Before You Start… Make sure you have built a Reacher for use on this challenge.

Challenge Supplies:
Reacher, material for the Reacher End (cardboard, recycled packaging), dry objects to dig in or for (cereal, gravel, jelly beans, pasta) tape, ruler, Philips screw driver, Engineering Notebook pages.

The Challenge
Engineer your Reacher to grab, grip, dig and use objects just like animals would.

The Engineering Design Process:
You will be using the Engineering Design Process. What does that mean? Your design is never finished - it can always be improved. There is no such thing as a perfect design. Fill out a new Engineering Notebook page each time you design/redesign your End Effector.
Grab Lab
Engineering Notebook

Name: __________________________

Eagle  Robin  Chameleon  Person  Chipmunk

_________________________________________ Grabber Design # _______

A  Draw your design:

B  Test it.

C  Improve it. Get a new Engineering Notebook page.
Design a Reacher to clutch a branch as long as you can.

Materials: stick, branch, cardboard tube, wood dowels

Time Limit: [ ] minutes
Design a Reacher to grab... as many nuts as a chipmunk.

Materials: acorns, beads, dried corn, raisins bowls or cups

Time Limit: [ ] minutes
Design a Reacher to find... a worm like a robin’s beak.

Materials: gummy worms in dirt, or rope in corn kernels

Time Limit: ___ minutes
Design a Reacher to catch... a slippery fish like an eagle.

Materials: slippery things: soap, scarves, ice, swedish fish

Time Limit: ______ minutes
Teachercat's Engineering Challenge

Reacher

Kid’s Engineering Challenge

Design a Reacher to dig... and sort like a coyote.

Materials: rice, beads or kernels; small objects to sort

Time Limit: [ ] minutes
Design a Reacher to hold... a pencil like a person.
Try writing your name with it!

Materials: pencil, crayon or pen, paper
Time Limit: ___ minutes
Reacher
Kid's Engineering Challenge

Design a Reacher to lift... just like an ant.*

*This could be a little hard. Ants can lift 10 to 50 times their weight!

Materials: desk, chair, table
*This challenge isn’t real, it’s just for fun!

Time Limit: ______ minutes