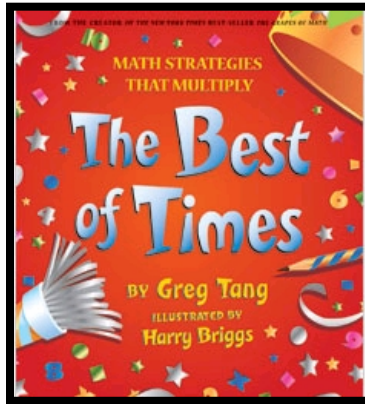


‘The Best of Times’

Children’s Literature and Mathematics

Prepared For: Dr. Daniel Jarvis
Course: EDUC 4274 Mathematics Education
Date: January, 19, 2009.

Prepared By: Nikki Simons (s0516870)
Laurie Hetherington (h0514927)



Math Strategies that Multiply:
Author: Greg Tang

The Best of Times

Illustrator: Harry Briggs
ISBN: 0-439-52918-2
© 2002

Summary:

This story helps students develop confidence as required to understand their multiplication tables rather than to simply memorize them. It uses poems, pictures, and poses questions demonstrating unique ways to solve multiplication questions. A cute poem is presented for each number ranging from zero to ten. The content of this book will assist students to think constructively about multiplication rather than learning by memory. This will help students to develop the foundations to mathematical problem solving.

This book is appealing to children as it use colourful graphics, and whimsical verses to teach mathematics. Multiplication questions are posed throughout the book for the students to apply the skill and knowledge that has just been presented. An answer key is provided at the back of the book for reference, and an excerpt from the lesson is included by the answer key to trigger a reminder of the poetic verse.

Grade Level: 3

Curriculum Expectations:

3m27 *SQC2005 Mathematics Number Sense and Numeration Operational Sense*—relate multiplication of one-digit numbers and division by one-digit divisors to real-life situations, using a variety of tools and strategies (e.g., place objects in equal groups, use arrays, write repeated addition or subtraction sentences) (Sample problem: Give a real-life example of when you might need to know that 3 groups of 2 is 3×2);

3m28 *SQC2005 Mathematics Number Sense and Numeration Operational Sense*—multiply to 7×7 and divide to $49 \div 7$, using a variety of mental strategies (e.g., doubles, doubles plus another set, skip counting).

Suggestions for Discussion Questions:

Before:

- What do you think this book is about? (showing the students the book cover)
- What do you think the meaning of the book title is?
- How do you solve multiplication problems?
- Do you have any strategies that you use to multiply?

During:

- *Before turning the page after reviewing a specific number, ask students if they can think of a unique way to think of figuring out the next number.*
- *When you look at the pictures, what helps you to remember the strategies? (visual aids – eye glasses for the number two, crazy eight cards for the number eight.)*
- *When you hear the words, what helps you remember the strategies? (rhyming words)*

After:

- What did you like about this book? Why?
- Why is this book titled: ‘The Best of Times?’
- Which lesson did you find the most challenging?
- Which lesson made the most sense to you?
- What did you like about the illustrations?
- If you were to continue with this book and create a lesson for number eleven, what strategy do you think would work best in teaching this lesson? (provide a 100’s chart for visual aid)
- Where would you apply multiplication to real life situations?

Example:

When making goodie bags for a birthday party (two lollipops in each bag for ten guests)

Mathematical Activity:

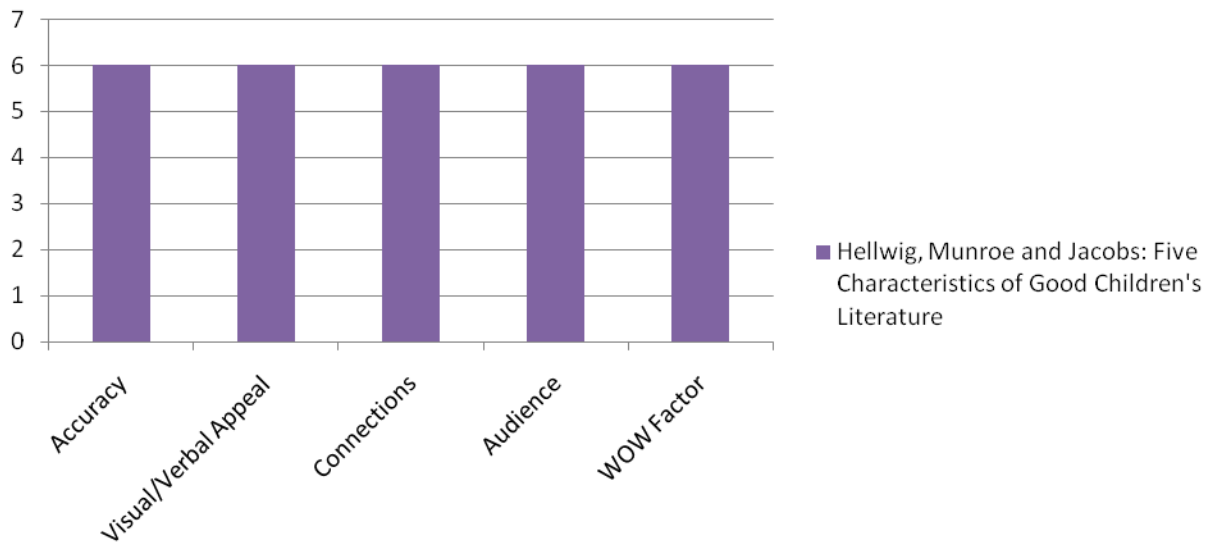
- Divide the class into ten pre-assigned groups
- Assign each group one ‘number lesson’ from the book
- Advise the students that they are to examine the assigned ‘number lesson’, and teach it to their peers using manipulatives. They are to explain their lesson using the first challenge question, and then work on the second challenge question orally with the class.
- The teacher will then model the expectation of this activity using the lesson for the number zero
- Students will be advised that after all student presentations, each group will be given a Challenge Sheet that they will need to solve using their newly acquired multiplication skill (example attached)
- The class will be given twenty minutes to complete the Challenge Sheet, and will be encouraged to use manipulatives and visual aids
- The class will come together to discuss and take up the Challenge Sheet

Critique:

“The Best of Times”

By Greg Tang

Hellwig, Munroe and Jacobs: Five Characteristics of Good Children's Literature



Explanation of Rating

Category	Score out of Six	Justification
Accuracy	6	This book accurately describes lessons in multiplying through words and pictures. The structure of the lessons are presented in numerical order and the book begins with zero and ends with ten. It is valuable that the author included the number zero in his presentation.
Visual and Verbal Appeal	6	The cover of the book does not justify the content of the book, although it is visually appealing. The large font on the cover states: "The Best of Times" which could be misinterpreted as a book about learning how to tell time instead of multiplications. The small print states: "Math Strategies that Multiply". Therefore it is identified on the cover that the content is multiplication however it is not immediately recognized. Following the cover page, there is an 'Author's Note' that summarizes why he wrote this book which gives more meaning to the content. It was interesting to read what inspired him to write a book about

		<p>multiplication tables. The content of the book is both visually and verbally appealing due to the colourful graphics and whimsical poems. The illustrations include details which make it fun and humourous. An example of this the beavers relaxing in the water while reading other books by Greg Tang and wearing their reading glasses. The text offers entertaining rhyming poems that are appealing this age group, and relate to topics of their interests.</p>
Connections	6	<p>This book connects with its readers by using themes that interest them such as banana splits. The bananas are used for teaching the multiplication lesson on the number of three titled 'Three Sum'. The bananas are bunched in groups of three which provides the students with a visual grouping for this exercise. It teaches the reader to double and then add one to itself. Parents will be able to connect with the 'Author's Note' at the beginning of the book as they will be able to connect with the memorization of their multiplication tables and will have an interest in thinking in a new way to solve multiplication tables. Also, since the author signed the statement after his 'Author's Note', he has personalized the book and there is a human connection between the author and the reader.</p>
Audience	6	<p>The concept is presented in a way that will effectively appeal to a wide range of ability. For young children it will provide a methodical technique to solving multiplication problems. For people who have memorized their multiplication tables, this concept provides a new way of thinking through the math problem and will have more meaning.</p>
"Wow" Factor	6	<p>"WOW"!!! We thought this book was truly amazing. It captivates the audience from the beginning with its vibrant colours and keeps the reader's attention with the minimal and entertaining text. Each page has a new theme that is amusing and enjoyable. There is a fun title for each poem, followed by a break-down of the lesson. The conclusion of each lesson provides two challenges for the reader to apply their new knowledge. The colourful pictures for</p>

		<p>each lesson reflect the number the lesson focuses on. At the back of the book the author has provided a thorough answer key. The answer key is organized by poems presented throughout the story, and are presented with an associated picture and a short quote from the lesson. The answers provided include the multiplication table from 0 to 10, and also answers to the challenge questions.</p>
--	--	---

‘Number Lesson’ Activity Cards:

One Way

Multiplying Using Number 1:

“One is simple as can be, it’s known as the identity. The answer to identify? It’s the one you multiply!”

Work with your group to answer the following question based on the strategy presented in “The Best of Times” book.

1 x 31 =

How can you help your classmates by teaching them the new strategy to multiply:

1 x 89 =

* Remember to look at the book as a reminder of the new strategies!

©2002, Greg Tang

Two Step

Multiplying Using Number 2:

“Two is very fast and fun, quickly double and you’re done. What’s that you say, be more precise? Ok then, just add it twice!”

Work with your group to answer the following question based on the strategy presented in “The Best of Times” book.

2 x 12 =

How can you help your classmates by teaching them the new strategy to multiply:

2 x 44 =

* Remember to look at the book as a reminder of the new strategies!

©2002, Greg Tang

Three Sum

Multiplying Using Number 3:

“Three is easy as can be, if you triple what you see. In other words just add it thrice, this simply is one more than twice!”

Work with your group to answer the following question based on the strategy presented in “The Best of Times” book.

3 x 15 =

How can you help your classmates by teaching them the new strategy to multiply:

3 x 33 =

* Remember to look at the book as a reminder of the new strategies!

Four Eyes

Multiplying Using Number 4:

“Four is very fast to do, when you multiply by 2. Here’s a little good advice – please just always double twice!”

Work with your group to answer the following question based on the strategy presented in “The Best of Times” book.

4 x 14 =

How can you help your classmates by teaching them the new strategy to multiply:

4 x 35 =

* Remember to look at the book as a reminder of the new strategies!

©2002, Greg Tang

Five Alive

Multiplying Using Number 5:

“Five will yield the right amount, if by 5’s you always count. Or else just multiply by 10, half will get you there again!”

Work with your group to answer the following question based on the strategy presented in “The Best of Times” book.

5 x 16 =

How can you help your classmates by teaching them the new strategy to multiply:

5 x 48 =

* Remember to look at the book as a reminder of the new strategies!

©2002, Greg Tang

Six Sense

Multiplying Using Number 6:

“Six is pretty quick to do, just multiply by three then 2. If this sounds like too much trouble, triple first before you double!”

Work with your group to answer the following question based on the strategy presented in “The Best of Times” book.

Seven Heaven

Multiplying Using Number 7:

“Four Seven doesn’t take much time, even though it is a prime. Here is all you have to do, first times five then add times 2!”

Work with your group to answer the following question based on the strategy presented in “The Best of Times” book.

$$7 \times 14 =$$

How can you help your classmates by teaching them the new strategy to multiply:

$$7 \times 22 =$$

* Remember to look at the book as a reminder of the new strategies!

©Greg Tang 2002

Crazy Eight

Multiplying Using Number 8:

“Eight is very much like four, simply double but one more. Since 2 times 2 times 2 is 8, doubling three times works just great!”

Work with your group to answer the following question based on the strategy presented in “The Best of Times” book.

$$8 \times 25 =$$

Nine Ball

Multiplying Using Number 9:

“Nine is faster to compute, if at first you overshoot. Here’s a very clever tack, do 10 times and then subtract!”

Work with your group to answer the following question based on the strategy presented in “The Best of Times” book.

9 x 12 =

How can you help your classmates by teaching them the new strategy to multiply:

9 x 34 =

* Remember to look at the book as a reminder of the new strategies!

©2002, Greg Tang

Perfect Ten

Multiplying Using Number 10:

“Ten is such a breeze to do, all because of place value. To quickly multiply by 10, put a zero at the end!”

Work with your group to answer the following question based on the strategy presented in “The Best of Times” book.

10 x 18 =

How can you help your classmates by teaching them the new strategy to multiply:

10 x 72 =

‘The Best of Times’
Multiplication Fun - Challenge Sheet

Solve the following math problem:	Show how you solved the math problem using your new mathematical thinking strategies:
$2 \times 9 =$	
$3 \times 5 =$	
$4 \times 8 =$	
$6 \times 7 =$	
$8 \times 0 =$	

--	--

Hundreds Chart

The 'Hundreds Chart' can be used as a reference for many different purposes including the activity suggestion to present to the class after reading 'The Best of Times' by Greg Tang in which student develop their own creative ideas to solving the eleven multiplication table.

Hundreds Chart

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Number Concepts for Primary Grades - A companion
© 2001, 2002 by the Los Angeles County Office of Education

Math Self Assessment – Children’s Literature and Mathematics January 19, 2009

Professor: Dr. D. Jarvis

Course: EDUC 4274

Group: Nikki Simons, Laurie Hetherington

Self-Assessment, by Laurie Hetherington (h0514927)

Nikki and I worked very well as a team to complete this assignment thoroughly and effectively.

The **level of completeness** of this paper, successfully fulfills all requirement stipulated by the rubric associated with the A3 assignment. We completed all components with quality information, and were committed from the beginning of this project to the completion to ensure that we developed a lesson structure that would be effective in relating to both the curriculum and the classroom.

We developed effective open-ended **questions** for the beginning, middle, and end of the book that could be used effectively in a grade three classroom.

The **quality of writing** is professional and is free from grammatical and spelling errors. I feel that we were effective in clearly communicating our thoughts and ideas. I believe that anyone reading this document would be able to successfully use this to provide a multiplication lesson to their class, using ‘The Best of Times’ book by Greg Tang.

The **book critique** examines the book using each of the five categories in the HMJ article, and successfully rates this book based on these components.

Nikki and I successfully completed the ‘Children’s Literature and Mathematics’ assignment, and I look forward to the opportunity to implement this lesson plan into my classroom as I feel that it will be effective and fun!

Overall Assessment: 20/20

Self Evaluation: Nikki Simons

20/20

I think I deserve 20/20 because I feel like I contributed equally on the assignment and put forth a solid effort. I was prepared for group meetings and when we scheduled time to work together I always arrived prepared and ready to work on the assignment. I was a team player and worked well with my partner. When reviewing the final product I can honestly say it was an equal effort. I know I was flexible and easy to work with, and I believe that this is evident with our final product.