Clues Animals Notice

Use investigation results to trace how animals sense and respond.

4.9 "Carry out investigations to support a claim that different animals receive information through their senses, process that information, and respond in various ways."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB As you read, underline what each animal senses, circle what it does, and write 1, 2, or 3 beside each trial that compares conditions. These marks will help you connect information from a sense to a response.

What Changed?

1. A class set up two sides in a box for pill bugs. Both sides were dark, but one had a damp paper towel and the other had a dry one. The class placed pill bugs in the middle and counted them later. More pill bugs were on the damp side. Their bodies can sense moisture, and their nervous systems use that information as they move toward moist places.

2. Near a pond, a scientist watched minnows in a tank with a rock shelter. When a moving shadow passed over the water, many minnows darted beneath the rock. When no shadow passed, they kept swimming in the open. The tank, shelter, and room lighting stayed the same in both trials. The minnows' eyes detected the change in light. Their brains processed the change, and they swam to cover.

3. A female cricket has ears on her front legs. A scientist played the song of a male cricket from one end of a small arena. The female walked toward the sound. During a silent trial, she did not walk toward that end. The arena stayed the same, so sound was the main change. Her ears sensed the chirps, her nervous system processed them, and she responded by moving toward the sound.

2 ANSWER WITH EVIDENCE

Use the passage

1. What did the pill bugs sense, and what observation supports the claim that they responded to it?

2. How do the two minnow trials show that the moving shadow was linked to the minnows' response?

3. Trace the cricket's path from sensing to responding. Name the body part, the information it sensed, and the action.

4. How did the minnow and cricket responses differ, and what information did each animal use?

3 YOUR TURN

Your own words

Choose an animal not in the passage. Describe two fair trials that change one kind of information the animal might sense, predict what you would observe, and explain how the animal would sense, process, and respond.

Clues Animals Notice

PART 1 · READ AND MARK

As you read, underline what each animal senses, circle what it does, and write 1, 2, or 3 beside each trial that compares conditions. These marks will help you connect information from a sense to a response. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	What did the pill bugs sense, and what observation supports the claim that they responded to it?	**They sensed moisture. More pill bugs were on the damp side than on the dry side.**
2	How do the two minnow trials show that the moving shadow was linked to the minnows' response?	**The minnows darted under the rock when a shadow passed, but kept swimming in the open when no shadow passed. The tank, shelter, and room lighting stayed the same.**
3	Trace the cricket's path from sensing to responding. Name the body part, the information it sensed, and the action.	**The cricket's ears on her front legs sensed the chirps. Her nervous system processed the sound, and she walked toward it.**
4	How did the minnow and cricket responses differ, and what information did each animal use?	**The minnows used a change in light and swam under a rock. The cricket used sound and walked toward it.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

I would place a dog in the same room for two trials, with a person standing behind it each time. In one trial, the person would ring a bell, and in the other, the person would stay silent. I predict the dog would turn toward the person only when the bell rings. Its ears would sense the sound, its brain would process it, and it would turn its head.

Accept responses that identify a sense, describe a controlled comparison, and connect the information sensed to an observable response. Students may describe processing by the brain or nervous system.