MileMarker Math Talk

Companion Activities and Talking Points for *Miss Penny Says, "Prove It"*

RETELL, RECREATE AND TALK ABOUT MATH WITH FRIENDS

Math MileMarkers®

The following conversation prompts and teacher notations are offered to help launch rich math conversations. Appropriate for both full-class and small-group discussions, these prompts provide an overview of the important content, mathematical practice standards, and the vocabulary presented in the story.

BIG IDEA	The Learning Environment
Pages 10–13	How do you think the children in this story feel about learning in Miss Penny's classroom? Describe your perfect learning environment. Some things to consider: quiet or loud? Inquiry-based lessons or scripted? Allow children to use their own words to describe what a classroom utopia might look like. How can we as a class work to create a positive learning environment for everyone in our class?
BIG IDEA	Open Counting Opportunities/Making Personal Connections
Pages 14–17	Bobby enters the room with a collection of marbles that he owns, not a prescribed number of items to count. How might this offer a richer experience for him as a learner? If you brought in a collection of things to class, what might you bring? Would your collection fit in your hands? Teacher's note: How can we, as educators, move from a "count this" mentality to a "how many do you see?" mentality where there is more than one way to see math? Could incorporating this idea provide a more meaningful connection to counting for children rather than only using prescribed counting activities?
BIG IDEA	The Importance of Estimation
Pages 18–19	Which student's guess or estimation do you think might be the closest to the actual marbles Miss Penny is holding in her hands? Were any estimations or guesses about the quantity of marbles too high? Were any estimations or guesses about the quantity of marbles too low? Teacher's note: actively engage students in the book by asking them how many marbles they think are in Miss Penny's hands.
BIG IDEA	Counting by Ones
Pages 20–21	Use the strip of marbles pictured at the bottom of the page, below the illustration, to count the marbles as a class.
BIG IDEA	Conservation of Numbers/Quantitative Value of Numbers and the MP Standards in Action.
Pages 22–25	Will the number of marbles change, now that they are in the big space at the bottom of the basket? How many marbles do you think are at the bottom of the basket? Teacher's note: On this page and throughout the book, Miss Penny says, ***"Prove it."*** This is a call to action that directly connects to mathematical practice standards. We want children to be able to communicate their understanding and persevere in problem solving. Asking students to "prove it" as a regular course of action, regardless of whether their answer is correct, is a great way to encourage this practice in the classroom.

CONTINUED

BIG IDEA	Counting Strategies
Pages 26–29	Describe the different ways the students represented the number sixteen.
BIG IDEA	Same Value/Multiple Representations
Page 30–35	Look at the representations of the number sixteen offered by the illustrator and those created by students on the final page of the book. How can sixteen have the same value if it looks different in the pictures? If you were to draw a representation of the number sixteen, what might it look like? Can you describe to the class what you would draw?

IDEAS FOR AFTER THE STORY Retell, Recreate, and Talk about Math with Friends.

A powerful way to use *Miss Penny Says, "Prove It!"* is to encourage children to retell Bobby's story using their own marble experience as a backdrop for understanding. Students reach into a marble jar and pull out their own collection of marbles to work with. Using the story board to guide them, students estimate, count one by one, explore ideas about the quantitative value of numbers, represent numbers in multiple ways, and hopefully gain an understanding of the conservation of numbers. These rich experiences allow children to navigate their own learning by exploring concrete, representational and abstract opportunities that promote understanding.

Story Board Connection

Download the companion story board free at www.mathmilemarkers.com.

Share Your Stories

Math MileMarkers® stories are the perfect way to enhance a child's understanding key concepts and have fun with math! Visit us at www.mathmilemarkers.com or on Twitter @mathmilemarkers to share how you used this Math MileMarkers® story to support learning in your class or at home. We love seeing pictures of students at work and hearing about the learning that happens when children retell, recreate, and talk about math with friends.