MileMarker Math Talk

Companion Activities and Talking Points for *Charile in Fraction City*

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 vocabulary presented in the story.

BIG IDEA	Fractions are numbers that are part of a whole
Pages 8–9	Welcome to Fraction City! What do you notice in the opening page illustration that lets you know that the story ahead will be about fractions? The author establishes that Charlie, the red rectangular figure and the main character, is considered a "whole" in Fraction City. What does it mean to be whole? Why is the idea of identifying the whole so important when talking about fractions? Three of the main characters are present in the opening illustration, each of them wearing a sign identifying them as a President of a Whole Club. What do these shapes have in common? How are they different? In the story, the author writes, "Most of the other residents of Fraction City are smaller pieces that are just itching to be a *part of a whole*." Explain what it means for a fractional piece to be part of the whole.
BIG IDEA	Partitioning a whole into equal parts
Pages 10–11	You may notice that throughout the book there are tents set up to welcome new fractional pieces. The sign for each club represented at the fair is different in size and shape. Take note of the whole represented on top of each UFA sign. Can all the fractional pieces that you see at the fair be part of every whole club? Why or why not?
BIG IDEA	Represent fractions on a number line
Pages 12–13	There are 3 fractional pieces represented alongside Ralphie Ruler. Note that Ralphie's body measures from 0 to 1 inch (not drawn to scale). Do you think these 3 rectangle pieces could become members of his club? What fractional piece might each of these rectangular pieces represent on Ralphie's scale? If Ralphie's ruler was extended to 5 inches, what possible fractions might surface? How might they be different from the fractions found from 0–1? What are your thoughts about the pie-shaped figures near Sally? Do you think they could be members of her club?
BIG IDEA	Reinforce the concept of what it means to be whole
Pages 14–15	The author writes, "People on the street stop him, saying, 'Go Charlie! You are ONE great guy!' And they mean it! The Whole Club presidents are the real thing, 100%." Explain how this statement applies to the various meters presented in this picture. Discuss multiple ways to represent 1 whole.
BIG IDEA	Unit fractions
Pages 16–17	What does it mean to be a unit fraction? Explain how unit fractions can be combined to make 1 whole. Be sure to discuss how 1/3 + 1/3 + 1/3 = 3/3

BIG IDEA	Area models, measurement, and equivalency
Pages 18–19	The author writes, "Charlie's whole was a finite space that could be subdivided into a multitude of different fractional variations. As long as each piece represented a part that was of *equal measurement* and fit perfectly into his finite space, they were a match." • Discuss what is meant by these terms (*equal measurement, finite space*). How can you explain *equal measurement* and finite space using the measurement tool provided on Charlie's meter? • Can you identify any equivalent fractions using the illustration? What is the definition of an *equivalent fraction*? • How can you use the area model to prove fractional equivalencies?
BIG IDEA	The whole must be divided into equal pieces
Pages 20–21	The author writes that "no bells went off for these groups." The blue triangle embedded in Charlie's meter is 1 piece out of 6 pieces. Does this blue piece represent the unit fraction 1/6? Explain why or why not?
Pages 22–23	The author asks, why were the 4 fractional pieces not given the unit fraction name 1/4 when clearly, they all looked the same and there were, in fact, 4 of them? Can you explain your thoughts using accurate math vocabulary?
BIG IDEA	Numerator and Denominator
Pages 24–27	How do the 4/5 want-to-be's help introduce the math terms *denominator* and *numerator*?
BIG IDEA	Review vocabulary and concepts taught
Pages 28–31	The final illustrations in the book offer the perfect opportunity to review the math content and vocabulary that surfaced throughout the story. What visuals support what you learned? What do you notice?

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

A powerful way to use *Charlie in Fraction City* is to encourage children to retell and recreate Charlie's story using a self-created shape made from paper or foamboard. Children can name and design their new "Whole Club President" character. They decide on the actual dimensions and play out the story exploring the importance of accurate measurement, area models, equivalencies, and key vocabulary that includes *whole, fraction, numerator, and denominator.* It is best to create four identical shapes so they have extras to cut up and explore with.

Don't be surprised if children decide to adjust the measurement of their shape to make telling the story easier. Some children may decide to challenge themselves by using dimensions that will allow them to apply their knowledge of decimals. These valuable experiences and the discussions that ensue allow children to navigate their own learning while exploring concrete, representational, and abstract opportunities that promote understanding.

Story Board Connection

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

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