



# Mechanical Grabber

Pick up trash without touching it!

## What You Need

- wire clothes hanger (Use the type with a cardboard tube attached to open-ended wire.)
- string
- rubber bands
- duct tape
- PVC plastic pipe (1 inch in diameter and 3 feet long)
- wooden dowel (1/4 inch in diameter and at least 3 feet long) (You can find duct tape, PVC plastic pipe and wooden dowels at a hardware store.)



- 1 Remove** the cardboard tube from the hanger.
- 2 Straighten out** the hooked part of the hanger (the part that hangs over the rod in your closet).
- 3 Attach** a dowel to the straightened hanger with duct tape. **Place** the straightened hanger and dowel into one end of the PVC plastic pipe. The "hands" of the hanger should poke out of one end of the pipe and the dowel should poke out of the other.
- 4 Add** rubber bands or duct tape to each of the "hands" of the hanger.
- 5 Pull** on the dowel to make the "hands" of the grabber come together and **push** on the dowel to release them.
- 6 Try it out.** Can you pick up a piece of paper? A soda can? How can you **improve** your grabber?



Another simple way to make a grabber is to **create tongs** out of wooden paint stirring sticks (you can get them for free at any paint store), rubber bands, and paper. Which grabber do you think will **work better?** **Try** them both! **Which** would you rather use?



## Engineering Scoop

This mechanical grabber makes it easy to **grab trash**. You can lift up trash without bending over. Each **material** plays an important role in the design. The dowel **pulls** the "hands" together to **capture** an item and **pushes** them apart to release it. The duct tape or rubber bands keep the trash from **slipping** off the grabber.

Sent in by Girl Scout Troop 2628 of Maynard, MA