All-in-One

Digging for worms, like a bird's beak.
These are the TeacherGeek components for the example Grabber and extras to turn it into your own unique design.

- 4 - Connector Strips
- 2 - Dowels 2"
- 2 - Dowels 6"
- 2 - Blocks
- 6 - Screws 25mm (1”)
- 4 - Nuts

Components are available in the TeacherGeek Grab Lab Activity, TeacherGeek Maker Cart, or at teachergeek.com

Pre-Activity Prep

Before you start, it is helpful (especially for young kids) to cut some connector strips in half.
These are the TeacherGeek components for the example Grabber and extras to turn it into your own unique design.

TeacherGeek Tools You’ll Need

**Multi-Cutters**
SKU 1823-81

**Screwdriver**
SKU 1823-90

**Hammer**
SKU 1824-41

Tools available at teachergeek.com

Materials You Supply

Collect and add recycling materials to your design to help grab.

It is not recommended to use metal, glass or anything with sharp edges.
1 Make a simple grabber.

Materials:
- 2 Strips
- 1 Screw
- Screwdriver

Instructions:
1. Place the strips together.
2. Insert the screw and secure with the screwdriver.
3. Test the grabber to see if it works.

Yes: It works.
No: Adjust the strips and try again.
2. **Design a better grabber**

3. **Make it.**

Add things to help it grab.
Try different screw positions.

Strips

Dowels

Other Parts
4 Test it.

5 Improve it or, redesign it.
Name: ________________________________

Eagle  Robin  Monkey  Person  Chipmunk

 ________________________________ Grabber Design # _________

A Draw your design:

B Test it.

C Improve it. Get a new Engineering Notebook page.
Design a grabber to... catch a slippery fish like an eagle.

Setup: Something fish-like to pickup (stuffed animal, carrot, etc.)

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Design a grabber to...
find a worm
like a robin’s beak.

Setup: Worms in Dirt = Gummy Worms, or Rope Sections, in corn kernels, etc.
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Design a grabber to... hold a tree branch like a monkey.

Setup: TeacherGeek Dowels, Wood Stick, etc.
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Design a grabber to... pickup as many nuts as a chipmunk’s mouth.

Setup: Real Nuts, Marshmallows, Candy, etc.

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Design a grabber to... 
hold a pencil like a person. 
Try writing your name with it.

Setup: try to pick up a pencil & write your name
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Design a grabber to...

lift like an ant.

This could be difficult. Ants can lift 10 to 50 times their weight.

Setup: Put this on a desk, table, or something heavy. This is not a real challenge (just for fun).

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