Beyond the Whistle

How sensory signals become meaningful patterns

SS24.P.7 "Describe the interconnected processes of sensation and perception. 7a Explain the role of sensory systems in human behavior. 7b Explain how perceiving can differ from sensing..."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline two physical inputs that a sense detects, circle two clues that could affect an interpretation, and number the two visual arrangements that might look like patterns.

The Final Seconds

1. Your senses collect information before you decide what is happening. Sensation begins when receptors respond to energy or chemicals, such as light entering the eyes or odor molecules reaching the nose. These receptors send signals through the nervous system. Perception is the brain's interpretation of those signals in context. A low rumble might be interpreted as a passing truck when the windows shake. That interpretation can guide behavior, such as stepping away from the window. Seeing, hearing, smelling, and touch do not work in isolation. Their signals can combine, while prior experience helps the brain decide what they mean.

2. At a crowded basketball game, Maya watches the final seconds on the clock. She sees the clock reach zero, hears a sharp whistle, and feels her phone vibrate in her pocket. The crowd cheers loudly, and several players stop running. Maya's friend is reading a text on a phone when the whistle sounds. Sound waves reach both friends' ears, but the friends are focused on different things. A coach raises an arm toward the court. The clock, players, and coach provide environmental cues that could help someone decide what the whistle means and what to do next.

3. Perception also organizes sights into patterns. Gestalt principles describe common ways the brain groups visual information. By proximity, nearby marks tend to look like a set even when no lines join them. By closure, the brain may experience an incomplete outline as a whole shape. At the game, Maya sees three small lights close together on a wall panel and one light farther away. She also notices a team banner with a printed circle interrupted by a strip of tape. The positions of the lights and the visible ink are physical inputs. A person's interpretation can go beyond those inputs.

2 ANSWER WITH EVIDENCE

Use the passage

1. How could the clock and the players' actions affect Maya's interpretation of the whistle? Describe one action she might take.

2. Sound waves from the whistle reach both friends' ears. Why might the friends perceive it differently?

3. Which lights on the wall panel might look like one group? Name the Gestalt principle that explains why.

4. What does Maya see on the banner, and what might she perceive instead? Name the Gestalt principle involved.

3 YOUR TURN

Your own words

Invent a situation outside a sports event. In four or five sentences, describe inputs to two sensory systems, explain how attention and an environmental cue affect an interpretation or action, and apply proximity or closure to something visible. Make clear what is sensed and what is perceived.

Beyond the Whistle

PART 1 · READ AND MARK

Underline two physical inputs that a sense detects, circle two clues that could affect an interpretation, and number the two visual arrangements that might look like patterns. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How could the clock and the players' actions affect Maya's interpretation of the whistle? Describe one action she might take.	**The clock reaching zero and the players stopping could lead Maya to interpret the whistle as the end of play. She might stop watching the action on the court.**
2	Sound waves from the whistle reach both friends' ears. Why might the friends perceive it differently?	**Maya is watching the game, while her friend is focused on a text. Their attention could affect how much they notice the whistle and what they think it means.**
3	Which lights on the wall panel might look like one group? Name the Gestalt principle that explains why.	**The three nearby lights might look like one group because of proximity. The farther light is less likely to appear part of that group.**
4	What does Maya see on the banner, and what might she perceive instead? Name the Gestalt principle involved.	**She sees a printed circle interrupted by tape but might perceive a complete circle. This is closure.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

At a bus stop, I hear an engine and feel cold rain on my hand. While I focus on checking the route number, I barely notice a nearby conversation. The number on the arriving bus helps me interpret the engine sound as my bus, so I move toward the boarding area. I see four close dots on a posted schedule and perceive them as one group by proximity. The sound, cold, and dots are sensory inputs, while identifying my bus and grouping the dots are perceptions.

Accept other reasonable actions or interpretations supported by the passage. For the open task, look for two sensory systems, a role for attention and an environmental cue, and an accurate distinction between a visual input and a Gestalt-based perception.