

## Concepts of Multiples

1. Demonstrate how to find the answer to the hot dog question using Cuisenaire® rods.
  - A. Lay the different colored rods out according to length. Using the smallest rod, figure and record the length of each color.
    - White
    - Red
    - Green
    - Yellow
    - Purple
  - B Form a train using the 8 unit rods and another train using the 10 unit rods. Build the two trains until their lengths coincide. Record it in a drawing.
    - How many rods did it take?
    - How does this relate to our hot dog question?
    - Predict when they will next coincide. Check your prediction by building it.
    - Name some other amounts where the hot dogs and buns would match.
    - Out of the numbers that we have been using, name as many multiples and divisors as you can. Record each, stating the two numbers that form the relationship. Example: 5 is a divisor of 10. 10 is a multiple of 5.
2. Margie and Bernadette want to buy a stereo for their room. They have decided that they will work after school. Margie earns \$7 an hour and Bernadette earns \$4 an hour. Margie wants to work only long enough to match Bernadette.
  - A. How long will each girl need to work so that they each contribute the same amount?
  - B. What is that amount?

Work with a partner to solve this problem. Be ready to defend your answer.
3. There are some pennies on my table. If I share them equally among four people there are none left over. If I share them equally among six people there are none left over.
  - A. How many pennies are on the table?
  - B. Is there only one answer to this question? Explain.
4. Four students are asked to count how many chairs there are in the room. They are told there are more than one hundred but fewer than two hundred chairs in all but they are not sure how many. One student counts them by twos; that is 2, 4, 6, 8, etc. Another counts by threes; that is 3, 6, 9, etc. Another counts by fours; that is 4, 8, 12, etc. Another counts by fives; that is 5, 10, 15, etc. In each case all the chairs are counted with no remainders; that is no chair is left over.
  - A. How many chairs are there?
  - B. Is there only one answer to this question?