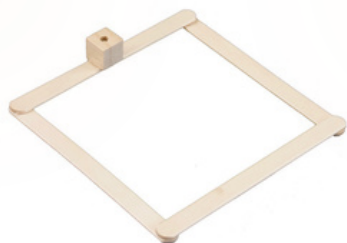




1



1. Start with a square base and a cube with holes

2



2. Expand and strengthen the base; keep it under 12x12"

3



3. Reinforce the cube with holes on the base

4



4. On the underside of the base, glue up to 9 adhesive bumpers to prevent the bot from sliding

5



5. Begin creating the pivot column. Make sure the holes are aligned

6



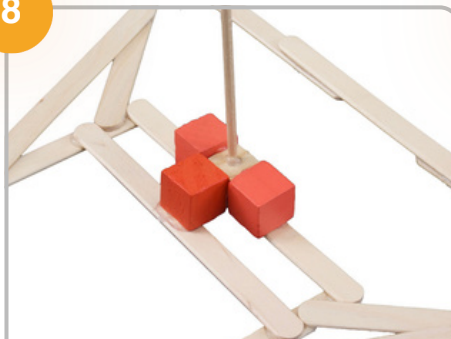
6. On one end of the pivot column, glue two half-stick long beams as shown

7



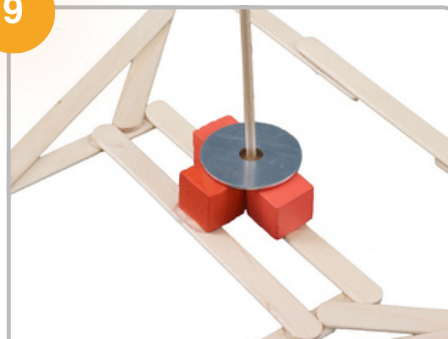
7. Glue another half-stick long segment on the bottom. The pivot column is complete

8



8. Glue a dowel into the cube with holes on the base

9



9. Put a washer over the dowel. This will ensure the pivot column can rotate smoothly



10



10. Put the pivot column over the dowel

11



11. Wrap tape around the dowel so the pivot column can't slide off. Remove excess dowel

12



12. Make the arm; a cube with holes must be on one end. See the Resources for design details

13



13. Attach the arm to the pivot column with a small piece of dowel; wrap tape on the ends

14



14. To create hydraulics: Start by filling a syringe with water and attaching 18" of tubing

15



15. Push water through the tubing to remove all the air

16



16. Refill the syringe with 10ml of water. Make sure little to no air is in the system

17



17. Attach an empty syringe, then attach a syringe adapter and glue on a cube with holes

18



18. With the arm resting on a surface and the syringe with adapter empty, tape the syringe to the pivot column in at least 2 places

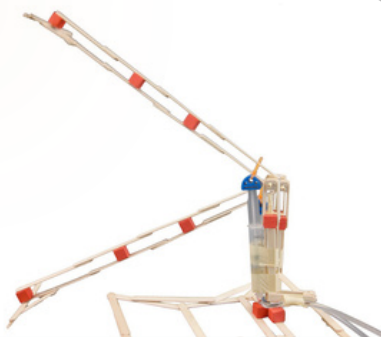


19



19. Attach the topper to the arm with a zip tie

20



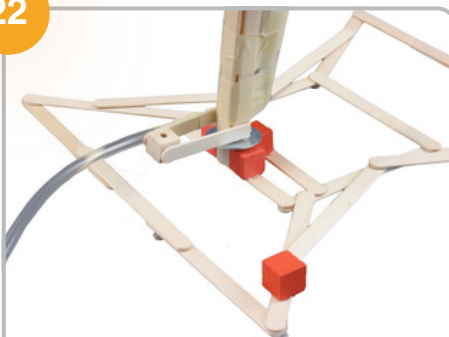
20. Test the range of motion. It should look like this.

21



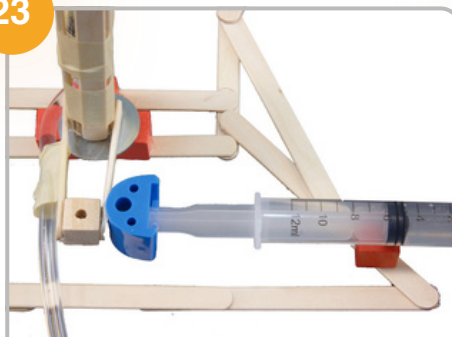
21. Create the grapping tip. This is just one example. See the Resources for details

22



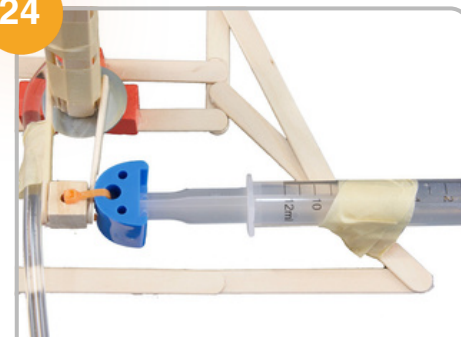
22. For the pivot hydraulics, start by gluing a cube onto the base.

23



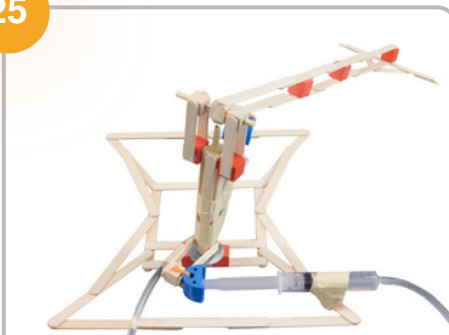
23. To calibrate: fill syringe halfway. Point the arm forward. Position the syringe as shown

24



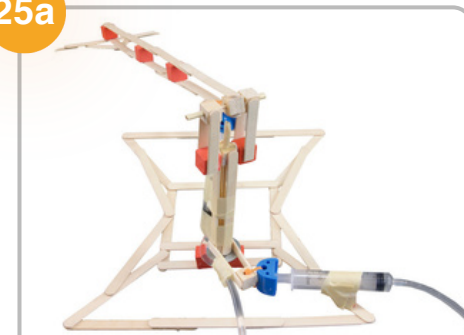
24. Tape the syringe to the base and attach the adapter to the pivot column

25

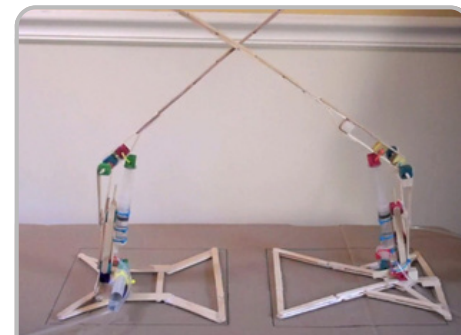


25. Test the range of motion.

25a



25. Test the range of motion.



To battle: Make two 12x12" squares spaced 3" apart. Start with JudoBots facing each other with arms raised. Begin on the count of 3!