

Coloring in Grade 1

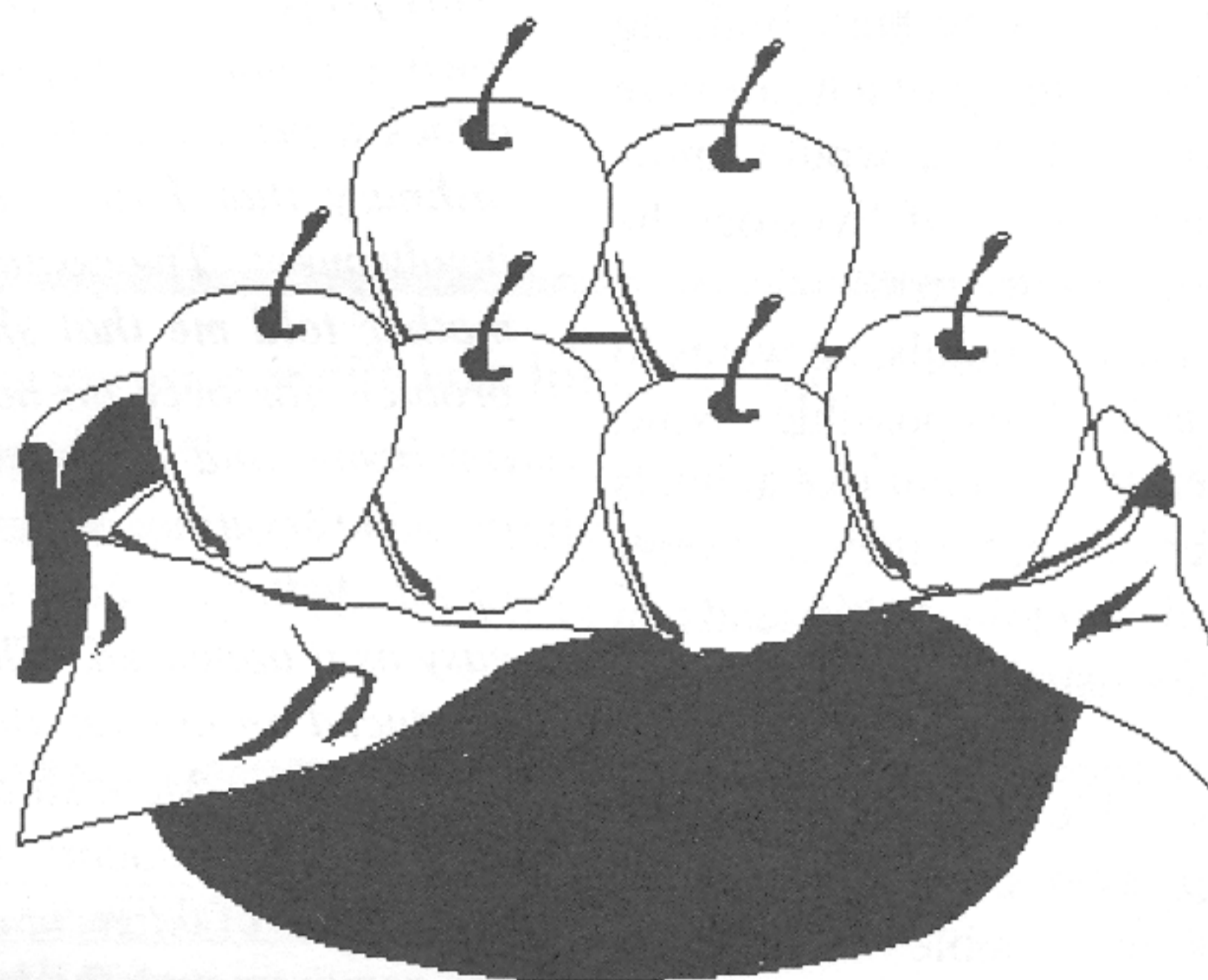
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Teaching first grade is always a challenge, and I am continually looking for new ways to motivate my students. When a colleague suggested I take a Discrete Math Course with her, I jumped at the chance. I learned a great deal and found the course packed full of information, but I'm not sure how much of it can be simplified enough for first grade.

I work in a suburban school district and have 24 children with a range of abilities. I also have two students who come to me for math that are mainstreamed from a perceptually impaired class.

My first area of choice was graph coloring. Most children come to first grade with a love of coloring. After spending the first few weeks on color recognition we were ready for our first exercise: coloring apples and placing them in baskets so that two apples of the same color didn't touch.

It's been my experience that telling a story is a good way to motivate children. I made up a story about Farmer Brown who grew and sold apples. He grew three kinds: red delicious, granny smith, and golden delicious. (At this point I drew one each of a red, green and yellow apple on graph paper so demonstrate what they would look like.) He needed to find a way to show off his apples so that people would buy them. One way would be to put them in a basket so that each apple would stand out, and not touch one that was the same color. I told the children that they would be his helpers, and that we would figure out a way to solve his problem.



Each child was given a worksheet with six apples on it and a piece of paper with a basket drawn on it. They were directed to color the basket, and to color two of the apples green, two red, and two yellow. Then they could cut them out and arrange them. They could work either in pairs or alone. This part of the lesson was very successful, although some of the children had a hard time figuring out how to arrange their apples. Once several of the more advanced students figured out a good way, then everyone wanted to do theirs the same way. (The children were not provided the picture on this page.)

My next step was to call the children together to discuss how we had solved the problem. Children were invited to share their apple baskets. Finally we drew all of the different arrangements that the

children had made on chart paper, using markers.

This lesson was followed by a similar one using balloons, and finally one on coloring a partial map of the United States. All of these worked quite well.

I think that primary teachers have to remember that they are introducing the foundation for the upper grade teachers to build on. If we keep it simple then it will be fun and the children will develop a love for problem-solving using the tools that we give them. It is my hope that they will consider math one of their favorite subjects throughout their school years.

Leadership Program in Discrete Mathematics Crash Course for High School Teachers

The Leadership Program in Discrete Mathematics will offer a two-day crash course in discrete mathematics for high school teachers at Rutgers University on August 11-12, 1999. The content will include paths and circuits in graphs, patterns in numbers and geometry (fractals), voting methods, and codes. The anticipated cost of the program is \$150 (including dinner and lodging on August 11); the cost may be reduced if grants are obtained. For information, call Bonnie Katz, 732-445-4065, email her at bonnie@dimacs.rutgers.edu, download the materials from <http://dimacs.rutgers.edu/lp/crash-course/>, or write to: Leadership Program, P.O. Box 10867, New Brunswick, NJ 08906.