

# SMART SCALES

for

# STRINGS

## COMPLETE SCORE

### SCALE PATTERN TERMINOLOGY:

**SEMI-TONE**  
(smallest sound in Western music)

Vn/Va  
Any two fingers that are TOUCHING  
ONE finger apart

Vc  
1 2 3  
2 3 4  
ONE finger apart

Bs  
1 2  
2 4



Bs  
1  
4

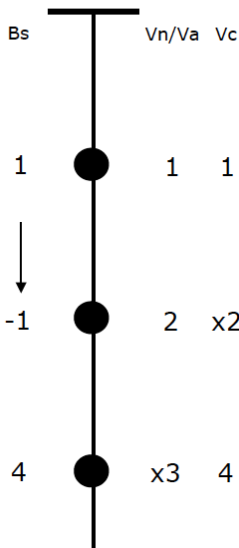
TWO fingers apart or EXTENSION

Vc  
1 2 1  
X  
3 4 2

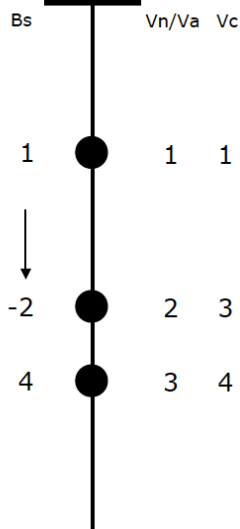
Vn/Va  
Any two fingers that are APART

**WHOLE-TONE**  
(equals 2 semi-tones)

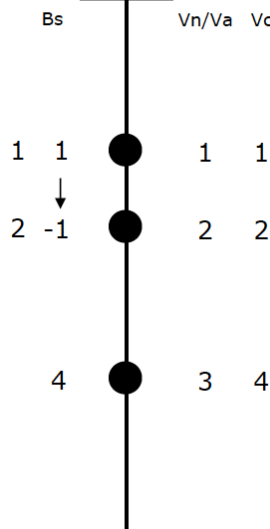
### WHOLE TONE PATTERN



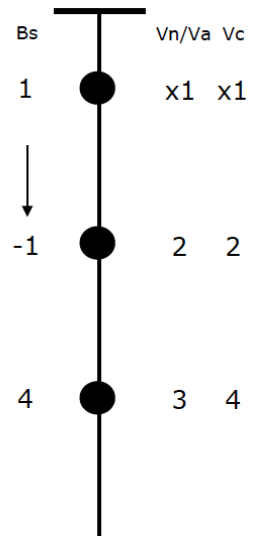
### MAJOR PATTERN



### MINOR PATTERN



### BACKWARD WHOLE TONE PATTERN



## Contents Score/Parts

♩ C Major	2/2		
♯ G Major	8/4	♭ F Major	38/14
♯♯ D Major	14/6	♭♭ Bb Major	44/16
♯♯♯ A Major	20/8	♭♭♭ Eb Major	50/18
♯♯♯♯ E Major	26/10	♭♭♭♭ Ab Major	56/20
♯♯♯♯♯ B Major	32/12	♭♭♭♭♭ Db Major	62/22

Memorizing the basic finger patterns on the front cover will make it easy for your students to learn to play all the scales in this book. As they play more difficult scales, it may help them to learn a few more patterns below.

### Smart Scale Finger Patterns

← Add Sharps ♯    Add Flats ♭ →

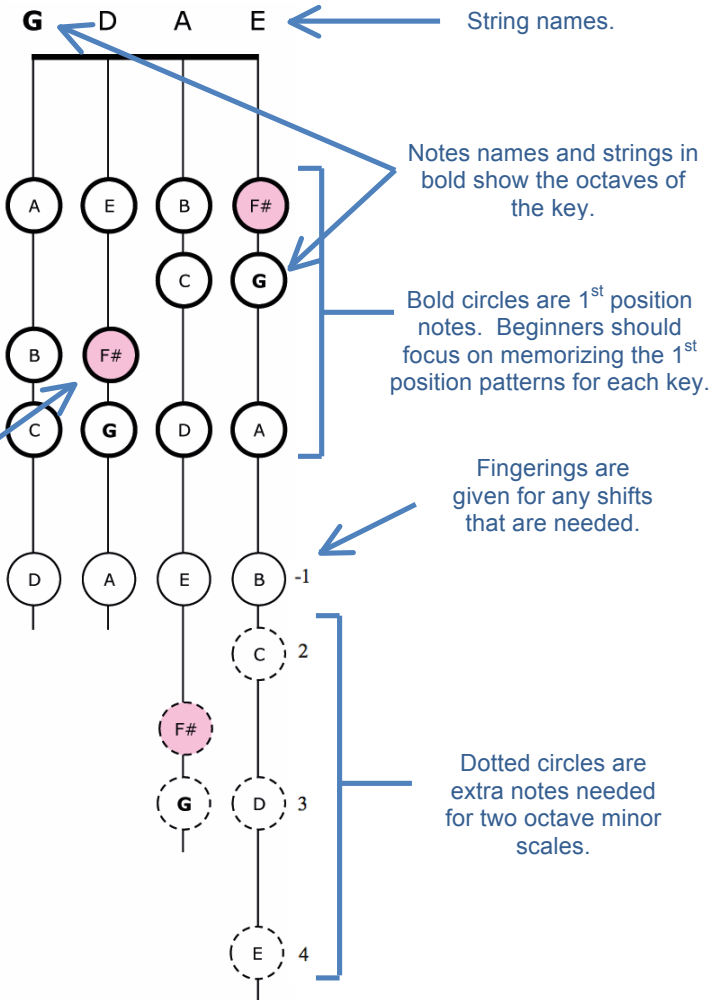
BACKWARDS MAJOR	WHOLE TONE with extra ♯	WHOLE TONE PATTERN	MAJOR PATTERN	MINOR PATTERN	BACKWARDS WHOLE TONE	BACKWARDS with ♭ 4th	BACKWARDS MAJOR
BM or B+	W#	W	M or +	m or -	B	B♭4	BM or B+

**Abbreviations**

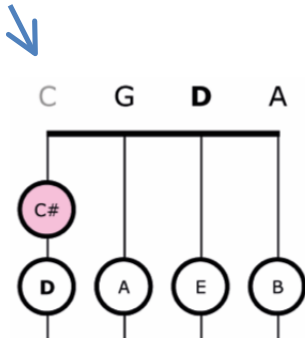
\* Abbreviations are useful for labeling fingering charts when learning new keys, for writing the patterns in the music as a reminder, or for labeling fingering chart drawing exercises, etc.

# How to Use Smart Scales

Make scales easy to play!  
Learn to recognize the finger patterns at the front of the book and use them to help you memorize the first position in each key.



Strings that are grey can't be played in that key.

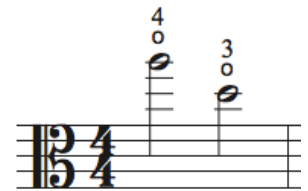
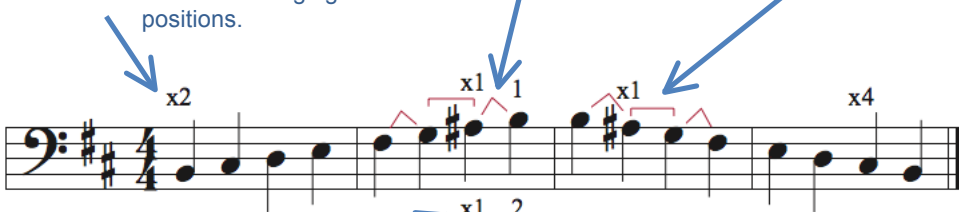


Sharp or flat notes are shaded/coloured.

An 'x' is for a finger that is extended forward or back a semi-tone without changing positions.

A pointed bracket is a reminder to play a semi-tone.

A square bracket is a reminder to play an augmented 2<sup>nd</sup> (one semi-tone more than a whole-tone).



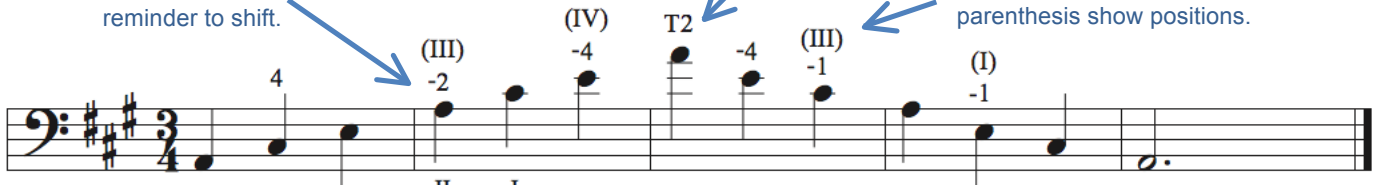
Fingerings underneath the staff are alternate fingerings.

Thumb position is used around the octave mark for bass and cello.

A small circle underneath a number means play the harmonic with that finger.

A dash before a number is a reminder to shift.

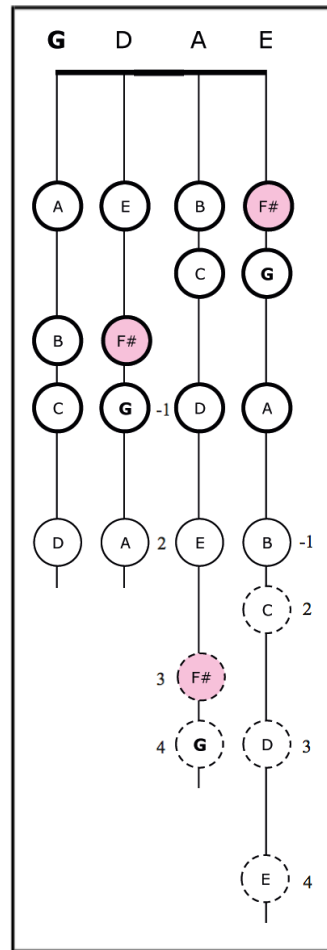
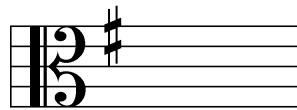
Roman numerals in parenthesis show positions.



Roman numerals I, II, III and IV show which string to shift on, e.g. IV is the E-string on the bass.

VIOLIN

# G Major / E minor



## One Octave G Major Scales & Arpeggios

1 2

4 (0) 4 (0)

4 (0) 4 (0)

2 2

Violin

Viola

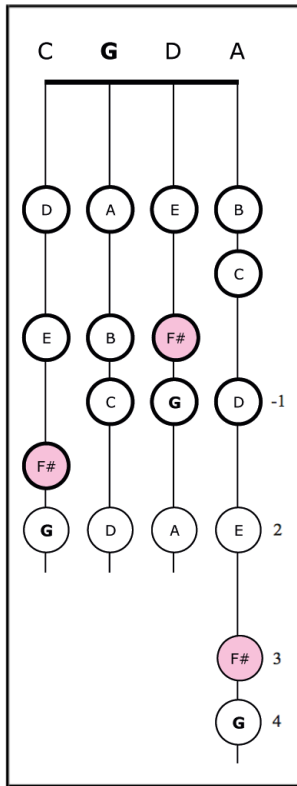
Cello

Db. Bass

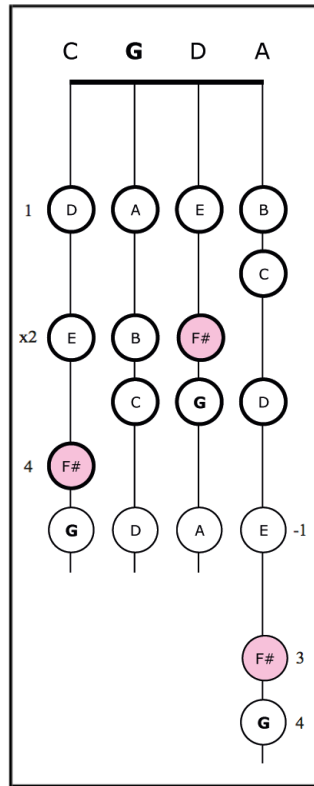
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ENJOY THIS SAMPLE!

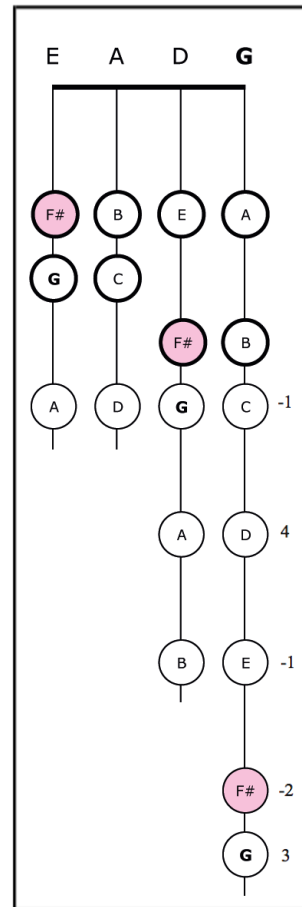
# VIOLA



# CELLO



# BASS



3 4

Vln.  $\frac{4}{4}$  (with Violas: III -1 2 3 4 4 3 2 1 -2) (III -1 4 1 -1 4 1)  $\frac{3}{4}$

Vla.  $\frac{4}{4}$  (III) 1 (IV) -1 3 4 4 3 2 1 -2 4 (III) 1 3 1 4 (IV) (I) -4 -4 -4 (I) 1 -1 -1 4 1 -1

Vlc.  $\frac{4}{4}$  (II) 1 -2 4 (IV) (VI) -1 4 -2 3 3 2 -4 1 (IV) (II) -4 2 -1 (IV) -1 3 0 -1 -4 (I) -1 -4 -1 -4

Bs.  $\frac{4}{4}$  (II) 1 -2 4 (IV) (VI) -1 4 -2 3 3 2 -4 1 (IV) (II) -4 2 -1 (IV) -1 3 0 -1 -4 (I) -1 -4 -1 -4

0 -1 4 3  
(III) 0

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ENJOY THIS SAMPLE!

## Two Octave G Major Scale & Arpeggio

5

Violin (Vln.)

Viola (Vla.)

Violoncello (Vlc.)

Bass (Bs.)

Tempo: 4/4

Key Signature: G Major (one sharp)

Measure 5: (with Violas: III -1)

Measure 6: (III) -1

Measure 7: (IV) -1

Measure 8: (I) -2

Measure 9: (I) -2

6

Violin (Vln.)

Viola (Vla.)

Violoncello (Vlc.)

Bass (Bs.)

Tempo: 3/4

Key Signature: G Major (one sharp)

Measure 10: (III) -1

Measure 11: (III) -1

Measure 12: (IV) -4

Measure 13: (I) -4

Measure 14: (I) -2

# One Octave Minor Scales & Arpeggio

7 E natural minor

8 E harmonic minor

Musical score for E natural and harmonic minor scales. The score is divided into two systems. The first system covers measures 1-4, and the second system covers measures 5-8. The staves are Violin (Vln.), Viola (Vla.), Violoncello (Vlc.), and Bass (Bs.). The key signature is one sharp (F#) and the time signature is 4/4. The first system shows the E natural minor scale. The second system shows the E harmonic minor scale, which includes a raised seventh degree (D#). Fingerings (1-4) and bowing techniques (x2, x4, x1) are indicated throughout the score.

9 E melodic minor

10 E minor arpeggio

Musical score for E melodic minor scale and E minor arpeggio. The score is divided into two systems. The first system covers measures 1-4, and the second system covers measures 5-8. The staves are Violin (Vln.), Viola (Vla.), Violoncello (Vlc.), and Bass (Bs.). The key signature is one sharp (F#) and the time signature is 4/4. The first system shows the E melodic minor scale, which includes a raised sixth degree (D#). The second system shows the E minor arpeggio, which is a three-note chord (E-G-B) played in a descending sequence. Fingerings (1-4) and bowing techniques (x2, x4, x1) are indicated throughout the score.

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ENJOY THIS SAMPLE!

## Two Octave Minor Scales & Arpeggio

### 11 E natural minor

11 E natural minor

Vln. (IV) 2 (IV) -1 2 3 4 (I) -3 4 4

Vla. (IV) 2 (IV) -1 2 3 4 (I) -3 4 4

Vlc. x2 4 (II) -1 x2 4 (I) -1 x4 2

Bs. 1 (II) -2 (IV) -1 (II) -4 (I) -1

Detailed description: This musical score is for the E natural minor scale, consisting of two octaves and an arpeggio. It is written for four string instruments: Violin (Vln.), Viola (Vla.), Violoncello (Vlc.), and Bass (Bs.). The key signature is one sharp (F#) and the time signature is 4/4. The scale is played in a stepwise fashion across four measures. The first measure shows the starting notes with fingering (IV) 2. The second measure continues the scale with fingerings (IV) -1, 2, 3, 4. The third measure shows the scale ascending to the octave with fingerings (I) -3, 4, 4. The fourth measure shows the scale descending back to the starting note with fingerings (I) -3, 4, 4. The arpeggio is played in the final measure of each instrument's part, with fingerings (I) -1, 2, 3, 4.

### 12 E harmonic minor

12 E harmonic minor

Vln. (IV) 2 (IV) -1 2 3 4 (I) -3 4 4

Vla. x1 1 (IV) -1 2 3 4 (I) -3 4 4

Vlc. x2 4 x1 1 (II) -1 x3 4 (I) -2 x1 x4 2

Bs. (1/2) 2 (I) -1 (II) -2 (IV) -1 (II) -4 (I) -1 (1/2) -1

Detailed description: This musical score is for the E harmonic minor scale, consisting of two octaves and an arpeggio. It is written for four string instruments: Violin (Vln.), Viola (Vla.), Violoncello (Vlc.), and Bass (Bs.). The key signature is one sharp (F#) and the time signature is 4/4. The scale is played in a stepwise fashion across four measures. The first measure shows the starting notes with fingering (IV) 2. The second measure continues the scale with fingerings (IV) -1, 2, 3, 4. The third measure shows the scale ascending to the octave with fingerings (I) -3, 4, 4. The fourth measure shows the scale descending back to the starting note with fingerings (I) -3, 4, 4. The arpeggio is played in the final measure of each instrument's part, with fingerings (I) -1, 2, 3, 4.



13 E melodic minor

Violin (Vln.) part: Treble clef, 4/4 time. Annotations include (IV) 2, 4, (IV) -1, (I) -3, and 4.

Viola (Vla.) part: Alto clef, 4/4 time. Annotations include 4, 4, and 4.

Violoncello (Vlc.) part: Bass clef, 4/4 time. Annotations include x2 4, x2 4, x1 1, (II) -1, 3, 4, (I) 2, -2, and x4 2.

Bassoon (Bs.) part: Bass clef, 4/4 time. Annotations include 1, -1 1, (II) -1, (IV) -2, (II) -4, and (I) -1.

14 E minor arpeggio

Violin (Vln.) part: Treble clef, 3/4 time. Annotations include (IV) 2, (IV) -1, 3, 1, 4, and (I) -1.

Viola (Vla.) part: Alto clef, 3/4 time. Annotations include 4.

Violoncello (Vlc.) part: Bass clef, 3/4 time. Annotations include (II) -4, (I) -1.

Bassoon (Bs.) part: Bass clef, 3/4 time. Annotations include (IV) 0, -4, 4, 4, 0, and (I) -1.

Below the Bassoon staff, Roman numerals II and I are indicated.



VIOLIN

One Octave Minor Scales & Arpeggio

E natural minor 7

E harmonic minor 8

E melodic minor 9

E minor arpeggio 10

Two Octave Minor Scales & Arpeggio

E natural minor 11

E harmonic minor 12

E melodic minor 13

E minor arpeggio 14

VIOLA

# G Major / E minor



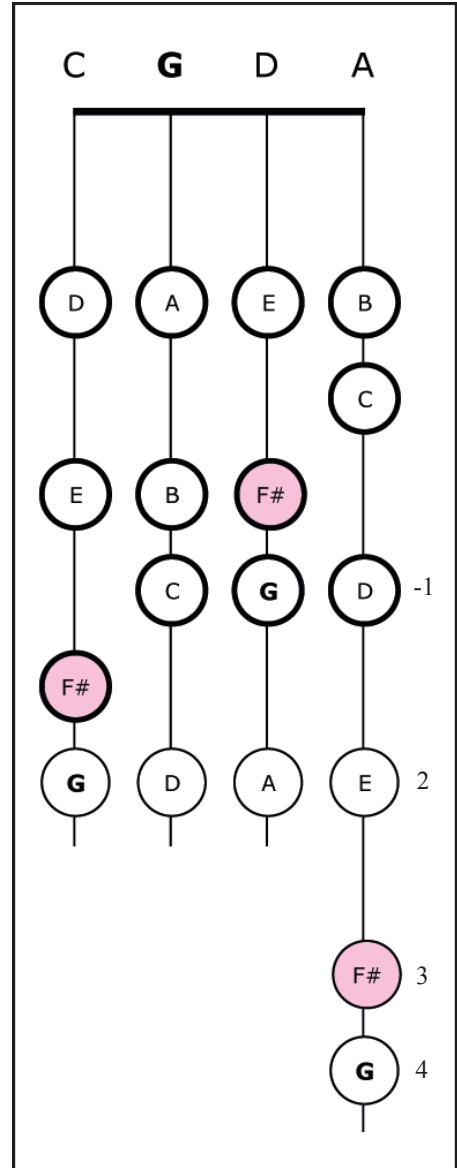
## One Octave G Major Scales & Arpeggios

1

2

3

4



## Two Octave G Major Scale & Arpeggio

5

6

VIOLA

One Octave Minor Scales & Arpeggio

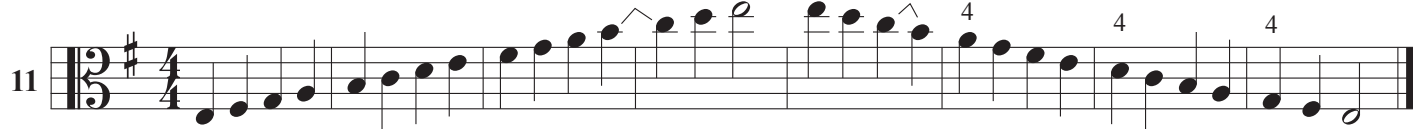
E natural minor 7 

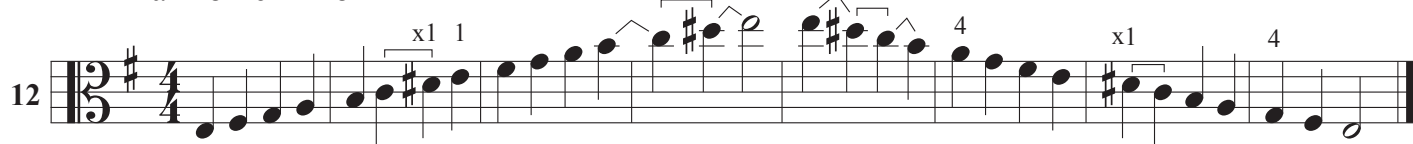
E harmonic minor 8 


E melodic minor 9 


E minor arpeggio 10 

Two Octave Minor Scales & Arpeggio

E natural minor 11 

E harmonic minor 12 

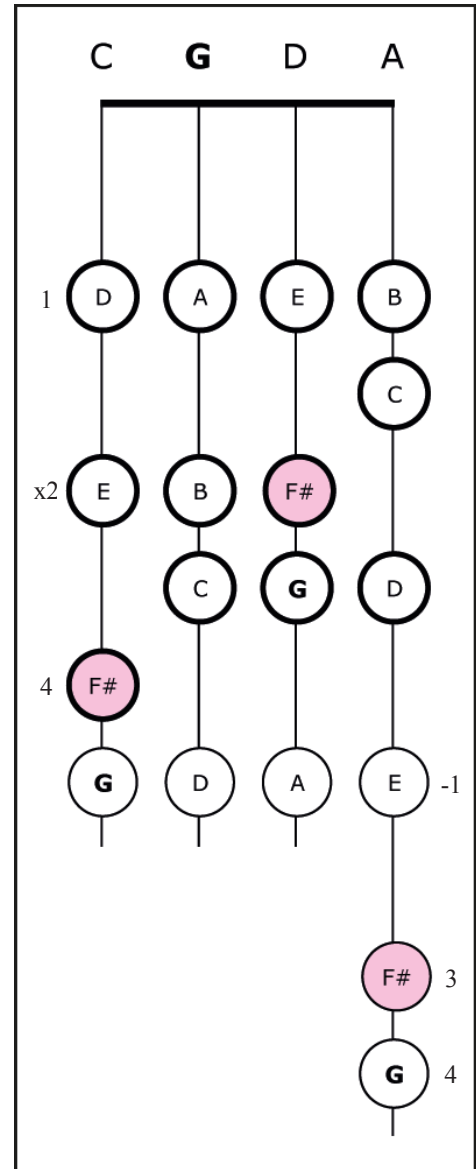
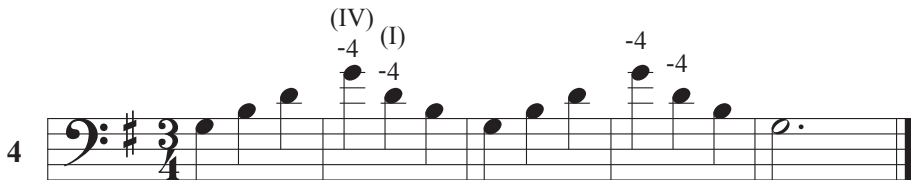
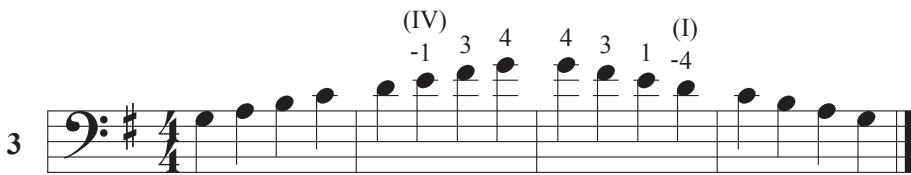
E melodic minor 13 

E minor arpeggio 14 

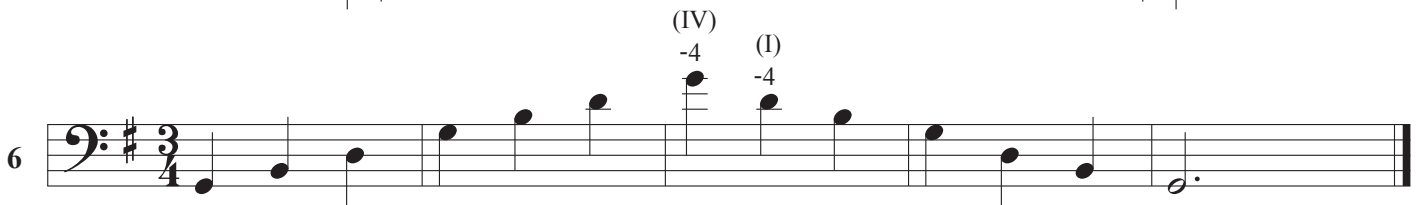
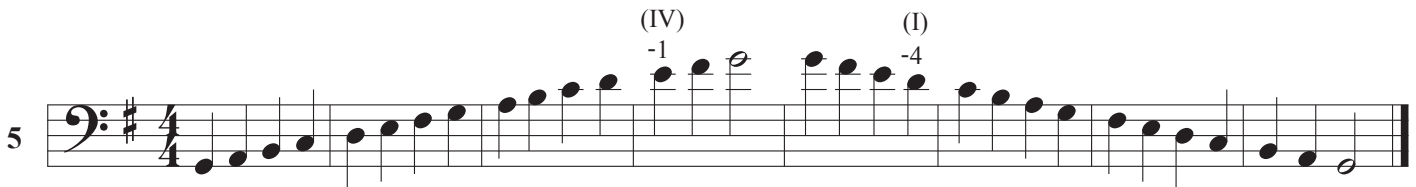
# G Major / E minor



## One Octave G Major Scales & Arpeggios



## Two Octave G Major Scale & Arpeggio



CELLO

One Octave Minor Scales & Arpeggio

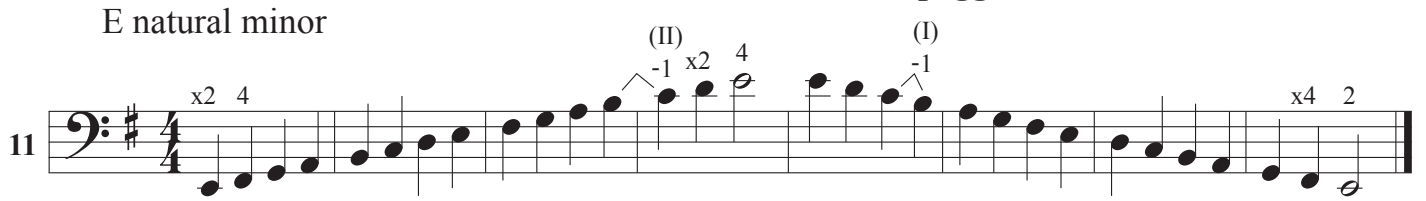
7 E natural minor 

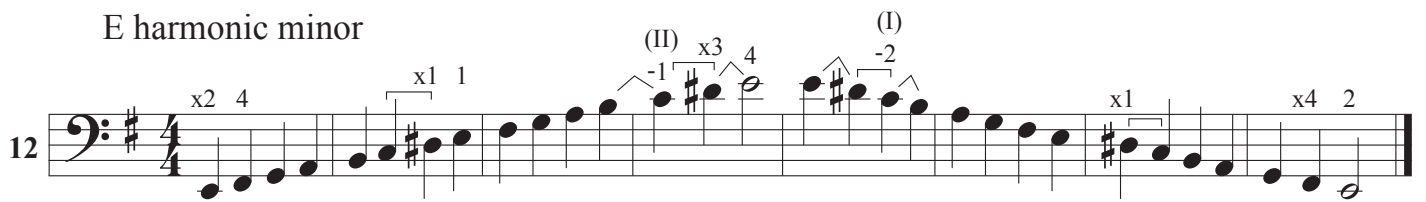
8 E harmonic minor 

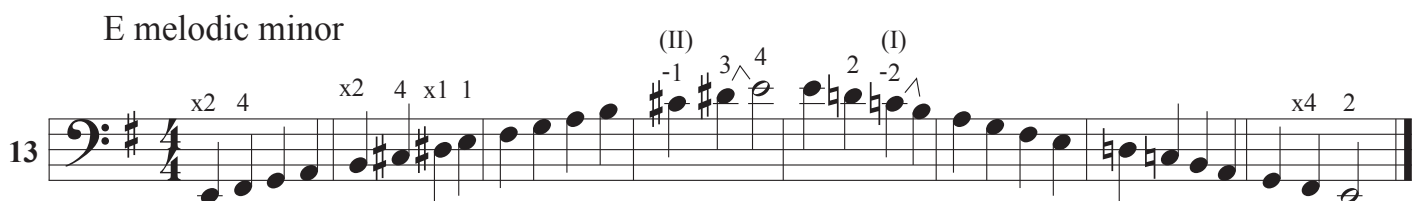
9 E melodic minor 

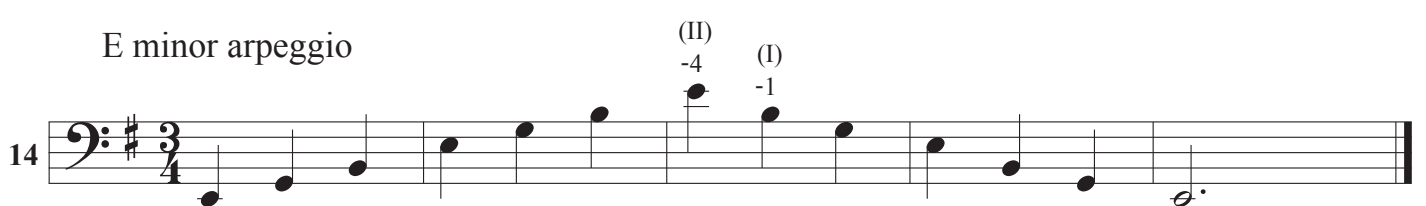
10 E minor arpeggio 

Two Octave Minor Scales & Arpeggio

11 E natural minor 

12 E harmonic minor 

13 E melodic minor 

14 E minor arpeggio 

BASS

# G Major / E minor



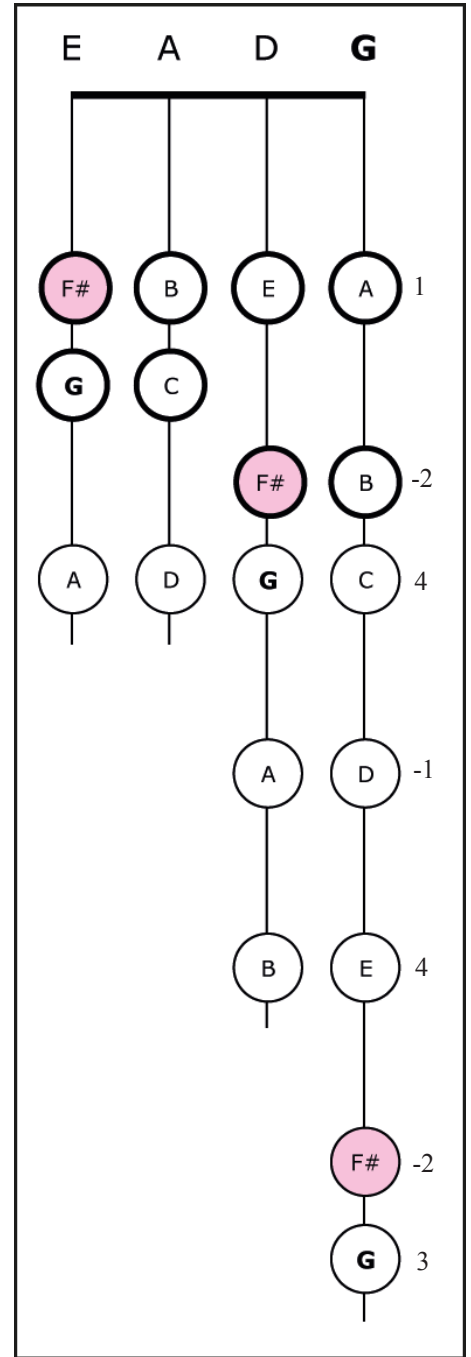
## One Octave G Major Scales & Arpeggios

1

2

3

4



## Two Octave G Major Scale & Arpeggio

5

6



BASS

One Octave Minor Scales & Arpeggio

E natural minor 7

(I) 1  
(1/2) 2

E harmonic minor 8

(1/2) 2  
1 2  
1

E melodic minor 9

(I) 1  
4 -1 2  
1

E minor arpeggio 10

(I) 2  
(1/2) 4

Two Octave Minor Scales & Arpeggio

E natural minor 11

(II) -2  
(IV) -1  
(II) -4  
(I) -1

E harmonic minor 12

(1/2) 2  
(I) -1  
(II) -2  
(IV) 4 -2  
(II) -4  
(I) -1  
(1/2) -1

E melodic minor 13

1  
-1 1  
(II) -1  
(IV) -2  
(II) -4  
(I) -1

E minor arpeggio 14

(IV) 0 -4 4 0  
(I) -1