



## Curiosity Guide #603

### Muscular Science

Accompanies Curious Crew, Season 6, Episode 3 (#603)

#### Muscular Arms

Investigation #4

#### Description

Check out your muscles and feel them working for you!

#### Materials

- Weights
- A friend

#### Procedure

- 1) Do this with a friend so the two of you can talk about what is happening.
- 2) Place your left hand on your right forearm below the elbow so your thumb is on top and your fingers are below.
- 2) Wiggle your fingers in your right hand.
- 3) What do you notice?
- 4) Now place your left hand on your right upper arm with your fingers on top and thumb underneath.
- 5) Raise and lower your arm from the elbow.
- 6) What do you notice?
- 7) Hold a weight and try again. Do you feel a difference?

#### My Results

## Explanation

The movement you are feeling comes from the skeletal muscles in your arm. These arm muscles are all attached to bones with tendons. When the muscles shrink or contract, they pull on the bones and make the bones move. This means that muscles usually work in opposite directions. Flexing the bicep muscle will raise the lower arm, while flexing the triceps will straighten the arm out. While one muscle group shortens, it pulls on the bones and causes them to move, while the other muscle group is relaxed and stretched out. Working your muscles with strength and resistance exercises can keep your body healthy.

Every time we move parts of our bodies, we can thank a muscle group, and there are a lot of them to thank! In fact, we have over 600 muscles in our bodies! Many of these muscles are attached to bones with tendons that can pull the bones one way or another. It seems strange that our muscles can only pull or get shorter. That's why our muscles often work in groups. While one muscle group shortens, it pulls on the bones and causes the bones to move, while the muscle group on the opposite side is relaxed and stretched out. Ready, pull!

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