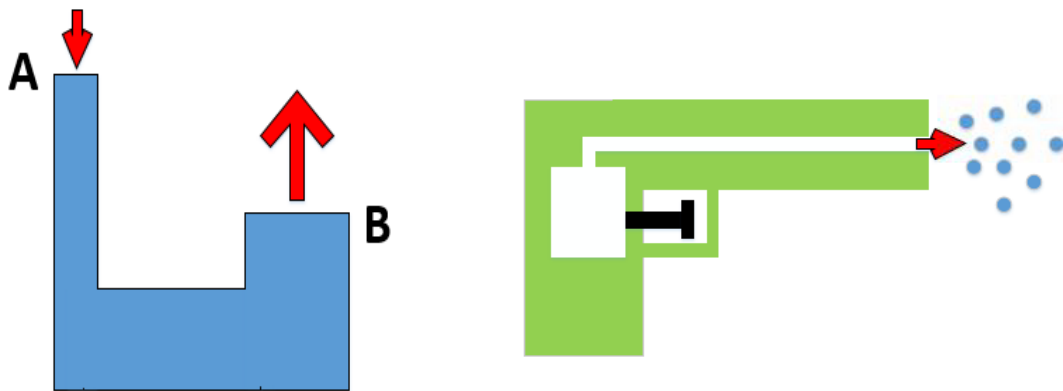


Hydraulic Claw

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How It Works

Hydraulics take advantage of the fact that liquids are incompressible. Because of their incompressibility, any pressure that is applied to a liquid will be felt everywhere. Pressure is defined as a force over a given area. Since the pressure is constant, changing the area over which the pressure is applied results in a different force. For example, if 5 N of force were applied to plunger A, which has a surface area of 1 cm^2 , Plunger B, which has an area of 2 cm^2 could support a weight of 10 N. This is the science behind both squirt guns and dump trucks!



Instructions for the Hydraulic Claw Race

1. Set all the objects in one square.
2. See how quickly you can move all of the objects into the other square.
3. Have fun!

Setup

1. Tape two 6"x6" squares side by side next to the hydraulic claw.
2. Place objects in one square.
3. Make sure no air bubbles are in the hydraulic lines. If there are air bubbles, disconnect the lines and refill them completely with water.

