

The **ScienceMath**-project: **Boyle's law and concept of variable**  
Idea: Simon Zell & Astrid Beckmann,  
University of Education, Schwaebisch Gmuend, Germany



## Teaching Material

**Worksheet** (see next pages)

## worksheet

## Boyle-Mariotte

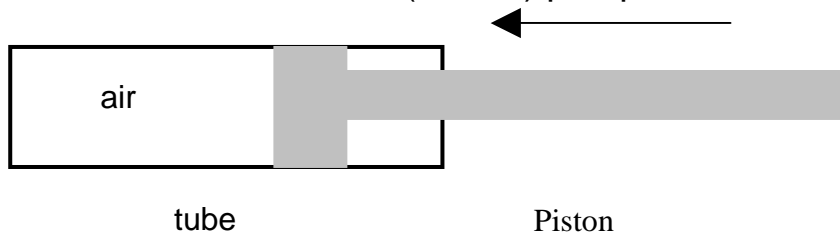
On the table you see a bicycle pump.



Pull the piston. Now press on the valve and pump. What do you notice?

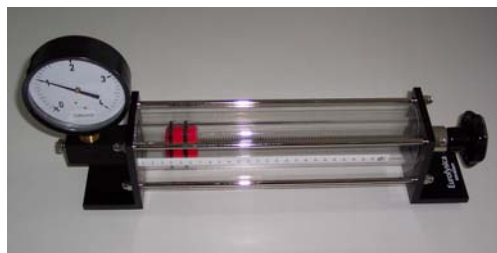
*Talk about that in your group.*

Look at the sketch of the (closed) pump



On the table you see

- a device. The name of it is Boyle-Mariotte-device (after the Physicians Boyle and Mariotte, who found the relationship between pressure and volume first.)



The Boyle-Mariotte-device is working like a closed pump. By turning the handle you can push the piston into the tube. During that time the volume of the air in the pump changes.

Caution: Turn the handle carefully, so that the tube doesn't burst.







The **ScienceMath**-project: **Boyle's law and concept of variable**  
Idea: Simon Zell & Astrid Beckmann,  
University of Education, Schwaebisch Gmuend, Germany

## **Protocol**

Write down all important results of the experiment. Highlight the most important results. It will be easier to present your experiment, if you do so.

What have you learned?