

Name: \_\_\_\_\_

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

## **Making Muscles Move**

Part A: In this activity, you'll make models of your arm muscles and explore how they work.

### **Materials:**

Two cardboard strips, 2 inches by 6 inches

Two paper fasteners

Tape

A hole puncher

A red balloon and a blue balloon

### **Methods:**

1. Punch a hole in each cardboard strip, about 1.5 inches from the end, and in both ends of each balloon.
2. Tape the two strips together end to end so that the holes are about 3 inches apart. The strips will bend like a joint on the taped side. (One strip represents the upper arm; the other represents the lower arm; the joint represents the elbow.)
3. With a paper fastener, attach the two balloons to opposite sides of the "upper arm," with the red balloon on the taped side. Attach the other end of each balloon to the "lower arm" in the same way.
4. Bend the "arm" at the "elbow," noticing what happens to the balloons.

### **Conclusion Questions**

1. What happens to the red balloon when the blue one contracts? What happens to the red balloon when the blue one relaxes?
2. How does this model how muscles work together?
3. How does this model show how muscles move bones?
4. What type of simple machine have you made?

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Part B: In this activity, you'll stretch your muscles. As you do the stretches, focus on which muscle(s) are being stretched. When you have finished each stretch, write down the name of the muscle you stretched beside the description of the stretch.

Stretch 1: \_\_\_\_\_

Hold your arm out in front of you and grasp something that is at your shoulder height. Turn your body away from what you have grasped. Where do you feel the stretch?  
Switch arms.

Stretch 2: \_\_\_\_\_

While sitting on the floor with your legs in front of you reach for your toes. Go as far as you can until you start to feel a pull. What muscle is pulling?

Stretch 3: \_\_\_\_\_

Have a partner hold your wrists and slowly bring your hands together behind you until you say stop. What muscles are being stretched?

Stretch 4: \_\_\_\_\_

While standing on one foot, bring the other foot up to hold one ankle in your hand pointing your knee to the ground. Switch legs. What muscle are you stretching?

Stretch 5: \_\_\_\_\_

Lift your arm and place your hand on the middle of your back. Your elbow should be facing upward towards the ceiling. Pull on your elbow to feel the stretch. Switch arms. In what muscle do you feel the stretch?

Stretch 6: \_\_\_\_\_

Go to your hands and knees and round your back like you might see a kitten do when it is stretching after a nap. What muscles are being stretched?