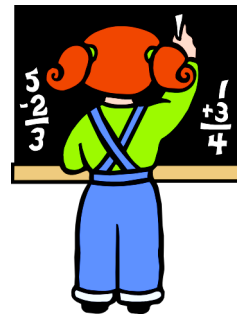


# Children's Literature to Enhance Math Learning



"Combining math and literature in classroom activities is a way for teachers to invite children into the world of math. Reading books that weave mathematical ideas into engaging stories help dispel the myth that math is dry, unimaginative and inaccessible. Children's books can not only generate interest in math but also provide contexts that help bring meaning to abstract concepts." -Marilyn Burns

Shirley Murata  
ORA Annual State Conference  
Literacy: The Key to Success  
February 8-9, 2008

## Using children's literature strengthens math learning

- Facilitates, provides context for, the essential process components of an effective math program as recommended by NCTM:
  - Communication,
  - Problem Solving,
  - Reasoning,
  - Connection,
  - Estimation
  
- Presents math in a new context that addresses additional learning styles
  - provides visual representation
  - bridges concrete to abstract
  
- Helps children see math all around us and real in our daily lives that make for meaningful connections
  
- Improves learner attitude and motivation toward math
  
- It's fun and engaging

## WAYS TO USE CHILDREN'S LITERATURE IN TEACHING MATHEMATICS - Welchman-Tischler (1992)

"Books that have mathematics embedded within a larger context. Mathematics appears as a natural element within stories, problems, personal vignettes or cultural events."

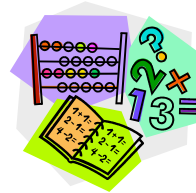
- To provide a context or model for an activity with mathematical content.
- To introduce manipulatives that will be used in varied ways (not necessarily as in the story).
- To inspire a creative mathematics experience for children.
- To pose an interesting problem.
- To prepare for a mathematics concept or skill.
- To develop or explain a mathematics concept or skill.
- To review a mathematics concept or skill.

**Marilyn Burns:** " Read story aloud to the class and discuss it as you would any book. Then introduce an activity. ... Keep the emphasis on children's reasoning, ask students to communicate their thinking and solutions and encourage discussion among students."

[Murata 2007]

## What Makes a Piece of Literature Worthy to Use in Math?

"Any book that has some intriguing mathematical possibilities must be marked by an engaging story line, beautiful language and a sense of wonder about the world." - David Whitin (Queens College, NY)



### Mathematics Trade Book Evaluation Form

(P.D. Hunsader's adaptation of form by Michael Schiro,  
READING TEACHER, vol.57, no.7 April 2004)

Book Title: \_\_\_\_\_

Author: \_\_\_\_\_

Publisher & date: \_\_\_\_\_

Mathematics content of book: \_\_\_\_\_

Target Audience (list all appropriate): \_\_\_\_\_

(based on an average of scores rating math and literary standards):

How good is the book from a mathematical perspective?

5                      4                      3                      2                      1

Superb   Recommended   Acceptable   Marginal   Unacceptable

How good is the book from a literary perspective?

5                      4                      3                      2                      1

Superb   Recommended   Acceptable   Marginal   Unacceptable

## **Math Standards:**

- Is the book's mathematics content (text, computation, scale, vocabulary and graphics) correct and accurate?
- Is the book's mathematics content visible and effectively presented?
- Is the book's mathematics content intellectually and developmentally appropriate for its audience?
- Does the book facilitate the reader's involvement in, and use and transfer of, its mathematics?
- Do the book's mathematics and story complement each other?
- How great are the resources needed to help readers benefit from the book's mathematics?

## **Literary Standards:**

- Does the plot exhibit good development, imagination and continuity? Are the characters (if any) well developed?
- Does the book contain a vivid and interesting writing style that actively involves the child?
- Are the book's illustrations and graphics text-relevant, appealing and representative of a child's perspective?
- Are the book's readability and interest level developmentally appropriate for the intended audience?
- Do the book's plot, style and graphics/illustrations complement one another?
- Does the book respect the reader by presenting positive ethical and cultural values?

(adapted by P.D. Hunsader, *READING TEACHER*, vol.57, no.7 April 2004)