

# JUDO-BOTS PICK & SORT CHALLENGE



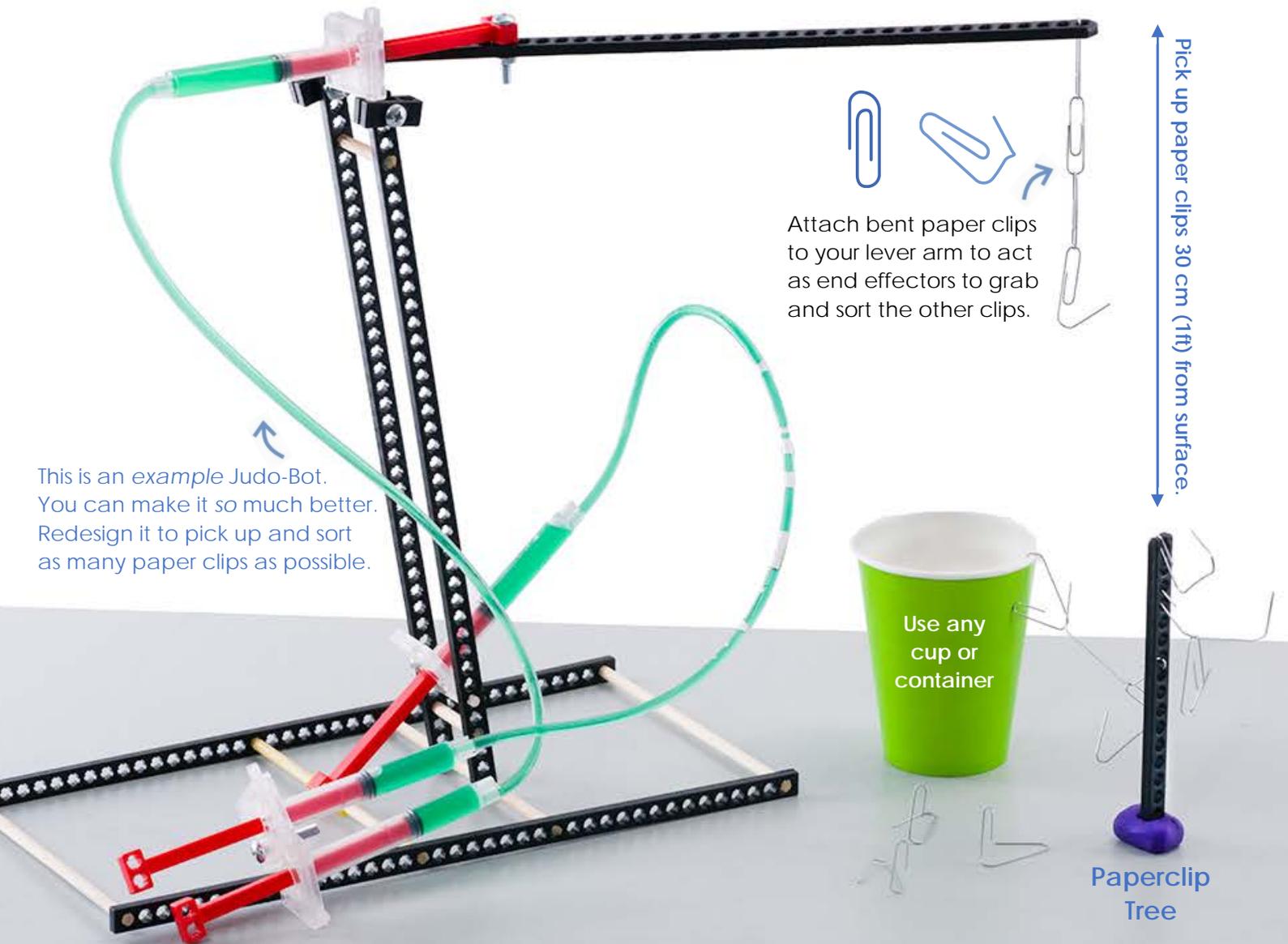
**The Challenge:** Redesign your Judo-Bot to pick up and sort as many paper clips as possible in two minutes' time.

**Difficulty:** Easy-Medium

## Challenge Supplies

Judo-Bot, 25-50 paper clips, cup or container for sorting, ruler

**Time Limit:** Two-minutes



This is an *example* Judo-Bot. You can make it so much better. Redesign it to pick up and sort as many paper clips as possible.

Attach bent paper clips to your lever arm to act as end effectors to grab and sort the other clips.

Pick up paper clips 30 cm (1ft) from surface.

Use any cup or container

Paperclip Tree

**Tip:** Use a "tree" structure to hold paper clips – a connector strip and clay allows the clips to be grabbed at different heights.

GO

Judo-Bot Build Guide  
Design & Engineering Challenge

You are Here

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**Constraints:** (rules and limits for your design)

- Only **hydraulic power** may be used to move and control the Judo-Bot.
  - Hydraulic lines may not be pushed or pulled to move the bot – just **pistons**.
- The **base** may not be anchored (taped, screwed, bolted) to the challenge surface.
- The **end effector** should include a paper clip in some way.
- Additional materials should be brought in for Judo-Bot designs, if they are:
  - TeacherGeek Components
  - Found & Recycling Bin Materials
  - Teacher Approved
  - Non-Hazardous (no sharp edges, harmful chemicals, etc.)
- You will have \_\_\_\_\_ to complete the challenge.

*Fill in how much time you have*



*The time from building and re-designing your Judo-Bot to the start of the competition.*

## Amount of Paper Clips Picked Up and Sorted, in Two Minutes

Group Name	Design #1	Design #2	Design #3	Design #4	Design #5	Design #6