

Name _____ Date _____ Period _____

HONORS BIOLOGY – PROBLEM SET

CHAPTER 35: BEHAVIORAL ADAPTATIONS

1. For each of the following situations, state the type of communication that is taking place. Choose from VISUAL, SOUND, or CHEMICAL. Then provide a brief definition of each of those kinds of communication. [4 points]
 - a. A male mallard dips his head into the water in a special way. Then a female mallard comes over to him.
 - b. A male antelope is rubbing a twig with a secretion produced by a gland near his eye. Male antelopes will not enter an area where another antelope has marked his area with a secretion.
 - c. A bee does the waggle dance to indicate the location of food. By dancing in a figure-eight pattern, he indicates to the other bees where the food can be found.
 - d. A person blows into a dog whistle. The dog can hear a loud tone, but the person cannot hear it.

2. For each of the following situations, state the type of learning that is taking place. Choose from IMPRINTING, CLASSICAL CONDITIONING, OPERANT CONDITIONING, or INSIGHT LEARNING. Then provide a brief definition of each of those kinds of learning. [4 points]
 - a. A monkey notices that there are some bananas hanging from the ceiling of a room. He also notices that there are a few large boxes located in the corner of the room. The monkey takes the boxes, piles them up, stands on them, and pulls the bananas down.
 - b. Mr. Zunick is swimming in a lake and sees some duck eggs. After the eggs hatch, the first animal the duckling is Mr. Zunick. The immediately start following Mr. Zunick around the lake as he swims.
 - c. Barbara takes her dog Molly for a walk around the block. Molly begins to associate the word "walk" with going outside. Now when Barbara says the word "walk", Molly gets excited, walks over to her leash, jumps up and down, and begins to scratch at the door.
 - d. Kate and Sawyer are trapped in a giant cage. The cage has three buttons. Nothing happens when they press the first two buttons. When the third button is pressed, a fish biscuit is released. Now they only press the third button.

3. Scientists have experimented with the ability of rats to complete a maze. They mated the "fast" rats with other "fast" rats and the "slow" rats with other "slow" rats. They produced rats that were either extremely fast or extremely slow. Determine whether this experiment showed the effect of NATURE or NURTURE on behavior. Explain your choice. [2 points]