How Behavior Changes

Read evidence of three ways organisms learn.

SS24.P.11 "Describe ways in which organisms learn, including the processes of classical conditioning, operant conditioning, and observational learning.* 11a Identify and describe unconditioned stimuli, conditioned stimuli, unconditioned responses..."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline the stimuli, consequences, and observed actions that shape behavior. Circle the responses or actions that follow them.

A Bell, a Lever, and a Model

1 When Ivan Pavlov studied dogs, food naturally caused salivation: food was an unconditioned stimulus, and salivation was an unconditioned response. After a bell repeatedly sounded before food arrived, the bell alone caused salivation. The bell became a conditioned stimulus, and salivation to it became a conditioned response. John B. Watson and Rosalie Rayner later paired a loud noise with a white rat in the Little Albert study. Albert eventually showed fear of the rat without the noise. Today, the study raises serious ethical concerns.

2 Actions can change because of what follows them. B. F. Skinner put rats in boxes where pressing a lever could deliver food. Food added after a press is positive reinforcement; stopping an unpleasant noise after a press would be negative reinforcement. Both increase pressing. Punishment decreases behavior, such as when a press produces an unpleasant noise. The law of effect says actions followed by satisfying outcomes tend to recur. With a fixed-ratio schedule, food follows every fifth press; with a variable-ratio schedule, the required number changes.

3 Albert Bandura showed children an adult hitting a Bobo doll; children who saw this aggressive model were more likely to imitate the actions than children who saw a nonaggressive model. This is observational learning: behavior changes after watching others, without directly receiving a reward. In separate doll studies, Kenneth and Mamie Clark asked Black children to choose between Black and white dolls and describe them. Their findings documented children's racial attitudes, not an experiment showing that children learned by watching a model.

2 ANSWER WITH EVIDENCE

Use the passage

1. In Pavlov's study, what were the unconditioned stimulus and response? What were the conditioned stimulus and response?

2. How does the law of effect explain lever pressing? Why are both added food and a stopped noise reinforcement rather than punishment?

3. How does a fixed-ratio schedule differ from a variable-ratio schedule in the passage?

4. What makes Bandura's Bobo doll study evidence of observational learning? Why is the Clarks' doll research different?

3 YOUR TURN

Your own words

In four sentences, invent a school scene with classical conditioning, reinforcement, and learning by watching. Identify all four parts of classical conditioning, explain how the reinforcement changes an action, and describe the copied action.

How Behavior Changes

PART 1 · READ AND MARK

Underline the stimuli, consequences, and observed actions that shape behavior. Circle the responses or actions that follow them. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	In Pavlov's study, what were the unconditioned stimulus and response? What were the conditioned stimulus and response?	**Food was the unconditioned stimulus; salivation to food was the unconditioned response. The bell was the conditioned stimulus; salivation to the bell was the conditioned response.**
2	How does the law of effect explain lever pressing? Why are both added food and a stopped noise reinforcement rather than punishment?	**A satisfying outcome makes lever pressing more likely to recur. Added food and a stopped unpleasant noise both increase pressing; punishment would decrease it.**
3	How does a fixed-ratio schedule differ from a variable-ratio schedule in the passage?	**A fixed-ratio schedule gives food after every fifth press. On a variable-ratio schedule, the number of presses required changes.**
4	What makes Bandura's Bobo doll study evidence of observational learning? Why is the Clarks' doll research different?	**Children imitated actions they had watched an adult perform. The Clarks studied children's racial attitudes, not whether children copied a model's actions.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

In a classroom, tasting a sour lemon naturally makes Maya salivate, so the lemon is the unconditioned stimulus and salivation to it is the unconditioned response. After a chime repeatedly plays just before she tastes the lemon, the chime becomes the conditioned stimulus and salivation to the chime becomes the conditioned response. Maya earns a token for putting away supplies and begins doing it more often, which is positive reinforcement. She also watches a classmate stack chairs carefully and then copies that method.

Accept other accurate examples that distinguish a natural response from a learned response, show reinforcement increasing an action, and identify an action copied from a model. The Clarks' research should not be labeled an observational learning experiment.