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ABOUT THE AUTHORS

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Richard J. Callan has been a public school teacher in Indiana for 25 years and holds his BS and MS from Indiana University. He conducts staff development workshops and makes presentations on children's literature, assessment and manipulatives. In 1995, he received the Presidential Award for Elementary School Mathematics and appears in *Who's Who in America* and *Who's Who Among America's Teachers*. He was a contributing author to the *Indiana Mathematics Proficiency Guides* in 1991 and 1997. He also was Program Chair for the NCTM Central Regional Conference, January of 2003. Rick also was the mathematics representative for the SEPA (Society of Elementary Presidential Awardees) and co-authored the books *Math, Literature and Unifix* and *Math, Literature and Manipulatives* with Dr. Don Balka.

INTRODUCTION

Integrating children's literature into your mathematics program can be a fresh, enriching experience for you as a teacher and for your children in learning mathematics, for appreciating mathematics in varied settings, and for understanding mathematics in a non-threatening, inviting environment. In *Hands-On Math and Literature with MathStart*, more fun and often challenging activities are provided to supplement those in books.

With his innovative MathStart series that includes books in three different levels, well-known children's author Stuart Murphy gives children a unique way to understand and develop the mathematics content. Each core topic selected by Murphy for his books correlates with the National Council of Teachers of Mathematics Principles and Standards for School Mathematics (2000). In many cases, the books are appropriate matches for local and state standards. The levels are by ages:

- Level 1: Ages 3 and up
- Level 2: Ages 6 and up
- Level 3: Ages 7 and up

Each level of the MathStart series examines various core topics in 21 different books. The readability of each book differs and should not be the determining factor in using the book for a specific grade level. Besides regular classroom students, special needs and ESL students will benefit from their teachers using books in the series as instructional tools or as reinforcements for concepts taught in class. Extensions of the mathematics presented in several of the books are appropriate for middle and high school students.

For each book in the MathStart series, *Hands-On Math and Literature with MathStart* presents the following pertinent information for teachers:

- Title
- Story Summary
- Grade Level
- Concepts or Skills
- Objectives
- Materials Needed

- Activities
- Writing Activities
- Internet Sites
- Assessment Ideas

Books in MathStart, Level 3, cover the following topics: Estimating, classifying, equivalent values, dividing, place value, time, percentage, angles, fractions, bar graphs, negative numbers, counting coins, metrics, building equations, reading a schedule, capacity, solving for unknowns, subtracting 2-digit numbers, dollars and cents, multiplication and mapping.

Besides the activities Murphy suggests at the end of each book, additional activities for other mathematics concepts are provided for teachers to use to expand or extend their students' mathematical learning and understanding. Teachers will be able to use these activities to develop their own lessons or thematic units of mathematics study.

Internet sites have been listed with some book entries for teacher's perusal. Some sites are inclusive with other core topics, while other sites are specific for one topic or book.

Writing or communication activities have been presented for students to think, talk, or draw about in a class or small group situation. Some of the writing prompts will provide teachers with feedback as to whether students have understood the mathematics presented. Other writing prompts provide students with opportunities to expand their thoughts and understanding of the mathematics presented in the stories.

The assessment component will let teachers measure the understanding of the mathematics using a pencil and paper task, a performance task with manipulatives, or a writing assignment. Some Internet sites will allow teachers to assess students' understanding also.

Children's literature and appropriate activities with manipulatives can be an inviting experience for children to learn and understand mathematics. By using manipulatives in the classroom, children will be able

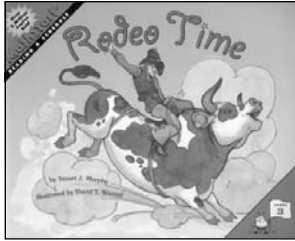
to understand mathematical information, develop mathematical concepts beyond conventional classroom settings, independently learn and understand mathematical concepts, rejuvenate creative think-

ing, have an appreciation for reading, and have a focal point on problem solving strategies and using connections to everyday living.

NCTM CORRELATION

| | Number & Operations | Algebra | Geometry | Measurement | Data Analysis & Probability |
|---------------------------------|---------------------|---------|----------|-------------|-----------------------------|
| Betcha! | √ | | | √ | |
| Dave's Down-to-Earth Rock Shop | | √ | | | √ |
| Dinosaur Deals | | √ | | | √ |
| Divide and Ride | √ | | | | |
| Earth Day-Hooray! | √ | √ | | √ | √ |
| Game Time! | | √ | | √ | √ |
| The Grizzly Gazette | √ | | | | √ |
| Hamster Champs | | | √ | √ | |
| Jump, Kangaroo, Jump! | √ | | | | |
| Lemonade for Sale | | | | | √ |
| Less than Zero | √ | | | √ | |
| The Penny Pot | | | | √ | |
| Polly's Pen Pal | | | | √ | |
| Ready, Set, Hop! | √ | √ | | | |
| Rodeo Time | | | | √ | |
| Room for Ripley | | | | √ | |
| Safari Park | √ | √ | | | |
| Shark Swimathon | √ | | | | |
| Slugger's Car Wash | √ | √ | | √ | |
| Too Many Kangaroo Things to Do! | √ | √ | | | |
| Treasure Map | | √ | | √ | |

RODEO TIME



Story Summary

Katie and Cameron help their Uncle Cactus Joe get ready for a rodeo show by doing odd jobs for him. They set schedules for themselves in order to be on time; however, various situations always cause them to be late. They find out how important it is to keep on a schedule.

New York: Harper Collins Publishers, 2006

ISBN: 0-06-055779-6

Grade Level 2-4

Concepts or Skills

- Scheduling

Objectives

- Calculate elapsed time
- Construct a schedule
- Construct a timeline

Materials Needed

- Paper
- Pencil
- 3 x 5 cards
- Time cards

Activity 1

Give each child two or three 3 x 5 inch cards. Have them write their morning schedule on the cards (waking time until school arrival). Compare and discuss children's schedules.

Activity 2

Have children estimate how long it takes from them to ride a bus to school from home. Have them write down the exact time the bus picks them up and what time the bus arrives at school. Were their estimates close? How far off were they? Children can make a bar graph of how long it takes for each classmember to get to school.

Activity 3

Have children research how doctors and dentists schedule their patients.

Activity 4

Have students make their own TV schedule for one week. Have them list TV shows they watch.

Have them bring their schedules to class to compare with schedules of other children. Then, have children answer the following questions:

- a. How many hours of TV do you watch per week?
- b. Which classmember watches the most or least amount of TV weekly.
- c. How many classmembers watch the same TV show each week?
- d. How many children do not watch TV on a certain day?

Have children graph class information.

Activity 5

Have children do research about rodeos. Have them find information about the average time a cowboy rides a bull.

Activity 6

Make copies of the Rodeo Time cards. Cut them apart and distribute a set to groups of two or three children. Have children order the times from earliest to latest time.

Activity 7

Make transparencies of the Rodeo Time cards. Place two cards on the overhead projector and have children determine the elapsed time.

Make copies of the Rodeo Time cards. Cut them apart and distribute a set to groups of two or three children. Have children place the cards face down in a pile. On a turn, a child draws two cards and finds the elapsed time.

Writing and Communicating

Have children write about how a schedule helps a person.

Assessment

Present children with a tangled list of schedule times for a particular event. Have children organize the list according to times.

Internet Links

<http://www.americancowboy.com>

<http://www.pbrnow.com>

Notes: