

Book Title: *Sold!: A Mathematics Adventure* by Nathan Zimelman

Grade Levels: K-3



Learning Outcomes:

Kindergarten

A4 Represent and describe numbers 2 to 10, concretely and pictorially.

A5 Compare quantities, 1 to 10, using one-to-one correspondence

Grade 1

A9 Demonstrate an understanding of addition of numbers with answers to 20 & their corresponding subtraction facts concretely, pictorially & symbolically by:

- using familiar and mathematical language to describe additive and subtractive actions from their experience
- creating & solving problems in context that involve addition & subtraction
- modeling addition and subtraction using a variety of concrete & visual representations, and recording the process symbolically

Grade 2

A9 Demonstrate an understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the corresponding subtraction by:

- using personal strategies for adding and subtracting with and without the support of manipulatives
- creating and solving problems that involve addition and subtraction

Grade 3

A9 Demonstrate an understanding of addition & subtraction of numbers with answers to 1000 (limited to 1, 2 and 3-digit numerals) by:

- using personal strategies for adding and subtracting with & without manipulatives
- creating and solving problems in context that involve addition and subtraction of numbers concretely, pictorially and symbolically.

Materials:

- Bags of counters as needed (20 unifix cubes for k and 1, 50 units cubes for 2 and 3)
- Book: [Sold! A Mathematics Adventure](#) by Nathan Zimelman
- Play money for sharing and using in sample problem if desired
- Story Problem Think Board
- Story Problem worksheets – grade specific
- Story Problems – grade specific

Lesson Focus 'Start Unknown' Problems:

1. Discuss learning intention: "I can write an equation that shows how I solved a story problem."
2. Warm-up students with a game – using images of money, and a number and have them determine the number of missing carrots. Model recording an equation with start unknown
 $\square + 10 = 25$. Give time for students to share their strategies for solving.
If appropriate record $25 - 10 = 15$.
3. Read the story, Sold!. Stop at the end of page 18 'the moth landed on my nose.'
4. Explain to the class that you are going to make some auction problem for them to solve.
5. Pose the problem (adjust numbers for the ability of your class):
We bid on some encyclopedias.
8 books were missing.
We have 18 books in the set.
How many books were in the set when it was new?

Use a unifix cubes to represent the books. Brainstorm ways to model the problem.
6. Give the children an opportunity to discuss their strategies, then record their thinking on the Think Board (electronically or on an overhead or the mat at the carpet) a picture and an equation that represents the way they solved the problem.
7. Repeat for:
I spent some money on a painting.
Then I spent \$8 more for a toy pop-gun.
Altogether I spent \$32.
How much did I spend on the painting?
8. Have pairs or small groups of students take the problem papers (have available the adapted versions depending on abilities – one at a time to solve. A variety of addition and subtraction problems are purposefully included – all start unknown.
9. Independent practice – complete attached sheet – recording equation and solution on the sheet but completing the work on the story board. (grade 2 and 3 sample provided only) Be prepared to use larger or smaller numbers depending on the level of ability.
10. Have students debrief, first with a turn and talk and then whole group, the strategies they used to help them decide how to solve the problems. Finish reading the book.
11. Ticket out the door: 'Which type of problem did they find easier to solve – a subtraction or an addition?'