The Kindergarten Chronicles

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Writing to Communicate Mathematically

In mathematics, we expect students to communicate orally about their math thinking and write numerically, but we often overlook written communication. When students take the CRT's, beginning in third grade, the tests include constructed responses. Students are expected to communicate mathematically with writing. However, we cannot wait until third grade to begin introducing our students to communicating in this manner. This edition of *The Kindergarten Chronicles* provides suggestions for connecting math and writing.

To help my students begin communicating in writing mathematically, I implement a Math Thinking Log that we write in daily. This is a class log created out of butcher paper and is large enough for each child to see. I write in the log or the students write interactively with me.

Each day, my math session begins with a number talk, mini-lesson or full-lesson, depending on the concept, and a read aloud that compliments the topic. Next, we move to math choice stations which focus on the "big" concept we are covering at that time. After math choice stations, we come together for five to ten minutes to reflect on what we have learned about ourselves as mathematicians that day. Students share strategies that worked for them, discoveries they made during games or investigations, or something they learned from a peer. As we discuss, we decide how to write our reflections. Often, we use Thinking Maps or graphic organizers, charts, diagrams, bullets, or narratives.

Some days, I simply ask, "What did you learn about yourself as a mathematician today?" Other times, I ask more specific questions such as, "As you worked with the pattern blocks, did you notice how they relate to one another?" or "I noticed Johnny was grouping his Unifix cubes in a unique way. Can you tell us about your thinking?"

The next day, I leave our Math Thinking Log open to the prior day's page so students can try new strategies and drive new ways of thinking.

These activities and practices help my students to become reflective and purposeful learners, to see their independent practice as important, and finally, to see themselves as mathematicians.

- Casey Juliano, Lunt ES

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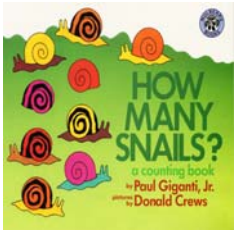
Bill Hanlon, Director

"It is impossible to be a mathematician without being a poet in the soul."

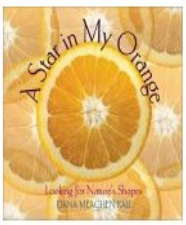
–Sophia Kovalevskaya

Math Literature

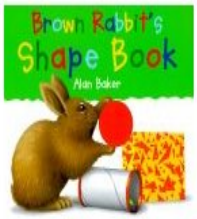
Ten Little Rabbits
By Virginia Grossman
Concept: Counting & Patterns
Activity: Have students recreate their favorite blanket from the text and describe its pattern with the class.



How Many Snails
By Paul Giganti, Jr.
Concept: Counting
Activity: Based on whatever theme you are working with, create your own *How Many ____?* class book. *How Many Ocean Animals? How Many Kindergarteners?*



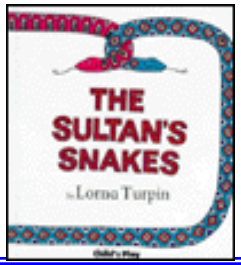
A Star in My Orange
By Dana Meachen Rau
Concept: Shapes
Activity: Using a digital camera, take your students on a "nature" walk around the school and find your own shapes in nature. Use the pictures in your own class created book.



Brown Rabbit's Shape Book
By Dana Meachen Rau
Concept: Shapes
Activity: Students will identify the shapes Brown Rabbit saw. Place plastic shapes in a paper bag. Pairs will put their hands in the bag and guess the shape before pulling it out. Once the shape is guessed, the pair should find all the items in the classroom that are that shape.

Kente Colors
By Debbie Chocolate
Concept: Patterns & Geometry
Activity: Using the colors of traditional African Kente cloth, have students use geometric shapes to create their own Kente cloth. Create a class book that reads _____'s Kente cloth represents _____.

Red - Life and Blood Blue - Innocence
Green -Mother Africa, Mother Earth
Black - People and Unity Gold - Strength and Fortune



The Sultan's Snakes
By Lorna Turpin
Concept: Patterns
Activity: After finding all of the Sultan's hidden snakes, students will enjoy creating their own snakes with patterns in a class book. As a bonus, you can glue a picture of the student's photocopied face on the snake and make it part of the pattern. The title of the book can change to *Ms./ Mr. _____'s _Kindergarten Snakes.*