

How To...

Day 4: Straw Submarines

Create and control your own submarine.

Once you've gained your submarine license, test it out with salty water too. What changes?

Instructions

1. Cut a piece of your straw, roughly 5 - 7cm long.
2. Plug both ends of the straw with quite a lot of sticky-tack.
3. Drop the sub into the cup of water. Make sure it's heavy enough to sink.
4. Take the sub out of the cup and remove some sticky-tack before testing it in the cup again.
5. Keep repeating this process until the sub starts to sink, and then rises and rests at the top. (see image)
6. Make sure your 2L bottle is flat on a table and not being knocked or turned upside down.
7. Put your submarine into the bottle of water. Replace the cap.
8. Let it settle for a moment and then hold the bottle with both hands and squeeze.
9. The straw with sticky-tack stays still in the middle of the water
10. Drive the submarine to where you want it
11. Increase and relax the pressure you're applying to the bottle. Observe how this changes the movement of the sub.
12. Pick a spot in the bottle and aim to drive your submarine there.
13. See if you can park the submarine at your chosen spot. Don't let it move up, or down.
14. Congratulations, you have your submarine license.



The submarine should first sink and float in the cup of water



Drive the submarine to where then you want it

What should happen?

As you apply pressure to the bottle, the submarine will travel down through the water. When you release this pressure, it will make its way to the top again. You can use this method to manoeuvre your submarine to exactly where you want it. Note: apply the pressure gently and patiently as the slightest force could change the buoyancy.

http://www.bbc.co.uk/bang/handson/straw_submarine.shtml