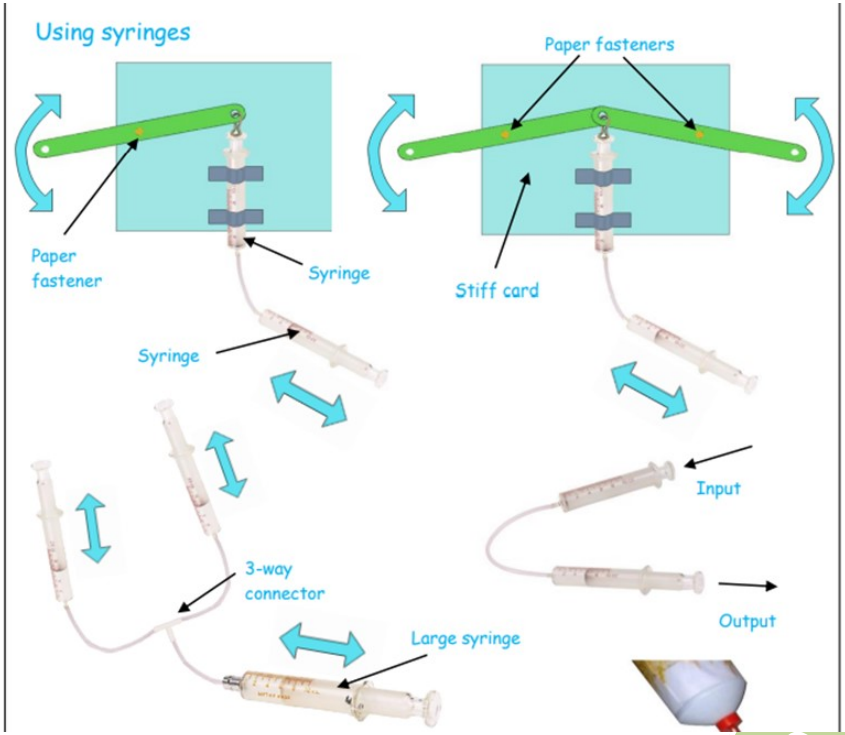
How do pneumatic systems work?

DT - Years 5/6



How are liquids different from gases and solids?

Gas particles (including air) move around freely so there's plenty of room to squash them together. However, with the right technology, a gas can be pressurised to move equipment – this is called pneumatics (say: new-maticks).	**Liquid** particles can move around each other easily which is why a liquid takes the shape of its container. However, they are much, much closer together than a gas so cannot really be squashed.	**Solid** particles are tight up against each other so solids won't change shape and you can't really squash them.

Egyptian Sarcophagus

They were painted and inscribed in hieroglyphs with four important features: **the deceased's name and titles; a list of food offerings; a false door through which the ka could pass; and eyes through which the deceased could see outside the coffin.**

Glossary

- **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.
- **System** – a set of related parts or components used to create an outcome. 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.