

Connecting the Dots: Making the Math-Literacy Connection

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Embed Mathematics into the School Day

- Think of the day as a series of math problems (read *The Math Curse*)
- Display and read children's literature with mathematical concepts
- Use familiar characters to create math problems (Pete the Cat and his buttons)
- Create a Word Wall, posters, and stations for math concepts
- Line up to practice ordinal numbers, count out straws for snack time, demonstrate *above*, *below*, *beside*, *front*, *behind*, *next* during playtime
- Incorporate math songs and games into the day; count by tens to transition

Apply Literacy Approach to Mathematics

Literacy examples:

- KWL-"What do we already know about MLK Jr. before we read the article?"
- Compare & Contrast 2 versions of Cinderella
- Build comprehension-sticky notes in book, journals, student questioning
- Visualize events in a story as teacher or student is reading

Math examples:

- True or false (Yes or No) statements- "A quadrilateral always has 4 sides"
- Compare & Contrast regrouping with addition and with subtraction
- Build Conceptual understanding-students take notes, journals, student questioning
- Visualize shapes based on attributes being described

Use Academic Language

- Teacher models how to use the terms, shows examples of the terms and creates opportunities for students to use terms (academic language)
- Vocabulary Activities-Venn diagrams, put definitions into own words, add math terms to literacy Word wall, create descriptions/riddles, construct drawings and examples, send home vocabulary and ways to use it in everyday context

Sample Family Newsletter

Dear Families,

This week we are learning to ***solve math problems in our classroom***. Your student can practice solving problems at home by:

- Using these Math words – *divide, equal, share, more*
- Helping *divide* foods (pizzas, sandwiches, crackers) between people making sure everyone has an *equal* amount.
- Sharing toys such as *dividing* blocks, cars or dolls so everyone has an *equal* number.
- Looking for examples of where there are *more* objects or people in one group when you are shopping or outside.
- Checking out books at the library such as *More Than One* by M. Schlein and *The Doorbell Rang* by P. Hutchins.

Integrate Children's Literature with Mathematics

- Offers examples of real-world mathematics
- Demonstrates characters using mathematics to solve problems
- Provides common language and context for problem solving situations
- Students can apply content and practice standards with various literature books

Example: Using *Mall Mania* by Stuart J. Murphy

- Practice standard 3: Construct viable arguments and critique the reasoning of others.
- Content Standard 1.NBT: Use place value understanding and properties of operations to add & subtract.
 - Children in story show different ways to group numbers for adding
 - Students in your class can explore various strategies for addition
 - Students share their strategies with peers

Facilitate Explanation and Justification

- Empower children to share mathematics with their peers:
 - In order to provide an explanation, a child must have a model of what to say along with the use of correct mathematical vocabulary
 - Children can use objects, illustrations, pictures, or actions to explain their thinking, as a way to share their answers with peers
 - They can practice social skills by learning how to listen when others are explaining how they solved a problem (use mouth and ear on sticks to indicate who speaks first and who listens first)