ECEM MEETING 2 4/13/09

FOCUS -- UNDERSTANDING MATH

-- what would you like to know about math?

CENTRAL IDEAS FOR TEACHING MATH

1. Thinking about the problem, not the answer, is what is most important.
2. Process is more important than product.
3. Answers come from logical certainty, not an authority source.

Readings and Discovery Journal

Read:	Chapter 1 in Children are Born Mathematicians (CBM)
Reflect and Write:	Reflect questions 1-3, page 32

EXERCISES

-- tell a story about math in your life
-- tell a story about math in your experience with preschool children

In your groups,

* read the puzzler to yourself
* when everyone is finished, one reads it aloud for everyone to hear
* what given information is relevant to the problem?
* questions, observations
* what is needed to solve the problem?
* Similar to other problems you have solved?
* Possible strategies for solving?
* Can you solve it?

Puzzler 1: The Thirsty Archeologist

Once upon a time in Tennessee there was a little girl named Edwina. Edwina loved to dig in her back yard because she saw some people on TV digging, and they were exploring a town that was flooded thousands of years ago. They found some clay pots and parts of a skeleton. That was all well and good, but her mother didn't like Edwina getting her fingernails dirty when she was out digging. One day Edwina found an arrowhead, and the whole family was impressed. They wondered what the arrowhead would say if it could talk, so they put it in a frame and hung it next to the hutch so they could think about that from time to time. The dirty fingernail issue faded.

Edwina grew up and became an archeologist. Her family was very proud and always asked about what she was digging up. One early morning, way far away in a faraway land, Edwina was on a dig with 11 other archeologists. She was not far away from her group, gently brushing off some stones when she got thirsty, so she reached for her canteen to take a drink. Just then, a call came in. The ring tone on Edwina's cell was turned up to 9 in case it was at the bottom of her tool-filled backpack. But it happened to be right there in her back pocket, vibrating as well, and she was so startled she jumped and spilled the water. The others looked over in her direction.

To her amazement the water from her canteen moistened the rocks she was working on and revealed the fossil of a raindrop somewhere in the neighborhood of 400 million years old. Edwina didn't even say hello, but gasped and squealed in excitement into the phone; the 11 other archeologists got up and came right over.

Edwina collected herself, greeted her folks, and announced, "This is big! Look everyone!" She put her phone on speaker and continued, "This is, I'm quite sure, a genuine fossil of a raindrop that is at least 400 million years old -- it could even be 800 million years old!" The other archeologists gave nods of agreement, wondering if there might be more raindrop fossils nearby.

Her dad chortled, "Imagine that! There you are 7,580 miles away in a faraway land, you find a fossil of a raindrop, and it's raining like crazy here in Tennessee – we just heard on the late night news that we got a full half inch since dinner!" Edwina smiled, trying to calm herself, then shook her head, "Wow, this is like so serendipitous! I was about to drink some water from my canteen, spilled it on a rock, and that's how I found the fossil!"

Her mom asked, "Edwina? Do you think any molecules of that the water that made the fossil raindrop was in the rain we got this morning?"

"Ha! Or in your canteen that spilled on the fossil?" added her dad.

"Freaky!" added a fellow archeologist as he unscrewed the lid to his canteen.

Edwina's reply blew the socks off her parents and her fellow archeologists. She knew the answer to her mother's question.

Puzzler 2: From Marilyn Burns, About Teaching Mathematics, The Handshake Problem, Pg 124

Group Discussion:

How did you and your group do with the puzzlers? What was the good, the bad, the funny, the rad, the weird, the predicted, etc?