

## **Montessori Tone Bars**

### **Introduction on Zoom**

I've presented the Montessori bells to a group of Primary guides. A few years ago I presented at an AMI-EAA SC on 'Dancing' because what goes great with music? Dancing!

I've also presented to my classroom parent community, a presentation titled '*Plays, Musicals, and Operas*'.

### **Slide 1 Music is a Feeling**

Music with instruments, singing, rhythm sticks, sheet music, etc.

It hasn't always been that way.

There has been a time when people were hitting rocks to create rhythm, clapping hands together or on their laps, etc.

Making noises with blades of grass, shells.

They used whatever was around them.

There was a need, perhaps a spiritual need to make noise, a joyful sound.

Music was, is, a feeling.

### **Slide 2 Music is Part of Our Human Heritage**

In this part of central Texas there have been many different groups of people who've lived here.

I want to express gratitude and appreciation with respect for the land I'm on as the traditional and ancestral homelands of the Tonkawa, Lipan-Apache, Karankawa, Comanche, and Coahuiltecan people.

I don't know all of their stories but I've learned that music was part of their existence. Music and singing was a vehicle for telling their stories and histories, used in comforting their children during storms or when needing to rest.

*"What did they sing about? What was their music like?"*

### **Slide 3 Six Flags of Texas**

It's a slogan used to describe the six sovereign countries that have had control over some or all of the current territory of Texas.

This image shows the dates. Left to right, top down.

1. Spain
2. France
3. Mexico
4. The Republic of Texas
5. The Confederate States
6. The United States

### Spanish

In 1535 the first chroniclers of Indigenous peoples in Texas, the shipwrecked Álvar Núñez Cabeza de Vaca and his party, were greeted by people who *“shouted, clapped their thighs, and brought out gourd-and-pebble rattles to which they attached great importance.”*

### French

Almost 200 years later, in what is now northern Texas, the French explorer Bénard de La Harpe was treated to a ceremony that lasted twenty-four hours, *“during which time their music did not discontinue for a moment.”* Spanish archives are replete with accounts of Coahuiltecan dances that lasted as long as eight days and were motivated by such diverse events as seasonal harvests, battles, and astronomical phenomena.

Singing accompanied most of the dances.

### **Slide 4 Music Around the World**

Humans around the world embrace music.

Music has been with us probably since before we had written language.

*“I wonder what kind of instruments early humans played?”*

*“Ravi Shankar, on the left, is playing a very old instrument called the sitar.”*

*“On the right we see drummers. Drums are also very old instruments.”*

*“Seemingly these people are having different types of experiences but there is a connection to music. I believe I see people having emotional responses in these photos. The blues is another style of music that many people connect with emotionally. Music is a feeling.”*

### **Slide 5 Music Is In Us**

I believe that we're all musicians. We know that while in utero, we have a heartbeat. It can be fast, slow, repeats, and responds to music. Brain development is occurring.

At around 16 weeks, in utero, a baby can hear the mother's internal sounds. Sounds like the mom's heartbeat and digestion.

At around 28 weeks, the baby can hear external sounds although about 20 dB quieter.

Singing while pregnant Increases the baby's capacity for language perception.

Parents often sing to their babies while pregnant and lullabies when the child is born. We sing with our students. They get exposed to music.

### **Slide 6 Noble Descent Of Musicians**

In the classroom I work in, we have several instruments: ukuleles, a keyboard, guitar, mandolin, shakers, etc but we also have the tone bars. I learned to read music with the C Major Scale Booklet and the accompanying materials.

I want to support you as a resource on your musical journey.

Remember that music is our shared heritage.

You all belong. You're part of the 'Noble Descent Of Musicians'

You're already in the band!

### **Slide 7 The Tone Bars**

The Bells in the Children's House have one octave whereas the Tone Bars have two octaves.

What's an octave? An octave is a series of 8 notes occupying the interval between and including two notes. or

The interval between the two notes at the extremes of an octave.

First of the white tone bars is a C, 7 more white tone bars it's another C and 7 more white notes after that it's another C. The last of the white tone bars.

- 15 white tone bars (Natural notes)
- 10 black tone bars (Sharps -raise  $\frac{1}{2}$  step and Flats -lower a  $\frac{1}{2}$  step)
- 2 soft rubber mallets

Interval - difference between two notes. The space between notes

Notes - specific pitch or sound frequency

Musical notes - on the staff, represent a pitch and it's a duration

### **Slide 8 The Tone Bar Base**

The tone bars go on a base that helps with orientation

### **Slide 9 Setting Up the Tone Bars**

None

### **Slide 10 Setting Up the Tone Bars**

This may imply that there could be a lower octave and a higher octave or just beautifully centered.

### **Slide 11 Set Up**

I usually have a cover for the tone bars. You'll see it in a subsequent slide.

### **Slide 12 Set Up - 2**

Lowered the posted C major Scale

Separate shelf for songbooks and the music experiments.

This is how I have it set up. Too crowded otherwise.

C major scale is the scale used for the bells (1 octave)

Why the C major scale? It has no sharps or flats! aka 'People's Key'

That would be if you just played the white tone bars or the white keys on the piano.

F major scale= Bb

Bb major scale= B and E flat

Eb major scale= A, B, and E flat

### **Slide 13 Care of the Tone Bars**

A fabric to cover the tone bars to protect them from eraser caps, paper clips, beads, etc.

The cover on the left was made by a parent and the one on the right I brought back from a trip to Guatemala.

### **Slide 14 Removing Dust and Adjusting the Tone Bars**

*None*

### **Slide 15 Tone Bars Complimented With a Set of Bells**

This is ideal. I spoke with Phyllis Pottish Lewis and we agreed, from our experience, that the children will make connections.

What the children learn on the bells can be transferred to the tone bars and then to the keyboard.

Fun Fact - An 88 key keyboard has over 7 octaves!! ( $7\frac{1}{4}$ )

### **Slide 16 Disks with Numbers on the Front & Note Names on the Back**

Numbers are great for using the music strips (transposing) sometimes called the scale strips

Looking at the note names on the disks you can see the octave. C and C. C is the only note that is there twice.

### **Slide 17 Trifecta**

Lay the black discs out first. Number side up.

FYI- Looking at the underside you'll see the note names on the discs.

You can see the octave. C and C.

C is the only note that is there twice. They are also the 1 and 8 discs

Place the Green Board out and connect it to the discs, number side up. The green control board shows the notes ascending in order; line, space, line, space, etc.

You can then play several exercises or songs with numerical notation.

Next time you can lay out the discs but not the green board.

The green board only corresponds to the key of C.

### **Exercise**

"1,3,5...2,4,6...3,5,7...4,6,8" (ascending in a pattern; try descending too)

Have the songs written in numerical notation available to the children.

Next time, lay the discs out first.

Place the C major scale number strip and connect it to the discs.  
Number on the scale strip aligns with the tone bars  
The black disks on top of the tone bars have numbers 1-8  
Do the same exercise as before.

Next time lay out the C major scale number strip but not the discs.

The music strips are great for (transposing keys)  
Sometimes the music strips are called the scale strips.

If you slide the music strip to the right a whole step, it's now a D major scale. You don't need the black discs since you're transposing keys.

### ***Slide 18 Songs In Numerical Notation***

Initially these can be played with the black discs then later paired with the scale strips making it possible to play in other key signatures.  
Shifting the intervals, space, between the notes makes this possible.

### ***Slide 19 Playing Music With Notes, Recognizing the Song***

Do the exercises above and spend time with the C major scale booklet.  
Additionally play with the deconstructed C major scale booklet where they can match the definition with the picture of a note on the staff.  
They can use the C major scale booklet as a control of error.

I'll show a few activities that you can do where you can assess if they are learning to read music. Doesn't have to be fluid at this point.  
If they are reading, even slowly introduce the Identifying Song game with a music binder.

The binder has about 10 songs. 2 sets.

One set the song is titled and the other set the songs are untitled.

They are separated by a divider.

I placed it this way in the photo to demonstrate how the right side is missing the title but the music is the same.

Hopefully the child recognizes the song while playing it and names the song title.

They compare and match it with the sheet music to confirm.

Can self check.

## **Slide 20 Transposing Keys - Using the Number Strips**

Stored in a felt sheath, blanket stitched all around.  
These need to be remade using all printed numbers.  
Can also be called the 'scale strips'  
A few of these were replaced and were written by hand.  
Consistency adds an appreciated aesthetic.

**Major-** Our original, the OG. The music strip we've been using.

**Pentatonic-** line up the pentatonic strip with only the black tone bars.  
Notice it's sound  
The pentatonic scale is a five note scale and is the foundation of and commonly used in traditional Asian music traditions.  
(China, Japan, and Korea)

**Dorian-** is one of the 7 Church Modes. I will introduce one, Dorian.  
I included it because it sounds pretty to my ears.

Church Modes have always intrigued me.  
Perhaps an invitation for investigation. Going Out?  
or  
Perhaps the children can make a blues scale?

What other scales are there?

## **Slide 21 Church Modes**

Since I mentioned them...really quickly.

Church mode names come from ancient Greek regions and peoples.

These are **7 Church Modes:**

**Ionian, Dorian, Phrygian, Lydian, Mixolydian, Locrian, and Aeolian**

**Ionian-** bright, joyful and uplifting, foundations for much of western music.  
one of the seven church modes.

**Mixolydian-** combines happiness with a more serious tone.  
Often used by psychedelic musicians.

**Locrian-** often used in dramatic or experimental music.

Flattened 2nd and 5th note which creates a dissonant quality.

## **8 Gregorian Modes**

Used in Gregorian chants with a focus on the authentic and plagal modes.  
8 systems of pitch organization used in Gregorian chant

Authentic modes are the odd numbered modes 1, 3, 5, 7

Plagal is an adjective, having the keynote on the fourth scale step  
Plagal modes are the even numbered modes 2, 4, 6, 8

## **Slide 22 Harmonic Minor Strip**

It's the intervals (space) between the notes that give it its unique sound, major or minor.

In this image the 3rd and 6th are flattened changing from a major to a harmonic minor.

In the key of C the 3rd note would be E and the 6th note would be A.  
Flattened, shifted to the left a  $\frac{1}{2}$  step, would make them Eb and Ab.

Fun singing songs normally sung in major in minor instead.  
Give "*This Land is Your Land*" a completely different feeling.  
A melancholic feel

## **Slide 23 Musical Degrees**

One is the tonic. Each of the other numbers in an 8 note scale, also have names based on their intervals. It's like we enjoy naming things.

**Tonic**- One is the tonic. First note of a scale, tonic pitch, tonal center, feels most 'at home' commonly used at the beginning and end of a melody.

**Supertonic**- Second note in a scale. Super, the note above the tonic.  
Creates light tension. Resolves easily-moving to the first degree.

**Mediant**- the third note in a scale and is 'halfway' between the tonic and dominant. Mediant-means middle

**Subdominant-** the 4th note in a scale, under the dominant. Creates tension, moves away from the tonal center.

**Dominant-** the 5th note in a scale, 2nd most important note in a scale. In the major chords

**Submediant-** the 6th note in a scale. Sub-underneath or beneath. It's three notes beneath the tonic (8).

**Leading tone-**the 7th note in a scale.

***Slide 24 Realm of Music***

We know who we are to the children, to their families. Who if not us? We don't have to be music specialists but we can learn, some at first, and then share with our students. Enlightened generalists.

***Slide 25 Parts of the Staff Booklet***

***Slide 26 Drawing the Treble Clef / G clef***

Resembles a stylized letter G with the curl of the clef symbol wrapping around the line on the staff that represents the note G.

***Slide 27 Parts of the Staff***

***Slide 28 Identifying and Labeling the Parts of the Staff***

***Slide 29 The C Major Scale Booklet***

***Slide 30 The C Major Control Booklet***

***Slide 31 C Major Scale on Display Above the Tone Bars***

***Slide 32 C Major Scale Booklet - 3 Part Cards***

Matching the definition of the notes with the musical notation. Check with the C Major Scale Booklet- Control of error

Both sets of cards (definition and musical notation) remain out in front of the green board.

Later, a variation can be to leave out just the definition cards.

Reading exercise.

I place a black disc down and they tell me the note name.  
If they say the incorrect note name I ask the other 2 children if they agree.  
Fun and light hearted. Open ended activity.  
This can be taken over by an older child.

### **Slide 33 Placing the White Discs on the Greenboard**

The additional white discs are on the tone bars either the first or second octave beforehand.

I'll place 3-4 discs on the green board and then ask them to play them on the tone bars. They remember the 3-4 notes and then play them.

Variation. Place the white discs on the tone bar, both octaves.

These white discs have the note names on them.

Place 3-4 black discs on the green board and have them go play them.

The black discs do not have the note name on them.

If 3-4 notes is too difficult try 2-3 notes.

### **Slide 34 Matching Card With the Green Board and Identifying Note**

Cards are from the 'C Major Scale Material'

I ask the child, "*Which card shows C?*"

They point to the correct card then place the blank black notes on the green board.

If they choose an incorrect card I hand them the C Major Scale Booklet as a reference. Hopefully they come to see the pattern C D E F G A B C and can reason which note is on a line and which note is in a space.

The C Major Scale Booklet is incredibly useful. Every page has a preposition which is helpful; below the staff, on the staff.

We continue till we've placed all the notes on the green board.

### **Slide 35 Identifying the Missing Note**

I lay out the C Major Scale with the black discs. Which note is missing.

They can take turns answering.

If it's incorrect I ask them to check in with their friends.

### Slide 36 **Identifying the Missing Notes**

A variation. The black discs are not in the typical C Major Scale sequence  
I can also ask them to describe the sequence they see.

### Slide 37 **Sharps and Flats**

Not surprisingly I share a story.

A story that the C note wants the half step up to be C# because they're so close together.

The D note says, "Pshaw!" It wants the half step down to be Db because they're so close together. They're both correct but the problem persists.

The note still needs to be named. We name things.

The solution to this problem is that all the black notes have two names.

A sharp and a flat name.

### Slide 38 **Sharps and Flats on the Tone Bars**

### Slide 39 **White Boards - Patterns**

### Slide 40 **Songbooks**

### Slide 41 **Extensions**

The tone bars are an incredible tool for learning music but like the bells, they are limited. They outgrow the material.

If they work on this often and it really gets going the children soon encounter that they can not play some songs because quite often 3 octaves are needed.

A keyboard is great because if it has 88 keys, it has  $7\frac{1}{4}$  octaves.

They can then learn chords (more than 3 notes played simultaneously)

2 notes = double stop,

3 notes = triad, chords

On the keyboard I have 3 yellow circle stickers.

The middle yellow sticker is middle C

This highlights two octaves like the tone bars but they can play above or below this area as needed.

Holiday songs will excite them, birthday songs, theme song: Harry Potter, Star Wars, etc. They seem to want to reason this out. To demystify it. Take their poems or stories and put them to music.

#### Slide 42 **Children Playing the Tone Bars**

#### Slide 43 **Songs - Duets**

Playing with others meets a psychological characteristic of the 2nd plane. These social beings enjoy playing music together. Tone bar playing the melody and the ukulele playing chords.

#### Slide 44 **Songs - Duets**

Trying to play the melody at the same time.

#### **(5 Short Songs)**

*Slide 45* - Seasonal songs renew interest in the tone bars.

Flattening the 3rd and 6th notes of the major scale gives you a minor key.

In a C major scale, the 3rd becomes Eb and the 6th becomes Ab.

Remove the white E and A notes and replace them with the black Eb and Ab notes.

*Slide 46* - Supportive applause and tapping fingers.

*Slide 47* - None

*Slide 48* - This child is no longer using any discs or sheet music.  
Supportive applause

*Slide 49* - This child is no longer using the discs but is still using sheet music.

#### Slide 50 **Ascending and Descending C Minor Scale**

#### Slide 51 **Ascending and Descending C Minor Scale - Pattern**

#### Slide 52 **Songs**

#### Slide 53 **Playing a Wedding with a Former Student**

The children we are working with haven't yet fully revealed themselves. We never know if they'll be chefs, painters, botanists, or in this case, talented touring musicians. *"Sow as many seeds as possible."*

### Slide 54 **Closing**

Provide rich spoken language early but also sing to them early

Read to them but also play to them - ukulele etc

Let them read to you and also get their hands on an instrument (bells/ ukulele. Let them write their stories and their songs.

My daughter Izzy Rivas- playing the bells in my 6-9 class after school. She was still in a 3-6 class at the time. Matching- Same or different

### **Book recommendations**

- Adults

'Drumming at the Edge of Magic' by Mickey Hart and Jay Stevens

'The Jazz of Physics' by Stephon Alexander

More than 50 years ago, John Coltrane drew the 12 musical notes in a circle and connected them by straight lines, forming a five pointed star. Coltrane put physics and geometry at the core of his music.

The band 'Sound Tribe Sector Nine' does the something similar

- Songbooks

Book of Folk Songs - Many out there

'Going to Sing My Head Off' by Kathleen Krull

'De Colores and other Latin American Folk Songs for Children'  
by Jose-Luis Orozco

- Storybooks

'Musicians of the Sun' by Gerald McDermott

When the Lord of the Night sees that his world is sad and colorless because his four special musicians have been locked away.

Wind comes to the rescue. This could easily become an opera.

I'll probably do that presentation at a future Summer Conference.

Speaking of **Summer Conferences** - email to register