

Helping Hands



For this science project you will need to develop your own experimental procedure. Can you design and create a prosthetic hand that performs all the tasks of a human hand?

Materials:

The materials you will need depend on the design choices you make for your prosthetic hand.

1



Do some background research on the anatomy of human hands.

- Study the musculoskeletal system.
- Study some robot hands. hands.
- Video: [3 Finger Robot Gripper](#)
- [Prosthetic Elbow Experiment Blog](#)
- [How Prosthetic Limbs Work](#)
- [Hand Facts and Trivia](#)

2

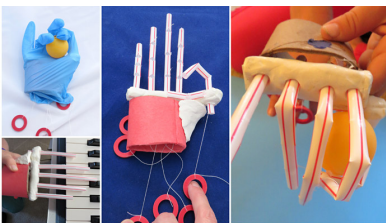


Brainstorm qualities you would like your prosthetic hand to have.

- Should it be life-like?
- What is an acceptable weight and size?
- Should it be able to hold a pencil or use a computer keyboard?

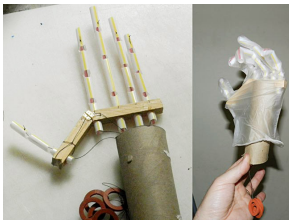
These will be your design requirements, which you will use to evaluate and test your prototype.

3



Plan your prototype by sketching your design. Then build your prototype.

4



Test your prototype. Then **reflect** on how well your prototype meets the requirements you set.

Extension

Create another prototype that addresses other desired qualities not present in your first prototype.