



Levers and Linkages

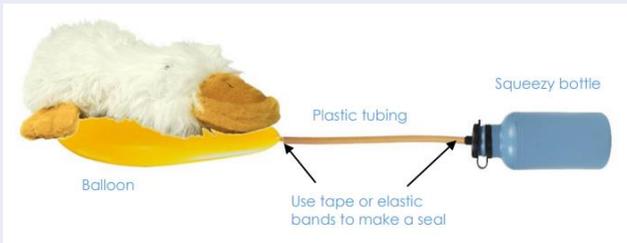
What is Pneumatics?



Pneumatics is The use of pressurised air to make things move. Today it used in complicated machinery but the idea of air being used to make machines work goes all the way back to ancient Greece.

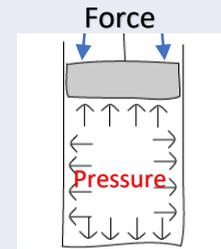
What is a Pneumatic system?

All Systems have an input, process and an output.



In a **pneumatic system**, the 'input movement' is where the user pushes or pulls a syringe or pump. The 'output movement' is where the object at the end of the tube moves.

How does it work?



When air molecules are **compressed** it creates a **force** or **pressure** that pushes out. This force can be very strong and is used to push or lift heavy objects.

With this water pistol we pump air into the chamber to create **pressure**. This compressed air pushes the water out of the pistol at high pressure.

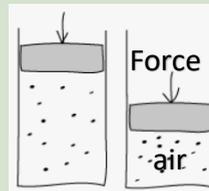


Where are pneumatic systems used?

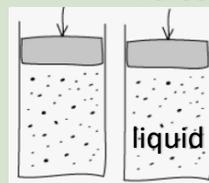


Bicycle pumps, drills, chairs and door openers

Pneumatics and Hydraulics



Pneumatic
When forced together air becomes compressed.



Hydraulic
Water cannot be compressed easily and will only move.

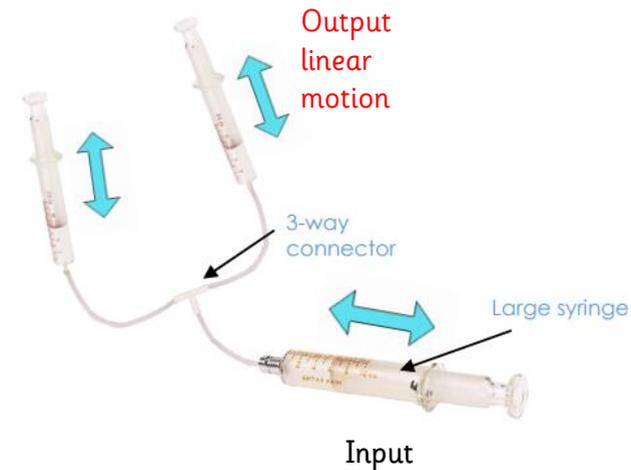
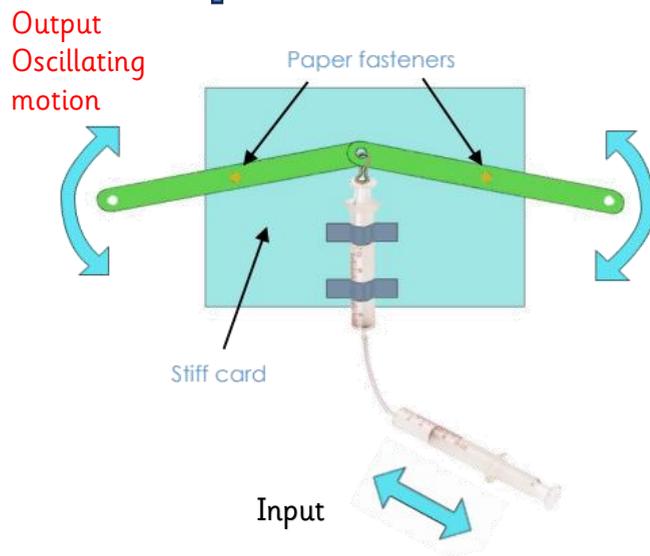
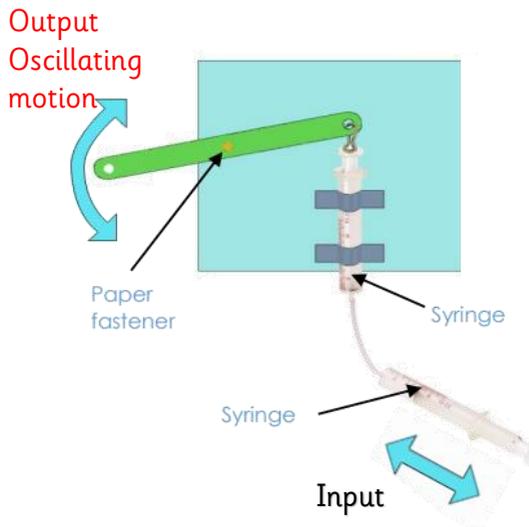
Pneumatics uses air which can be squashed or compressed to create the pressure. This pressure when used properly allows movement.

Hydraulics uses water or other liquids that cannot be compressed in the same way. So the pressure that is created is not as strong.



Types of Motion in Pneumatic Systems

Pneumatics can be used to move levers.



Vocabulary

Compressed	something that is squashed, such as air in a tube.
input	what goes into a system.
Output	what comes out of a system.
Pivot	a point about which a lever turns
Lever	a beam which turns about a point
Pneumatic	a system that works using gases (air).
Hydraulic	a system that works using liquids (water).
Pressure	the force used on an object or surface
Inflate	fill something with air or a gas to make it swell up
Deflate	remove the pressurised air to allow an object like a balloon to shrink
Syringe	a tube with a nozzle and plunger for sucking and blowing air or liquids.

How is pneumatics used in these products?

