

### Level 3 - Spiral Color-Count-Object

**Question:** You are presented with a visual reasoning puzzle consisting of a  $3\times 3$  grid of images, where one image is missing in one of the nine positions.

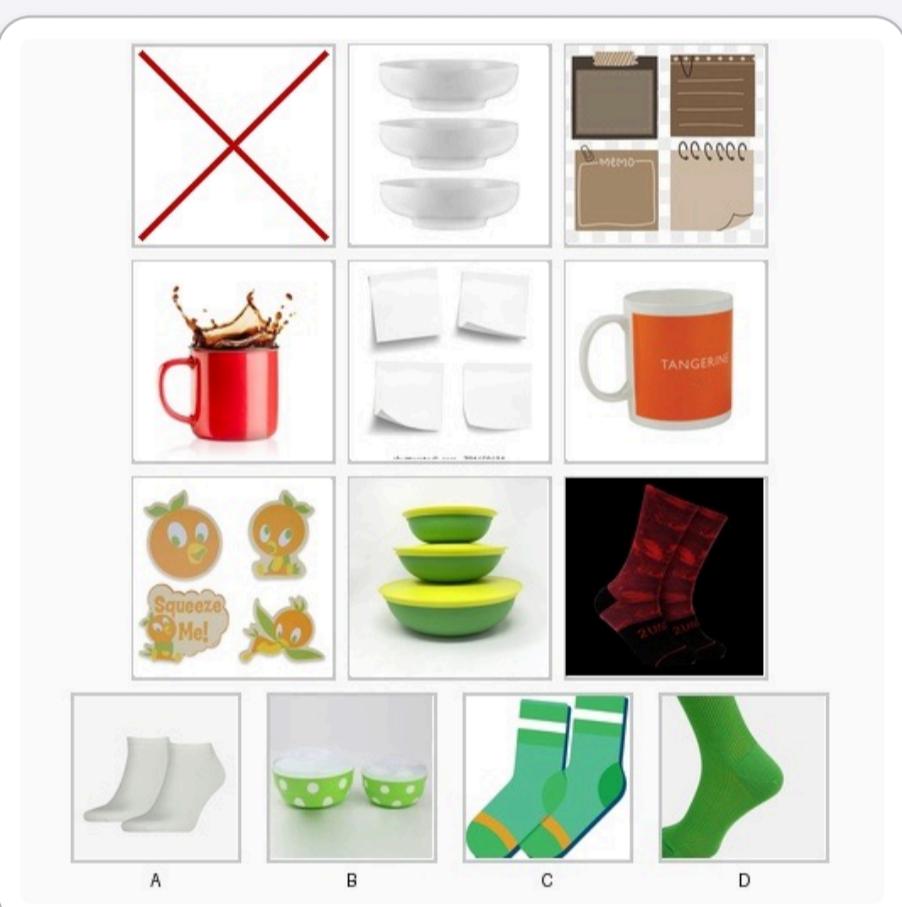
Below the grid are four candidate options labeled A, B, C, and D, arranged horizontally from left to right. Exactly one option correctly completes the grid.

**Task:** 1. The grid follows a spiral logical rule, where the visual attributes of the images form a continuous sequence that progresses inward through the grid; 2. The spiral may move clockwise or counterclockwise, and its starting position can vary anywhere within the grid; 3. In this puzzle, focus on the following attributes: object type, color, and number of elements (count), which may vary independently or in relation to one another; 4. Carefully analyze how each attribute varies along the spiral path and determine how the rules interact to produce the overall pattern; 5. Choose the option that best satisfies all relevant rules and completes the missing position in a logically consistent way.

In your reply, follow this format exactly:

**Reasoning:** Describe the main rule or pattern and explain why your answer fits it.

**Answer:** [A, B, C, or D]



**Ground Truth: C ✓**

#### GPT-5-Thinking

**Reasoning:** Read the grid in a clockwise spiral starting from the top-left cell (the missing one).

Along this spiral, each object type repeats after four steps with a different color, and the count for the repeated item matches its earlier occurrence:

- Bowls: 4 white (1,2) → later 3 green (3,2) — different colors, same object.
- Notes: 4 brown (1,3) → later 4 white (center).
- Mugs: 1 red (2,1) → later 1 orange (2,3).
- Socks: 2 red (3,3) → the first position of the spiral must therefore be 2 socks in a different color.

Thus the missing image must be a pair of socks (count = 2) in a color different from red. Option C shows a pair of green socks, satisfying the spiral pairing rule (object type repeats with a different color and matching count).

**Model Answer: C ✓**

**Object Repetition Shortcut:** the model selects the correct answer but does not follow the spiral traversal. Instead, it uses a shortcut: detecting repeated objects diagonally and choosing a new color with matching count — bypassing the actual compositional rule.