

# “The Multiplication Rhapsody”

## 1. Learning Context

### Description

Students are often unable to express their mathematical thinking skills orally or in writing. Therefore, it is necessary that students are provided with a variety of differentiated mathematical experiences that allow them to be creative and open to mathematical reasoning and operations. This learning experience allows students to understand mathematical operations and become mathematically confident in their abilities to communicate their thoughts in a fun and interactive way. This is done by means of creating a group multiplication rap where students can make original rhymes about specific multiplication facts. Having students being engaged in musical raps is a great way for students to create, understand, and communicate multiplication facts in an innovative fashion. The “Multiplication Rap” allows every student to participate because it provides them with an opportunity to be successful in learning their unfamiliar multiplication facts. This learning experience has four essential elements. First, each group has to pick a multiplication fact out of a hat. Each group should pick a different multiplication fact so that there is variety within the class. The next part involves the group writing down all the number sentences for that factor (0-12). Once all the facts are accurate, students create sentence rhymes based on the number sentences. With a group of four students, each student creates three rhymes. The third component is where the students practice with their group members, their rhymes and learn their multiplication lines. The final component of this project involves the students becoming “rap stars” and delivering their group multiplication rap in front of the class, using the web camera to record.

### Learning Standards and Goals

One goal I would like my students to attain is to be able to effectively master their facts in a timely manner. As students become familiar and confident with their facts, they will be able to communicate mathematical reasoning through the use of computations and word problems. This goal is aligned with **NYS Standard 3-Mathematics** with a performance indicator that focuses on mathematical operations. By multiplying whole numbers students are building their knowledge of higher order numbers.

Another goal is for students to create original multiplication rhymes in order to help them memorize their multiplication facts. This goal is aligned with **the NYS Standard 3- Mathematics** with a performance indicator that focuses on students knowing their single digit multiplication facts through the commutative property of multiplication. This part of the project also allows students to use their creative abilities through the use of writing original rhymes. This is aligned with **NYS Standard 2- ELA** with a performance indicator that is aligned with students creating their own stories, poems, and songs using appropriate vocabulary.

### Need

This project is an integration of the math and technology curriculums. Third grade is the starting point where students are introduced to the concept of multiplication. By the end of this grade, students are expected to master all of their multiplication facts through twelve. The use of technology and mathematics will enhance the learning of students in the area of communications, computations, and reasoning. Students need to be familiar with mathematical operations, such as addition and multiplication in order to be successful with “The Multiplication Rap.” In regard to the technology component, students will interact with an interactive multiplication chart on [http://www.aplusmath.com/cgi-bin/Homework\\_Helper/mtable](http://www.aplusmath.com/cgi-bin/Homework_Helper/mtable), as well as having a sound understanding of Microsoft Word for word processing of the final copy of “The Multiplication Rap” They will be exposed to Photo Booth software and iDVD software for making the rap videos. They will become avid users of [www.teachertube.com](http://www.teachertube.com) where “The Multiplication Raps” will be published.

## 2. Procedure

I will begin by introducing a multiplication rap CD to the students. As a class, we will listen to it in its entirety. While the students are listening to the CD, they will be participating by singing along the multiplication facts. Next, I will show the students on our SmartBoard a multiplication video on [www.teachertube.com](http://www.teachertube.com) that was created by another teacher. This video focuses on the two facts in multiplication giving them a beat to listen to while visually seeing the facts that are being rapped. Next, we will have a discussion on how listening to the CD and watching the video helped them with their facts. I will explain to the students they too are going to create and develop original multiplication rhymes in order to learn their facts, but also to aid other students in learning their facts too! The final videos will be showcased on our classroom eBoard, as well as on [www.teachertube.com](http://www.teachertube.com)

and [www.kidstube.com](http://www.kidstube.com). Technology makes it possible to publish student projects and ideas to a bigger audience, so they can share and celebrate their learning with other students and teachers.

Students will be assigned to a group that they will work with. As a group they will randomly pick one multiplication fact out of a hat. That fact is what they will use to create and develop their rap around. Next, students will write down all of the number sentences up to twelve for the fact they are assigned. They will make sure that the answers, the products, to the number sentences are accurate by using an interactive multiplication chart on [http://www.aplusmath.com/cgi-bin/Homework\\_Helper/mtable](http://www.aplusmath.com/cgi-bin/Homework_Helper/mtable).

The next part of the project involves the students writing multiplication rhymes. If a group has four students, then each student can prepare 3 rhymes for their group fact. This part of the project can be silly and creative, but the students have to focus on the rhymes making real life sense. Once every student in the group has created his/her rhymes, the final copy of "The Multiplication Rap" will then be typed on Microsoft Word. Each student will type his/her lines. Each student in the group will receive a copy to practice, with a focus on learning their lines!

The final component of this learning experience is having the students become official multiplication rappers where they will be recorded using Photo Booth software and their raps will be published on a class DVD using iDVD. They will dress the part by wearing rap appropriate attire from home. The musical backgrounds will be set and the groups backdrops will be against our SmartBoard. The students will not interact with Photo Booth software, but will be part of the video making process by choosing what fun effects they would like in their video. For example, Photo Booth offers Retro Pixels - adaptation of 60's and 70's video effects, Love For 80s - bringing back Space Invaders, and Bent optical image distortion with a twist for the students to pick from. The video will be created on Photo Booth for each individual group. Once every group has performed their rap, all the videos will be edited in iMovie and then put on a DVD using iDVD software and each student in the class will receive one!

#### Student Progress

"A Multiplication Rap" is a learning experience that allows each student to strengthen his/her mathematical capabilities by successfully learning and applying mathematical computations. It also allows students to communicate their mathematical reasoning through a musical rap video that can be viewed for their learning or their peers. By each group creating their own unique "Multiplication Rap," students will meet the NYS Standards listed above.

#### Scholarship in our field

According to **Technology and Learning Magazine**, July 2003 issue, "Digital Video In The Classroom," Susan McLester and Dominic Milano emphasize how digital video technology engages our students and allows them to make connections with their learning. McLester says, "Let's face it. Our kids are a visual generation. Encourage your kids to embrace the power of digital video to create their own projects, to tell their own stories, and to guide their own learning in ways previous generations could only dream of."

### **3. Instructional/Environmental Modifications**

These modifications would fit any student that processes academic challenges such as a Special Ed. student, an ESL student, or a limited English speaking student. Each student will be part of a heterogeneous multiplication group. Partners can be assigned in order for the student to be successful with his/her writing component of the number sentence rhymes. Also, the student who needs some extra help can be provided with a rhyme story prompt that can aid in the creation of rhymes. Multiplication cards can be available for the student with visual cues. This learning experience can also challenge the brightest student in a class where he/she writes a more thought provoking rhyme. This learning experience is differentiated so that all visual, auditory, and kinesthetic learners can effectively learn their facts while having fun.

"The Multiplication Rap" will be produced in a classroom setting. Our class has a SmartBoard at the front of the room where the students will dance and execute their rap. The web camera will be placed on a table in front of the students.

### **4. Time Required**

In order to be ready to begin “A Multiplication Rap” a teacher needs a 40 minute prep period to set up. During this time, the teacher needs to make sure that the students have listened to the multiplication cd and watched the multiplication video on [www.teachertube.com](http://www.teachertube.com).

The writing of the multiplication number sentences and their products up to 12 would take about 15-20 minutes. The next part of the project which is the creation of the rhymes will take two 30 minute sessions. During this time frame, students will be creating their unique lines for their group rap, including the use of mathematical language to express mathematical ideas, and peer editing with their group members to ensure successful completion of the group rap. Students will be analyzing and evaluating the mathematical thinking and strategies of others, as well as building new mathematical knowledge of their own through creative written expressions.

Since our classroom has five computers with Microsoft Word, each group will be assigned a computer to type their final copy of “ The Multiplication Rap.” Each group will be assigned one week to practice their individual multiplication lines and master them as a group. During that week, groups will begin practicing their rap with a musical beat in preparation for the final recording.

#### Assessment

The assessment time for each project should be 25 minutes. During this time, the teacher will view “ The Multiplication Rap Video” shortly after recording on the web camera to make sure that the students projected their voices and that the video was free of errors. As a class we will create a rubric that will outline and illustrate points of interest from the students’ perspective. We will create the rubric on our classroom Smartboard. After the presentation, the teacher and students will complete the rubric and the teacher will complete it as well. The students will also reflect on this learning experience **in their personal reflection**. Both will conference discussing the results of the rubric and at this time the student will share his/her personal reflection on this project.

#### **5. Resources**

##### teachers

For this learning experience to be implemented and executed successfully, a teacher would need the following: dvds, a Smartboard projector , iDVD software, Photo booth software, iMovie, and a laptop.

##### students

For this learning experience the students will need the following: “rap attire” (costumes), mastery of their multiplication lines, and dance moves for the video!

#### **6. Assessment Plan**

Students are involved in developing the rubric for this learning experience. As a class we created the rubric on [www.rubistar.4teachers.org](http://www.rubistar.4teachers.org). On this rubric there is a comment section for students and the teacher. Each student will evaluate their groups’ performance by grading their group. Individual students will not receive a grade. Individual students will be able to reflect on this learning experience with a personal reflection.

Throughout this learning experience I informally observed groups working together and I too even practiced with them. There were many group practice sessions where students worked on their multiplication lines independently and then as an entire group. Besides just practicing their facts with the group, my students had the opportunity to practice their multiplication facts through the use of CPS eInstruction. This student response system allowed students to “click” in their multiplication answers and assess their multiplication learning immediately. Data reports were generated for students. This innovative tool certainly helps my students to become confident with their multiplication operations as outlined in the **NYS Standard 3-Mathematics**.

Overall, my students had a truly rich mathematical and technological experience with “The Multiplication Rap.” There will be on-going multiplication assessments throughout the year. We will continue to watch our videos in class and share them with others.