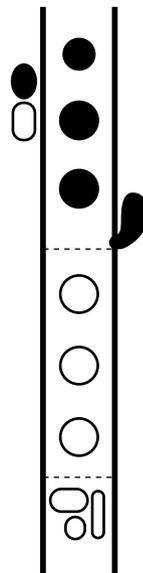
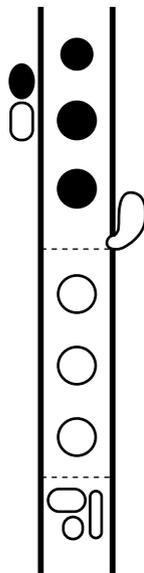
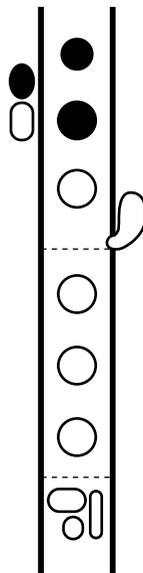
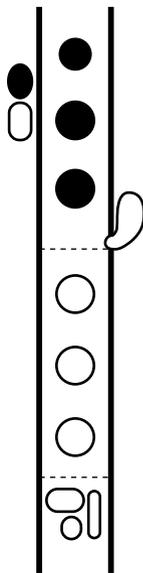
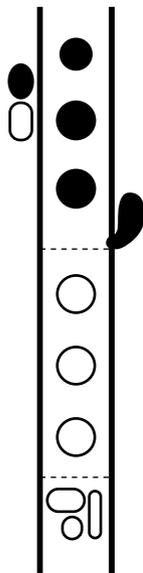
selected trills



sharpens
slightly but

open g#

To demonstrate the difference between open and closed g#, repeat rapidly.



open d#

To demonstrate the difference between open and closed d#, repeat rapidly.

The image displays a musical staff and five fretboard diagrams illustrating the difference between open and closed D#.

The musical staff shows a sequence of five notes: an open D (represented by a natural sign), a closed D# (represented by a sharp sign), an open D (represented by a natural sign), a closed D# (represented by a sharp sign), and an open D (represented by a natural sign).

The fretboard diagrams below the staff show the fingerings for each note:

- Diagram 1 (Open D):** Shows the open string (no fret) and the 2nd fret.
- Diagram 2 (Closed D#):** Shows the 2nd fret.
- Diagram 3 (Open D):** Shows the open string (no fret) and the 2nd fret.
- Diagram 4 (Closed D#):** Shows the 2nd fret.
- Diagram 5 (Open D):** Shows the open string (no fret) and the 2nd fret.

The diagrams illustrate that the open D note is produced by the open string, while the closed D# note is produced by fretting the string at the 2nd fret.

open d#

Tremolos made possible.

The image displays a musical staff and six fretboard diagrams illustrating a tremolo technique for an open D# note. The staff shows a sequence of notes: D4 (open), D#4 (open), D4 (open), D#4 (open), D4 (open), and D#4 (open). The notes are marked with a tremolo symbol (~). Below the staff are six fretboard diagrams, each corresponding to one of the notes in the staff. Each diagram shows a guitar neck with six strings and six frets. The notes are indicated by black circles on the strings. The first diagram shows the open D4 note (4th string, open). The second diagram shows the open D#4 note (4th string, 1st fret). The third diagram shows the open D4 note (4th string, open). The fourth diagram shows the open D#4 note (4th string, 1st fret). The fifth diagram shows the open D4 note (4th string, open). The sixth diagram shows the open D#4 note (4th string, 1st fret). The diagrams illustrate the alternating fretting of the 4th string to create the tremolo effect.

patterns

The more logical and natural the fingerings, the easier they are to retain.

(D \flat)

The image displays a musical staff with a treble clef and a key signature of one flat (D-flat). The staff contains five measures of music, each with a single note: D-flat, E-flat, F, G, and A. Below the staff are five corresponding fingering diagrams. Each diagram shows a vertical line representing the string, with a dashed horizontal line indicating the fretting hand position. The notes are represented by black circles on the string. The fingering diagrams show the following fingerings: 1. D-flat: index finger on the note, thumb on the neck. 2. E-flat: index finger on the note, thumb on the neck. 3. F: index finger on the note, thumb on the neck. 4. G: index finger on the note, thumb on the neck. 5. A: index finger on the note, thumb on the neck. The diagrams illustrate a consistent and logical fingering pattern for the scale.

patterns

(E \flat)

The image displays a musical staff and five corresponding fretboard diagrams for the E \flat scale. The staff shows the notes E \flat , F, G, A \flat , B \flat , and C. The fretboard diagrams illustrate the fingerings for each note: E \flat (index), F (middle), G (ring), A \flat (ring), B \flat (middle), and C (index).

(Chromatic)

The image displays a musical exercise for a chromatic scale. At the top, a five-measure staff in treble clef shows the notes: E4 (sharp), F4, G4, A4, and B4 (sharp). Below the staff are five fretboard diagrams, each corresponding to one measure. Each diagram shows a vertical line representing the fretboard with a dashed horizontal line at the first fret. The notes are represented by circles: black circles for natural notes and white circles with black outlines for sharp notes. The fingering is indicated by numbers 1-4. In the first measure (E4), the left hand has an open circle (finger 1) and a black circle (finger 2) on the first fret. The right hand has a black circle (finger 1) on the first fret and a black circle (finger 2) on the second fret. The second measure (F4) shows the left hand with an open circle (finger 1) and a black circle (finger 2) on the first fret, and the right hand with a black circle (finger 1) on the first fret and a black circle (finger 2) on the second fret. The third measure (G4) shows the left hand with an open circle (finger 1) and a black circle (finger 2) on the first fret, and the right hand with a black circle (finger 1) on the first fret and a black circle (finger 2) on the second fret. The fourth measure (A4) shows the left hand with an open circle (finger 1) and a black circle (finger 2) on the first fret, and the right hand with a black circle (finger 1) on the first fret and a black circle (finger 2) on the second fret. The fifth measure (B4) shows the left hand with an open circle (finger 1) and a black circle (finger 2) on the first fret, and the right hand with a black circle (finger 1) on the first fret and a black circle (finger 2) on the second fret.

patterns

(A)

The image displays a musical exercise labeled (A). At the top, a five-measure staff in treble clef shows a sequence of notes: a half note G4 (marked with a sharp sign), a half note A4, a half note B4, a half note C5, and a half note D5. Below the staff are five vertical fretboard diagrams, each corresponding to one measure. Each diagram shows a six-string guitar neck with a dashed line at the 5th fret. The diagrams illustrate the following fretting patterns:

- Measure 1: Open strings on the 1st and 2nd strings, and a half note G4 on the 3rd string (2nd fret).
- Measure 2: Open strings on the 1st and 2nd strings, and a half note A4 on the 3rd string (3rd fret).
- Measure 3: Open strings on the 1st and 2nd strings, and a half note B4 on the 3rd string (4th fret).
- Measure 4: Open strings on the 1st and 2nd strings, and a half note C5 on the 3rd string (5th fret).
- Measure 5: Open strings on the 1st and 2nd strings, and a half note D5 on the 3rd string (7th fret).

In each diagram, the fretted note is shown as a solid black circle. The open strings are shown as either solid black circles (for the 1st and 2nd strings) or white circles with black outlines (for the 3rd, 4th, and 5th strings). A curved line on the 3rd string indicates the pick attack for the half note.

(E)

The image displays the E major scale on a musical staff and five corresponding fretboard diagrams. The staff is in treble clef and shows the notes E, F#, G, A, B, C#, and D# across five measures. Below the staff are five fretboard diagrams, each representing a measure of the scale. Each diagram shows a vertical line for the fretboard with a dashed line for the nut. The notes are represented by circles: black for natural notes and white for sharps. Fingerings are indicated by numbers 1-4 in white circles. The diagrams show the following fingerings: Measure 1 (E, F#, G, A, B): 1, 2, 3, 4, 2; Measure 2 (F#, G, A, B, C#): 2, 3, 4, 1, 2; Measure 3 (G, A, B, C#, D#): 3, 4, 1, 2, 3; Measure 4 (A, B, C#, D#, E): 4, 1, 2, 3, 4; Measure 5 (B, C#, D#, E): 2, 3, 4, 1.

patterns

(C#)

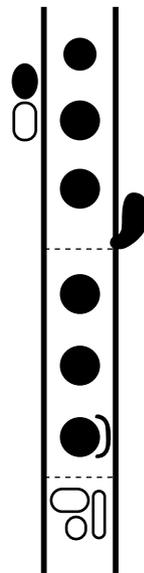
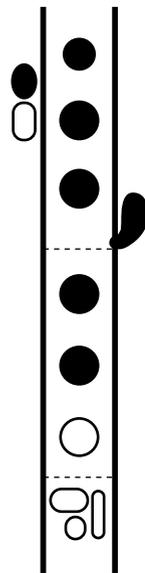
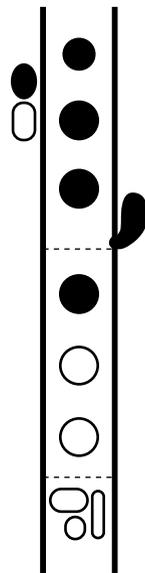
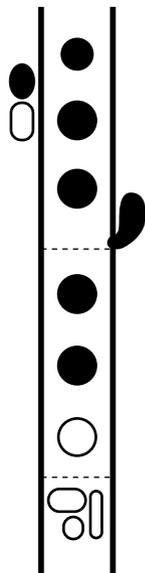
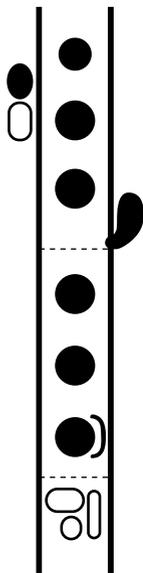
The image displays a musical staff and five fretboard diagrams illustrating a scale pattern in C#.

The musical staff at the top shows a treble clef and a key signature of one sharp (F#). The notes on the staff are: F#4, G4, A4, B4, C5, B4, A4, G4, F#4. The notes are grouped into five measures, each starting with a sharp sign and a note head.

Below the staff are five fretboard diagrams, each representing a measure of the scale. Each diagram shows a vertical line representing the fretboard with a dashed horizontal line for the middle finger position. The notes are represented by circles: solid black circles for fretted notes and hollow circles for natural notes. The diagrams show the following fretting patterns:

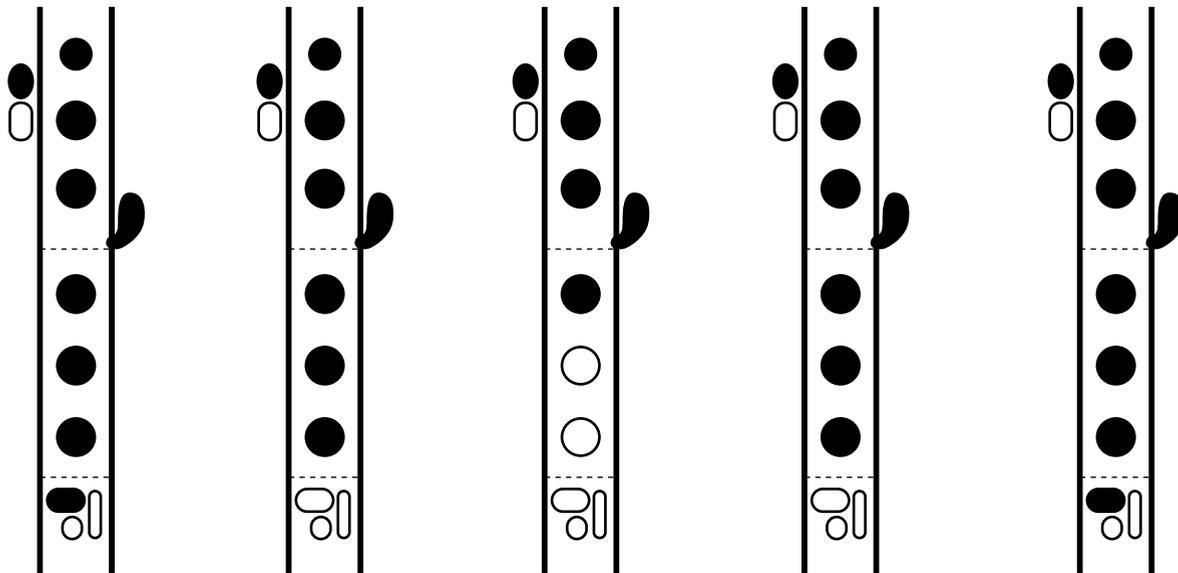
- Diagram 1: F#4 (open), G4 (1st fret), A4 (2nd fret), B4 (3rd fret), C5 (4th fret), B4 (3rd fret), A4 (2nd fret), G4 (1st fret), F#4 (open).
- Diagram 2: F#4 (open), G4 (1st fret), A4 (2nd fret), B4 (3rd fret), C5 (4th fret), B4 (3rd fret), A4 (2nd fret), G4 (1st fret), F#4 (open).
- Diagram 3: F#4 (open), G4 (1st fret), A4 (2nd fret), B4 (3rd fret), C5 (4th fret), B4 (3rd fret), A4 (2nd fret), G4 (1st fret), F#4 (open).
- Diagram 4: F#4 (open), G4 (1st fret), A4 (2nd fret), B4 (3rd fret), C5 (4th fret), B4 (3rd fret), A4 (2nd fret), G4 (1st fret), F#4 (open).
- Diagram 5: F#4 (open), G4 (1st fret), A4 (2nd fret), B4 (3rd fret), C5 (4th fret), B4 (3rd fret), A4 (2nd fret), G4 (1st fret), F#4 (open).

(F)



patterns

(E \flat)



open g# conversion exercises

The image displays four staves of musical notation, each containing exercises for the 'open g#' conversion. The notation is as follows:

- Staff 1:** A single treble clef staff. It begins with a sequence of eighth notes: G#4, A4, B4, C5, D5, E5, F#5, G#5. This sequence is bracketed and followed by a quarter rest, a quarter note G#4, and another quarter rest. This is followed by a double bar line with repeat dots. The second part of the exercise is a sequence of eighth notes: G#4, A4, B4, C5, D5, E5, F#5, G#5, A4, B4, C5, D5, E5, F#5, G#5. This sequence is also bracketed and followed by a quarter rest, a quarter note G#4, and another quarter rest. The staff ends with a double bar line with repeat dots.
- Staff 2:** A single treble clef staff. It starts with a double bar line with repeat dots. The first exercise is a sequence of eighth notes: G#4, A4, B4, C5, D5, E5, F#5, G#5. This is bracketed and followed by a quarter rest, a quarter note G#4, and another quarter rest. This is followed by a double bar line with repeat dots. The second exercise is in 2/4 time, indicated by a '2' over a '4' below the staff. It consists of a sequence of eighth notes: G#4, A4, B4, C5, D5, E5, F#5, G#5. This is bracketed and followed by a quarter rest, a quarter note G#4, and another quarter rest. This is followed by a double bar line with repeat dots. The third exercise is a sequence of eighth notes: G#4, A4, B4, C5, D5, E5, F#5, G#5. This is bracketed and followed by a quarter rest, a quarter note G#4, and another quarter rest. This is followed by a double bar line with repeat dots. The staff ends with a double bar line with repeat dots.
- Staff 3:** A single treble clef staff. It starts with a double bar line with repeat dots. The first exercise is a sequence of eighth notes: G#4, A4, B4, C5, D5, E5, F#5, G#5. This is bracketed and followed by a quarter rest, a quarter note G#4, and another quarter rest. This is followed by a double bar line with repeat dots. The second exercise is a sequence of eighth notes: G#4, A4, B4, C5, D5, E5, F#5, G#5. This is bracketed and followed by a quarter rest, a quarter note G#4, and another quarter rest. This is followed by a double bar line with repeat dots. The third exercise is a sequence of eighth notes: G#4, A4, B4, C5, D5, E5, F#5, G#5. This is bracketed and followed by a quarter rest, a quarter note G#4, and another quarter rest. This is followed by a double bar line with repeat dots. The fourth exercise is a sequence of eighth notes: G#4, A4, B4, C5, D5, E5, F#5, G#5. This is bracketed and followed by a quarter rest, a quarter note G#4, and another quarter rest. This is followed by a double bar line with repeat dots. The staff ends with a double bar line with repeat dots.
- Staff 4:** A single treble clef staff. It starts with a double bar line with repeat dots. The first exercise is a sequence of eighth notes: G#4, A4, B4, C5, D5, E5, F#5, G#5. This is bracketed and followed by a quarter rest, a quarter note G#4, and another quarter rest. This is followed by a double bar line with repeat dots. The second exercise is a sequence of eighth notes: G#4, A4, B4, C5, D5, E5, F#5, G#5. This is bracketed and followed by a quarter rest, a quarter note G#4, and another quarter rest. This is followed by a double bar line with repeat dots. The third exercise is a sequence of eighth notes: G#4, A4, B4, C5, D5, E5, F#5, G#5. This is bracketed and followed by a quarter rest, a quarter note G#4, and another quarter rest. This is followed by a double bar line with repeat dots. The fourth exercise is a sequence of eighth notes: G#4, A4, B4, C5, D5, E5, F#5, G#5. This is bracketed and followed by a quarter rest, a quarter note G#4, and another quarter rest. This is followed by a double bar line with repeat dots. The staff ends with a double bar line with repeat dots.

The image displays four staves of musical notation, each beginning with a treble clef. The notation consists of eighth and sixteenth notes, often grouped with slurs. The first staff features a key signature of one sharp (F#) and includes repeat signs. The second staff also has a key signature of one sharp and includes repeat signs. The third staff has a key signature of one flat (Bb) and includes repeat signs. The fourth staff has a key signature of two flats (Bb, Eb) and includes repeat signs. The music is presented in a clean, black-and-white format.

open g# conversion exercises

The image displays five staves of musical notation, each containing a sequence of exercises. The exercises are written in treble clef and consist of eighth-note patterns, often grouped with slurs and repeat signs. The first staff begins with a key signature of one sharp (F#) and contains four measures of eighth-note patterns. The second staff begins with a key signature of one flat (Bb) and contains four measures. The third staff begins with a key signature of two flats (Bb, Eb) and contains four measures. The fourth staff begins with a key signature of one flat (Bb) and contains four measures. The fifth staff begins with a key signature of one sharp (F#) and contains two measures. The exercises involve various chromatic and diatonic movements, including patterns that illustrate the conversion of an open G# note into other notes within a scale.

