Acting Actin
Investigation #8

Description
Have fun creating a friendly muscle model!

Materials
• Friends

Procedure
1) Have each person stand beside one another, shoulder to shoulder and facing the same way.
2) Put your elbows out to your side, your hands in front of your stomach, with one palm up and one palm down.
3) Everyone’s elbows should remain touching.
4) Try to keep elbows touching while everyone slides their hands along their forearms toward their elbows.
5) Did you get closer together?
6) Can you slowly move your hands back while touching elbows?

My Results
Explanation
Together, the group represents a muscle cell or fiber. Each person is
like a sub-unit of the cell, a sarcomere. Our top hands represent the
actin and our bottom hands represent the myosin. When the muscle is
relaxed the hands would be above one another. When the nerve
stimulates the muscle, the actin and myosin pull together and overlap
and cause the entire muscle to shrink. That muscle would now be
contracted. When the muscle is relaxed, it would stretch out once
again.

Think about it. Did you know that 40% of your body weight is muscle?
It’s true, and there are a lot of fibers in each of those muscle groups,
too. With all of that contracting and stretching when you move, your
muscles give off a lot of heat. This comes in handy, especially when
you’re cold. Have you ever begun to shiver without even trying to?
This is your body’s way of flexing some muscles to generate heat and
get warmer. Brrr! Gosh, what a workout!

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