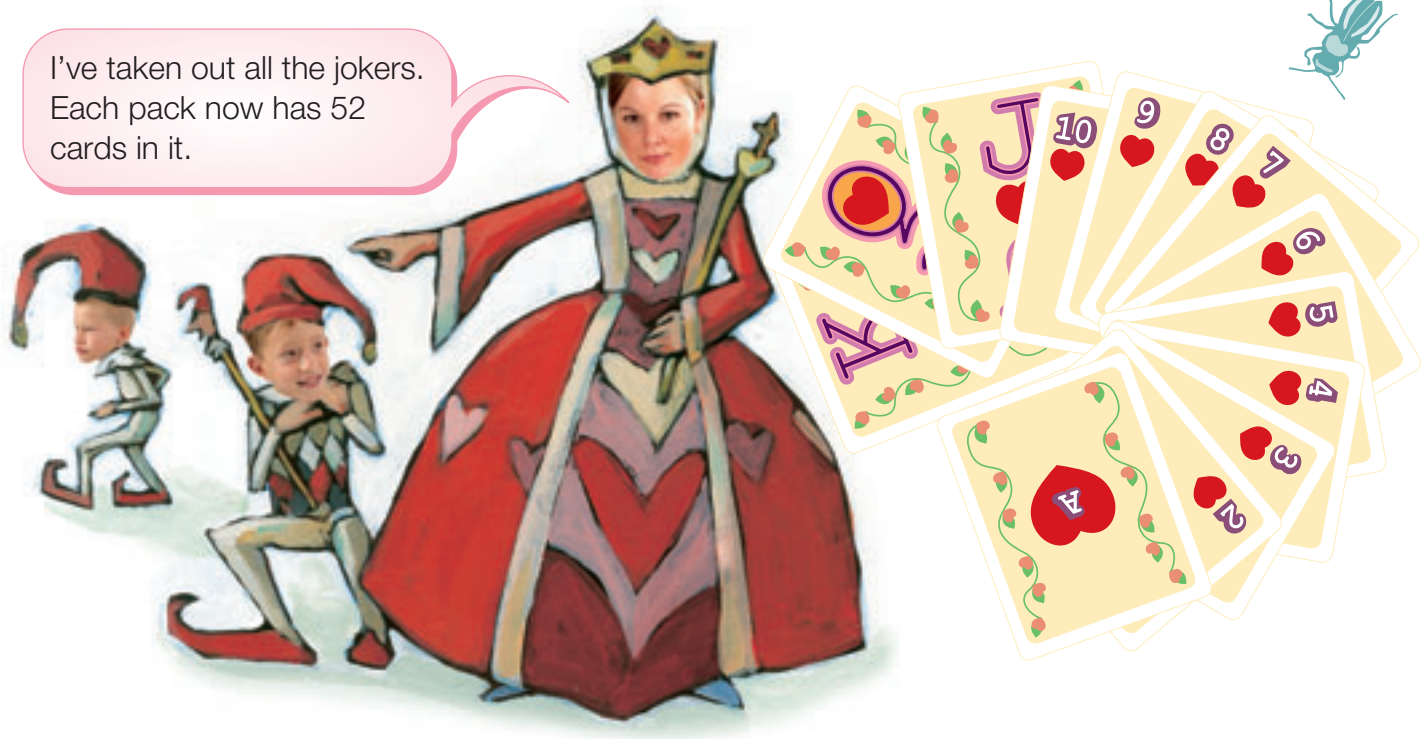
Card Arrays

You need ☑ a pack of playing cards ☑ a classmate
☑ square grid paper

Activity

Your class is exploring factors and arrays. Each pair of students has a pack of cards.



1. a. If you take all the face cards (jacks, queens, and kings) out of your pack, how many cards will be left?

   b. Arrange the number cards in a rectangle in rows and columns, with no cards left over. How many different ways can you do this? (Note that a row on its own is also a rectangle.) Draw the different ways you find.

2. a. Do you think you can make more or fewer rectangles if you use all 52 cards?

   b. Find and draw the rectangles you could make with all 52 cards.

   c. i. Was your prediction in part **a** correct?

      ii. How do you know when you have found all the rectangles?

3. 6 cards from each suit is 6 x 4 = 24 cards.
   How many rectangles can you make with these cards?

4. If you use 44 cards to make a rectangular array with one side 11 cards long, how many cards long is the adjacent side of the rectangle?

5. If your cards were square in shape, how many different square arrays could you make using any number of cards up to 52?