

## PsychSim 5: MIND-READING MONKEYS

**Name:** \_\_\_\_\_ **Section:** \_\_\_\_\_

**Date:** \_\_\_\_\_

This activity explores one of the brain mechanisms believed to foster the evolution of human language and culture. The focus of the activity is a simulated experiment in which you will play the role of a researcher who is recording the activity of “mirror neurons” in the premotor cortex of monkeys as they perform various tasks or watch others perform those tasks.

### **Brain Regions**

- Briefly describe the premotor cortex of the brain, including its location and function.

### **Neural Experiments**

- In the first simulated experiment with Rizzo, a macaque monkey, a wooden block is placed in front of him and the results of his neural activity are graphed. What does the graph tell you about the activity of this neuron while Rizzo performed the action of grasping a wooden block? Does it appear that this neuron is “tuned” to respond to this particular action?
- In the second simulated experiment with Rizzo, a small raisin is placed in front of him and the results of his neural activity are graphed. What does the graph tell you about the activity of this neuron while Rizzo performed the action of grasping a raisin? Does it appear that this neuron is “tuned” to respond to this particular action?
- In the final simulated experiment with Rizzo, the experimenter grasps a small raisin while Rizzo watches. The results of his neural activity are graphed. What does the graph tell you about the activity of this neuron while Rizzo watched the experimenter perform the action of grasping a raisin? What purpose could this neuron serve?

### **Mirror Neurons**

- What purpose or purposes could mirror neurons serve in human behavior?
- What is the theorized role of mirror neurons in relation to empathy?