

# METER STICK REFLEX

SSS: SC.H.1.4.1, SC.H.3.4.1, SC.F.1.4.7

## INTRODUCTION

Muscles that move without conscious control are called involuntary muscles; some of these muscles have life-giving functions, such as controlling heartbeat and moving food through the digestive system. However, most muscles in our body are grouped as voluntary muscles since we can consciously decide when to move them. We use voluntary muscles when we talk or throw a ball and it's our voluntary muscles that pull our hands away from a hot stove, but it's our reflexes that control the speed at which we're able to pull away from a hot stove. In this cooperative group exercise, students will measure voluntary reflexes of members in their group, answer questions about the results of the experiment, and compare/contrast their results to other groups.

## STUDENT LEARNING OBJECTIVES

1. Students will be able to conduct an experiment on reflexes in cooperation with others.

## MATERIALS

### Teaching Aids

Lecture Presentation: **Introduction to the Human Senses** (PowerPoint)

Handout: Meter Stick Reflex

8 Meter Sticks, 8 Pillows, and 8 Pencils

## PROCEDURES

### Agenda

- Quick Write: How do we sense our surroundings?
- Form groups and complete Meter Stick Reflex handout

### Lecture

**Introduction** (5 min): Students pull out a sheet of paper and write ways in which they sense their surroundings. Sight, touch, hearing, etc are all obvious answers, but understanding reflex and neural control requires a deeper understanding of senses.

**Hook** (10 min): Introduction to the Human Senses (Touch, Smell, Taste, and Sight). Show photos of animals that use senses other than the basic human senses.

### **Body**

**Part 1** (35 min): Students form groups of three and complete the Meter Stick Reflex handout. The teacher's role in this exercise is **ONLY** to approve sections of the worksheet. The students are responsible for understanding and completing the worksheet, which requires them to make lots of decisions. For example, Page 1 - #3 states "Subject sits on a chair with a pillow." Here the reader must use judgment in deciding which chair to sit on. Another example, Page 3 – Part C simply states "Complete this table..." Here the groups are expected to

communicate with other groups to obtain the necessary data. The goal is that students will use their intragroup cooperation skills to engage in intergroup cooperation. The desired behavior would be for each group to send their recorders to consult with another.

### **ASSESSMENT**

Using the Meter Stick Reflex handout, students will work cooperatively in groups to setup the reflex experiment, conduct the reflex experiment, and answer questions about the reflex experiment.