

Sense Signal Systems

Trace how information moves from a sense to a response.

4-LS1-2 "Use a model to describe that animals' receive different types of information through their senses, process the information in their brain, and respond to the information in different ways..."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each kind of information an animal receives, circle each use of the word brain, and number each response in the passage. This will help you trace each animal's information-transfer system.

Signals in Action

- ① At dusk, a rabbit pauses beside a bush. Its ears pick up the soft thump of a fox's paws on dry ground. Sound information travels from the ears to the rabbit's brain. The brain processes the sound as a possible danger. In response, the rabbit freezes, then darts into thick grass. Its body acts after the brain receives and processes information.
- ② On a sunny rock, a lizard notices a moving shadow above it. Its eyes receive light information about the shadow. This information goes to the lizard's brain. The brain processes the change and helps the lizard respond. The lizard slips under the rock, where it is harder for a bird to see. Eyes, brain, and muscles work as an information-transfer system.
- ③ A sea turtle swims near a reef and smells chemicals from food in the water. Its nose receives this smell information, and the information reaches its brain. The turtle's brain processes the smell and helps it decide what to do. It turns toward the source and uses its flippers to swim closer. Different senses can send different kinds of information to an animal's brain.

2 ANSWER WITH EVIDENCE Use the passage

1 Use arrows to trace the rabbit's information-transfer system, from its sense to its response.

2 How does the lizard's response help it after its brain processes the shadow information?

3 What different types of information do the rabbit and sea turtle receive?

4 Name the three parts of the lizard's information-transfer system and tell what each part does.

3 YOUR TURN Your own words

Create a labeled arrow model for an animal not named in the passage. Show its sense, the information it receives, what its brain processes, and its response, then explain your model in exactly two sentences.

PART 1 • READ AND MARK

Underline each kind of information an animal receives, circle each use of the word brain, and number each response in the passage. This will help you trace each animal's information-transfer system. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	Use arrows to trace the rabbit's information-transfer system, from its sense to its response.	Ears receive the sound of fox paws → brain processes it as possible danger → rabbit freezes and darts into thick grass.
2	How does the lizard's response help it after its brain processes the shadow information?	It slips under the rock, where it is harder for a bird to see.
3	What different types of information do the rabbit and sea turtle receive?	The rabbit receives sound information, and the sea turtle receives smell information about chemicals from food in the water.
4	Name the three parts of the lizard's information-transfer system and tell what each part does.	Eyes receive light information about the shadow, the brain processes the information, and muscles help the lizard slip under the rock.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Model: Moth's eyes → light from a flower → brain processes the light → moth flies toward the flower. The moth's eyes receive light information. After its brain processes the information, the moth flies toward the flower.

Accept models with a logical sequence of sense, information, brain processing, and response. Responses may vary if they match the information the animal receives and include exactly two explanation sentences.