Picture Board

Goal: Divide a bulletin board or poster board so everyone has the same area to decorate

1. Show everyone the board and explain the theme

2. Brainstorm layouts

How can we divide this board into little rectangles—one for each of us? Each rectangle has to be the same size.

For instance, to show there are 10 rectangles in Layout 3, you could:

- count each one
- count columns by 2's (2, 4, 6, 8, 10)
- count rows by 5's (5, 10)
- add the number in each column (2 + 2 + 2 + 2 + 2 = 10)
- add the number in each row (5 + 5 = 10)
- multiply row times columns (2 x 5 = 10)
3 Find the dimensions of each contribution
   Everyone helps measure and divide up the board.

4 Unleash creativity!
   Design and assemble board sections.

Variations

Make a grid (easier). Draw a grid of 1” squares on the board. Children count the grid squares and then decide how many for each person.

Different shapes (harder). Children divide the board so everyone contributes a different shape piece (square, rectangle, L-shape), but all have the same area.
Math Spotlight

“Area model” of multiplication

This activity gives children a way to make sense of multiplication. Children work with an “area model.” The number of rows times the number of columns equals the number of little rectangles in the grid.

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<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>12</td>
<td>6</td>
<td>4</td>
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<tbody>
<tr>
<td>12 x 1 = 12</td>
<td>2 x 6 = 12</td>
<td>3 x 4 = 12</td>
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Everyday Connections

Estimating area

How many gallons do I need to paint my bedroom? How many feet of wall-to-wall carpeting will cover the living room? How many packets of seeds should I buy for my garden? All these questions involve estimating area.
Children and adults can build their area estimation skills by making book covers out of paper bags, finding the right size tablecloth to fit a certain table, and dividing up a bulletin board into equal parts.