CLIBURN IN THE CLASSROOM
presents

PLAYING WITH NUMBERS

PROGRAM

Johann Sebastian Bach
Gavotte from French Suite in G major

Béla Bartók
Peasant Song

Dave Brubeck
Blue Rondo a la Turk
Unsquare Dance
Take Five

Wolfgang Amadeus Mozart
Sonata in A Major, K. 331

Nikolai Rimsky-Korsakov
The Flight of the Bumblebee
TEKS CORRELATIONS

Social Studies Strand
2.1, 3.1 History. The student understands how individuals, events, and ideas have influenced the history of various communities.
2.1, 3.3 History. The student understands the concepts of time and chronology.
2.3 History. The student understands how various sources provide information about the past.
2.4 History. The student understands how historical figures and ordinary people helped to shape our community, state, and nation.
2.5, 3.5, 4.6 Geography. The student understands the concepts of location, distance, and direction on maps and globes.
3.8 Economics. The student understands how businesses operate in the United States’ free enterprise system.
2.10 Economics. The student understands the roles of producers and consumers in the production of goods and services.
2.11, 3.9 Government. The student understands the basic structure and functions of government.
2.13, 3.10 Citizenship. The student understands characteristics of good citizenship as exemplified by historic figures and ordinary people.
2.15, 3.12 Culture. The student understands the relationship between the arts and the times during which they were created.
3.14, 4.19 Culture. The student understands the importance of writers and artists to the cultural heritage of communities.
2.17, 3.16, 4.22 Social Studies Skills. The student applies critical thinking skills to organize and use information acquired.
2.18, 3.17, 4.23 Social Studies Skills. The student communicates effectively in written, oral, and visual forms.
2.19, 3.18, 4.24 Social Studies Skills. The student uses problem-solving and decision-making skills, working independently and with others, in a variety of settings.

Language Arts Strand
4.1 Reading/Fluency. Students read grade-level text with fluency and comprehension.
2.3, 3.2 Reading/Beginning Reading/Strategies. Students comprehend a variety of texts drawing on useful strategies as needed.
2.7, 3.6, 4.4 Reading/Comprehension of Literary Text/Poetry. Students understand, make inferences, and draw conclusions about the structure and elements of poetry, and provide evidence from text to support their understanding.
2.10, 3.9, 4.7 Reading/Comprehension of Literary Text/Literary Nonfiction. Students understand, make inferences, and draw conclusions about the varied structural patterns and features of literary nonfiction, and respond by providing evidence from text to support their understanding. Students are expected to distinguish between fiction and nonfiction.
2.11, 3.10, 4.8 Reading/Comprehension of Literary Text/Sensory Language. Students understand, make inferences, and draw conclusions about how an author’s sensory
language creates imagery in literary text, and provide evidence from text to support their understanding

2.12, 3.11, 4.9 Reading/Comprehension of Text/Independent Reading. Students read independently for sustained periods of time and produce evidence of their reading.

2.14, 3.13, 4.11 Reading/Comprehension of Informational Text/Expository Text. Students analyze, make inferences, and draw conclusions about and understand expository text, and provide evidence from text to support their understanding.

2.17, 3.17, 4.15 Writing/Writing Process. Students use elements of the writing process (planning, drafting, revising, editing, and publishing) to compose text.

2.18, 3.18, 4.16 Writing/Literary Texts. Students write literary texts to express their ideas and feelings about real or imagined people, events, and ideas. Students are expected to write short poems that convey sensory details.

2.21, 3.22, 4.20 Oral and Written Conventions/Conventions. Students understand the function of and use the conventions of academic language when speaking and writing.

2.22, 3.23, 4.21 Oral and Written Conventions/Handwriting. Students write legibly and use appropriate capitalization and punctuation conventions in their compositions.

2.23, 3.24, 4.22 Oral and Written Conventions/Spelling. Students spell correctly.

2.24, 3.25, 4.23 Research/Research Plan. Students ask open-ended research questions and develop a plan for answering them.

2.25, 3.26, 4.24 Research/Gathering Sources. Students determine, locate, and explore the full range of relevant sources addressing a research question and systematically record the information they gather.

2.26, 3.27, 4.25 Research/Synthesizing Information. Students clarify research questions, and evaluate and synthesize collected information.

2.27, 3.28, 4.26 Research/Organizing and Presenting Ideas. Students organize and present their ideas and information according to the purpose of the research and their audience.

2.28, 3.29, 4.27 Listening and Speaking/Listening. Students use comprehension skills to listen attentively to others in formal and informal settings. Students are expected to: (A) listen attentively to speakers and ask relevant questions to clarify information; and (B) follow, restate, and give oral instructions that involve a short related sequence of actions.

2.29, 3.30, 4.28 Listening and Speaking/Speaking. Students speak clearly and to the point, using the conventions of language.

2.30, 3.31, 4.29 Listening and Speaking/Teamwork. Students work productively with others in teams.

Mathematics Strand

2.1, 3.1, 4.1 Number, operation, and quantitative reasoning. The student understands how place value is used to represent whole numbers.

2.2, 3.2, 4.2 Number, operation, and quantitative reasoning. The student describes how fractions are used to name parts of whole objects or sets of objects.

2.3, 3.3, 4.3 Number, operation, and quantitative reasoning. The student adds and subtracts whole numbers to solve problems.

2.4, 3.4, 4.4 Number, operation, and quantitative reasoning. The student models multiplication and division. The student recognizes and solves problems in multiplication and division situations.
2.5, 3.6, 4.6 Patterns, relationships, and algebraic thinking. The student uses patterns in numbers and operations.

2.6, 3.7, 4.7 Patterns, relationships, and algebraic thinking. The student uses patterns to describe relationships and make predictions.

2.14, 3.16, 4.16 Underlying processes and mathematical tools. The student uses logical reasoning.

Music Strand
2.1, 3.1, 4.1 Perception. The student describes and analyzes musical sound, and demonstrates musical artistry.

2.5, 3.5, 4.5 Historical/Cultural Heritage. The student relates music to history, society, and culture.

2.6, 3.6, 4.6 Response/Evaluation. The student responds to and evaluates music and musical performance.

SUGGESTED LESSONS PLANS

Musical Speed Math pages 5–7
Two-Digit Multiplication Cha Cha pages 8–9
Addition of Integers pages 10–11
Musical Timeline pages 12–13
Composers’ Biographies pages 14–18
Musical Speed Math

Subject Areas: Music, Math

Instructional Goals:
1. The students will explore the value of musical notes.
2. The students will apply the math skill of addition of fractions and whole numbers to the measure of musical notes.

Materials needed:
1. Musical Values Chart (page 7)

Anticipatory Chart:
1. The teacher will introduce the musical values of each note and rest.
2. Each student will have a handout with the musical values of each note and rest.

Activity:
Part I
1. Divide the class into two teams and give each player on a team a "player number."
2. Call the first pair ("Number 1 students") to the whiteboard/overhead/whiteboard slates. Have them stand a few feet apart with their backs to the board/cover the overhead/have slates upside down, picking up the dry erase marker or overhead pen ahead of time.
3. Write a two-note addition problem (in duplicate) on the whiteboard/overhead/whiteboard slates ahead of time.
4. When the teacher says "GO!" the two selected students will turn around/uncover the overhead/flip over the whiteboard slates, and solve the problem as fast as they can.
5. The teacher should have Team 1 and Team 2 tally boxes on the board to keep track of the score.
6. Proceed through all pairs of players on the team.

Part II
7. Continue the problems using one music note and one rest.
8. Challenge the students with addition problems of three or more notes and rests together.
9. Challenge students with equations that combine mathematical operations, such as: half note + quarter note - sixteenth note.

Teacher’s Role:
The teacher’s role is to facilitate understanding the music value of notes and rests; and to provide a method to practice the addition of fractional values.

Creative Question Suggestions:
1. Based on what you know, how would you explain the process you use to determine the solution to the musical mathematical equation?
2. How would you evaluate the fractional value of the musical notes in the mathematical equation?

**Evaluation:**
The students will be evaluated based on their application of addition of fractions and the conversions of music values of the notes and rests.
<table>
<thead>
<tr>
<th>ITEM</th>
<th>NOTE</th>
<th>REST</th>
<th>VALUE (number of beats)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dotted whole note/rest</td>
<td>🎵.</td>
<td>🎵.</td>
<td>6</td>
</tr>
<tr>
<td>Dotted half note/rest</td>
<td>🎵.</td>
<td>🎵.</td>
<td>3</td>
</tr>
<tr>
<td>Dotted quarter note/rest</td>
<td>🎵.</td>
<td>🎵.</td>
<td>1 1/2</td>
</tr>
<tr>
<td>Dotted eighth note/rest</td>
<td>🎵.</td>
<td>🎵.</td>
<td>3/4</td>
</tr>
<tr>
<td>Dotted sixteenth note/rest</td>
<td>🎵.</td>
<td>🎵.</td>
<td>3/8</td>
</tr>
</tbody>
</table>

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Two-Digit Multiplication Cha-Cha

Subject Areas: Music, Math

Instructional Goals:
1. Students will dance to the steps of the multiplication process.
2. Student will calculate the products of two-digit multiplication.
3. Student will listen to the directions given by the teacher and other students when calculating multiplication problems.

Materials:
1. Rain stick
2. Large pieces of construction paper

Activity:
1. The teacher will ask the students if they know how to cha-cha.
2. The teacher will demonstrate to the students how to cha-cha.
3. The students will follow the teacher's steps and dance to the cha-cha listening to Spanish music.
4. The student will copy a multiplication problem from the whiteboard/overhead on a large piece of construction paper and place it on the floor.
5. The teacher will explain that the cha-cha is very similar to the steps taken in a multiplication problem. The teacher will model how to dance the cha-cha using the multiplication problems written on the paper.
6. The students will dance to Spanish music while cha-chaing on their multiplication problems.
7. The teacher will select four students to be teachers and give them stations. The remaining students will count off by fours and be divided into those four groups.
8. Each station will be assigned certain homework problems to practice in their station. The students will be given five minutes in each station, and the rain stick will sound when the students are to switch stations.
9. After the time allotted, the teacher will ask the students to sit in their seats and will review any questions or problems.
10. At the end of the lesson the students will be asked what they learned from the lesson, and record their responses in a learning log journal.

Teacher’s Role:
The teacher’s role in this activity is to facilitate understanding of double-digit multiplication and to integrate music within this learning.

Creative Question Suggestions:
1. What music would you select to change this activity?

Evaluation:
The students will be evaluated on their accuracy in working mentally with two-digit multiplication.

Addition of Integers
Using the Multiple Intelligences concept that says that not all students learn the same way, all students learn "best" using their different intelligences.

Subject Areas: Music, Mathematics, Language Arts

Instructional Goals:
1. The students will be able to add integers.
2. Students will discover the beat, rhythm, and meter in poems and songs.

Materials needed:
1. Number line of integers
2. Notebook paper
3. Pencils
4. Math problems involving integers

Anticipatory Set:
Review the definition of integers and absolute value as being the distance from zero on the number line.

Activity:
1. Using the melody of “Row, row, row, your boat,” give the students the following words:

   "Same sign, add and keep,
   different sign, subtract.
   Take the sign of the higher number
   Then it’ll be exact!"

2. Explain that "higher number" means higher absolute value. Continue with the melody, singing (and maybe dancing around the room)! Get the students to sing along and keep repeating it.
3. Complete a set of practice problems on the board and/or from the textbook.
4. Give a worksheet to the students with room at the top to write the words to the new "tune" and a set of practice problems.
5. Challenge the students to come up with their own set of words to a well-known tune for the other operations involving integers.

Teacher’s Role:
The teacher will facilitate understanding of integers, rhythm, and rhyme within the activity.

Creative Question Suggestions:
1. How would you prove the value of an integer within an equation?
2. What would you select as a tune to write your own rules of mathematical concepts?

Evaluation:
The students will be evaluated on the accuracy of their solutions to integer equations. Students will also be evaluated on the creativity of their own poems for mathematical conceptual rules.
Music has endured throughout the ages. While music has evolved since the beats of caveman drums, critically thinking about how composers create over time can add to your understanding.

Subject Areas: Music, Language Arts, Social Studies, Mathematics

Instructional Goals:
1. Students will understand the chronological sequencing of people in history.
2. Students will research historical figures.
3. Students will explore how people influenced culture and how culture influenced historical perspective.
4. Students will compute life spans of composers.

Materials needed:
1. Biographies of Composers
2. The Internet
3. Poster Board
4. Markers

Anticipatory Set:
1. The teacher will discuss chronological sequencing with students.
2. Biographies of the composers will be distributed to the class.
3. After reading the biographies individually, student will form small groups to order the composers’ lives chronologically.

Activity:
1. Place students in small groups of five to further research the five composers, with each student selecting a composer.
2. The students will individually research their self-selected composer using Internet resources.
3. The students will take notes on salient information.
4. If possible, the students will listen to selected musical works by their self-selected composer.
5. The students will determine the number of years the composers lived.
6. From their research the students will create a poster of their composer explaining how the composer’s music influenced culture during their lives and beyond. The poster will contain chronological information, geographical location, information necessary to understanding the composer’s life, and an artistic rendering of the composer.
7. The group will arrange their posters in order of a chronological timeline and present their findings.

Teacher’s Role:
The teacher’s role in this activity is to facilitate understanding of the chronological sequencing, research procedure, and creative presentation of information collected.
Creative Question Suggestions:
1. Based on what you know, how would you explain the influence of music on a culture?
2. How would you justify the selection of data you deemed important in your research of a composer?
3. How would you rate the composer and his musical influence within the culture of his time and within the culture of present time?

Evaluation:
The students will be evaluated on their research, the poster representation of their research, and the chronological sequencing.

THE STORY OF JOHANN SEBASTIAN BACH
Johann Sebastian Bach lived in Germany his entire lifetime. His father played the violin, and many of his relatives were also musicians. Bach’s parents died when he was 10 years old. He went to live with his oldest brother, Christoph, who taught him to play the harpsichord and organ.

During his early years, Bach made his living by playing the organ for dukes and princes. As he got older, he became well known as an outstanding church musician and excellent organist. He was the music director for all five of his city’s biggest churches. Bach had many children, and several of them grew up to become great musicians also.

During his lifetime Bach was known more for his excellent organ playing than for his composing. However, although Bach was a very busy man, he always made time to write music. After his death in 1750, his compositions were organized into 60 volumes of music.
THE STORY OF BÉLA BARTÓK  
(1881–1945)

Béla Bartók was born in Hungary in 1881. His parents, who were both musicians, recognized his gift of memory and rhythm, and started piano lessons for him at the age of 5. His mother’s profession required travel around the countryside, so Bartók received most of his early training from a variety of teachers in different towns. As he traveled, he had the opportunity to hear authentic Hungarian folk music, which would later greatly influence his music.

Bartók began composing at the age of 10. He performed for the first time in public as a pianist and composer when he was 11. In 1899, he attended the Budapest Academy of Music, where he gained a reputation as a master pianist. His interest in Hungarian folk music expanded, and in 1904, Bartók and his good friend Zoltán Kodály began collecting, studying, and recording this music. Bartók’s interest continued throughout his life, and he gathered and recorded thousands of native tunes.

In 1907, Bartók became a professor of piano at the Budapest Academy of Music and later married one of his students. Bartók continued to compose and perform concert tours in both the United States and Russia. In 1940, Bartók fled Hungary and settled in the United States, because he did not want to live under the rule of Nazi Germany. His great love of Hungary never lessened though, and he continued his folk song research at Columbia University in New York City. Bartók composed many different types of music, and much of it reflects the great influence of his folk song studies.
Dave Brubeck was born in 1920 in Concord, California. He was exposed to music early in life by his mother, a piano teacher. Brubeck did not want to play traditional classical music. His passion was creating his own selections and popular tunes, which he began doing when he was 4 years old. Brubeck’s family moved to a ranch in the foothills of the Sierras near Ione, California when he was 11, and he became enamored with life on the ranch and its daily chores. He still enjoyed playing the piano, but he wanted to be a cattleman. Brubeck was reluctant to leave the ranch when he was 18, but his parents persuaded him to go the College of the Pacific in Stockton, California, by suggesting the possibility of his studying to become a veterinarian so that he could return to the ranch after school. But after just one year of school, he switched to a music major.

Brubeck graduated with a music degree in 1942, and was immediately drafted for military service. He led a service band in General Patton’s army during World War II and then, in 1946, he started studying at Mills College with the classical composer Darius Milhaud, who encouraged his students to play jazz. Brubeck led a group mostly consisting of fellow classmates, and they recorded as the Dave Brubeck Octet. In 1949, Brubeck organized the Dave Brubeck Trio and spent several years playing nothing but jazz music. In 1951, with the addition of Paul Desmond, Brubeck formed his first quartet, the Dave Brubeck Quartet. They gained great popularity touring college campuses and recording a series of albums. After a breakup of the "Classic Quartet" as it had come to be known, in 1967, Brubeck continued to expand upon his role as a jazz-inspired composer, creating ballets, scores, oratorios, cantatas, symphonic pieces, classical compositions, liturgical compositions, and Native American-inspired compositions. He continued to work not only on his own and with contemporary jazz masters, but also collaborated in a quartet with his three sons.
Wolfgang Amadeus Mozart was born in Salzburg, Austria, in 1756. He was 4 years old when he began studying music with his father and received instructions for both the piano and violin. He developed very rapidly and was already composing at the age of 6. Mozart’s older sister, Maria Anna, was also a musician, and they often enjoyed playing together. He wrote a number of duets and duos to play with her.

Mozart was 6 when his father took him to Vienna, where he played for the Austrian emperor and was introduced to the public as a child prodigy. He played for the rich, for royalty, and for the public. He dazzled court patrons with his ability to improvise in many styles and sight-read as well as any adult. The next year Wolfgang’s father took his family to Paris, where Mozart’s first compositions were published. As a teenager he mastered the piano and completed his first opera, *La finta semplice* (“The Simple Pretense”). Mozart traveled a great deal and by the time he was 25, he had visited most of the great European cities. In 1782, he married Constanze Weber. He and Constanze had two children.

Mozart was a prolific composer and wrote over 600 pieces of music. He wrote in almost every major genre, including symphony, opera, concerto, chamber music, and the keyboard sonata. While none of these genres were new, the piano concerto was almost single handedly developed and popularized by Mozart. Among his most famous works are *Eine kleine Nachtmusik* (“A Little Night Music”, 1787) and the operas *Don Giovanni* (1787) and *Die Zauberflöte* (“The Magic Flute”, 1791). Mozart also wrote a great deal of religious music, and he composed many dances, serenades, and other forms of light entertainment.
Nikolai Rimsky-Korsakov was born in Tikhvin, near Novgorod, Russia, in 1844. His father was an official in the Russian government. His mother enjoyed playing the piano. Rimsky-Korsakov became interested in the piano at an early age, and started lessons at age 6. In his early school years, he was tutored at home and did well in all his subjects. He started writing his own music at the age of 10.

In 1856, at age 12, Rimsky-Korsakov became a student at the Naval Academy in St. Petersburg, Russia. While studying at the Naval Academy, he still played the piano whenever he could. In 1861, he met Mily Balakirev, an older and well-known composer, who encouraged him to join a group of young composers who later became known as "The Five." This group, led by Balakirev, urged Russian composers to stress their national heritage in their music. In 1862, Rimsky-Korsakov sailed on a three-year naval cruise, where he completed his first symphony. After returning to St. Petersburg in 1865, his symphony was performed with his friend and teacher Balakirev conducting.

In 1871, Rimsky-Korsakov accepted a job teaching composition at the conservatory in St. Petersburg, a position he kept for the rest of his life. Since he had never been to music school, he realized that he knew almost no music theory, and so he taught himself counterpoint, harmony, and music form.

Rimsky-Korsakov married Nadezhda Purgold in 1872. She was a talented pianist who also did some composing. The couple had six children. Rimsky-Korsakov became the inspector and conductor for Russian navy bands in 1873. He seized this opportunity to learn woodwind and brass instruments. Orchestrating was one of his best talents, and learning all about winds and brass refined his technique even more.

Rimsky-Korsakov was a perfectionist. Never satisfied, he endlessly worked and reworked his pieces for years. He produced some of the most enjoyable, exciting, and descriptive music ever written.