

### Level 3 - Spiral Color-Orientation

**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.

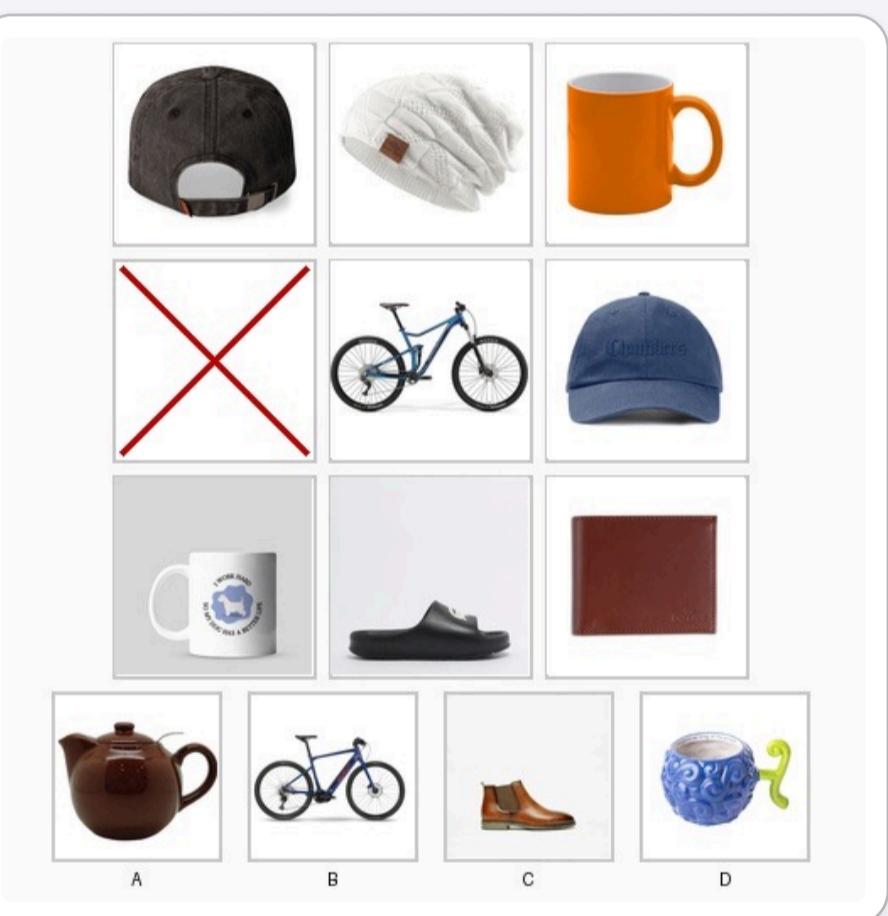
Below the grid are four candidate options labeled A, B, C, and D, arranged horizontally from left to right. Exactly one option correctly completes the grid.

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: orientation and color, 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:** Follow the clockwise spiral starting at the top-left (cap) → beanie → orange mug → blue cap → wallet → right-facing slide → white mug → [missing] → blue bicycle (center).

Two attributes change along the spiral:

1. Color cycles Neutral → Neutral → Warm → Cool → Warm → Neutral → Neutral → Warm → Cool.  
So the missing image must be warm-colored.
2. Orientation alternates whenever the object has a direction (mugs/footwear/teapot/bike): right (orange mug) → right (slide) → left (white mug) → left (missing) → right (bike).

Thus the missing image should face left.

Option A, the brown teapot, is warm-colored and faces left (spout to the left), fitting both spiral rules; the other options don't satisfy both constraints.

Model Answer: A ✗

**Spiral and orientation failure:** although the model initially tracks the correct color sequence, it drifts into a vague warm/cool categorization and misreads orientation cues, ultimately picking A (with matching color but wrong orientation) instead of following the true spiral rule.