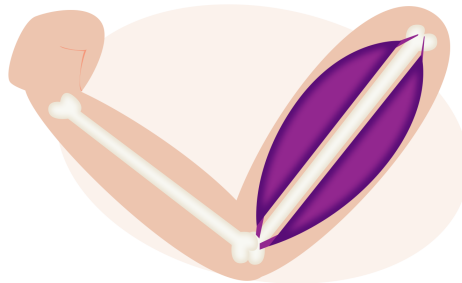# Make a model arm

When your muscles contract they pull on your bones to make them move. Skeletal muscles work in pairs. When you bend your arm, the biceps muscle contracts and pulls your forearm upwards while the triceps muscle relaxes. The reverse happens when you straighten your arm.

Now you're going to make a model arm to show how the process works.

You will need:

Long cardboard tube from a roll of wrapping paper (or card to make tubes)
Sticky tape
Ruler or tape measure
Paper clip
Scissors
Two long balloons (the sort you need to make model animals)
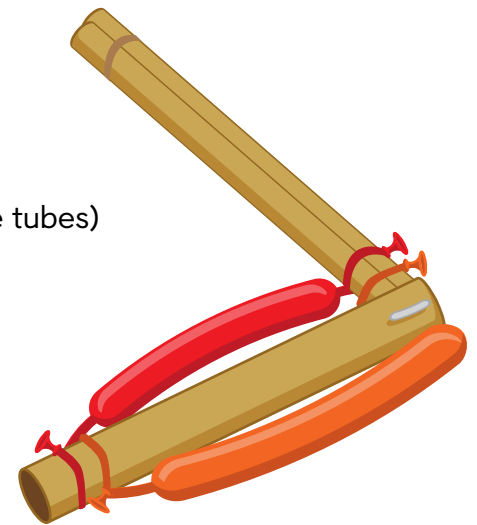
Instructions:

1. Cut a piece of cardboard tube to match the length of your humerus bone.
2. Measure your forearm and cut another piece of tube to match. Cut this tube in half lengthways and roll each half into a thinner tube. This makes two thinner forearm bones, the radius and ulna.
3. Label your bones.
4. Put your humerus tube between the ulna and the radius. Straighten out a paper clip and push this through each side of your humerus tube about 1cm from the base of the tube. Attach the radius tube to one and the ulna to the other. Push the ends of the paper clip inside the tube. Tie the two free ends of the thin bones together with an elastic band to make the wrist. Test to see if your arm and elbow joint can move – you may need to make some adjustments.
5. Take two long balloons, the sort for making balloon animals, and blow both up a little to about half the length of the humerus, pressing the air to the middle of the balloon. You need to leave lots of unblown-up balloon on each side of your 'muscle'.
6. Tie one end of the balloon to the top of the humerus and tie the other end around both the radius and the ulna. Make sure the balloon is stretched tightly so the muscle is long.
7. Repeat this with another balloon on the bottom side of the arm in exactly the same way. Make sure this balloon is stretched fairly tightly too so the muscle is long.
8. Now bend your model arm and see how the balloon muscles change shape.