



Why Our Hands are Super Handy

Our hands are pretty amazing. They are made up of bones, muscles, joints and tendons. The **bones** provide structure and support for the muscles in the hand. The **muscles** provide the **force** that help to push, pull, grab, and carry things. When you make a fist with your hand you can feel the muscles in your forearm contracting. These muscles in your arm are attached to the bones in your fingers by long string-like cords known as **tendons**. Your bones, joints, muscles, and tendons work together so you can do stuff like texting on your phone.

But what happens if you get in an accident and lose one of your hands? Fortunately, we have groups of scientists, engineers, and doctors that work together to develop artificial body parts, including hands, that act as replacements for lost limbs. The science of developing artificial body parts is called **prosthetics**.



While making a prosthetic limb that is fully functional is difficult, it is possible to build a simple model that can mimic a few of the things that a natural limb does. In this STEM Challenge, your task is to design a simple robotic hand that can grasp and pick up a small object.

