

PH Pädagogische Hochschule Wien

SCIENCE HITS 4 KIDS

I.Hantschk/H.Fibi 2009

In-Service-Training-Course

Science Hits 4 Kids

University of Education Vienna

Permission to use is granted on the following conditions:

The use is for educational purposes only

No fees or other income is charged

Appropriate reference to this source is made.

Data sources are indicated except pictures and drawings having been taken by the authors respectively publishers.

Hans Fibi & Ingrid Hantschk
University of Education Vienna
Grenzackerstraße 18
1100 Vienna
Austria
Phone: +436643833955
e-mail: Hans210347@a1.net or johann.fibi@phwien.ac.at
2009



SCIENCE HITS 4 KIDS
LLP/AT-230/26/08

This project has been funded with support from the European Commission.
This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

In-Service-Training

based on



Affordable & Efficient Science Teacher In-service Training

Financed partially by the European Commission under Comenius 2.1
Neither the Commission nor the Contractor nor the Partners may be held
responsible for any use of the information provided.

Contract 226381-CP-1-2005-1-GR-COMENIUS-C21



**State College of Education Vienna
Published for Dissemination in the
Network AESTIT
University of Rethymno, Crete-Greece**

All rights reserved

Permission to use is granted on the following conditions:

The use is for educational purposes only

No fees or other income is charged

Appropriate reference to this source is made.

**Data sources are indicated except pictures and drawings
having been taken by the authors respectively publishers.**

**Hans Fibi & Ingrid Hantschk
Safety Information Centre
State College of Education Vienna
December 2005**

We build - together with you...
Low-Cost-Experiments
for Classroom Teaching

including
biology
chemistry
physics
safety prevention...

Your Team:
Ingrid Hantschk

Hans Fibi

Contact:

Phone 0664-3833955

From abroad: 0043-664-3833955

via e-mail:

johann.fibi@phwien.ac.at

Hans210347@a1.net

Electricity



The switch is open, the electric circuit is interrupted.

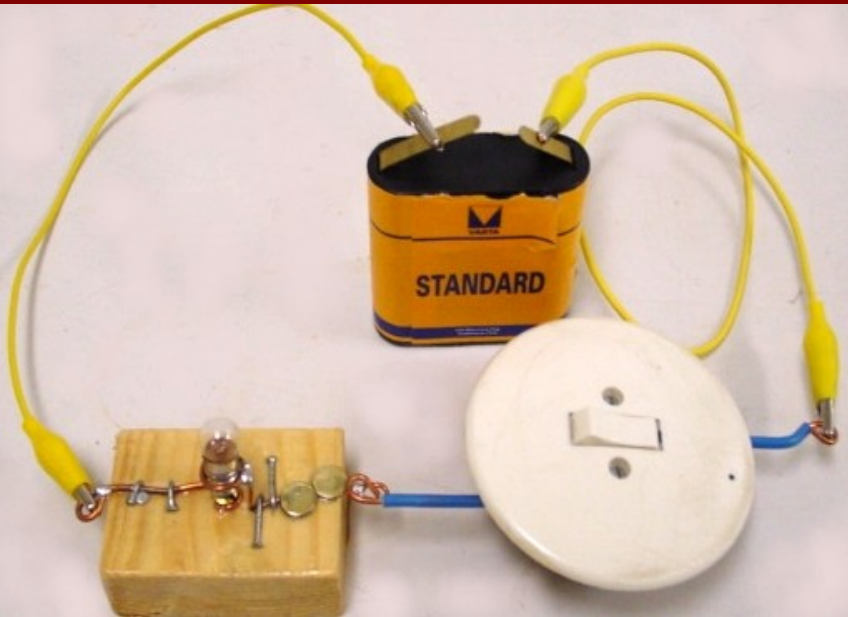


Now the electric circuit is closed.

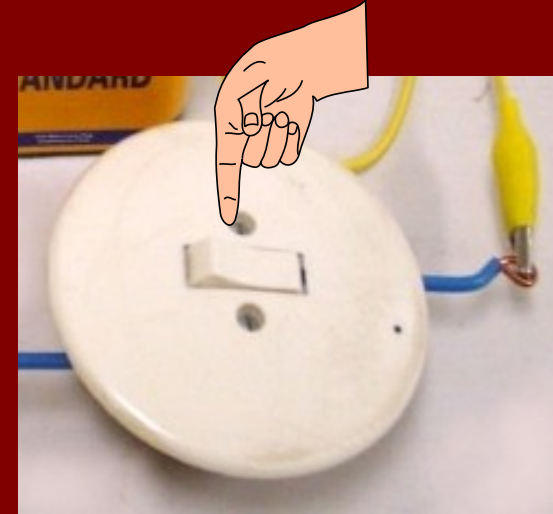


Building an electric circuit.

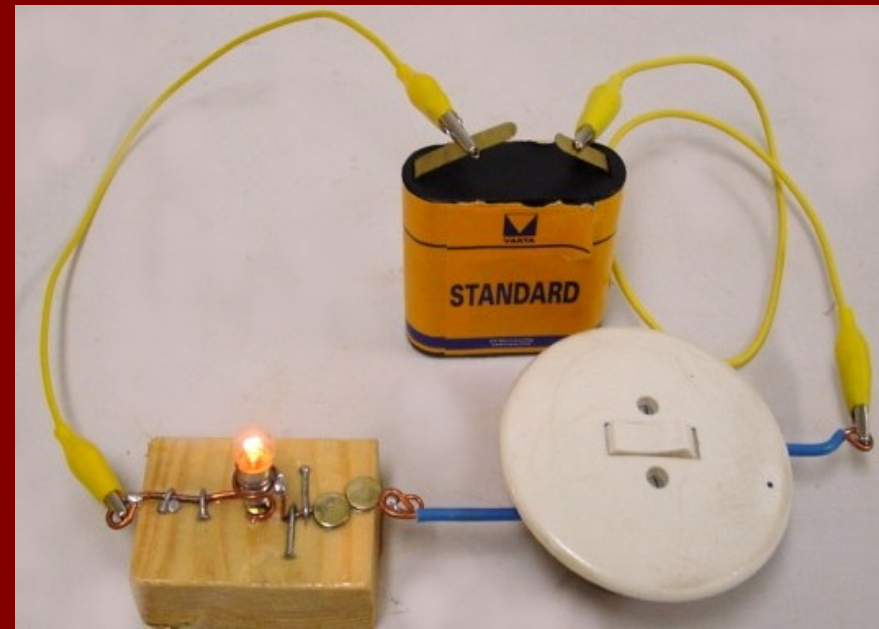
The circuit is interrupted.



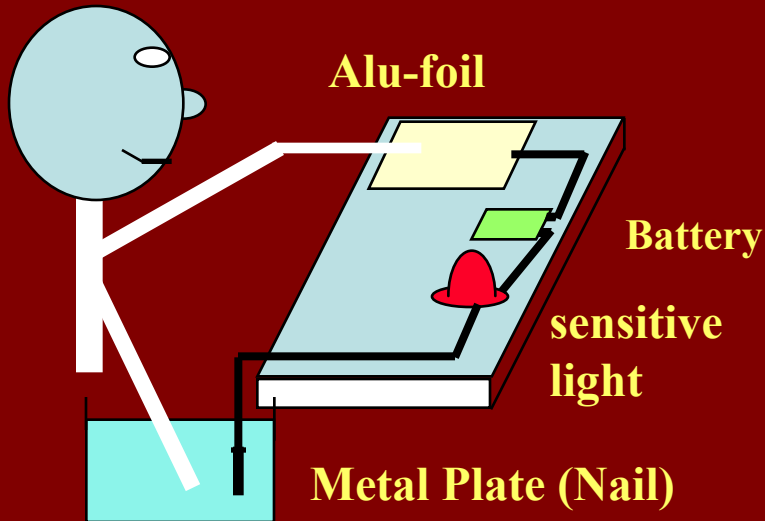
Press the
switch
button.



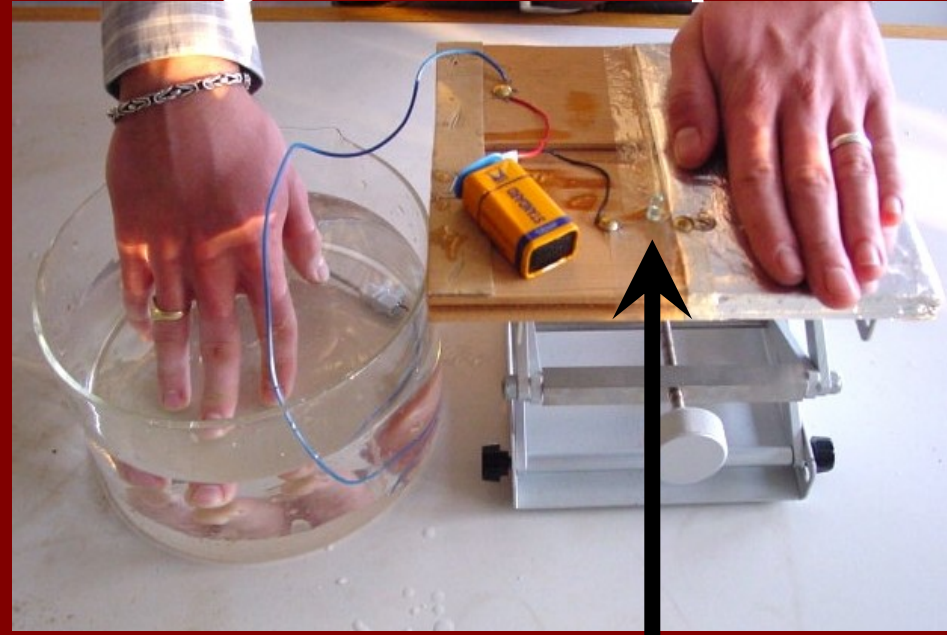
The circuit is closed.



Water and Electricity – dangerous Couple !



Tank or can (filled with water)

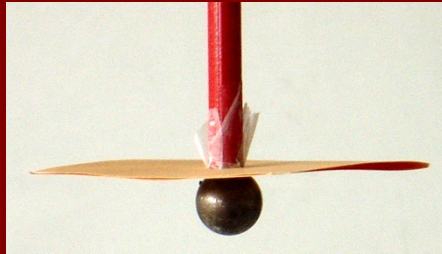


The light only glows, because only harmless electric current runs.

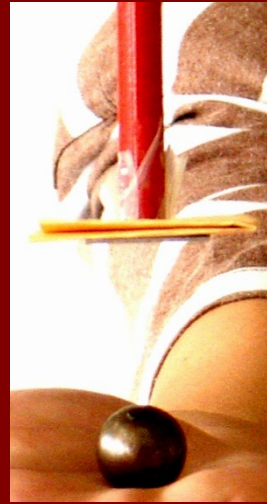
Magnetism



Magnet
is floating...



Iron Sphere
is
attached



Iron Sphere falls...



Self-Made Compass

How does it work ??

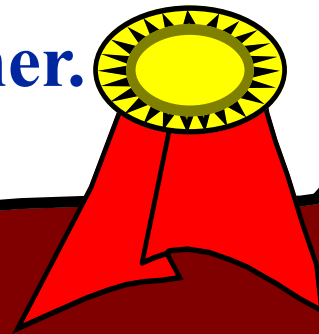
Magnetic Levitation

For enabling magnets
to float,
the

.....

magnetic poles

..... one another.



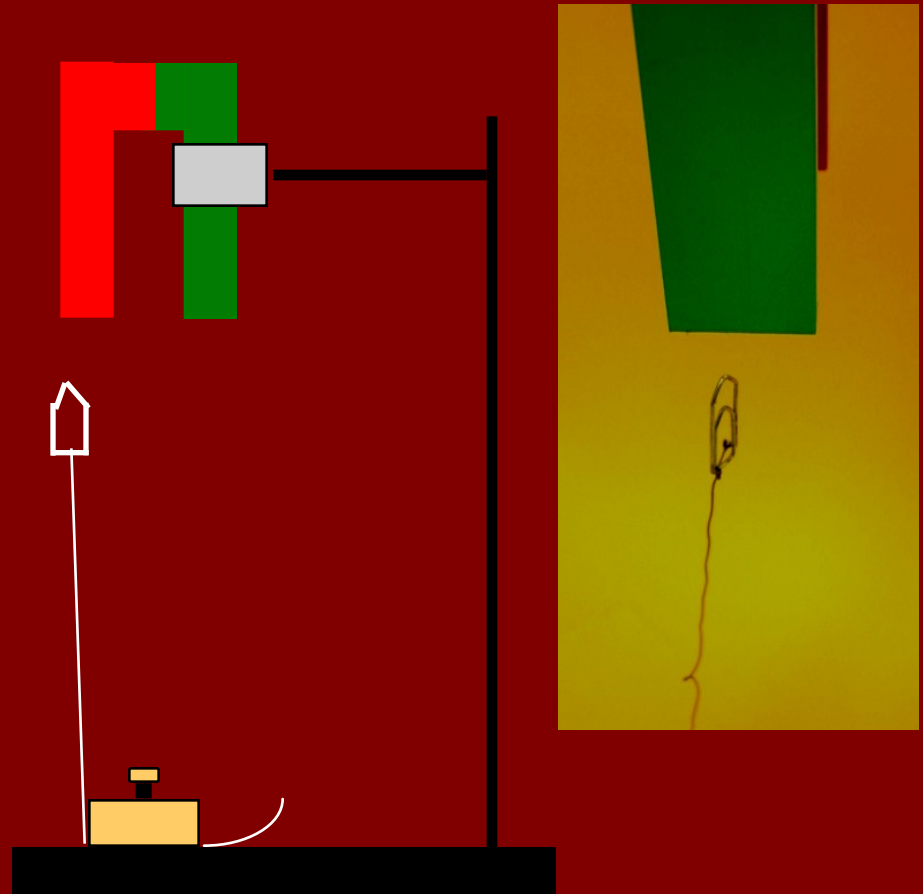
Does the Clip float ?



horse-shoe-magnet
stand rod (wood),
 $l = 1 \text{ m}$
boss
clamp for magnet
thread
mass
paper clip



**Tie a clip to a thread.
Adjust the length of the
thread by means of the
mass so, that the clip
floats.**



Magic Air



Funnel mounted onto the bottle

sealant

**Water cannot flow into the bottle,
because the air inside it cannot escape.**

**If you penetrate the sealant by a needle,
then air escapes and water flows into the bottle.**



Magic Air



It clatters,
because the coin jumps.

Who has damaged
this oil can ?



Water flows into the bottle,
but it is enjailed !



Air stops it !

Higher explanation standard !

Air flows in – Water flows out !



Air blown into the bottle presses water out.

„air tube“ has its end in air.

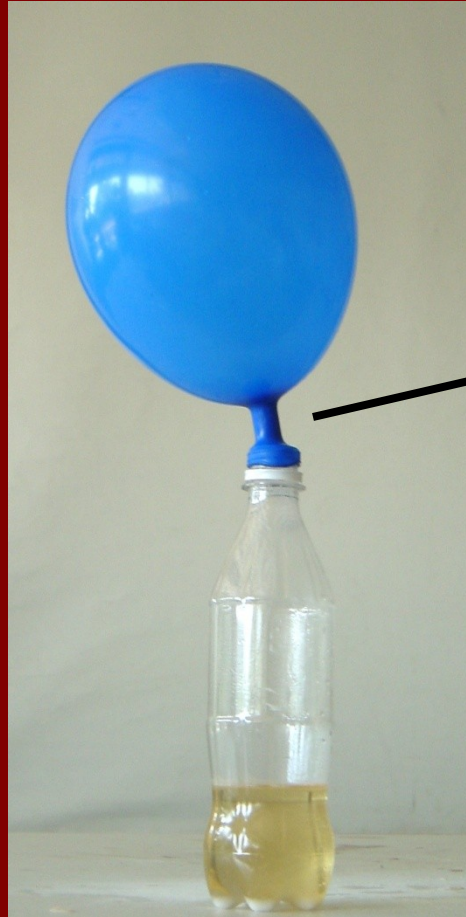
„water tube“ reaches into the water.

Inflating with Carbon Dioxide

A balloon is filled with baking powder, vinegar is poured into the bottle.
The balloon's contents is dumped into the bottle.

Potassium
hydrogene
carbonate
(baking
powder)
in the
ballon

vinegar



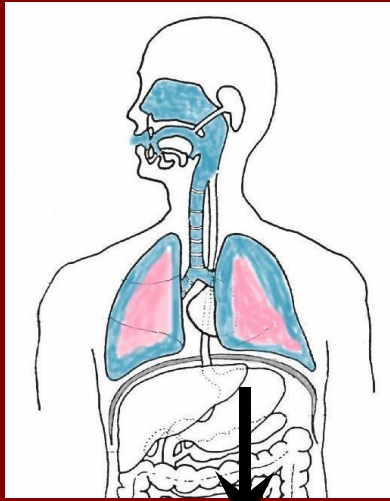
The so created CO_2 inflates
the balloon.

Bind the balloon by a thread
remove it and let it fall down.



The balloon filled with carbon dioxide floats down to the ground.

Function of the Lung



diaphragm

„bottle-chest“

„balloon-lung“

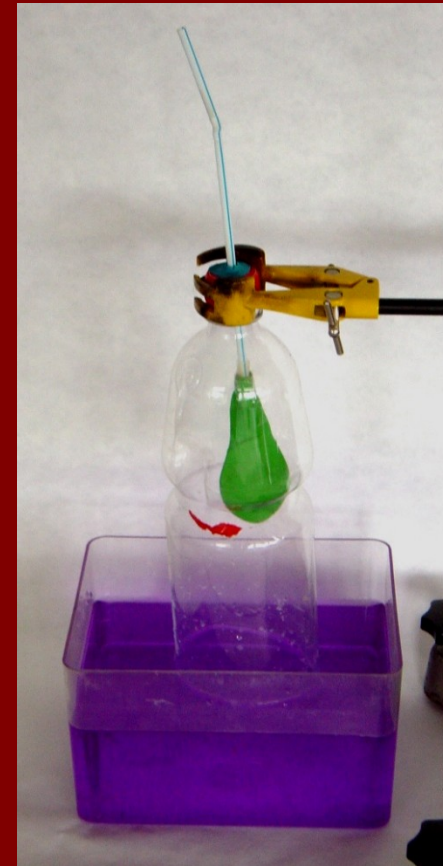
„Lunge“

downwards: breathing in
upwards: breathing out

„Diaphragm“



downwards: breathing in
upwards: breathing out



downwards – smaller volume
- air is pressed out of the lung
upwards – larger volume –
air is sucked into the lung

and much more



To build a
„Merry Go Round...“



From where the wind blows...



To split up a colour...

