

### Painted Cube Puzzle

**Purpose:** To improve visualization skills.

**Apparatus:** Your mind.

- Procedure:**
1. Visualize a wooden cube. What color is the cube painted?
  2. Imagine the cube is cut vertically by two saws simultaneously into even sections. How many sections would you have?
  3. Now image the cube is being cut in the very same way again from the top, only perpendicular to the other cuts. How many pieces would you have now?
  4. Visualize the cube being cut once again, by two saws, only this time from the side, across the other cuts. How many cubes are there?
  5. How many cubes are painted on three sides? Two sides? One side? Any cubes with no painted sides?

**Goals:** To be able to visualize the cube and its sections as they are being cut, well enough to count the cubes with various painted sides.