Painted Cubes
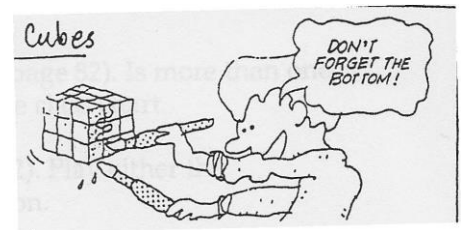
Use cubes.

1) Starting with a 2 x 2 x 2 cube, imagine painting the outside of the cube.
   Then imagine taking the cube apart when it dries. How many of the small cubes have:

   0 faces painted?

   1 face painted?

   2 faces painted?

   3 faces painted?

   4 faces painted?

2) Do the same for different sizes of cubes. Keep track of your data. Generalize for cubes of any size.