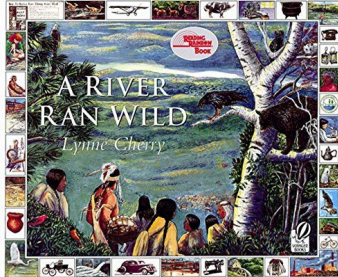


Flint Water Crisis: A Second Grade Unit

Launching the Unit



After reading A River Ran Wild students were asked whether they thought communities in the US still had water crises. They were shown a Powerpoint that introduced the water crises in Flint, Michigan.

The following day, they watched news videos informing them on the crisis and how it had occurred.

Meanwhile, in math, students had solved equal sharing problems and discovered the utility of halves, while working on defining and understanding half as a quantity and how it could be used as a number.

Rationing Water

Showed students picture of children in a Flint school with bottled water stacked in the hallway. Talked through the significance of the image and used it to launch a unit on how we ration water. Students decided how much water they might need to drink in a day and settled on one and a half bottles, positing that they could share one bottle with another student.

Problem 1 : What if each person in the class gets one and a half bottles of water at school?

How many bottles is that? Do you think that's enough? How many bottles of water do you think you would need in a school day?

Create a table showing how counting by one and a half looks...find patterns...How do we combine half?

Problem 2: How would two people know they were sharing a bottle equally? Students estimated and marked where a half was on the bottle. Then they used two beakers to evenly split the water. They then replaced the half in the bottle and labeled the half on the bottle.

This led to the kids spending the following days splitting the bottle into other fractional amounts and comparing the relative sizes of the fractions they found. They were very interested in how fourths were halves of half, but thirds required their own complicated measuring process.

Problem 3: The last few days we were only thinking of the water we would need to drink while we are at school. What about at home? How many bottles of water do you think your family would need? What would you need bottles of water for? How would you use them? Just like kids might have to only have 1 and a half bottles of day at school, because they have to make sure there is enough, families also might only get a set amount.



What if your family got one package of water bottles in a day. (24) How would you share them? **This led to a discussion around whether every person getting the same amount is really “fair”**

- Why are our answers so different?
- Does it seem fair that the answers are different?
- Does any family seem like they have a fair amount?
- How could we make that amount fair?

Problem 4: Does water come only in this size? Is there a problem with this size? Could we get water in a larger size? What is that size called?

How many of the bottles do you think make a gallon? Explore together to find out.

Once we knew that about 8 bottles made one gallon of water, we talked about how many bottles represent half a gallon. Then we were able to think about other splits like half of a half, etc...

Math Concepts Covered:

Division and sharing; creating; composing and decomposing fractions; fractions of a whole and fractions of a set; measurement of volume and capacity; problem solving with fractions

Donations

After learning about the water crisis and how families were having to rely on donations, students decided to begin donating coins to Flint. Each day, as more coins were added, we kept track of our total. This provided daily practice with coin identification and counting, as well as adding quantities of money. Students ended up collecting and donating over \$40 to the United Way of Genesee County.

Cross-curricular Connections

- Tied to teaching of landforms--lakes, rivers and oceans
- Current events--both Flint and Crystal City, Texas were in the news for water crises (students had learned about Crystal City while studying Tomás Rivera)
- Reading of the text [A River Ran Wild](#) by Lynne Cherry in order to see how rivers in the United States became polluted (and draw connections to prior learning on indigenous cultures and colonization)
- Science connections to the water cycle, watersheds, and water conservation
- Roles and responsibilities of government to its citizens

