



Reading and Math: A Perfect Marriage

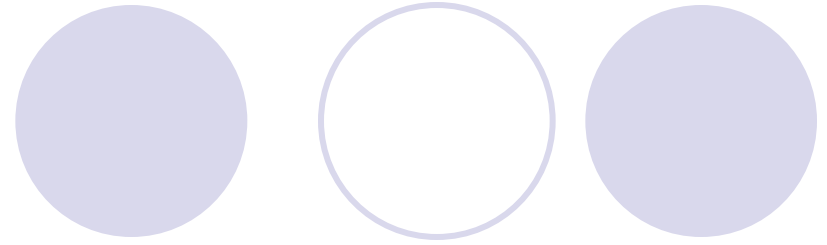
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Students are expected to “communicate their mathematical thinking coherently and clearly to peers, teachers and others.” They are also expected to “analyze and evaluate the mathematical thinking strategies of others” and to “use the language of mathematics to express mathematical ideas precisely.”

NCTM Standards, (2000)

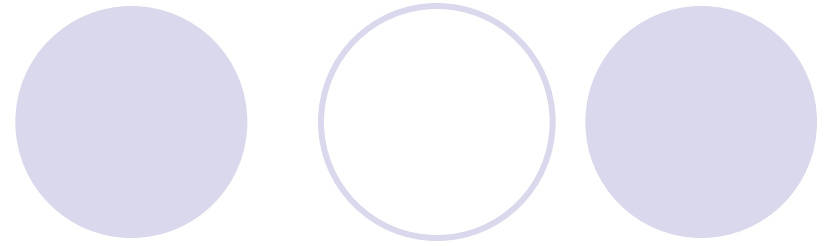
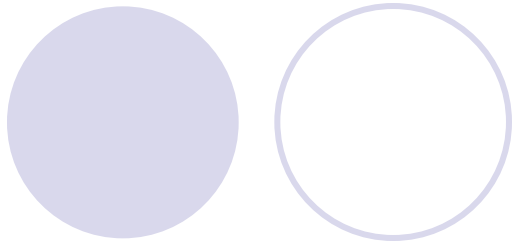
Reading and Math:



- order the world around us.
- involve patterns, relationships, classifications and problem solving.
- relate in structure and content.

Ezell (1997)





Talking and writing are ways students develop a deep understanding of mathematical concepts.

Fogelberg,2008



Goals



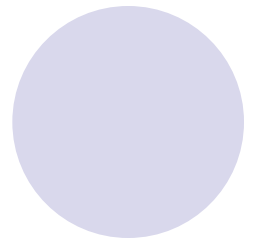
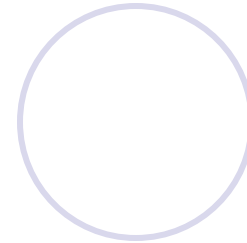
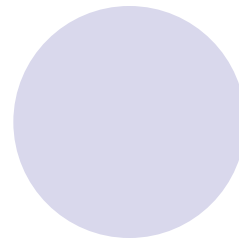
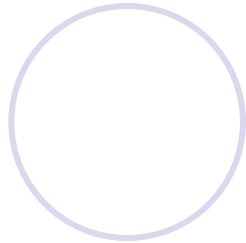
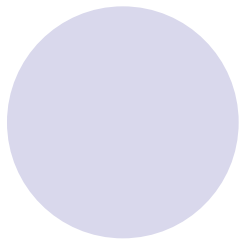
Literacy:

The ability to use reading and writing, speaking and listening sufficiently well to engage in thinking and to communicate ideas.

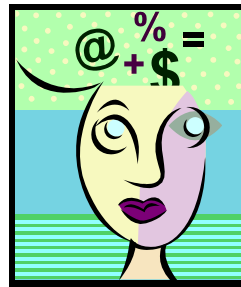
(McKee and Ogle), 2005

Math:

Construct meaning by applying skills such as questioning, predicting, examining, discussing, describing and rationalizing.



Literacy and math both use written symbols to communicate meaning.



Similarities



- Written the same way each time.
- Each has a name.
- Limited set.
- Involve a set of other symbols.
- Can contribute to representing something else.
- Context counts.

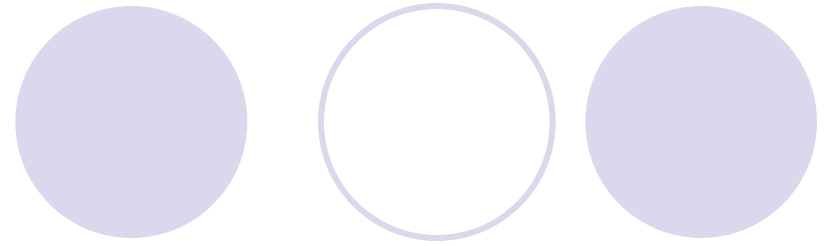
Maggie Siena, 2009

Fluent readers

- Recognize and read words in text.
- Have a sense of story language.
- Higher reading rate.
- Understanding and meaning is present.

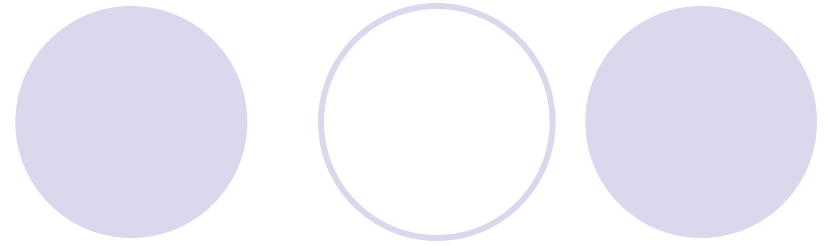
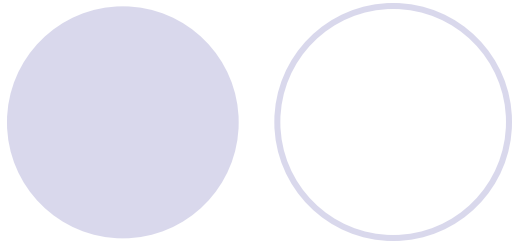


Fluency in math



- Basic computation and facts.
- Arrives quickly at a solution.
- Decide on their own if solution is reasonable.
- Makes sense.
- Math is meaningful.





- Whatever the curriculum area, vocabulary plays a key role in decoding, fluency and comprehension.

How will they measure the sugar they need?



With a measuring cup?

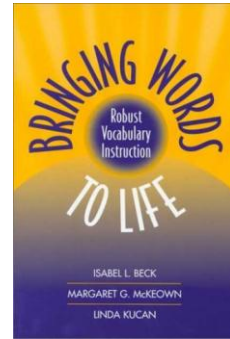


Or a scale?



Vocabulary in math

- Explicit instruction



- Children must know words in all contexts.
- Tier 1 words might may be tier 3 when encountered in math (face, odd, half, multiply).

Workshop Approach for Math?

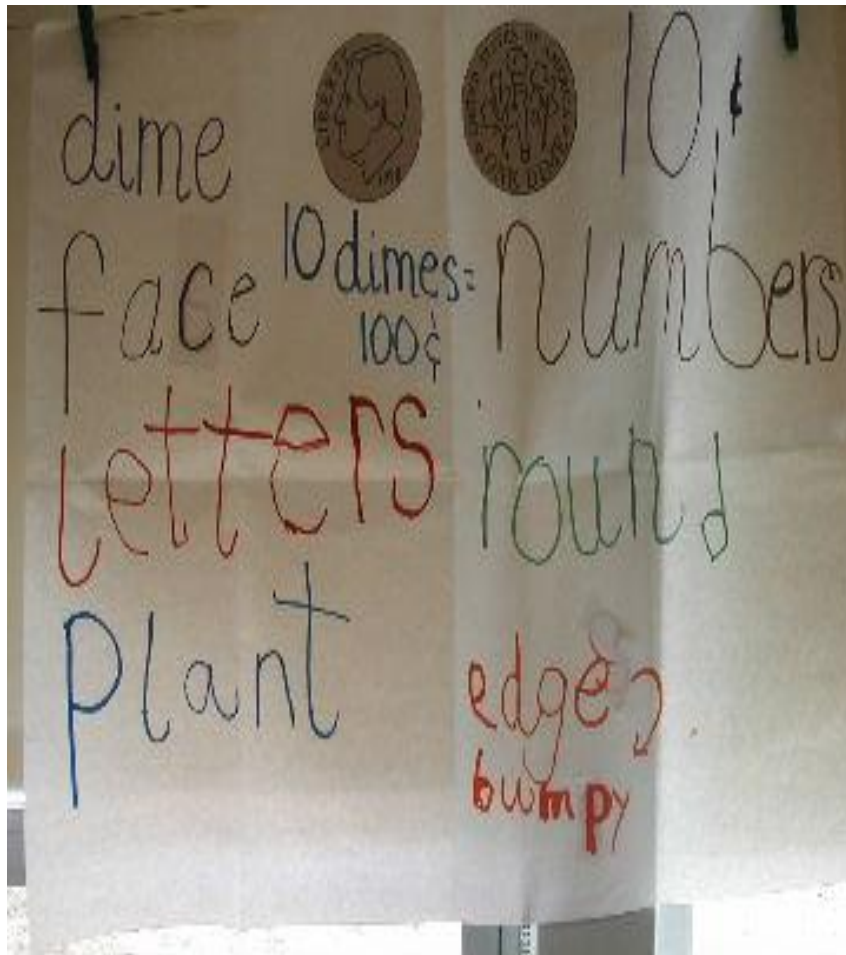
- Print rich environment
- Daily independent practice
- Direct, explicit instruction
- Integration with literacy
- Real life application
- Small group instruction



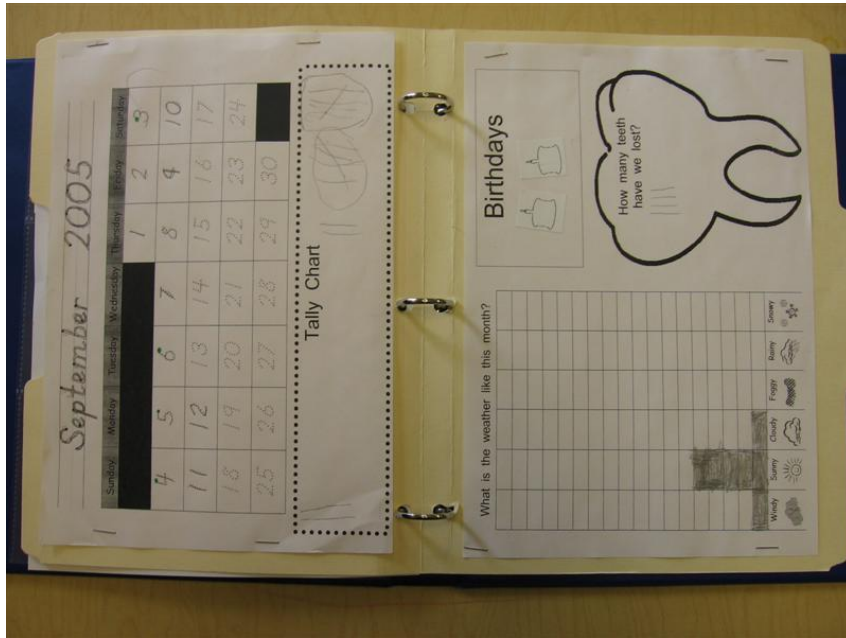
Literacy tools

- A literacy-math rich environment.
- Interactive read alouds and big books.
- Independent work stations for practice.
- Talk about books
- Interactive writing
- Word walls and vocabulary instruction
- Teach comprehension strategies

Interactive writing



What are Math Journals?



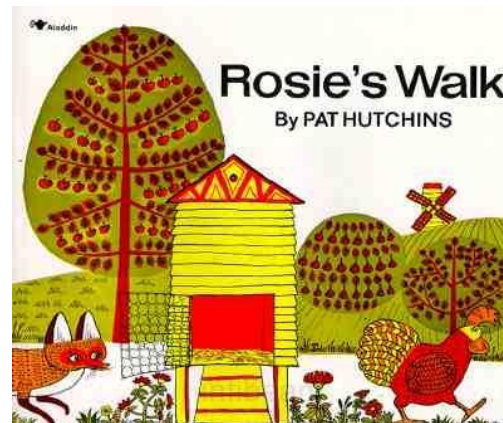
Monthly folders based on the calendar board to give students guided and independent practice in using math concepts.

<http://www.jmeacham.com/calendar/calendar.file.folders.htm>



Children's literature “helps portray mathematics as it really is: a tool for helping us tell the stories of our lives.”

Thitin and Wilde, 1995, p. ix



Demonstrations during RA



- Reading strategies bookmark.
- Think aloud.
- Teach students to ask and answer questions.
- Turn and talk clock.
- Building and reading charts and graphs
- Comprehension – visualizing, predicting, retelling, questioning, making connections.

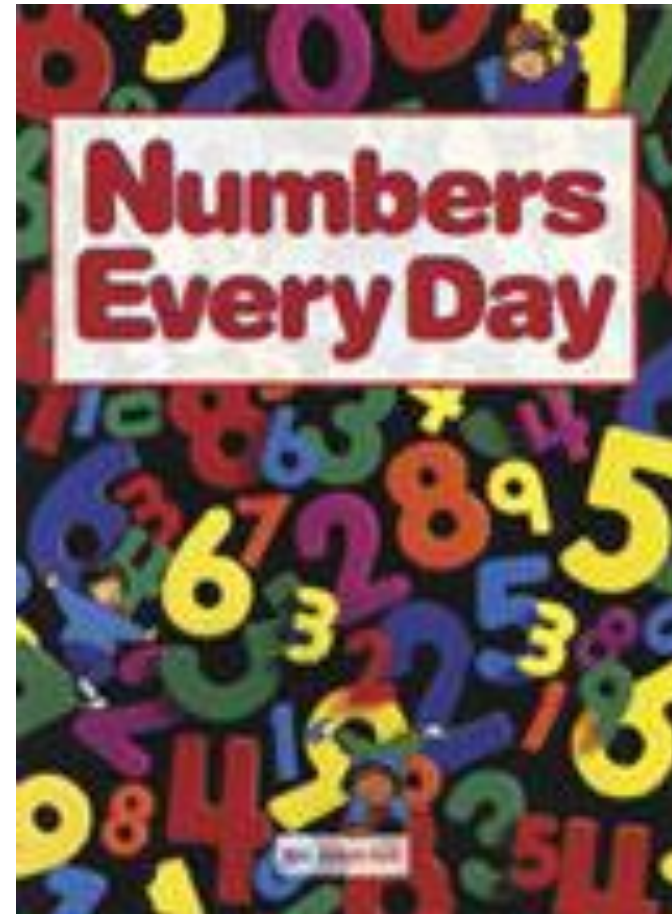
The title is centered and surrounded by five circles of varying shades of purple and lavender. The circles are arranged in a horizontal line, with the text 'Understanding Math Texts' overlaid on them.

Understanding Math Texts

Math is more than arithmetic. It includes understanding and solving math problems and reading and understanding the math book.

Shared Reading

- Demonstrate strategies
- Introduce vocabulary
- Talk about math
- Model how to think about math





Difficulties of Math Texts

- Early introduction of math terms and concepts.
- Varying number of real world applications of concepts.
- Math and science texts contain more concepts per line, sentence and paragraph than any other text.



This handout contains a portion of the entire presentation. Plan to attend our session on Monday, February 8 at 1:00 at the Hyatt Regency, Delaware C-D. We hope to see you then.

Becky and Ashley