Author: Samantha Sheley

Task: Wrapping Paper Inc.

Level: Primary, Third Grade

Strand: Use visualization, spatial reasoning, and geometric modeling to solve problems.

Core Math: Geometry, the composition of 3-D shapes.

Area implemented: geometric shapes.

Materials: Manipulatives (specifically access to cubes) and graph paper

Contact: samantha.sheley@albany.k12.or.us

Wrapping Paper Inc.

You are an employee for the Wrapping Paper Inc. Company. The company prides itself on their efficient use of quality wrapping paper. They have been asked to design a pre-cut wrapping paper pattern for a new Jewelry company's designer earring boxes. The boxes are one inch long, by one inch wide, by one inch high. The wrapping paper will be glued to the boxes so that all sides of the box are covered BUT *the company doesn't want there to be any overlapping*! You have one day to come up with as many designs as you can before you present your ideas to the deciding committee.

*Have students cut out their designs and put their names on them for grading purposes. Collect them in an envelope at the end of the day.

*If students finish early, or if there is time on the second day display various patterns on the overhead, weed out previously seen patterns so that you create a class list of possible nets for cubes. Look at the number of squares used to make each net (compare numbers in successful patterns and unsuccessful ones). Pre-sorting the patterns is a good way to cut down on taking too much time with this part of the activity…

*Repeat this process on day two but create net patterns to house two cubes (rectangular prisms). Explain that there was an error in the previous request and the box size has changed…

*Display possible patterns again. Look at the number of squares needed to house two cubes. Compare this with the number of squares needed to house a cube. Ask the students to draw conclusions based on the class's discussion.