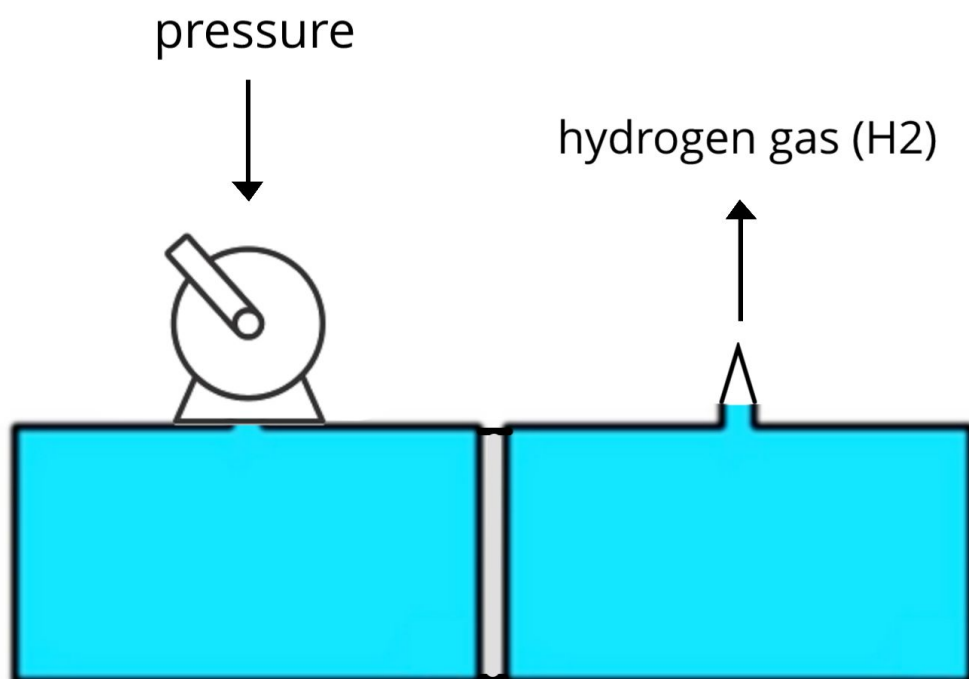


Simple experiment to evaporate water by pressure

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Consider two water filled containers separated by a membrane only permeable to protons and electrons. One compartment has a pump attached to it, that can increase hydrostatic pressure in it. The other has a one-way valve, that can relieve pressure, and is filled to the rim with water so that there is minimal air inside. Applying pressure with the pump will increase the gel phase at the membrane in the pump compartment. Since the vent compartment has lower pressure, it will have a thinner adsorbed water phase layer. The gel phase excludes protons, and asymmetry in the gel layers on either side of the membrane is a motor for pumping protons across the membrane. Loss of protons from the pump compartment, causes H₂O to break down into O₂, releasing electrons. The electrons also transfer across the membrane, and combine with the protons to form hydrogen gas. This hydrogen gas increases the pressure in the vent compartment, and is ventilated via the one-way valve. This experiment evaporates water by applying pressure, and this can be verified or falsified by weighing the combined water mass before and after the experiment. A tiny air pocket can be left before the valve, to make it easier to see that water is not being ventilated (the O₂ in this air pocket will quickly be used up in the beginning of the experiment to form a minimal amount of water, after which only H₂ will be produced.)



References

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