Minnesota Sinfonia Music in the Schools Legacy Curriculum Guide

The Magical Mysteries of Math and Music

Dear Teachers,

I am excited to work with you for this year's 2022 Music in the Schools presentation, present **The Magical Mysteries of Math and Music**.

Pre-Covid, every year the Sinfonia presented live performances of one of our seven Music in the Schools (MIS) programs to 8,000-9,500 students in up to twenty-two inner-city public elementary schools and Greater Minnesota communities. Because of the pandemic, we were unable to go into the schools for two years, and because of the uncertainty caused by its lingering effects, we did not know when we would be able to resume. With this in mind, we created a video "adaptation" of **The Magical Mysteries of Math and Music**, which is a program that focuses on mathematical principles and their practical applications in music. With "live "recordings and explanations, it shows how we as musicians rely on and must be adept at math so that our performances can succeed both on musical and emotional levels. YouTube links for the music for this program are listed under the composers' names below.

This video is divided into ten separate tracks, each highlighting different mathematical concepts and their related musical excerpts, which allows teachers to focus on the different interactions as time permits.

This guide contains information and activities that are designed for in-school presentations. Where alterations are made to accommodate the video version, the differences are explained following the descriptions.

Following are teaching materials I hope you will find helpful while working with your students:

- **A list of Minnesota state mandated standards for math** and a variety of activities for grade levels K through six to help meet those standards. Verbal explanations demonstrating the relationships between math and the musical excerpts precede the Sinfonia's video performances.
- **Music for student choirs to sing:** *The Ants Go Marching One by One* is a fun and entertaining song student choirs can learn and sing with the Sinfonia accompaniment (track #7). Sheet music and a piano accompaniment are included as attachments. For schools without choirs, children in one or two classes can be combined into a makeshift ensemble. At some schools, entire grade levels have become the "school choir," and have numbered as many as 150 students!
- **Math exercises to practice.**

I hope your students enjoy our program and that it will be beneficial for their classroom activities.

Jay Fishman,
Minnesota Sinfonia Artistic Director

What happens on a typical (pre-Covid) "Sinfonia Day"

Musician Visits: When the orchestra arrives at the school, one or two students from each classroom would come to the auditorium/gym to escort a musician back to their classroom for a 10–15-minute visit. During this time, the students can ask questions and get to know their musician.

In place of the live visits, we are including short "how to" instructional videos recorded by our musicians, which for wind instruments explain some of the basics such as proper embouchures, how to hold the instruments, etc.; for string instruments, use of the bow, hand position, holding the instruments, etc. Please make sure to make these available to your students.

See Folder: **Instructional Videos from the Musicians of the Minnesota Sinfonia**

Choir/Orchestra Rehearsal

- Normally, instead of meeting a musician in their classroom, choir students would report to the gym/auditorium to rehearse for the concert with Mr. Fishman. In place of the rehearsal and the above-mentioned performance, all students should be prepared by their music (or classroom) teachers and then sing *The Ants Go Marching One by One* with the pre-recorded orchestra accompaniment (track #7).

- Normally, Orchestra students would also report to the performance space during the classroom visits, so they could rehearse with Mr. Fishman and the Sinfonia string players. Because students will not be able to rehearse and perform with Sinfonia musicians, this activity has been eliminated from this program.

Concerts

After the classroom visits, the Sinfonia would perform two times – once for each half of the student body. If possible, students should be grouped by age, with the younger students in one group and older students in the second.

In place of the live performances, each classroom teacher should access the enclosed videos and work with their students (track by track as needed) in their individual classrooms.

Evaluations: During the video showings, please remember to keep notes of your students' reactions during and after the performances.

Sinfonia needs for the Concert Day:

- **32 straight- back folding chairs**

- **1 good quality speaking PA system for Jay to talk to the students**
- **Choral risers (optional) for the student choirs**
- **23 music stands for the Sinfonia's use (if available)**

Music to be performed will be selected from:

- Franz Joseph Haydn: Symphony No. 94 *The Surprise,* Movement II
- Georges Bizet: *March of the Toreadors* from *Carmen*
- Edmund Dede: *Chicago (Grande Valse a l'Amerique*)
- Edward Elgar: *Nimrod* from *the Enigma Variations*
- Wolfgang Amadeus Mozart: Symphony No. 40, Movement IV
- Manuel Ponce: *Intermezzo*
- Paul Schulz*: As I was Goin' to Saint Ives*
- Bernard (Bernie) and Jay Fishman: *Bears!!*
- Amanda Aldridge: *Lazy Dance*

Song for students to sing with Sinfonia on concert day:

- *The Ants Go Marching One by One*

Orchestra piece for students to play with Sinfonia on concert day:

- *Music to Math By* [not included in this packet]

Sinfonia will play excerpts from the Haydn and Mozart Symphonies and complete renditions of the other works on this program. YouTube links for full performances of the works to be performed are listed with the composers' bios. Unfortunately, there are no recordings for *As I was Goin' to Saint Ives* and *Bears!!*

Please make sure that the music is played in class <u>every day</u>, so your students are familiar with it as they work with this program.

A word of caution. *Some YouTube links have advertisements following the performances, so try to stop the video before they appear.*

Introduction

Music is often characterized as an emotional outpouring from the soul, a means of communicating through a mysterious and unintelligible language, and therefore incomprehensible to the non-musician. One often hears that great musicians are "just born with the talent," or that "the average person simply can't understand how it is done," etc. Truth be told, the truly great musicians do have talent, but most of music making is hard work – diligent studying, practicing and understanding, and is accessible and enjoyable to everyone.

Music has three principal components: melody, harmony, and rhythm. Of these, rhythm is the glue that holds everything together, without which the notes, the sounds and the harmonies would make little sense. Rhythm is based entirely on math, is logical, and involves clearly defined structure. There is a mathematical basis for every piece of music that has ever been composed. Without the math, music would be all but meaningless, and more than likely, have no emotional appeal.

What is unusual about music is that it has its own visual language – it uses notes instead of the written "ABCs" – and of course it is relies on our ears – one must listen to get the full meaning of what is being expressed. Because music notation and ear training are rarely taught, many (most) people think of music as a forbidding enterprise. In reality, such is not the case. Like math, which coincidentally has its own visual (numeric) language, music has a variety of "rules" and logical steps that must be mastered. Several principles must be learned, after which the mysteries begin to disappear.

This program will help children understand the basics of musical structure, and how all music is built on mathematical principles. This is the same math they learn in the early grades: addition, subtraction, division, and multiplication. The students will use and hone their math skills as they learn how notes and their lengths relate to other notes which then help to create melodies, and finally how these melodies form the basis for songs, waltzes and marches, as well as sonatas, symphonies and concertos.

This guide is divided into two sections. The first deals with the mathematical relationships of notes and their values to one another – whole notes, half notes, quarter notes, eighth notes, sixteenth notes, thirty-second notes, and triplets.

The second section deals with meter – how we (mathematically) organize notes into groups (measures) and then phrases. As a comparison: letters (like note values) by themselves mean nothing – they are simply figures and just exist. But when letters are put into specific combinations (i.e., ogd can become dog), they then take on a specific meaning. Notes and their values work in a similar fashion. By themselves, they (whole, half, quarter notes, etc.) are little more than meaningless symbols. But when they are grouped into specific arrangements, they take on purpose. And when we organize them into clearly defined and consistent combinations, we create measures and meter. For example, if we have a piece

that is composed with a meter of 2/4 (which means 2 beats to the measure, and the quarter note is the beat), it means that every measure must have 2 full beats –not more and not less. The beats can be any combination, just so they add up to 2. For instance, a measure can include 1 half note, or 2 quarter notes, or 1 quarter note and 2 eighth notes, or 4 eighth notes, etc. If the meter is 3/4 (3 beats to a measure with the quarter note getting the beat), then every measure would have to contain 3 full beats, etc.

Once students learn how measures are formed, they can explore how these measures are grouped into phrases, how phrases are combined into melodies, and then how, by joining several melodies, the composer is able to create complete songs or whatever s/he has in mind.

The program opens with a nod to the story of *Sleeping Beauty*. Four students will be asked to come to the front to help our conductor figure out how to divide a **whole** apple. The conductor will display an oversized apple, and divide it in **half,** giving the halves to two students. Then he will divide the halves into **quarters** and distribute the pieces to all four students. While doing this, he will have the orchestra play a **whole** note, then divide it into **halves,** and then **quarter** notes – showing the direct relationship between the whole, halves and quarters of apples to notes- see insert labeled “dividing the apple.”

At this point, the orchestra will perform examples from Franz Joseph Haydn’s *Surprise Symphony*. The excerpts will demonstrate how math defines rhythm and provides the means to organize notes into measures and phrases. Once these concepts are established, the program will continue with other musical examples, and by using simple addition, multiplication, and division, we will show how the measures are organized into phrases, and then how the phrases are combined to create the final product – see enclosed practice sheets labeled “Math exercises.”

MN STATE MANDATED MATH STANDARDS:

Kindergarten Standards:

- Use objects and draw pictures to find the sums and differences of numbers between 0 and 10.
- Compose and decompose numbers up to 10 with objects and pictures.

Activity: Gather 10 equal size balls. Separate them into 2 or 3 different size groups. Have the students count the balls in each group to determine which group is larger, and why. Then change the combinations, and do the same, so they learn that regardless of the various combinations, the total number of balls remains constant. We are using same size balls, so the students can see a direct "equal" relationship between the objects. Compare this activity to the apple used in our program and explain that regardless of how many pieces there are, the total remains constant with the "whole" apple. This relates to the introduction and dividing the apple.

Grade 1

Standard: Recognize the relationship between counting and addition and subtraction.

Activity: Take a group of different size blocks, balls or any physical objects, and then create different combinations, but always using all the blocks. Help the students understand that regardless of how the objects are arranged, or what size they are, the total number of objects remains constant. This relates to the Haydn Symphony example, and how in each section, there are different combinations of note values in the various measures, but the total value of all the notes remains constant in each of the measures.

Grade 2

Standard: Demonstrate fluency with basic addition facts and related subtraction facts.
Activity: See the first of the enclosed exercises. This relates to both the Haydn and Ponce excerpts.

Grade 3

Standard: Solve real-world and mathematical problems involving multiplication and division, including both "how many in each group" and "how many groups" division problems.

This standard deals with grouping measures (2 beats per measure, 3 beats per measure, etc.) into larger combinations, which we call phrases. Generally, 2 or 4 measures are combined into a phrase.

Activity: First play the introduction to the Ponce *Intermezzo,* where conductor Fishman explains how the phrases are divided into two measures, and/or four measures. Then play

the entire *Intermezzo* several times, after which play the opening minute on its own, 4-5 times. Once the students become familiar with this shorter section, they will notice that at certain junctures (every two or four measures), the music has a slight pause –as if to take a breath. Each of those sections is labeled as a "phrase." Once you sense that the students have a strong familiarity with the music, play maybe a minute's worth of music again, and ask them to count the number phrases. Once they come up with a total, ask them to analyze and divide the phrases into measures. There will probably be different answers, because some may feel that a section is a four-measure phrase, and others that the four measures may be two two-measure phrases. Ask the students to explain their reasoning.

Grade 4

Standard: Demonstrate fluency with multiplication and division facts.

Activity: Listen to the Haydn Symphony excerpts, which is a theme followed by three variations. The first task is to figure out the differences between the variations. Two have more notes (sixteenths and thirty-seconds), and the third has its beats divided into three's (instead of twos). Figuring out these differences will involve division (dividing the beats).

After the initial theme is played (it is the same music played twice, with the second being softer and includes the "surprise"), have the students analyze the three variations. The first variation features an oboe solo accompanied by the violins and violas, all playing sixteenth notes. The next variation is made up of a combination of sixteenth and thirty-second notes and is loud and brash. The last variation offers a twist. Instead of everything being divided by two, in this variation the eighth notes are divided into three's (triplets). Encourage the students to pay close attention!

Grade 5

Standard: Estimate solutions to arithmetic problems to assess the reasonableness of results.

Activity: First study the Bizet *March of the Toreadors*. Play it several times so the students can feel the "left, right, left, right" "one, two, one, two" sense of the music. Explain that this is written in 2/4 (two beats to the measure and the quarter note gets the beat). Next, as they listen to the first 30 seconds, ask them to figure out how many different types of note values there are (eighth notes, sixteenth notes and half notes). After making this initial estimate, determine how many different combinations of notes can equal a full quarter note's value.

Next, study the Dede *Chicago*. By listening, estimate how many beats are in a measure (three). Explain that this piece is composed in 3/8 (three beats to the measure, **but the eighth note, not the quarter note, gets the beat)**. Also stress that the music moves very quickly. After making this initial assessment, count the eighth notes and determine why the music feels like it has three very quick beats per measure. It may be helpful to play Mr. Fishman's introduction to this music, before continuing with this exercise.

Grade 6

Standard: Understand that a variable can be used to represent a quantity that can change, often in relationship to another changing quantity. Use variables in various contexts.

Activity: Study the Elgar *Nimrod* example. Rhythmically it is very different from the other examples. Even though it is composed in 3/4 time (three beats to the measure with the quarter note getting the beat), the music is slower and contains note values that tie over the bar lines. This tying of notes over bar lines (in musical terms, "suspensions") makes it difficult to figure out where the measures begin and or end in relationship to the actual melodies. Compounding this difficulty is that Elgar writes counter melodies that sometimes blur the actual main themes. At one point you may want to suggest to the students that they try to figure out the initial phrases over the first twenty seconds, after which they should just relax and enjoy a great piece of music.

Another activity involves the song, *The Ants Go Marching One by One*. First ask your students to say the words straight out, with each word taking the "exact" same amount of time. Then have them sing the words with no change of note values – no rhythmic changes, so that every note (word) has the exact same length (this is not easy). Then have them sing the song the way they regularly do. Discuss the differences, and why the first versions were so difficult and nonsensical.

For your students in the classroom:

Drawings comparing apples to notes are included on a separate page. Also included is a set of rhythmic exercises [labeled "Math exercises,"] so the students can study, perform, and see firsthand how the mathematical relationships between notes (and counting) not only exist, but are essential for the cohesiveness and stability of the music. See the enclosed.

Exercises

For the following exercises, it may be helpful to use a metronome, which will keep a steady beat. There are several free downloads for metronomes – Mr. Fishman uses an app called pro metronome by EMULab.

It is helpful to have the first clap of a note value (whole note, half note, etc.) always be louder than the following claps of the given note value.

Set the metronome to 72 - this will be 72 beats per minute.

1. This exercise will have the students clap out two measures of whole notes (four quarter note claps per whole note – one loud and three soft, one loud and three soft); two measures of half notes (two quarter note claps per each half note – one loud, one soft, one loud, one soft); and then two measures of quarter notes (eight quarter note claps – loud, loud, loud, loud, loud, loud, loud, loud)

- **WHOLE NOTE: receives four claps**
Each of the two whole notes will receive four claps – the first loud and the remaining three soft.
    - **1 loud, 3 soft**
    - **1 loud, 3 soft**

- **HALF NOTE: receives two claps**
Each of the four half notes will receive two claps, the first loud, the second soft.
- **1 loud, 1 soft**
- **1 loud, 1 soft**

- Quarter Note: each receives one clap
Each of the eight (two measures worth of) quarter notes will receive single clap's
- **1 loud, 1 loud, 1 loud, 1 loud**
- **1 loud, 1 loud, 1 loud, 1 loud**

Each note (clap) must take the same amount of time, so that two half notes (four claps together) must fit exactly into the same time of a whole note. Likewise, the four quarter note claps must fit exactly into the same time as the two half notes and/or the whole note. At this time, you might want to review with the students that the whole note gets four claps, each half note gets two claps, and each quarter note gets a single clap.

This exercise can be expanded to include eight eighth notes and 16 sixteenth notes - always relating the notes and their mathematical relationships to each other.

2. This exercise will combine different note values into measures. Use the enclosed exercise sheets.

For a measure that has **two beats,** we can have several different combinations of note values, but their total must always equal two. We could have one half note (a whole note has too many beats, so it won't fit); two quarter notes; one quarter note and two eighth notes; four eighth notes; one quarter note, one eighth note and two sixteenth notes, etc.

As mentioned above, generally and for these exercises the first beat of every measure is the "strong" beat, which in our case will mean that it is the loudest. For a measure that has two beats, first we will hear a loud clap followed by soft clap(s). If we have three beats in the measure, we will hear loud, soft, soft, etc.

There are several combinations on this page – please have the students clap them out. Use a metronome and play it loudly to help the students keep the beats steady and even. Once these exercises are mastered, have the students create more, and of course then practice them.

We have a slight counting quirk to deal with. The whole note, the half notes and the quarter notes are all whole numbers (four, two and one, respectively). Because we are dividing a quarter note (a whole number) in half, we must come up with a quick and easy way to count the eighth notes. Luckily, in the good old days some genius composer came up with the solution – a simple way to count eighth notes. He determined that at the beginning of the [quarter note] beat, say the number of the quarter (one, two, three, or four), just as if you were counting quarter notes. For the second eighth note, you simply say "and." For two eighth notes at the beginning of the measure, we would say "one" (for the first eighth note), and "and" (for the second eighth note). For the two eighth notes of the second quarter note, we would call the first eighth note "two," and then the second eighth note "and." If there were three beats in the measure, then the first eighth would be called "three," the second "and," etc. If we are going to divide quarter notes into sixteenth notes (four sixteenths in a quarter), then we would say, "one, e, and, ah," for the first beat, "two, e, and, ah," for the second beat, etc.

So far, we have divided everything into halves – remember the apple example. We can also divide beats into threes. When we do this in music, we label these groups of notes "triplets." An example of dividing quarter notes into three would be, "one, and, ah," the second beat would be "two, and, ah," etc. We do not need to go through all the above divisions, but it should be pointed out to the students that music can be divided into threes as well as twos.

Composers and their Music

Franz Joseph Haydn (1732 -1809) - Symphony No. 94 *The Surprise,* Movement II [excerpts]

YouTube link: [complete movement]
https://www.youtube.com/watch?v=lLjwkamp3ll

- Because of a very long and productive life, Franz Joseph Haydn is considered to be the father of the classical symphony.
- Composed 104 symphonies; the last 12 (called the "London" symphonies) are considered to be the best examples of the classical symphony.
- Many of his symphonies have nicknames, including No. 94, *(the Surprise),* which is used on this program.
- The "surprise" is in the second movement and is a very loud and unexpected chord/crash (which follows a long and very quiet section), which was meant to make sure that everyone was alert and listening!

Georges Bizet (1828-1875) - *March of the Toreadors* from the Opera *Carmen*

YouTube link: [opera version]
https://www.youtube.com/watch?v=g2ULycjl_g0

- French composer of operas, including *Carmen,* his most popular creation.
- Although he never set foot in Spain, *Carmen* is considered a great Spanish opera of love, deceit, etc. – all the usual trappings of the Romantic era.
- Interestingly, even though *Carmen* was composed by a Frenchman, many of its songs were sung at the grand opening ceremonies for the 1992 Olympics in Spain.

Edmund Dede (1827-1903) *Chicago (Grande Valse a l'Amerique*)

YouTube link: [full orchestra version]
https://www.youtube.com/watch?v=lujKalK_18o

- Creole (black) American composer born in New Orleans, Louisiana.
- He was the fourth generation of a free (black) family, which allowed him to get an education.
- Played violin and was considered a prodigy.
- Moved to Europe where he studied at the Paris Conservatory and later conducted at many of the French theaters.
- Composed symphonies, light operas, ballets and more than 250 dances and songs.

Edward Elgar (1857-1934) *Nimrod* from the *Enigma Variations*

YouTube link: [full orchestra version]
https://www.youtube.com/watch?v=8tCIhhgrXek

- Romantic composer who was the most important and famous English composer of his generation.
- His *Variations on an Original Theme* AKA *Enigma Variations* (which includes *Nimrod)* is considered one of the 20th century's true orchestral masterpieces.
- Among his other famous and popular compositions are his cello concerto and the *Pomp and Circumstances* marches, which are known the world over for their use at graduation ceremonies.

Wolfgang Amadeus Mozart (1756-1791) Symphony No. 40, Movement IV [excerpt]

YouTube link: [complete movement]
https://www.youtube.com/watch?v=-FUomQWMLts

- Composed over 800 works, including 41 symphonies, 27 piano concertos, operas, concertos for several other instruments, songs, masses and chamber music.
- His last 6 symphonies are generally judged to be his best, most interesting and remain his most popular.
- Similar to Haydn, many of his symphonies have nicknames – *Jupiter, Prague* (for the city), *Linz* (for that city), etc. but No. 40 (used for this program) does not – it is simply called "g minor," – number 25 is called "the little g minor," because it was written earlier, and is smaller in scope.

Manuel Ponce (1882-1948) *Intermezzo*

YouTube link: [piano version]
https://www.youtube.com/watch?v=yikv51iDMsI

- Mexican romantic composer, whose music was strongly influenced by traditional Mexican harmonies and popular song.
- Much of his music was composed for piano or guitar.
- He often used traditional classical forms (mazurkas, sonatas, intermezzos, scherzos, etc.), which provided form and structure for his creations.

Amanda Aldridge (1866-1956) *Lazy Dance*

YouTube link: [piano version]
https://www.youtube.com/watch?v=sZHb7X2OUUk

- Was an English opera singer, teacher and composer.
- Her father was an African American Shakespearian actor who moved to England, where he met and married Amanda Brandt, who was Swedish.
- When a throat condition forced her to stop singing, Amanda turned her energies to teaching. Two of her famous students were African Americans Marian Anderson and Paul Robeson.
- Also composed piano works, songs, etc. So not to confuse the public, she composed them using the pseudonym Montague Ring, to differentiate her teaching from her composing.

Bernard (Bernie) and Jay Fishman – *Bears!!*

No YouTube link

Bernard (Bernie) Fishman (b.1982)

- Is a trained classical pianist who used his skills to become a DJ.
- Is a skillful and clever author, who has written most of the stories for the Sinfonia's Music in the Schools.
- Owns Beat Box Records, a vinyl record store in San Diego, California, that was highlighted in the New York Times as one of the interesting places to visit in San Diego.

Jay Fishman (b. 1947)

- Conductor, composer and arranger was born and raised on the north side of Minneapolis.
- Founded the Minnesota Sinfonia in 1989 with the expressed purpose of serving audiences with limited financial means and inner-city children.
- Created the Sinfonia's Music in the Schools that works with 18-22 public schools and up to 10,000 children every year.
- Has been conducting in the region for 48 years and has conducted approximately 1,800 performances.
- As a composer and arranger, he has published over 330 works which include original compositions and arrangements for small orchestra.

Bears!! by Bernie Fishman

Rudy: (English Accent)
Hello. Please allow me to introduce myself. Rudy is my name,
and being an illustrious flying squirrel, I am known for my endearing and ultimately charming character, as well as being a fantastic storyteller… and I am going to tell you a story.

Long before humans roamed the earth, animals ruled the world. The Lions developed rather slowly. They lived in houses, read books, counted numbers and the bears, being the kings and queens of the kingdom. The bears even had their own TV station – BET – Bear Educational Television. Our story is about a girl bear cubie named RoBEARta, who had a brother named Bearington.

Bearington liked to beat on pots and pans in different rhythms and different tempos, and while it sometimes could get annoying for RoBEARta, she usually liked it. You see, RoBEARta really liked music and she liked to sing. Recently she found a box with a bunch of old instruments in the basement, and she was very excited to start playing them and making some new music.

One day, Bearington's drumming got a little too annoying for RoBEARta. She had a big math test in the morning, and Bearington was making it hard to concentrate. She got so frustrated that she got up and yelled:

RoBEARta: (A high Pitched Voice)
"BEARINGTON! I CAN'T STUDY MY ADDING AND MULTIPLYING WITH YOU BANGING ON THIS STUFF ALL DAY! STOP IT THIS INSTANT!"

Rudy: Bearington, who, like a lot of older brothers, liked to annoy his baby sister, smiled to himself and played louder.

RoBEARta who was getting madder by the instant, realized that screaming wouldn't do it. So she dug into the box and pulled out a strange horn. She started blowing into it, not making music but making shrill squeals, honks, and bellows, hoping to drive him off with her own noisy bombardment.

Rudy:
All of a sudden, a strange feeling came over both of them. Their music seemed to connect, and instead of playing against each other, they started to play together, and it started to sound good. RoBEARta even got to play a tune…..There was just one little problem. The beat kept changing. It got faster and slower, and it even changed meter.

They played for what seemed like hours, until with sheer exhaustion, they just collapsed.

They did not even have enough energy to stand up. Every time RoBEARta stood up, she fell right back down. She tried to get back to her homework, but she couldn't concentrate. She kept thinking about the music. Why, she could not even watch her favorite TV show, BearWhite and the Seven Counting Hens. The music was just too powerful.

And then, suddenly, it all clicked. When she and her brother were playing, the music fell into patterns. True, the patterns kept changing, but still...She realized that if she could guess where the beat was going to change maybe she could help make their music even better. She was puzzling over just this problem when...suddenly, she heard a loud knocking sound outside her window. She looked out and saw her neighborhood woodpecker, Bruno, banging away at her beloved orange tree. Her first thought was to get mad, and yell at him as usual. But then she had an idea.

RoBEARta:
"Hey Bruno, do you like music?"

Bruno: (NYC Accent – Low Voice)
"I like opera" was the brutish reply.

RoBEARta
"OK, can you count?"

Bruno:
"I know the question you really want to ask [Bruno sings] How many pecks can a woodpecker peck, a woodpecker peck, a woodpecker peck? How many pecks can a woodpecker peck, if he pecks real good? How many pecks can a woodpecker peck, a woodpecker peck, a woodpecker peck, how many pecks can a woodpecker peck, if he pecks real good?

Bruno continues:
Now kids, sing along with me - twice as slowly - follow the trumpet..

Bruno/kids sing:
How many pecks can a woodpecker peck, a woodpecker peck a woodpecker peck, how many pecks can a woodpecker peck, if he pecks... real... good?

Bruno speaks:
Five hundred twenty-three! That's how many, thank you very much."

RoBEARta:
"Um, no that's actually not what I was asking....weird... I was playing music with my brother earlier, but we kept getting different beats and different tempos. I want someone who can keep us on the same track, so we can sound good. I made a system..."

Bruno:
"A SYSTEM?!? I don't need a system, check this out." [Bruo goes crazy making all kinds of noise]

RoBEARta shrieked:
"No, No, No. Look, if you count one-two-three-four slowly and just peck your beak on each of the numbers and keep repeating it 1,2,3,3 4,1,2,3,4 over and over, then we could all play together."

Rudy:
Bruno, not used to being a team player, was skeptical at first.

RoBEARta:
"Here, let's give it a try. With me now, 1,2,3,4,1,2,3,4,"

Bruno tentatively started tapping his beak with RoBEARta. After a few measures

BRUNO:
"No way, this is boring, way too slow. I like my creations fierce!"

RUDY:
RoBEARta thought for a moment, then suddenly jumped out of her chair.

RoBEARta:
"I got it! You can play twice as fast, and do 1,2,3,4,5,7,8. If you do that in the same amount of time you did the 1,2,3,4, you are still playing the same tempo, but you get to play more.

Bruno:
"Alright RoBEARta, I like that a little more. Let's try it out, and maybe even go a little faster."

Rudy:
Before anyone knew it, Bearington came creeping in, in his bear-like manner, and began to listen. And soon, other animals started to arrive, many picked up instruments out of RoBEARta's box. They kept coming, like ants to a picnic, until they had gathered into a massive twenty-six-piece animal orchestra.

And this is how it all began. They played and played and played, and soon, the whole town started to take notice. The orchestra was becoming so popular that everyone fell in love with it. And do you know that this was the very beginning of the Bearesota Sinfonia, which when humans took over the earth, became the Minnesota Sinfonia.

Rudy:
Oh my! I've gone on faaaaaaar too long. So, no more ramblings, no more jokes. This story is over. So...I'll Say goodbye...and make sure you practice your 1.2.3.4.5.6.7.8's.

About Our Soloists:

Ginger Commodore

- Local jazz singer whose career started in the 1970s, when she joined the Grammy Award winning vocal ensemble, Sounds of Blackness.
- Was a founding member of the Moore by Four, and with them performed in jazz festivals across the United States, Italy and Finland.
- Has performed in several local theater productions and was the music director for the musical *Memphis*.

Paul Schulz

- Is the clarinetist with the Sinfonia.
- Is the composer for several of the songs that are performed during the Sinfonia's Music in the Schools.
- Is a freelance professional musician who plays clarinet with several of the region's other top professional orchestras.
- Is an IT specialist!

All music recordings on the Minnesota Sinfonia's Music in the School videos, including original works by Paul Schulz, Bernard (Bernie) Fishman and Jay Fishman, and arrangements by Jay Fishman are copyright protected and performed and recorded by the Minnesota Sinfonia with permission from the composers and arranger.

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