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## Factor Groups

We encourage classroom teachers to pose this problem to your students and share their creative solutions. Please include a brief analysis of the specific strategy; examples of original student work or high-quality digital images; and your name, the school name and address, and your e-mail address. E-mail submissions to Sherry L. Bair at [slbair@ilstu.edu](mailto:slbair@ilstu.edu), or send to her at Illinois State University, Campus Box 4520, Normal, IL 61790-4520, by **March 30, 2013**. Published solutions will be credited.

*(Solutions on page 318)*

1. Consider all the natural numbers between 1 and 100. In each case, count 1 as a factor.
  - a. Which have exactly 1 factor?
  - b. Which have exactly 2 factors?
  - c. Which have exactly 3 factors?
  - d. Which have exactly 4 factors?
  - e. Which have exactly 5 factors?
2. By examining your answers to question 1, can you see any relationships or patterns? Use any patterns you find to predict which numbers between 1 and 100 have exactly 6 factors. Check your predictions.
3. Continue to investigate other numbers that have exactly 7, 8, 9, or 10 factors. Generalize any patterns that you find.