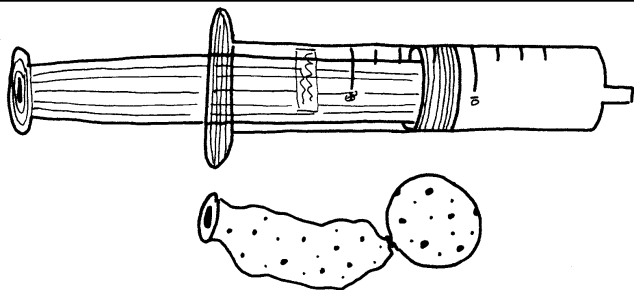
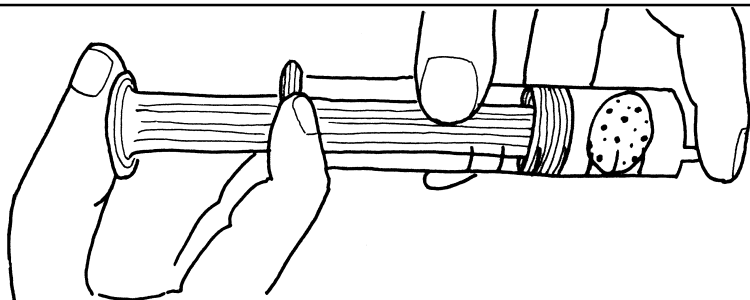


BOYLE'S BALLOON

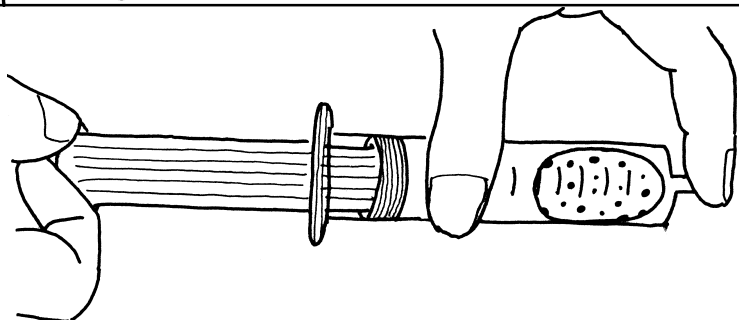
In the mid 1600's, Robert Boyle observed that in an ideal gas the product of the pressure and volume are nearly constant ($pV = \text{constant}$).



1. Take a large (30-40 ml) disposable plastic syringe. Remove its plunger. Blow a small 1-cm diameter baby balloon.



2. Put the baby balloon in the syringe tube. Insert the plunger. Close the nozzle of the tube tightly with your left finger and push the plunger slowly with the right thumb. The baby balloon will slowly shrink in size. This shows that as the pressure increases inside the balloon its volume decreases.



3. Now keep the nozzle closed and slowly retract the plunger. The baby balloon will slowly expand. This shows that as the pressure in the balloon decreases, its volume increases.