



THE CLIBURN

BEETHOVEN

This program strengthens math proficiency and music literacy by exploring rhythm, meter, and tempo. Students will be asked to solve basic math problems (addition, subtraction, multiplication, and fractions) as they relate to each piece. *For a sample video, please visit <https://cliburn.org/project/kids-five/>.*

BRUBECK	<i>Blue Rondo a la Turk</i> <i>Unsquare Dance</i>
MOZART	Sonata in A Major, K. 331
BARTÓK	<i>Peasant Song</i> from 10 Easy Pieces, Sz. 39 2
RIMSKY-KORSAKOV	<i>The Flight of the Bumblebee</i>
KHACHATURIAN	Waltz from “Masquerade”
KABALEVSKY	<i>Slow Waltz</i> from 24 Pieces for Children, op. 39, no. 23



Composer Bar Graphs

SUBJECT AREAS:

Music, Math, Social Studies

OVERVIEW:

This activity is designed to:

- Increase exposure to the composers and styles presented in the Playing with Numbers presentation.
- Deepen understanding of and familiarity with the music.
- Practice active listening and audience skills.
- Facilitate conversations between students that teach them to communicate musical preferences.
- Understand and articulate differences of opinion.

Students will listen to music, collect data relating to their favorite composers, and organize in a bar graph.

MATERIALS NEEDED:

Poster board and markers if activity is done by hand, or school-issued Chromebook or iPad with wifi access if activity is done online. Online bar graphs that are excellent for elementary students can be created at <https://nces.ed.gov/nceskids/graphing/classic/bar.asp>.

MUSIC TO EXPLORE:

BRUBECK	I'm In a Dancing Mood The Duke
MOZART	"Bird Catcher's Aria" from <i>The Magic Flute</i> Symphony No. 40 in G Minor, K. 550 (I. Molto allegro)
BARTOK	Concerto for Orchestra (II. Giuoco Delle Coppie)
RIMSKY-KORSAKOV	"Dance of the Tumblers" from <i>The Snow Maiden</i>
KHACHATURIAN	Violin Concerto in D Minor (III. Allegro vivace)
KABALEVSKY	The Comedians' Suite, op. 26 (II. Comedians' Gallop)



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ACTIVITY:

Prior to this activity, practice active listening together as a class. Select two contrasting pieces from the list above, and have students discuss how it sounds, the tempo, featured instruments, mood, etc. Draw their attention to important or exciting moments in the music, replaying them as necessary. For example:

- What instrument represents bird calls in the Mozart? What about the sound tells you that (high pitch, direction/shape of the music, a quick upward scale, etc)?
- Is the rhythm of the Bartok easy to follow? Could you clap along with it, or is it more complex? How does that make you feel about the piece?
- What makes the *Comedians' Gallop* funny? (Instrument pairings—xylophone and strings playing the same notes at the same time create an interesting timbre; taxi horn is surprising; fast tempo made it feel almost out of control)
- The beginning of the Khachaturian is very repetitive. Does that make it more or less interesting to you? Does the violin sound very classical, or more like a fiddle?
- Brubeck's pieces are the only ones not for a whole symphony orchestra. What instruments do you hear (piano, bass, drums, saxophone)? How do we know he's "In A Dancing Mood" if there aren't any words?

Then create a playlist on YouTube, Spotify, Naxos, or any other listening library your students will have access to at home. Some suggested pieces are above and included throughout this curriculum guide. Have students listen to the music at home, encouraging them to take notes on the musical components discussed in class. Have them select their favorite composer and write a brief paragraph on why they chose that person using musical language practiced in class.

At the end of the week, have the students survey their classmates on their preferences. Encourage discussions on what made them select the composer and favorite pieces, and how the music made them feel. Students should take a tally for each composer their classmates favored.

Then, if using this as a class activity, have them create and fill in a large bar graph on poster board using names and pictures of the composers as the x-axis and number of classmates as the y-axis. Post outside the classroom to share the results. Or, if using this as an individual/online activity, print individual graphs to post.

Conclude the activity with a class discussion on what they believe made the most popular composer the winner. How did their style compare to the others? What draws people to keep listening to their music over so many years?



Musical Speed Math

SUBJECT AREAS:

Music, Math

OVERVIEW:

The goal of this activity is to increase musical fluency and mathematical proficiency, and to create bridges in understanding the relationship between both subjects. Students will explore the value of musical notes and will apply the math skills of adding fractions and whole numbers to the measure of those notes.

MATERIALS NEEDED:

A school-assigned Chromebook or iPad and wifi connection.

SET UP INSTRUCTIONS:

1. Set up a free teacher account on kahoot.com using your district email address.
2. From the home page, select option 2, "Create a kahoot."
3. Select "New kahoot – create."
4. The kahoot will automatically default to quiz.
5. Select a time limit from the drop down menu on the right hand side of the screen.
6. For graded quizzes, select the number of points each question will be worth. Or, for a simple class activity, select no points.
7. Type your first math equation in words at the top of the page, ex. "What does a half note plus a half note equal?"
8. Upload an image of your math equation under "find and insert media," using the plus sign in the middle of the page. You can also drag and drop the image directly into the center of the page. (Excellent music notation images are available for free at <https://midnightmusic.com/2013/06/the-big-free-music-notation-image-library/>.)
9. Add answers at the bottom. Kahoot will automatically default to four answers; for younger classes, leave answers 3 and 4 blank, and they will automatically delete.
10. To repeat the process with more questions, select "add question" from the menu on the lefthand side of the screen.
11. Save your kahoot and upload it to your online classroom.

ACTIVITY:

Begin with a review of the value of musical notation. Whole note equals 4 beats, half note equals 2 beats, etc. Older classes may also use dotted rhythms and rests to make this activity more advanced and to include fractions. Solve a few math equations using musical notation together as a class. Then have students open the Kahoot app on their school-issued device.

Assign students to two leagues from the home screen in the Kahoot app. Allow the leagues to choose their team name(s) and a cover image. Let students know that each question has a time limit, and that the team to get the most correct answers in the least amount of time wins.



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Students will solve the problems individually at their own computers, but points are collected as a team at the end of the game.

When all students are set up in the correct Kahoot league, begin the game. Teachers have the option of casting or screen sharing the league leaderboard(s), but be aware that these include the scores of each individual. **Filter to show only league totals before sharing the winner with the class.**



Musical Timeline

SUBJECT AREAS:

Music, Math, Social Studies

OVERVIEW:

This activity invites students to observe how musical styles have changed over time and to think critically about the role of composers within their culture. Students will also compute life spans of composers and list them chronologically in history. Lastly, it introduces the students to the composers presented in the Cliburn in the Classroom program *Playing With Numbers*.

MATERIALS NEEDED:

School-assigned Chromebooks or iPads; access to wifi; printed photos of composers; and pencils and paper.

MUSIC TO EXPLORE:

MOZART	String Quartet No. 19 in C Major, K. 465 (“Dissonance”) (I. Adagio)
BARTOK	Romanian Folk Dances, Sz. 56 BB 88
RIMSKY-KORSAKOV	Scheherazade, op. 35
KHACHATURIAN	Sabre Dance
KABALEVSKY	Merry Dance Variations on a Russian Folksong, op. 51
BRUBECK	<i>Take Five</i>

ACTIVITY:

Divide the students into six groups. Assign each group one composer from the list above and give each group the photo of their assigned composer. Have the students look up the birth and death dates of each composer and calculate the composer’s age using those dates. Ask them to look up the total number of compositions each composer wrote; older students can also calculate the average number of compositions per year based on age. Then, allow students some time to look up important biographical and style information about each composer.

At the end, have the student groups come together to put the photos in order on a timeline; bonus if this timeline is a classroom or hallway bulletin board! Each group can present the important facts they discovered to the class. Listen to the compositions by each of these composers and have the students compare and contrast the styles in their own language.



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REFLECTION QUESTIONS:

- Why did your group choose to highlight those facts about the composer? What made those facts interesting?
- How do you think your composer influenced music/education/their community?
- What was your most surprising discovery about the composer?
- Did knowing more about the composer as a person help you understand their music better? Did you enjoy the music more because of this knowledge?



Rhythm Rondo

SUBJECT AREAS:

Music

OVERVIEW:

In this activity, students can creatively explore the rondo form and reinforce the fundamentals of music notation, ear training, and pattern recognition through call and response style collaborative composition. It is designed to accompany the Cliburn Kids video “Pattern Play: The Rondo,” which can be viewed at <https://cliburn.org/project/kids-rondo>.

ACTIVITY:

Begin by watching Cliburn Kids “Pattern Play” together as a class, and be sure rondo as a form is understood.

Each student should have their own worksheet (included here) on which to compose their original rhythm rondo. Choose a meter based on the grade level and music fluency of each class. Begin by prompting the class to tap or quietly clap their own original rhythm, and then write out that rhythm in each of the “A” boxes. Then allow students to pick a partner. One partner claps a rhythm while the other notates; this is their “B” box. Repeat this step with a new partner to fill in boxes C and D. When their compositions are completed, allow time for volunteers to perform their rondos by clapping or playing a class percussion instrument.

ALTERNATIVE:

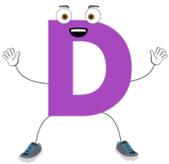
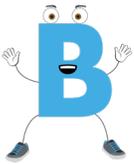
For older students or those with instrumental experience, you may go beyond rhythmic notation to basic staff notation and allow for in-class performance of the new composition on their instrument!

Pattern Play: The Rondo

BACH Rondo from Partita for keyboard No. 2 in C Minor, BWV 826

CLASS ACTIVITY: Rhythm Rondo

NAME _____ METER _____





Two-Digit Cha-Cha

SUBJECT AREAS:

Music, Math

OVERVIEW:

This activity integrates movement and music to increase retention, order, and sequencing skills. Students will calculate the products of two-digit multiplication while dancing the cha-cha. Note: The cha-cha only works with longform multiplication; it does not work with the box method.

MATERIALS NEEDED:

Print on 11x17 or larger paper the “Two Digit Multiplication Cha-Cha Musical Organizer” (included); alternatively, make your own on large poster board. Have anywhere from 5–10 copies, depending on class size and time. Fill in the organizers with varying two-digit multiplication problems appropriate for the age and skill level of the class. These could also be laminated and filled in with dry erase markers for reuse between classes.

SPACE CONSIDERATIONS:

Place the organizers on the floor in a large circle; each organizer will function as a multiplication station. Leave enough space between stations for students to dance the cha-cha comfortably on the organizers.

MUSIC TO EXPLORE:

BERNSTEIN	Symphonic Dances from “West Side Story” V. Cha-Cha
PIAZOLLA	<i>Cha Paris</i>
KLAZZ/SCHUBERT	<i>Danzon De La Trucha</i>

ACTIVITY:

Demonstrate the basic steps to the cha-cha. Have the students follow along slowly, one step at a time, then gradually increase the tempo and fluidity. Once the basic steps are mastered, give them a practice round of the dance using one of the suggested pieces listed above, or a more traditional one of your choosing.

Then, connect the steps of the cha-cha to multiplication. Let the students’ feet do the math! Step forward and multiply the ones. Step back and bring the number into the green piano on the right. Sidestep, multiply the ones column by the tens and complete the green pianos, etc. Turn on a cha-cha and allow students to dance while solving the problems—the Bernstein is a slow tempo

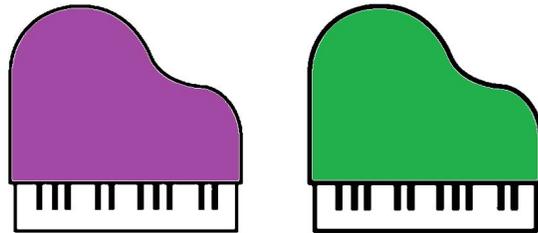
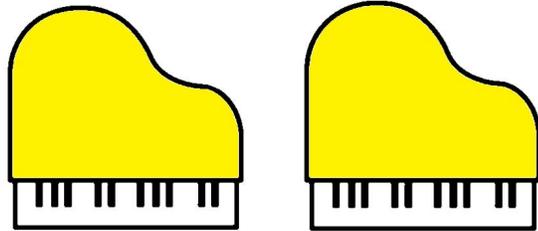


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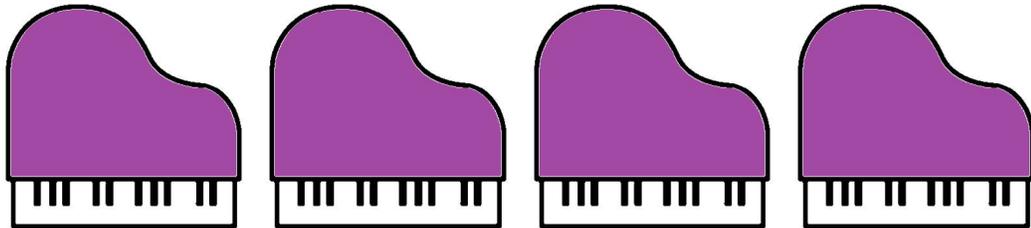
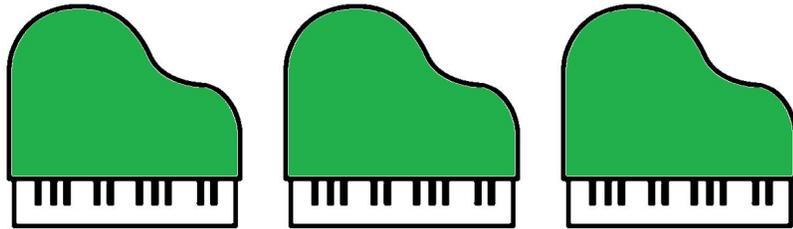
and excellent for this activity. Set a time limit for each station and have students switch to solve new problems.

If time allows, at the end of class students can practice their 7 and 11 multiplication tables by following along with two math cha-chas, both available on Youtube. These are "[Cha Cha with My Seven](#)" by Kiboomu, and "[Cha Cha Multiply! By 11](#)" by Music with Mar.

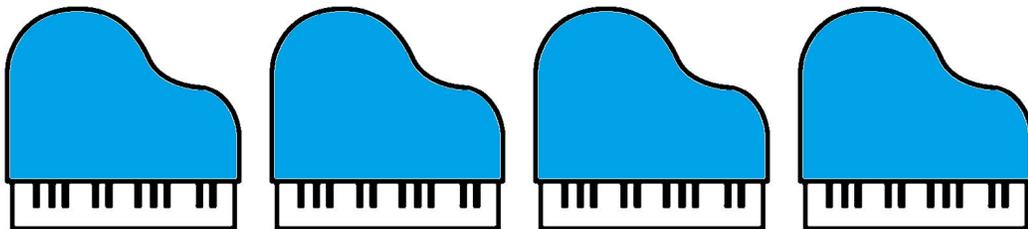
Two Digit Multiplication Cha-Cha Musical Organizer



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Playing With Numbers TEKS

Rhythm Rondo

Music: Music literacy, creative expression, critical evaluation and response.

2.b.1.D; 2.b.2.A; 2.b.3.C; 2.b.3.D; 2.b.4.A; 2.b.6.B

3.b.1.D; 3.b.2.A; 3.b.3.C; 3.b.3.D; 3.b.4.A; 3.b.6.B

4.b.1.D; 4.b.2.A; 4.b.3.C; 4.b.3.D; 4.b.4.A; 4.b.6.B

Two-Digit Cha-Cha

Music: Music literacy, creative expression

3.b.3.C; 3.b.3.D; 3.b.5.C; 3.b.6.D

4.b.3.C; 4.b.3.D; 4.b.5.C; 4.b.6.D

Math:

3.b.1.B; 3.b.1.C; 3.b.1.D; 3.b.1.E; 3.b.2.A; 3.b.4.F; 3.b.4.J; 3.b.4.K

4.b.1.B; 4.b.1.C; 4.b.1.D; 4.b.1.E; 4.b.2.A; 4.b.4.F; 4.b.4.J; 4.b.4.K

Musical Speed Math

Music: Music literacy

2.b.2.A; 2.b.5.C; 2.b.6.B

3.b.2.A; 3.b.5.C; 3.b.6.B

4.b.2.A; 4.b.5.C; 4.b.6.B

Math:

2.b.1.A; 2.b.1.B; 2.b.1.C; 2.b.1.D; 2.b.2.B; 2.b.3.A; 2.b.3.B; 2.b.3.C; 2.b.3.D; 2.b.4.C

3.b.1.A; 3.b.1.B; 3.b.1.C; 3.b.1.D; 3.b.2.B; 3.b.3.A; 3.b.3.B; 3.b.3.C; 3.b.3.D; 3.b.4.C

4.b.1.A; 4.b.1.B; 4.b.1.C; 4.b.1.D; 4.b.2.B; 4.b.3.A; 4.b.3.B; 4.b.3.C; 4.b.3.D; 4.b.4.C

Composer Bar Graphs

Music: Music literacy, historical and cultural relevance, critical evaluation and response



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2.b.1.B; 2.b.1.C; 2.b.2.C; 2.b.5.B; 2.b.5.C; 2.b.6.A; 2.b.6.B; 2.b.6.C; 2.b.6.D

3.b.1.B; 3.b.1.C; 3.b.2.C; 3.b.5.B; 3.b.5.C; 3.b.6.A; 3.b.6.B; 3.b.6.C; 3.b.6.D

4.b.1.B; 4.b.1.C; 4.b.2.C; 4.b.5.B; 4.b.5.C; 4.b.6.A; 4.b.6.B; 4.b.6.C; 4.b.6.D

Math:

2.b.1.A; 2.b.1.B; 2.b.1.C; 2.b.1.D; 2.b.1.E; 2.b.1.F; 2.b.2.A; 2.b.2.B; 2.b.3.A; 2.b.10.A; 2.b.10.B; 2.b.10.D

3.b.1.A; 3.b.1.B; 3.b.1.C; 3.b.1.D; 3.b.1.E; 3.b.1.F; 3.b.2.A; 3.b.2.B; 3.b.3.A; 3.b.10.A; 3.b.10.B; 3.b.10.D

4.b.1.A; 4.b.1.B; 4.b.1.C; 4.b.1.D; 4.b.1.E; 4.b.1.F; 4.b.2.A; 4.b.2.B; 4.b.3.A; 4.b.10.A; 4.b.10.B; 4.b.10.D

Social Studies: History, Culture, Society

2.b.2.A; 2.b.2.B; 2.b.10.B; 2.b.10.C; 2.b.16.A; 2.b.16.B; 2.b.16.D; 2.b.16.E; 2.b.16.F

3.b.1.A; 3.b.1.B; 3.b.11.B; 3.b.12; 3.b.14.A; 3.b.14.B; 3.b.14.C; 3.b.16

4.b.17; 4.b.19.B; 4.b.20.B; 4.b.21

Musical Timeline

Music: Historical and cultural relevance, critical evaluation and response

2.b.5.B; 2.b.5.C; 2.b.6.A; 2.b.6.D

3.b.5.B; 3.b.5.C; 3.b.6.A; 3.b.6.D

4.b.5.B; 4.b.5.C; 4.b.6.A; 4.b.6.D

Math:

2.b.1.A; 2.b.1.B; 2.b.1.C; 2.b.1.D; 2.b.1.E; 2.b.9.B; 2.b.9.C

3.b.1.A; 3.b.1.B; 3.b.1.C; 3.b.1.D; 3.b.1.E; 3.b.9.B; 3.b.9.C

4.b.1.A; 4.b.1.B; 4.b.1.C; 4.b.1.D; 4.b.1.E; 4.b.9.B; 4.b.9.C

Social Studies: History, Culture, Society

2.b.2.B; 2.b.12; 2.b.15; 2.b.16

3.b.1; 3.b.12; 3.b.14; 3.b.15

4.b.17; 4.b.19; 4.b.20; 4.b.21; 4.b.22