Candy Box Research
Multiplication Lesson from Math By All Means

Materials:

24 color tiles per pair of students
1" grid paper (several copies per pair of students)

Directions:

1. Begin by giving each pair of students 24 color tiles. It is best if each pair has the same color
2. Explain to the class that the tiles are pretend candies that come in rectangular or square boxes and are always packed in just one layer.
3. Tell them that a sampler box has 4 candies in it. Ask each student to take 4 tiles and find the different ways these candies might be arranged to fit into a box.
4. Draw the two different possible options on the board for students and have each student shade in on the 1" grid paper the 2 different options.
5. Write the dimensions 2 x 2 and 1 x 4 inside the rectangle and square that was drawn. Explain the students that the 1 x 4 and the 4 x 1 is basically the same array.
6. Give the following problem to the students.
   a. Each pair of students is the design research team for the candy company. The president of the company has asked for a report about the different boxes possible for 6, 12, and 24 candies. Give the students three directions.
      i. For each number, use the tiles to find all the possible rectangles.
      ii. As your find the rectangular shapes, draw them on the 1" grid paper and label each one.
      iii. Cut out all the different rectangles for each number of candies and write a note about which method would be the best for the president to pick for each number of candies. Make sure the student write all the possible options for each number of candies.

Extension: Have the students create all the options for 36 and 48 candies. They can create multiple layers (volume) if the students truly understand arrays.

Adapted from Math By All Means, Multiplication Grade 3.