**Arts Infused Lesson**

**Shelby County Schools**

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**Grade Level or Subject Area:** 7th grade Mathematics

**School Site:** Dexter Middle School

**Title of Lesson:** If You could Hop Like a Frog….

**Content Areas(s) other than Arts:** Mathematics and Language Art

**State Content Standards for the above: Language Arts Standards 0701.1.1** Demonstrate control of Standard English through grammar usage, and mechanics (punctuation, capitalization, and spelling; **0701.1.16** Identify correctly and incorrectly spelled words in context; **0701.2.1** Demonstrate critical listening skills essential for comprehension, evaluation, problem solving, and task completion; **0701.2.5** Understand strategies for expressing ideas clearly and effectively in a variety of oral contexts; **Math Standards**: 0706.1.1 Use mathematical language, symbols, and definitions while developing mathematical reasoning; 0706.1.2 Apply and adapt a variety of appropriate strategies to problem solving, including estimation, and reasonableness of the solution; 0706.1.6 Read and interpret the language of mathematics and use written/oral communication to express mathematical ideas; **0706.2.7** Use ratios and proportions to solve problems; **0706.1.1** Use proportional reasoning to solve mixture/concentration problems.

**Art or Arts you plan to infuse in this lesson:**

**State Arts Content Standards:** 2.1 Develop an awareness of the elements of design and the principles of composition through their application; 4.3 Analyze, describe, and demonstrate how factors of time and place influence visual characteristics that give meaning and value to a work of art; 6.2 Describe ways in which the principles and subject matter of other disciplines taught in the school are interrelated with the visual arts.

**What are some “Big Ideas” your students need to know? (short bulleted list)**

* Using Literature, Song and Visual Aid to teach proportion
* Create and write ratios and proportions from applied situations and explain the reasoning used.
* Build conceptual understanding of ratio.
* Understand and use ratios and proportions to represent quantitative relationships.
* Perform the appropriate mathematical operations involving ratios

**How are arts activities infused in this lesson? (describe in 2-3 sentences)**

The students will enter the classroom with the sounds of a frog croaking, they will mimic the sounds and we will begin reading the literature *If You Could Hop Like a Frog* to teach proportion. The student will also learn the proportion song to the tune of Stayin’ Alive.

**Literacy Skills Focus: (CIRCLE student skills utilized in this lesson):**

* Oral language development
* Concepts of print
* Sense of story and sequence
* Phonemic awareness and phonics
* Background knowledge and vocabulary
* Fluency
* Comprehension
* Writing

**List all materials used (including websites; books (texts and trade book) titles with author, publisher, date, page #s; CD or DVD titles; art works and art supplies; music; people, places, resources, etc.)**

* Literature: *If You Hopped Like a Frog* by David Schwartz
* Examples of proportion problems
* Individual pictures of a frog
* Construction paper
* Individual animal facts
* Worksheet
* Calculators

**Briefly and clearly list teaching steps in order of actual instruction:**

* The students will listen to the sounds of frogs, model the movements of a frog and be given picture of a frog on a leap pad.
* The students will be given several warm-up proportion problems (if Pizza Hut is offering 2 large pizzas for $20. Papa John’s is offering 4 pizzas for $30). (Which is the better rate? Create four different proportion problems by arranging the following numbers in numerator and denominator positions?)
* We will then begin reading If You Hopped Like a Frog by David Schwartz. It is important to also read the “Dear Reader” letter at the beginning. This will lead the students in the direction of how Mr. Schwartz was able to figure these problems out by using math!!! ( Proportion)
* The students will model using the first fact that a frog can hop 20 times its body length; demonstrate how to find how far you could hop using your own height? The students will write, draw and verbalize their responses.
* The students will be taught the proportion song to the tune of Stayin’ Alive with arm motions
* The students will be given their owe animal fact card to use. They will compare the information on the card to themselves and provide a detail explanation for their response. There responses must include writing, drawing and mathematical language.
* The students will be given an assignment to assess their knowledge of the lesson.
* The students will create their own problems that explain how to set up and solve a proportion problem.

**How did you assess student learning during or after this lesson? How do you know students understood the big ideas they needed to know? (2 or 3 sentences)**

Throughout the lesson, I will assess the students’ knowledge by their responses from the first fact and by their verbal and nonverbal responses on the animal fact information card given to the students.

**In your opinion, how did the art(s) activity contribute to student understanding of this lesson? Why? (Be specific) (2 or 3 sentences)**

When students are allowed to hear sounds, see an illustration and learn a song they have a better conceptual knowledge of the lesson been taught. The students were given an animal that has movement to illustrate the process of solving a problem and they then took those similar motions to arrive at the correct answers to a proportion problem. Finally, they were able to see the relationship between animal facts and themselves.

**How did this lesson exercise and /or increase student’s literacy skills? (2 or 3 sentences)**

The students appeared more aware of the process it will take to arrive at the correct answer. The answers and illustrations demonstrated a better understanding of the math concept presented to them. They also were able move from abstract to concrete knowledge of the material.

**In hindsight, what would you do differently during this art infused lesson? Why? Be specific. (2 or 3 sentences)**

The first time the lesson was taught, I tried to complete the process in 1 day. The students were grasping the concept, but I noticed there were still some areas that not fully explored or explained. To really impact the students learning, the lesson should be taught over a 2-day period.

[](http://blog.richmond.edu/openwidelookinside/files/2008/04/frog.jpg)