

# Factsheet

## What can we learn from the syphon experiment?

The syphon experiment shows how water can be moved from one place to another over a hill.



A farm dam syphon

### What do we know?

We all know that water flows downhill.

When water leaves WaterNSW dams, sometimes it uses gravity or pumps to help move it through the pipes.



The pump is powered by electrical energy.



Warragamba Pipeline



When you drink from a straw, you are sucking up the water with your mouth like a pump.

The straw won't work if you don't use energy to suck.

To start a syphon, you need energy.




A pump

During the experiment, the syphon will use the force of gravity to push out the water that was trapped in the tube.

## How does this happen?

When you begin the experiment, you push most of the straw into the water. The straw fills up.

By blocking the straw with your finger, you have now trapped the water that filled up the straw.

When you use your energy  to lift the straw over the hill (over the top of the taller container), the water is still trapped in the straw.

When you lower the straw, it is impossible for the water to move back up the straw.

As soon as you take your finger off the end of the straw...gravity forces the water out.

The other end of the straw is still under the water and so it continues sucking water out of the taller container.

The syphon begins.

## When does the syphon stop?

The syphon will stop when the water is level in both containers or, if the syphon starts sucking air.

The water in the shorter container can never get higher than the first.

For the water level to become higher in the shorter container, it needs energy to push the water up against gravity. A pump is needed for that to happen.

## Fun Fact!

A toilet uses a syphon too!

When you flush the toilet, the water rushes from the top of the toilet down into the bowl over a hill and clears it out!

