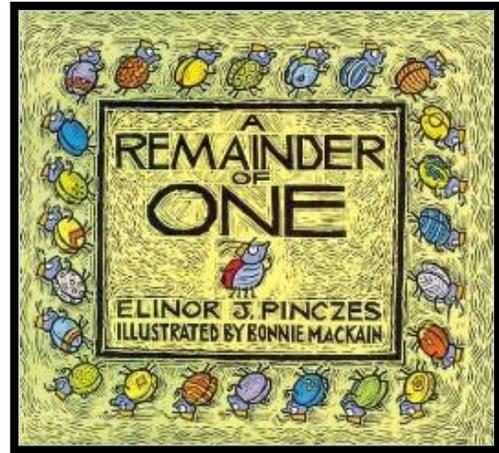


A Remainder of One

Many children's books address mathematical ideas in fun and interesting ways. Simply reading them, however, won't instill deep mathematical understanding. But when kids can model the stories and are encouraged to find ways to generalize the mathematical ideas the stories contain, books can provide great opportunities for deepening mathematical understanding.

Four year-old Jesse had lots of questions after reading *A Remainder of One*, by Eleanor Pinczes. The story revolves around 25 ant soldiers who are marching in two lines. Soldier Joe, however, is left alone at the back, much to the dismay of the Queen Ant. He is asked to leave and comes back the next day with the suggestion they march in threes instead of twos. But that still leaves him as the odd ant out. Finally, he suggests marching in fives, and everyone is happy.



Jesse was excited to tell the story with blocks representing the soldiers. At this point, he basically just retold the story. He brought in an extra soldier to give Joe a partner, which would have been another solution to Joe's dilemma. At this point, we played with a variety of scenarios, but there wasn't anything systematic about the game. This is an example of mathematical modeling.

I wrote a quick note from Joe inside the back cover: "I'm so glad this story had a happy ending! But two of my friends have similar problems, and I'm not sure how to help them. Bob is in the 15th Squadron (meaning he has 15 members) and Shirley's in the 21st Squadron. They're always left out, too. Can you help them?" This is an example of generalizing in mathematics.

Jesse loves making the blocks talk to teach other, so after he helped Bob sort his troop into 5s (as Joe had done to solve his problem with 25), I had Joe comment that, "Hey! They're also marching in 3s!" (you can look at the arrangement as 3 groups of 5 or 5 groups of 3). Bob, Joe, and Jesse puzzled over why Bob could march in 3s when Joe couldn't and why Bob's troop was able to march in two different ways and Joe's could only march one way. This also involved testing Bob's troop in 4s, which resulted in a remainder of 3.

Government
of Alberta

Alberta

 galileo.org
educational network

The material on this page is from <http://galileo.org/earlylearning>, an Early Learning website and a joint venture of the Government of Alberta and Galileo Educational Network. For copyright information, visit <http://creativecommons.org/licenses/by-nc-sa/3.0/>

