

Hydraulics - Activity Guide



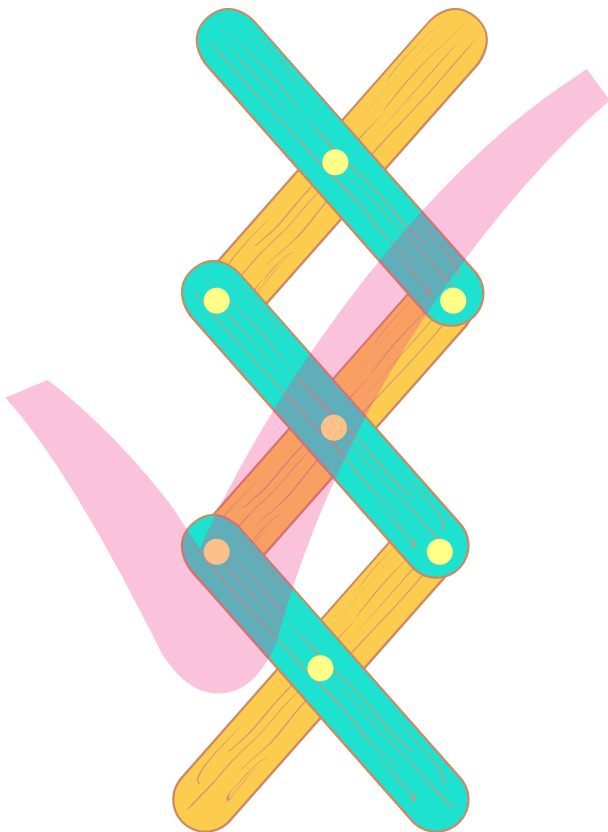
Describe Hydraulics or Pneumatics in your own words:

Using air, liquid, or other fluid to move something !

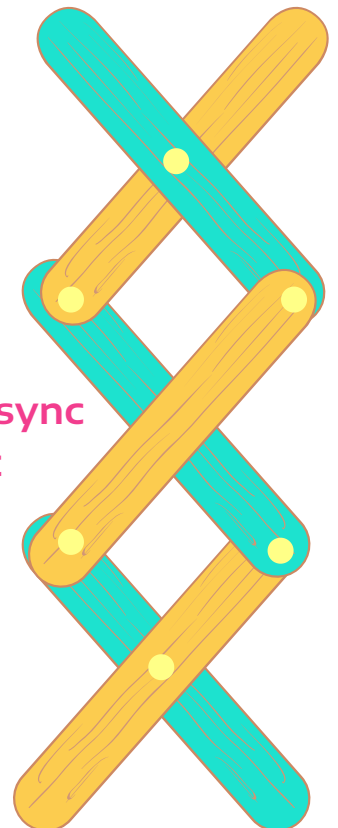
In our project, what happens when you push down on the syringe?

Air is compressed into a smaller area (increases pressure), then transferred through the tube to the other syringe, which then used to move the scissor lift.

Which is the correct way to connect our popsicle sticks?



The layers here are out of sync and will cause problems at some point in the project.





Quiz



1. Why were we tasked with building a hydraulic system in the first place?

~There is lots of construction happening in STIIX-Ville. They tasked us with building them a machine that will help out on some of the construction sites.

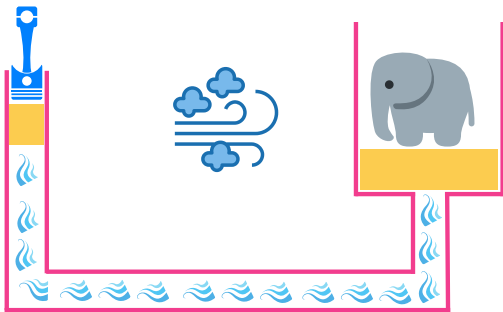
2. What is the difference between pneumatics & hydraulics?

~Hydraulics deals with liquids and pneumatics deals with air.

3. Name at least 1 use of Hydraulic / Pneumatic systems in the real world:

Trash compactor, Tractor, Car lift, Crane, Etc.

4. In your own words, explain what happens when the piston on the left is pushed down?



~Piston is pushed down which then compresses the air. The air then wants to get pushed somewhere so it pushes the other end of the system (the elephant) up!

5. Why can hydraulics be more powerful than air?

~Water/Liquids do not compress like air does, so nearly all of the energy used to activate the system is transferred.

6. What do you think about a career working alongside machines as an engineer?