Division Problems

The following problems provide suggestions for some context ideas for student investigations. Numbers and contexts can and should be adapted to suit your students' needs. The model and strategy references suggest possibilities only. Choose the particular models and/or strategies you want to emphasize in your instruction. While many strategies can be used to successfully solve problems, students need to move towards efficient ones.

Problem	Model	Strategy
Sameet has 28 hockey cards he wants to share with his friends. He decides to put the cards into packs of 7. How many friends will he be able to give a pack of cards to?	array	quotative, skip counting, repeated addition, repeated subtraction
Sameet has 28 hockey cards he wants to share with his friends. If he has 7 friends he wants to share with, how many cards will each friend get?	equal groups, array	partitive, counting or dealing out, guess and check, repeated addition, repeated subtraction
The staff room just got a new water bottle machine so the teachers can buy water when they are thirsty. How many of you have seen the inside of a water bottle machine? Well, it looks like this (hold up a picture of the inside of the machine, containing 6 columns with rows of bottles in it). I was watching the machine owner set up the machine and I asked her how many bottles of water it would take to fill the machine. She said it would take 78 bottles of water. When I've gone shopping for groceries I've seen bottles of water sold in packages of six. So that made me wonder, how many six-packs of water would it take to fill the new machine?	array, equal groups	quotative, skip counting, repeated addition, repeated subtraction, distributive property
The staff room just got a new water bottle machine so the teachers can buy water when they are thirsty. How many of you have seen the inside of a water bottle machine? Well, it looks like this (hold up a picture of the inside of the machine containing 6 columns with rows of bottles in it). This machine has 6 different kinds of water (plain, mineral, lemon, raspberry, lime, and orange). I was watching the machine owner set up the machine and I asked her how many bottles of water it would take to fill the machine. She said it would take 78 bottles of water. I was wondering how many bottles there would be for each different kind of water if each flavour has the same number of bottles?	array, equal groups	partitive, counting or dealing out, repeated addition, repeated subtraction, distributive property

Problem	Model	Strategy
My niece works in a grocery store on weekends and during the summer to make some extra money. She told me about a problem she needed to solve using math. Here was her problem: She was filling shelves of a display with soup cans and she knew she needed 72 cans to fill the display. The cans came in boxes of 12 so she wanted to find out how many boxes she would need to get 72 cans. Can you find the answer to her problem?	array, open array, ratio table	quotative, repeated addition, repeated subtraction, distributive property
I'm organizing a floor hockey league for the school. I sent out a sign-up sheet for students who were interested in playing. 192 students have signed up to play in the league. I want each team to have two full lines of players, which means each team will have 12 players. How many teams will there be in the league?	open array	quotative, distributive property, partial quotient, flexible and standard division algorithms
A class of 23 students has been raising money for a class trip. Their fundraising has resulted in a total of $437. The students want to know how much money they will each have for the trip.	open array	partitive, distributive property with addition, distributive property with subtraction, flexible and standard division algorithms

For more information on division models and strategies, and for additional division problems, go to **www.eworkshop.on.ca**.