ArtsNow®
Teaching and Learning Across the Curriculum

GRADE 5 Project Overview

Rap Battle of Changes

Project Essential Questions

- How can I use music to show the differences between a physical and chemical change?
- How can I analyze the differences between a physical and chemical change?

PROJECT DESCRIPTION

In this project, students will use music to explore physical and chemical changes in matter. The project will lead students in comparing and contrasting physical and chemical changes. Students will also strengthen their social skills by working together in groups and developing interpersonal relationship skills by cooperating to work collaboratively on a rap that demonstrates mastery of the science concept.

LEARNING TARGETS

"I Can…"

- Explain that a physical change is a change that is reversible and does not result in a new substance
- Explain that a chemical change is a change that cannot be reversed and results in the creation of a new substance
- Use music to demonstrate my understanding of physical and chemical changes

Produced through the U.S. Department of Education: Arts in Education—Model Development and Dissemination Grants Program
Cherokee County (GA) School District and ArtsNow, Inc.

DURATION: 3-4 days

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ESSENTIAL QUESTIONS

- How can I use music to show the differences between a physical and chemical change?
- How can I analyze the differences between a physical and chemical change?

STANDARDS

Curriculum Standards	Arts Standards
S5P2 Students will explain the difference between a physical change and a chemical change **a.** Investigate physical changes by separating mixtures and manipulating (cutting, tearing, folding) paper to demonstrate examples of physical change. **b.** Recognize that the changes in state of water (water vapor/steam, liquid, ice) are due to temperature differences and are examples of physical change. **c.** Investigate the properties of a substance before, during, and after a chemical reaction to find evidence of change. **ELAW.5.2** Write informative/explanatory texts to examine a topic and convey ideas and information clearly.	**M5GM.9** Understanding music in relation to history and culture. **a.** Perform, listen, move, and/or distinguish between music from various historical periods and cultures from the Civil War to present (different genres).

KEY VOCABULARY

Content Vocabulary
● Physical change ● Chemical change ● Reaction ● Molecules ● Atoms ● Matter ● States of matter

Arts Vocabulary
● Beat: the pulse felt underlying the music ● Body percussion: sounds produced by striking or scraping parts of the body; typically includes snapping, clapping, patting, or stamping ● Rhythm: combinations of long and short, or even or uneven sounds that establish a musical continuum and convey a sense of movement ● Tempo: the speed at which a music piece is performed

TECHNOLOGY INTEGRATION

● Possible differentiation: Quaver to make the beats for accelerated students (composition)

ASSESSMENTS

Formative	**Summative**
● Teacher Observation of students during process of writing and performing	● **Physical and Chemical Change Rap Battle Rubric** (see Downloads)

MATERIALS

Whiteboard/SmartBoard/ActivBoard (for whole group T-Chart), poster board/white paper (one for each group to use when students create the T-Chart in their small groups before putting ideas together as a class), notebook paper, pencil/pen

Activating Strategy (5-10 min)
● The teacher will split the students into groups and have the students work collaboratively to create a T-Chart comparing and contrasting physical and chemical changes. Students will need at least 3 comparisons on each side of the T-Chart. Once some time has passed, the teacher will lead the students in compiling their ideas into a large whole group T-Chart. This activating strategy serves the purpose of reminding the students what they have learned from this unit, all in one culminating chart, making it easier for the students to process and see visually. Some examples of differences that students might compare are burning wood (chemical change), or tearing paper (physical change).
Main Activity
<u>Part 1</u> ● The teacher will ask all the students to get into groups of 3-5 students. ● The teacher will then ask the students to come up with 2 different body movements, or sounds. (At this time, the teacher can remind students of the definition of locomotor, non-locomotor, and body percussion.) ● Once the students have their two movements as a group, the teacher will instruct the students to put these movements into some kind of pattern: AB, AB, AA, BB, etc... For example, if students snap and stomp as their two movements, their pattern can be “snap, stomp, snap, stomp” <u>or</u> “snap, snap, stomp, stomp,” etc. ● The teacher will then instruct the students about the rhyme scheme in which they have created. For example, the students could have created an “ABAB” pattern, or a “AABB” pattern, etc. (Teachers can reference poetry unit if it has been previously taught). Remind students that these types of patterns are seen throughout music.

- The teacher will then explain that each group of students will either be writing a rap referring to physical changes or chemical changes and that, once completed, the students will battle with their created songs. The teacher will instruct that all students are to use an "AABB" pattern within their rap.

EX. Physical change or chemical change [A]
May seem so very strange. [A]
But think about it just like this [B]
And then you'll never miss! [B]

Part 2

- Students will then get together in their groups and analyze the T-Chart from the previous part of the lesson. Each group must come up with 2-4 different points that they feel are the most important about their change (1/2 class is physical and 1/2 class is chemical). For example, the physical change group of students might feel like they need to focus on an example, the fact that a physical change can be reversed, and shape change as some of their points of importance.

Part 3

- Students will then work collaboratively to create various stanzas into a rap, using an AABB pattern in each stanza about their specific type of change.
- Each group must have 4 lines in each stanza using the AABB pattern, and must have 4 stanzas in their entire rap.
- The students will work on completing these together in their group.
- The teacher will explain that on the day of performance, that one group will perform one stanza, then the next group, and back to the original group, etc.—until both groups have completed their entire rap composition. (EX. chemical change stanza, physical change stanza, chemical change stanza, physical change stanza, etc.)

Part 4

- Students will share their raps about physical, or chemical changes, and will "battle" back and forth, with each group sharing a stanza at a time, as mentioned above.
- As a writing activity, the students will be required to write a quick 2-minute-write informational paragraph containing at least 3 facts about the other type of change that was presented. For example, if I was writing for physical change, I would have to write a quick-write presenting three facts about chemical changes from the other team's rap.

Classroom Tips:

- A character education component could be addressed around the concept of being an ensemble when performing in a large group. This includes listening to one another, taking turns listening and speaking, and most importantly respecting your peer's ideas and abilities. These ensemble skills take us far inside and outside the classroom.

REFLECTION

Reflection Questions

The teacher will give each group of students the following questions and ask them to discuss their answers orally as a group, before sharing orally with the whole class.

1. How did writing a rap help me process and better understand the information about my type of change (physical or chemical)?
2. How did listening to the other groups rap help me better understand either a physical, or chemical change?

3. What would I change about my rap to make the other group better understand physical, or chemical, changes?

DIFFERENTIATION

Remedial/EL Students:

- Some of the stanzas of the rap, such as the chorus could be written by the teacher. Students still need to learn and perform the verses (integrating their science vocabulary). By having some already pre-written may help make the task at hand feel manageable and support students reaching success.

Accelerated Students:

- These students could come up with a rap that demonstrates a substance that first goes through a physical change and then a chemical change. For example, first ripping a piece of paper and then burning it. The students would have to identify which change was physical and which was chemical and what attribute would characterize it as such.
- These students could add music through found sounds, instruments, or Quaver (an online music production source) along with movements to accompany their rap.
- These students could also write a persuasive essay about why either a chemical or physical change is "better." They would have to identify criteria on what makes the change better and evaluate each change on how it fits the criteria.

APPENDIX (See Downloads)

- **Physical and Chemical Changes Rap Battle Rubric**

CREDITS

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Physical and Chemical Changes Rap Battle Rubric

TASK: Create a rap that expresses the differences between physical or chemical changes, depending on which side you are battling.

Task	4	3	2	1
Writing Process	Students devote a great deal of time and effort to the writing process (prewriting, drafting, reviewing, and editing). Group works collaboratively to make sure their rap is the best it can be.	Students devote sufficient time and effort to the writing process (prewriting, drafting, reviewing, and editing).	Students devote some time and effort to the writing process, but overall more revisions are needed.	Students devote little time and effort to the writing process.
Rehearsal Process: Tempo, Rhythm, Response	The rehearsal process includes taking the written rap and fully applying musical choices to it for performance. Careful attention is paid to establishing a rhythm for the rap, a tempo for each line, and movement if necessary.	The rehearsal process includes taking the written rap and most of the time applying musical choices to it for performance. Some consideration is paid to establishing a rhythm for the rap and a tempo for each line.	The rehearsal process includes taking the written rap and seldom applying musical choices to it for performance.	No musical choices were made or applied to the rap.
Accuracy of Science Content	All facts presented about physical/chemical changes in the rap are accurate. The facts are fully developed and allow the audience to understand much more about the similarities and differences of physical and/or chemical changes.	Almost all facts presented in the rap are accurate. The facts are almost fully developed to understand the comparison of physical and/or chemical changes.	Most facts presented in the rap are accurate (at least 70%), but the rap is only somewhat developed in regards to comparing/ contrasting physical and chemical changes.	There are several factual errors in the rap.
Ensemble Performance	Ensemble performance is coordinated, well-rehearsed and is performed using loud, clear voices, and strong bodies.	Ensemble seems mostly prepared but could have benefitted from more rehearsals. Voices are mostly loud and clear.	Ensemble is somewhat prepared, but it is clear that rehearsal was lacking. Voices are somewhat loud and clear.	Ensemble is not prepared to present. Students often mumble or can not be understood.

Total Score: _____

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