



Curriculum Units by Fellows of the National Initiative

2017 Volume V: From Arithmetic to Algebra: Variables, Word Problems, Fractions and the Rules

Solving Problems Multiple Ways: Using Arithmetic and Literature - Hooray!

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This unit is designed to look at problem solving by using literature and mathematics together. It will start by hooking students with a read aloud from the novel, *The Skin I'm In*, by Sharon Flake, in which the protagonist gets into a lot of trouble by making questionable choices in solving her life problems. Students will identify the problem in the story and brainstorm ways to solve. Following that reading, students will be given carefully written mathematical word problems to solve. The problems are written to include the three types of addition and subtraction problems (change, comparison, and part-part-whole) and the three types of multiplication and division problems (equal groups, area/arrays, and comparison). These types of problems are further divided according to position of the unknown quantity, resulting in 23 different types of problems all together. Following the same procedure as for the novel, students will identify the problem and create a plan to solve. Using the four basic operations, students will learn that, just as in real life scenarios, once you understand the problem, there are multiple ways you can solve it. When one-step problems are well understood, two-step problems will be introduced. The intended audience is fourth grade, but this unit could also be used with younger or older children who struggle with problem solving.

(Developed for Mathematics, grade 4; recommended for Mathematics, grades 4-6)

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