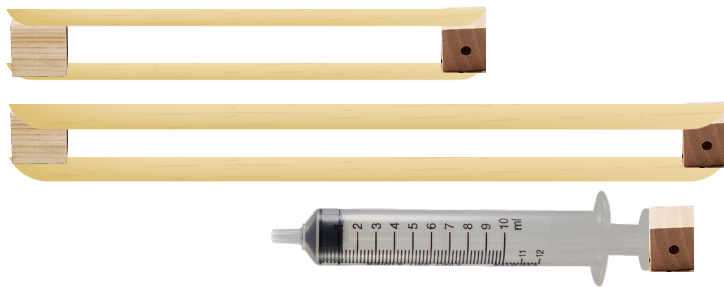




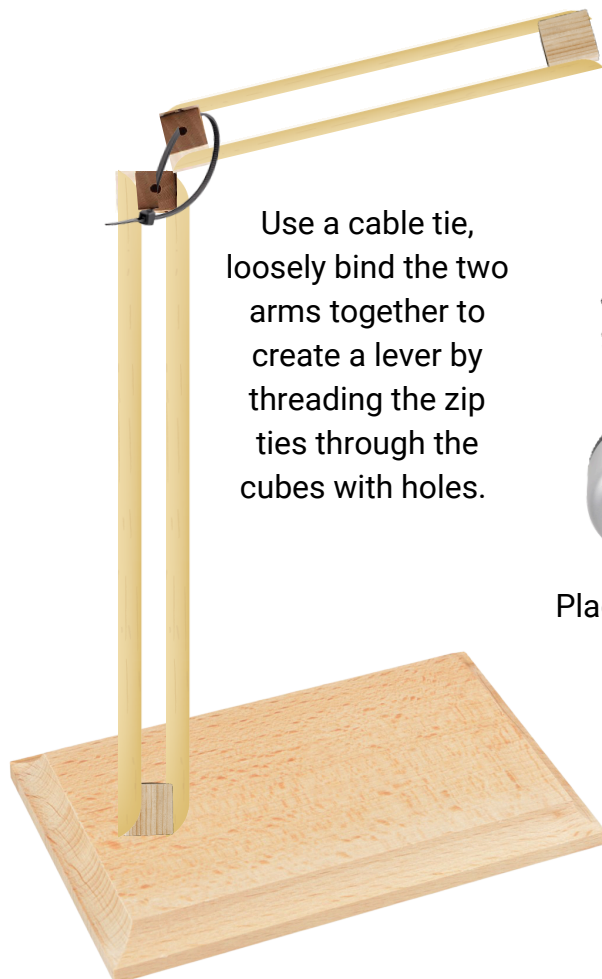
Rosie Riveters
STEM CONFIDENCE

Hydraulic Desk Lamps



Secure the solid cube of the stand with the larger craft sticks to the wooden base using hot glue.

Using hot glue sandwich a plain cube and a cube with holes to the ends of two jumbo craft sticks to create a stand for your lamp. Create a second arm by sandwiching a plain cube and a cube with holes to the ends of two standard craft sticks. Be sure to have the holes face out so that you can thread a zip tie through them. Hot glue a cube with holes to the plunger end of the large syringe.



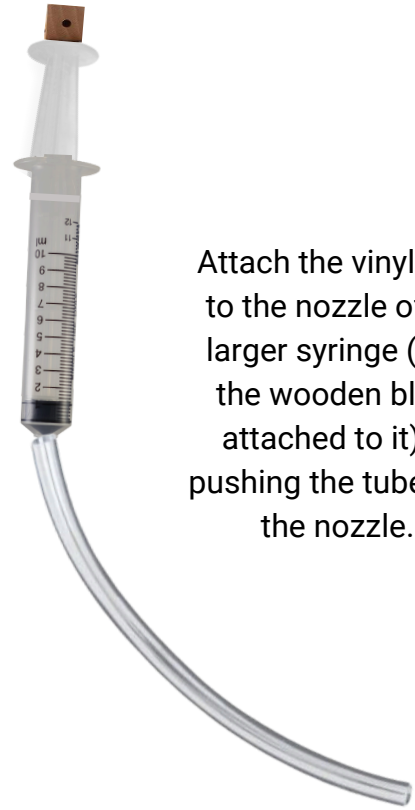
Use a cable tie, loosely bind the two arms together to create a lever by threading the zip ties through the cubes with holes.



Place the batteries in the light.



At the end of the leveraging arm (with standard craft sticks) secure a battery powered light to the end with hot glue.



Attach the vinyl tube to the nozzle of the larger syringe (with the wooden block attached to it) by pushing the tube over the nozzle.

To make the hydraulic valve, completely fill the large and small syringes with water by submerging them in the water and pulling back on the plunger until they are at capacity.

Hydraulic Desk Lamps



Place the filled syringe + tube into water and push the water out of the syringe and through the tubing to remove any air.



Then **without removing** the tube from the water re-fill the syringe. This will fill the syringe and tube with water.



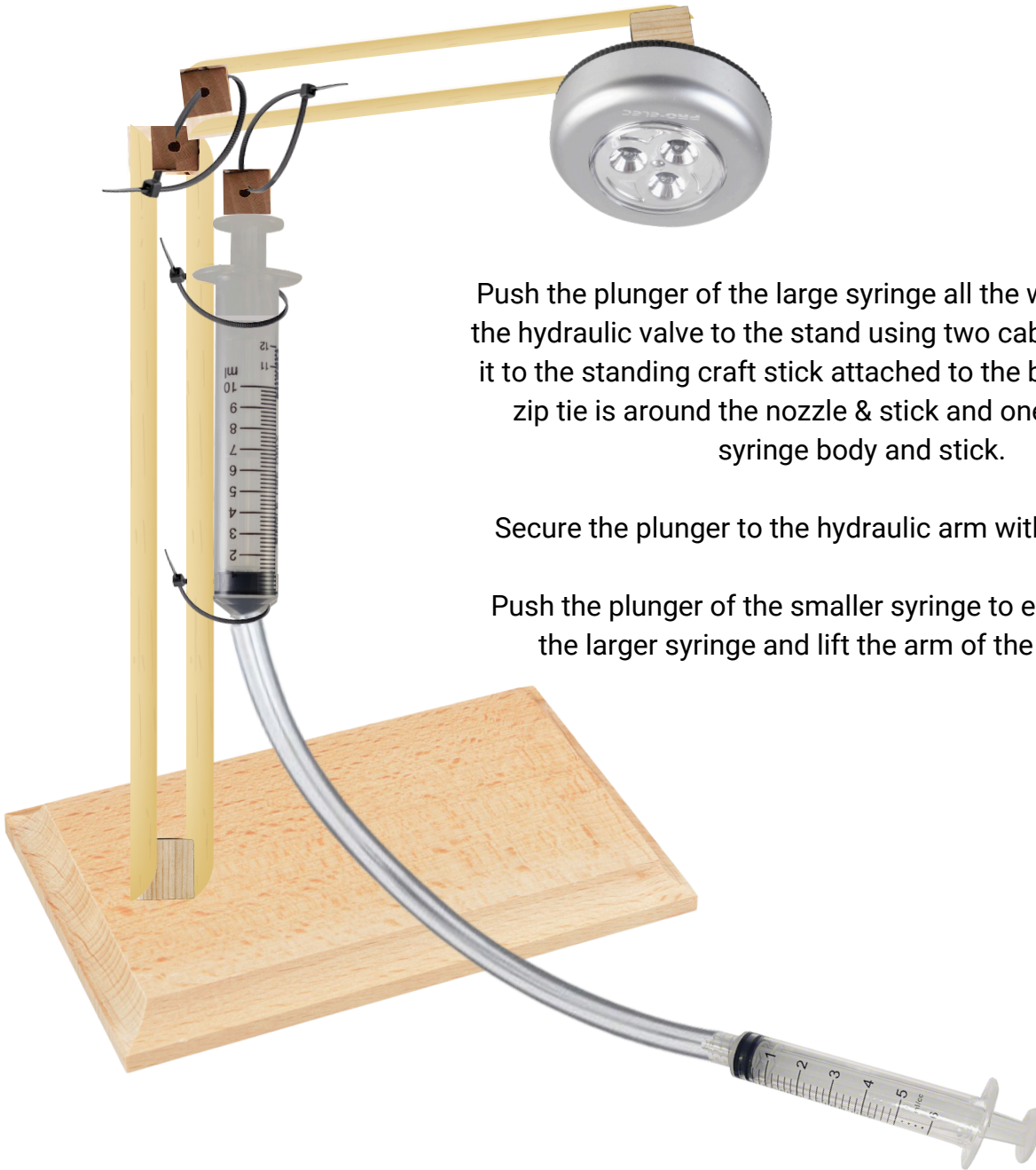
Connect the nozzle of the second filled syringe to the other end of the vinyl tube by screwing the tube into the syringe.





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Push the plunger of the large syringe all the way down. Secure the hydraulic valve to the stand using two cable ties to connect it to the standing craft stick attached to the base. Be sure one zip tie is around the nozzle & stick and one is around the syringe body and stick.

Secure the plunger to the hydraulic arm with a loose zip tie.

Push the plunger of the smaller syringe to exert pressure on the larger syringe and lift the arm of the desk lamp!