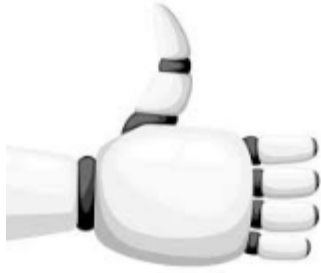


Name(s) _____

More than a Helping Hand Engineering Project



Using what you know about the skeletal and muscular systems, design a robotic hand. It must be able to pick up a ping pong ball demonstrating a grasping and releasing mechanism. You must demonstrate that your hand can complete this task no less than 5 times. When constructing your design,

be mindful that the user/manipulator of the robotic hand may not touch any part of the grasping mechanism (phalanges and metacarpals). Beyond that, be creative. Also think about ways that your design could be used in addition to picking up the ping pong ball.

Engineering Process

Prototype
Brainstorm an idea:
Formulate a design:

Determine necessary materials:

Create the prototype:

(Take a picture of it, send it to [_____](#). We will then print it and place it below.)

Test the Prototype:

(Discuss how it worked and any needed revisions)

Repeat as necessary

More Than a Helping Hand!!! Reflection

What materials did you use in your design? List EVERYTHING.

Sketch your first design, label all components

After testing your pro-type, did you have to redesign your hand?

Describe how your hand works?

If you had to pitch your hand design to earn a multi-million dollar contract, what uses would your hand have? Who would it benefit?

Group Members: _____

Instructor use only: Testing the hand functionality:

Trial 1 Trial 2 Trial 3 Trial 4 Trial 5

Name(s) _____

More than a Helping Hand Engineering Project-Extension



Using what you know about the skeletal and muscular systems, design a robotic hand. It must be able to pick up a ping pong ball demonstrating a grasping and releasing mechanism. You must demonstrate that your hand can complete this task no less than 5 times. When constructing your design,

be mindful that your design is for someone who does not have functioning fingers; the user/manipulator of the robotic hand may not touch any part of the grasping mechanism (phalanges and metacarpals). Beyond that, be creative. Also think about ways that your design could be used in addition to picking up the ping pong ball.

Engineering Process

Prototype
Brainstorm an idea:
Formulate a design:

Determine necessary materials:

Create the prototype:

(Take a picture of it, send it to [_____](#). We will then print it and place it below.)

Test the Prototype:

(Discuss how it worked and any needed revisions)

Repeat as necessary

More Than a Helping Hand-Extension!!! Reflection

What materials did you use in your design? List EVERYTHING.

Sketch your design, label all components

After testing your pro-type, did you have to redesign your hand?

Describe how the grasping mechanism of this version of your hand differs from the basic hand prototype you originally designed?

Group Members: _____

Instructor use only: Testing the hand functionality:

Trial 1 Trial 2 Trial 3 Trial 4 Trial 5