Our scientific workshop

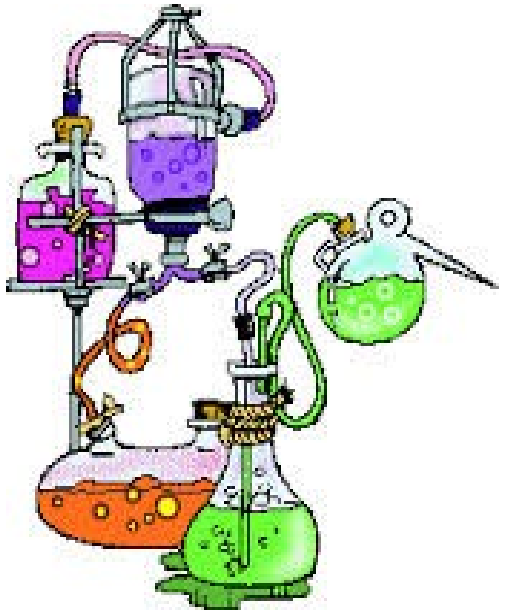
Water tests in Plougastel-Daoulas, the Elorn river and Brest harbour
November 2013

Éducation et culture
Éducation et formation tout au long de la vie
COMENIUS

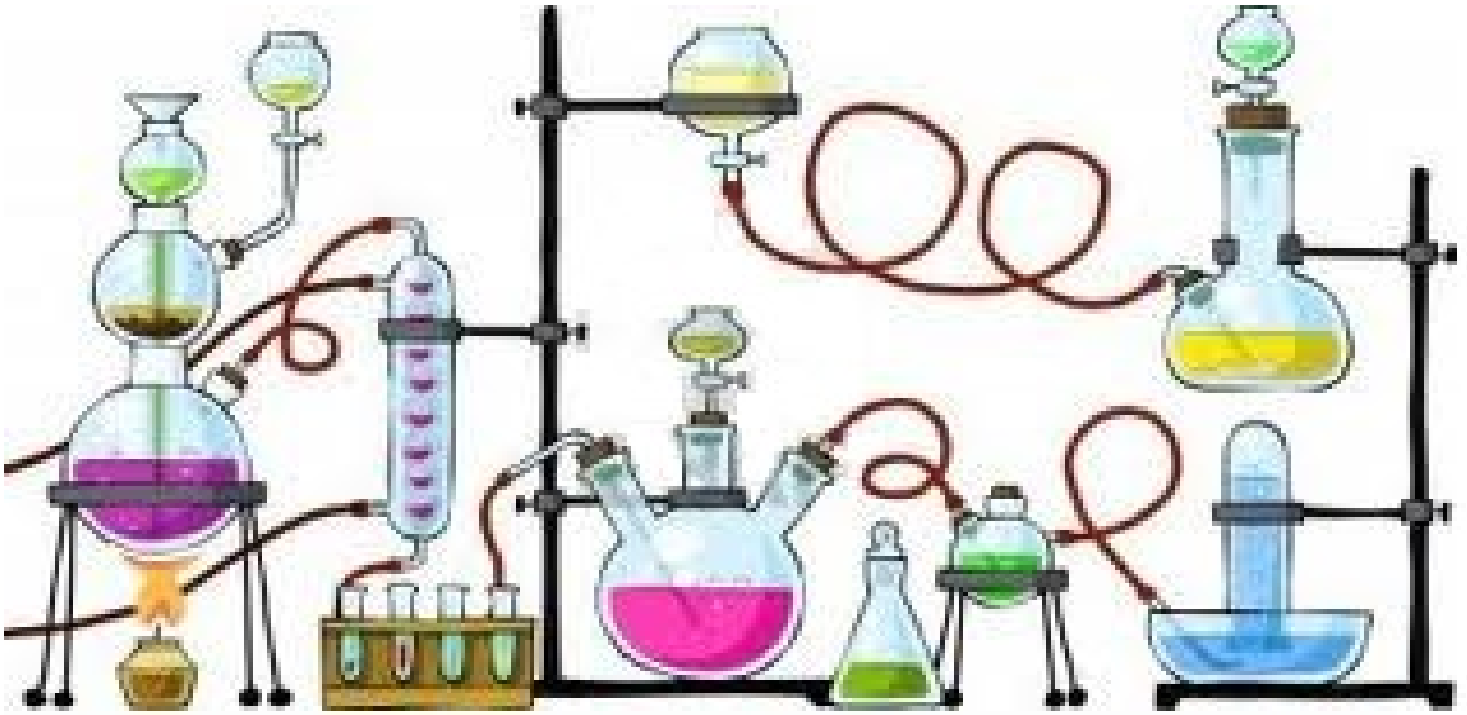
Sainte Anne's school - PLOUGASTEL-DAOULAS

THE CONTEXT

Within the frame of our COMENIUS project « Mare Nostrum » and in close relation with the Physics curriculum, pupils in year 10 have analysed water samples coming from different local places. Then, we have measured the concentration in nitrite, nitrat, ammonium and phosphat ions. Finally, we've measured the pH to controle the quality of these waters.



The Chemistry Lab



The chemistry lab

The tests were made in the Physics lab.
Like scientists, we had to wear a white coat, gloves and glasses.

The chemistry lab

Quentin

Sylvain

Téo

Ewen

We split into 5 groups.
Each group had to test one ion or the pH.

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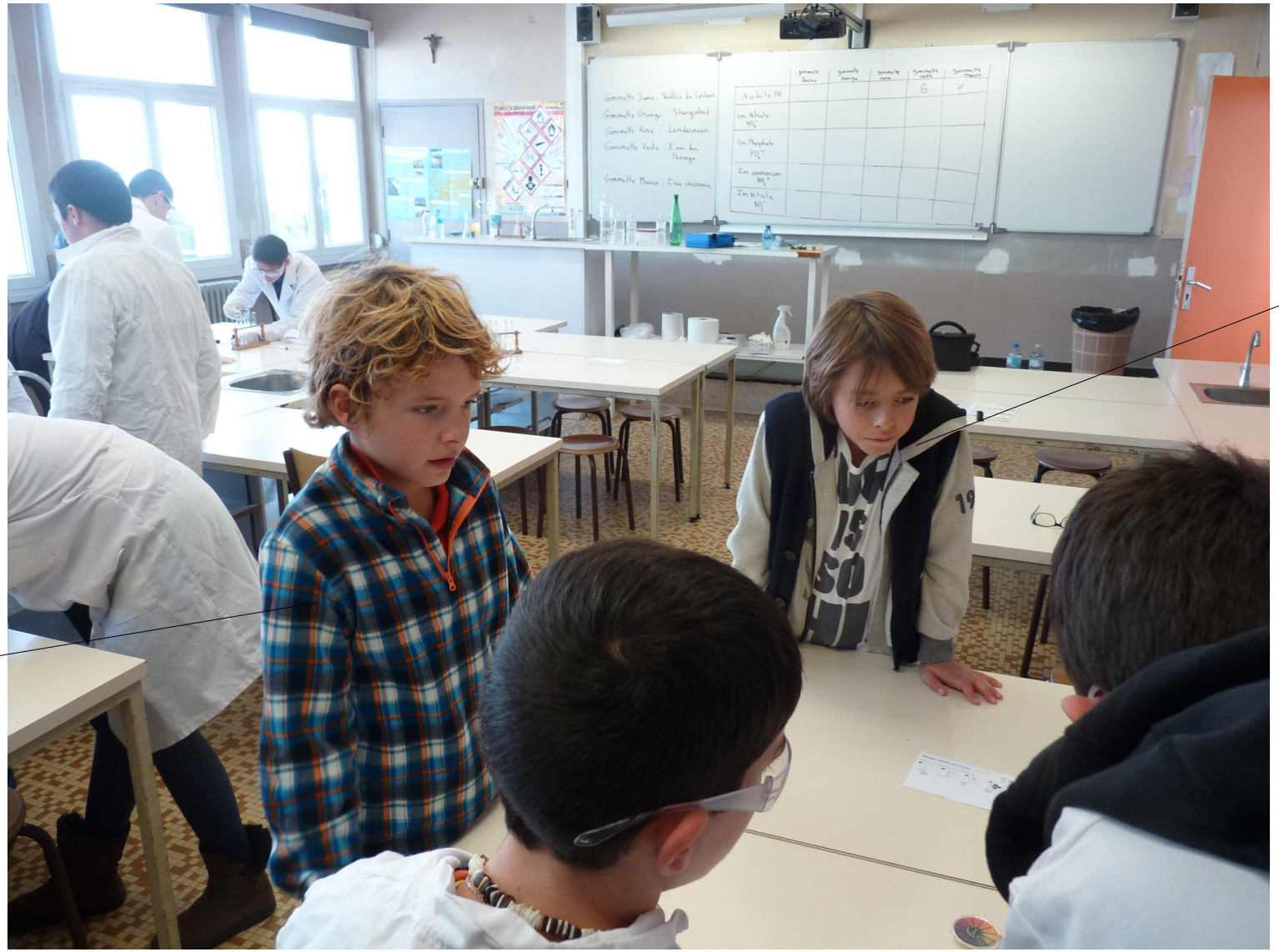
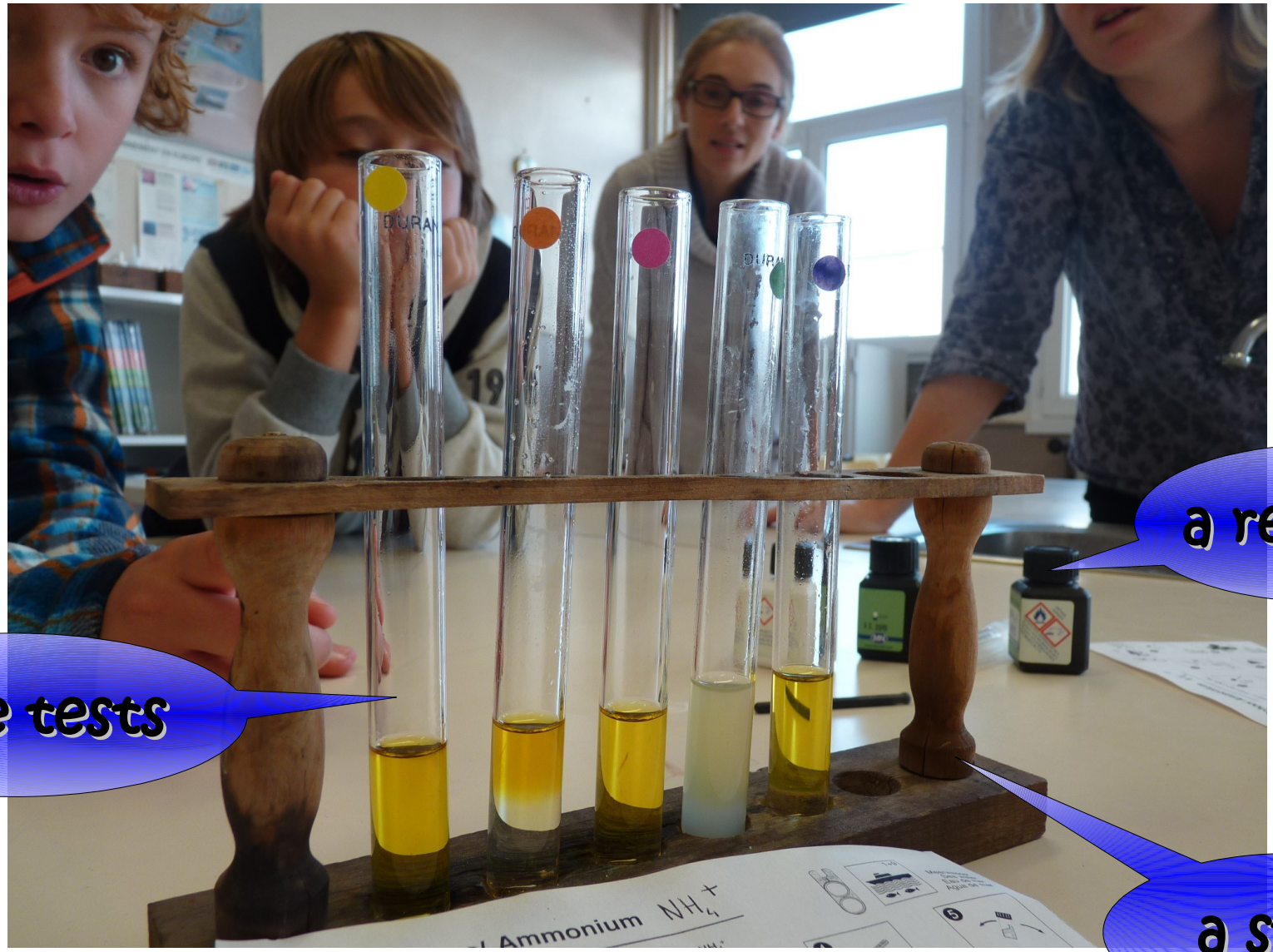
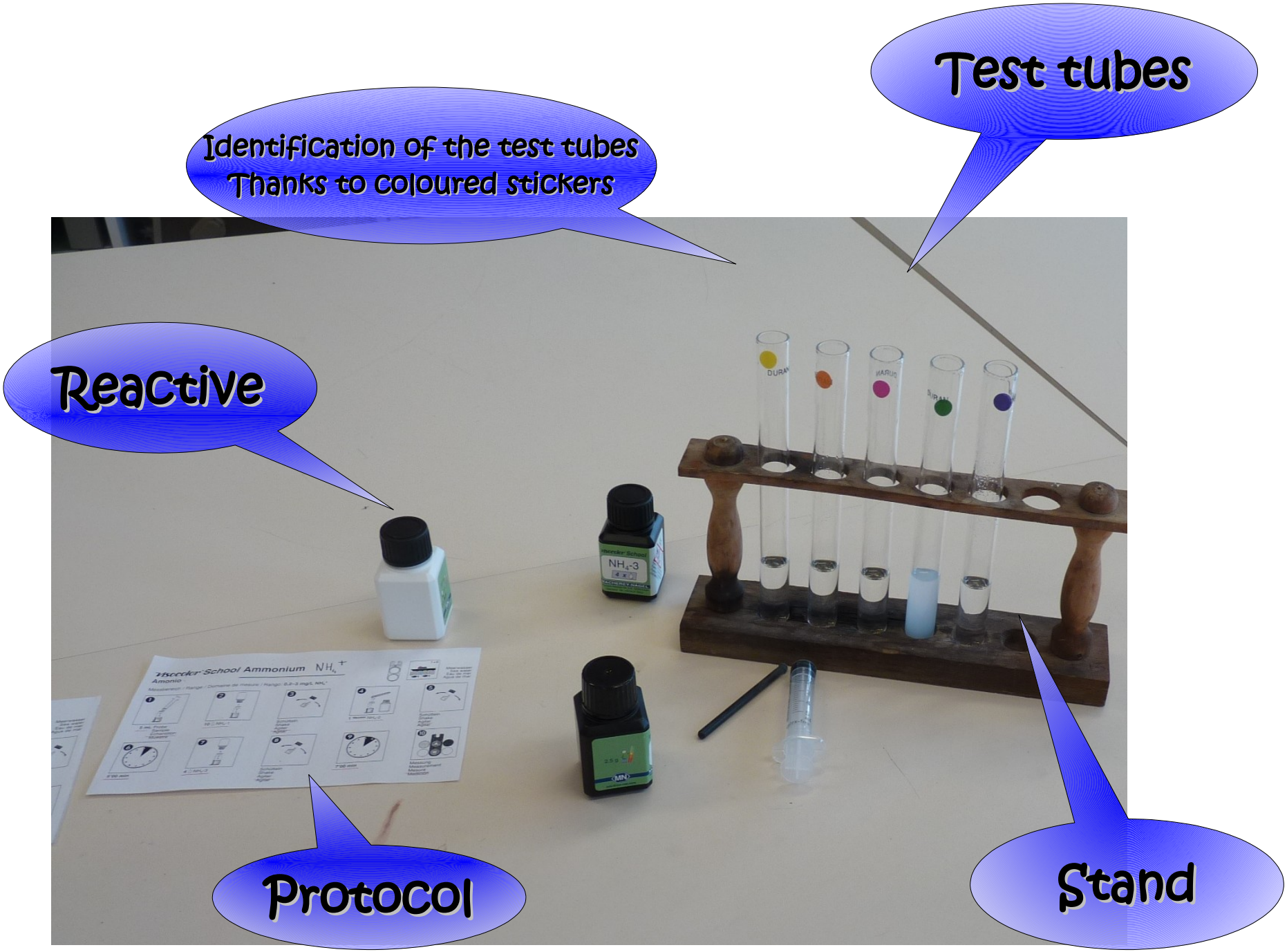


We wrote all the results of the tests on the board.

The scientific equipment

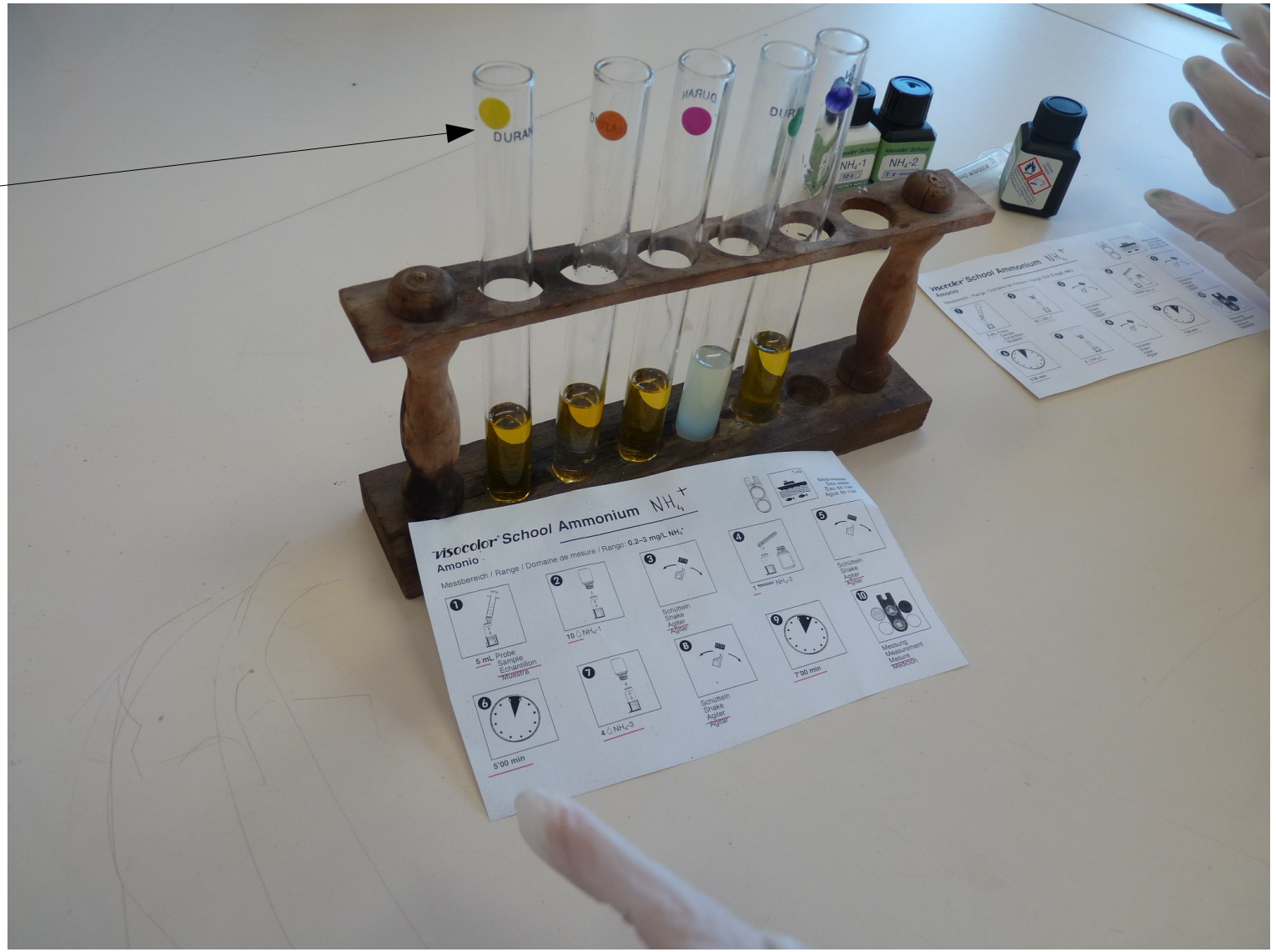


To do the tests we used specific chemistry materials



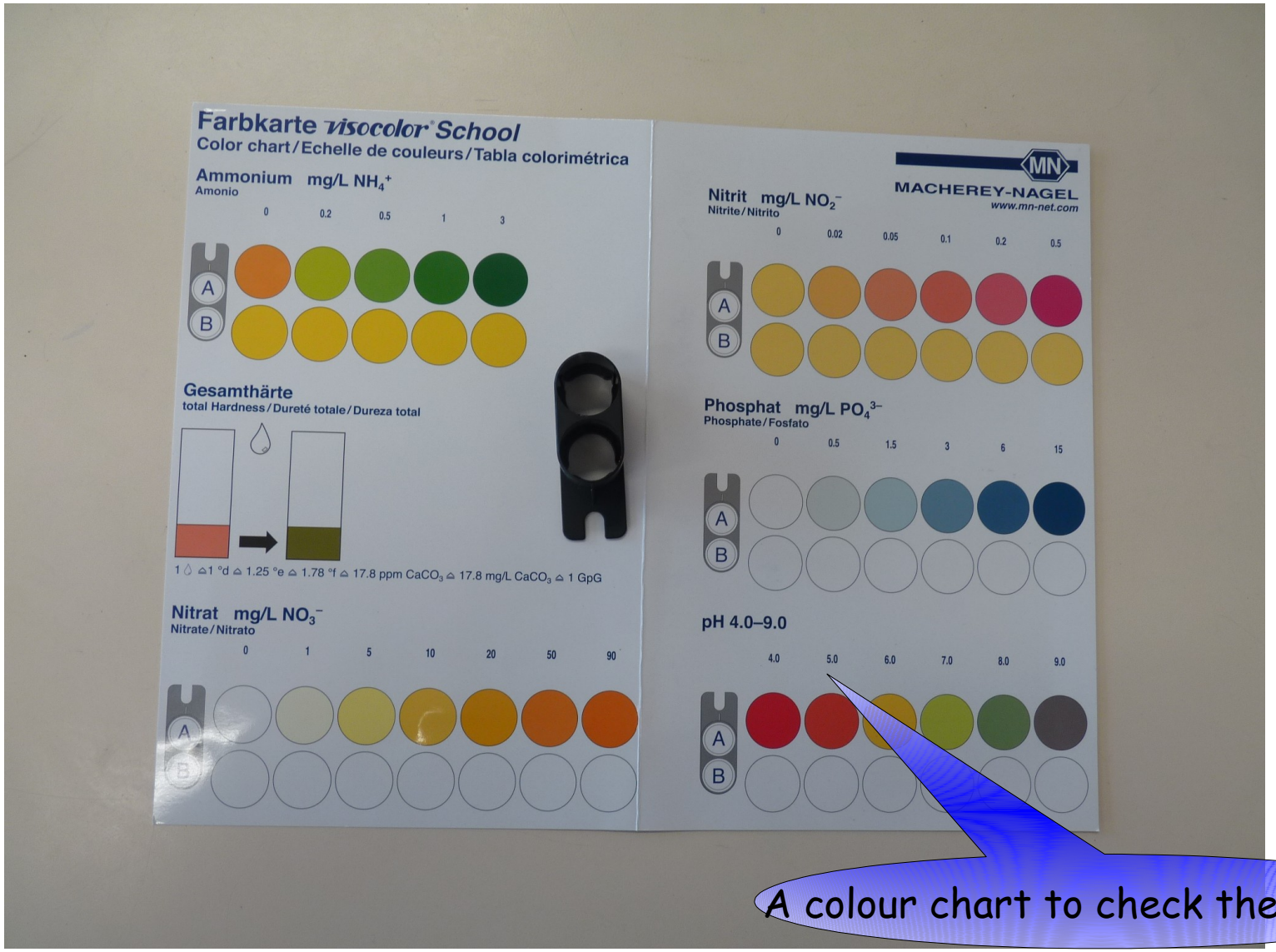
We had to follow a strict protocole to test the water samples

The tools

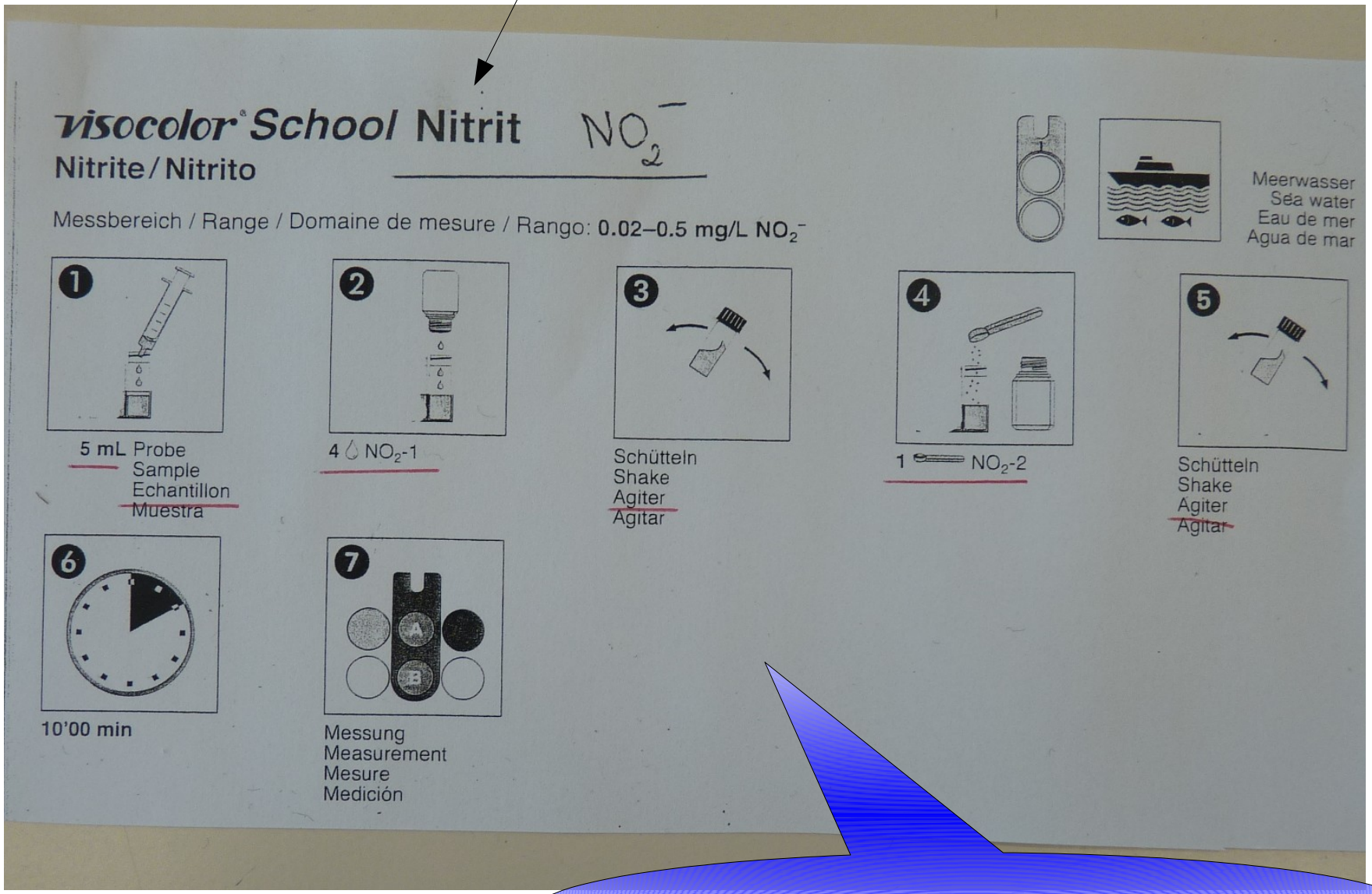


We stuck coloured stickers on the tubes to identify the samples

We also used a colour scale to measure the chemical substances concentration

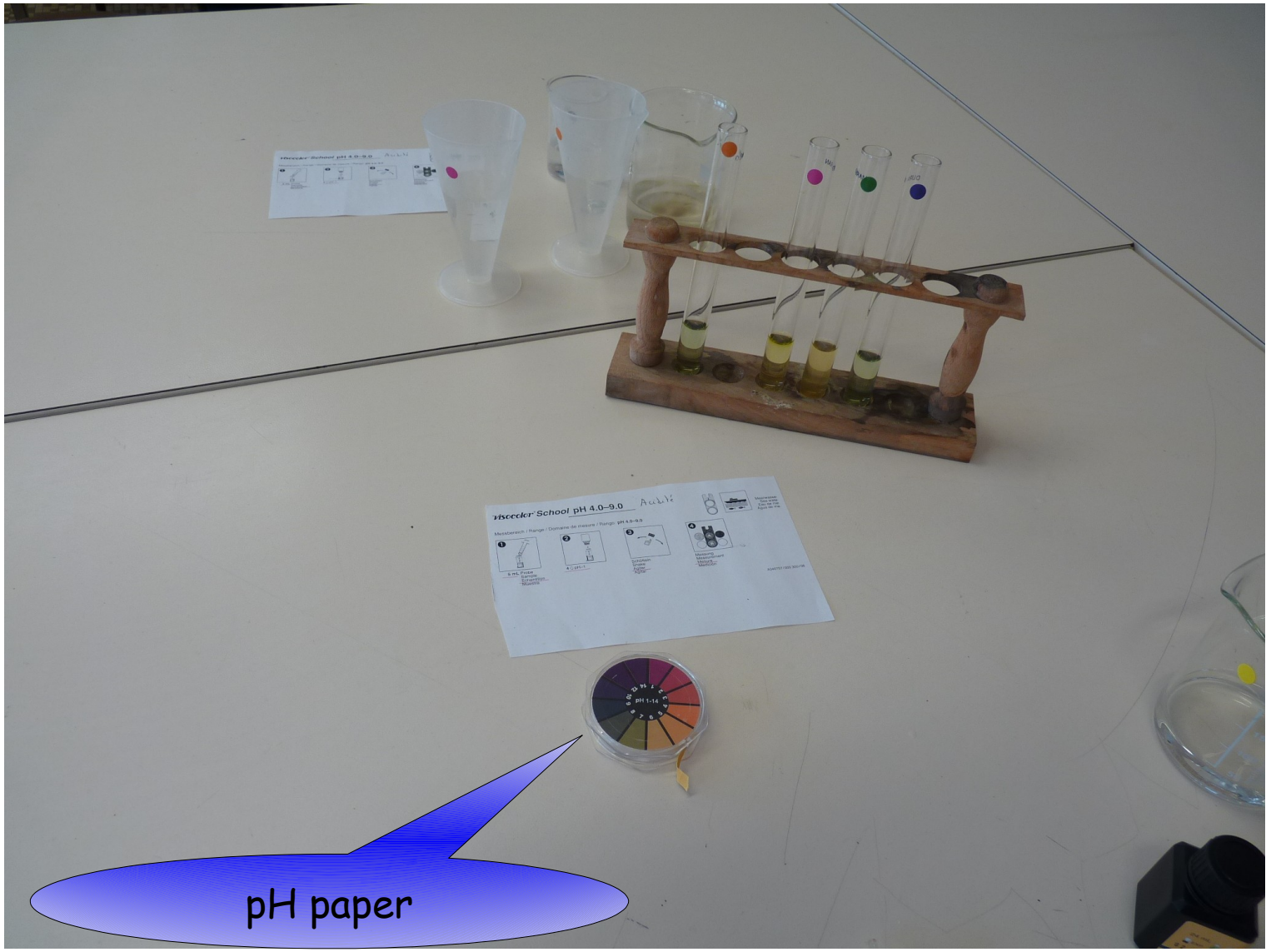


Here is the colour scale

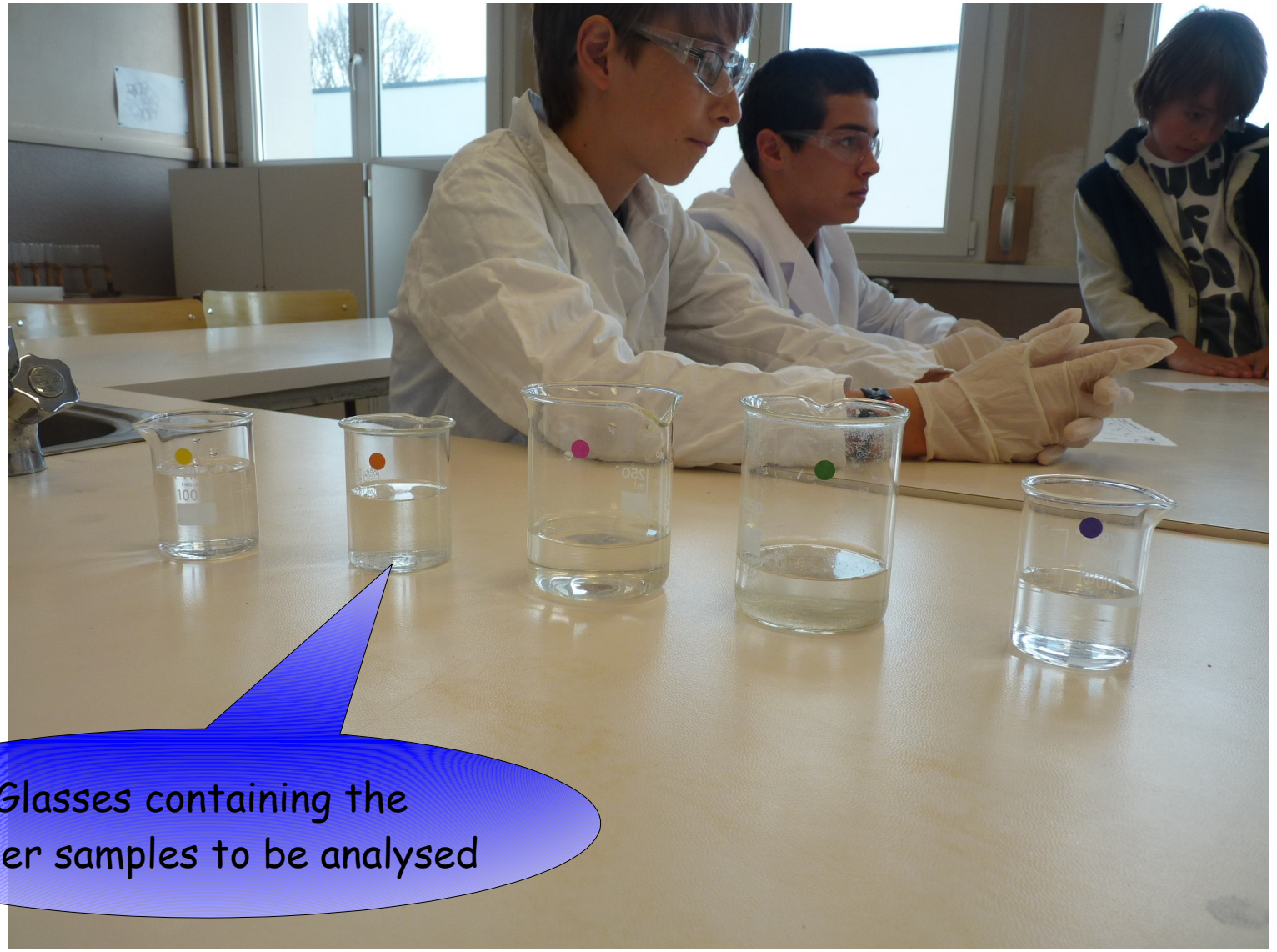


This is an example of an experimental protocol

The tools

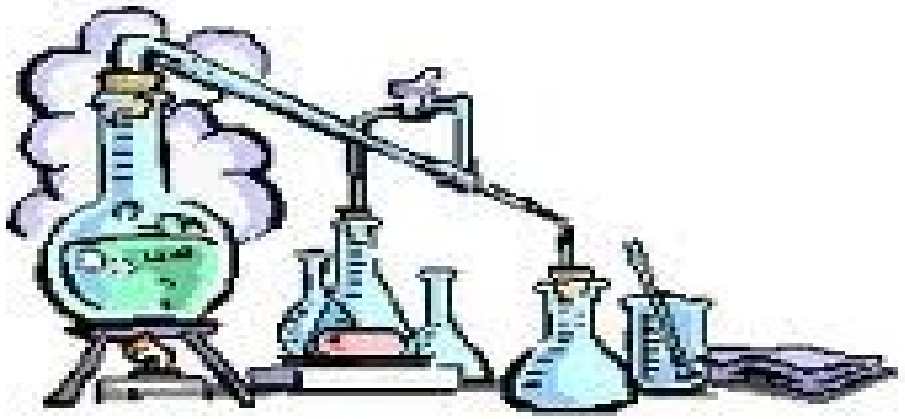


The equipment



We took 5mL from each sample with a plastic syringe

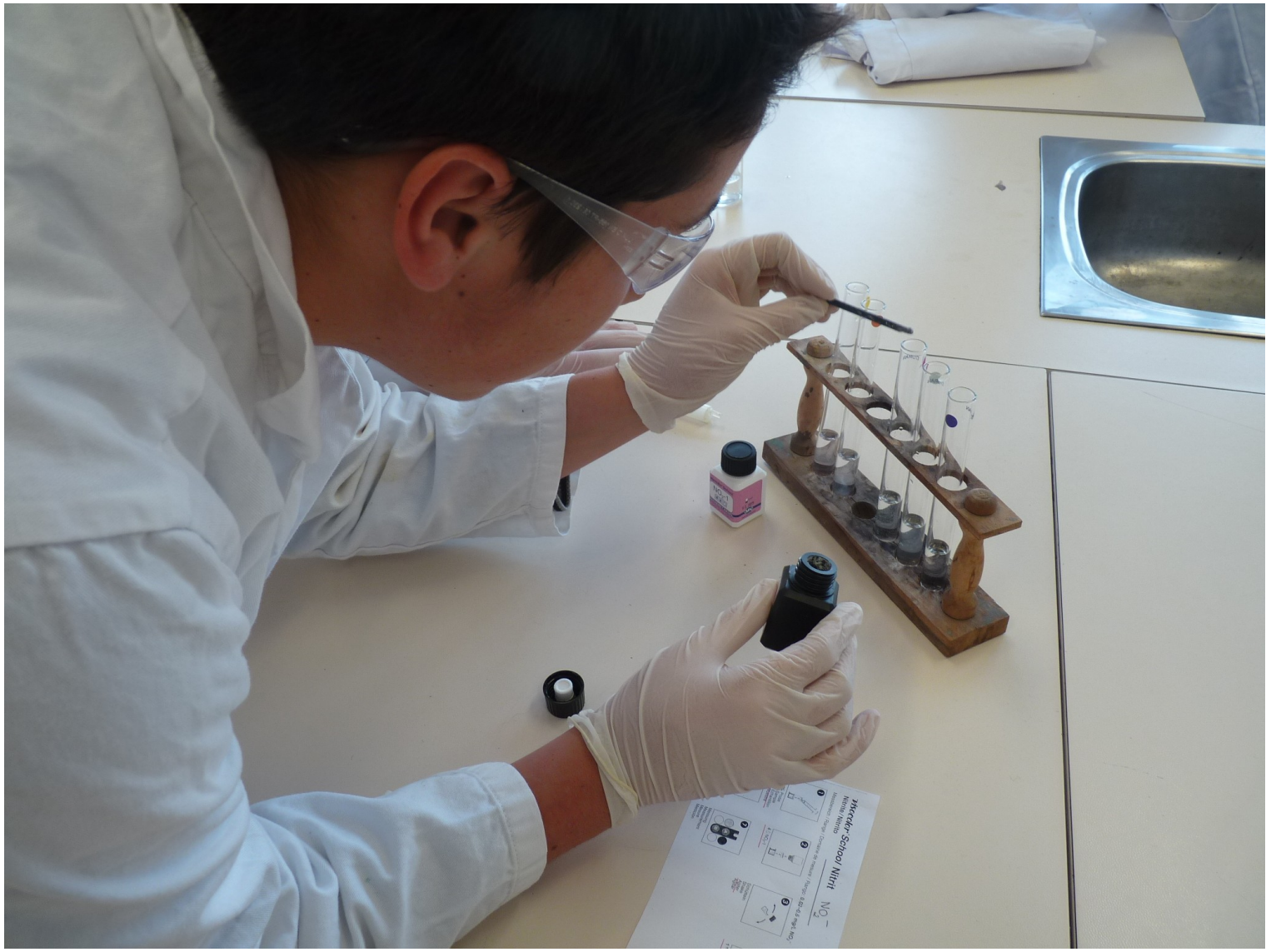
Let's do the tests !



Nitrite ions tests

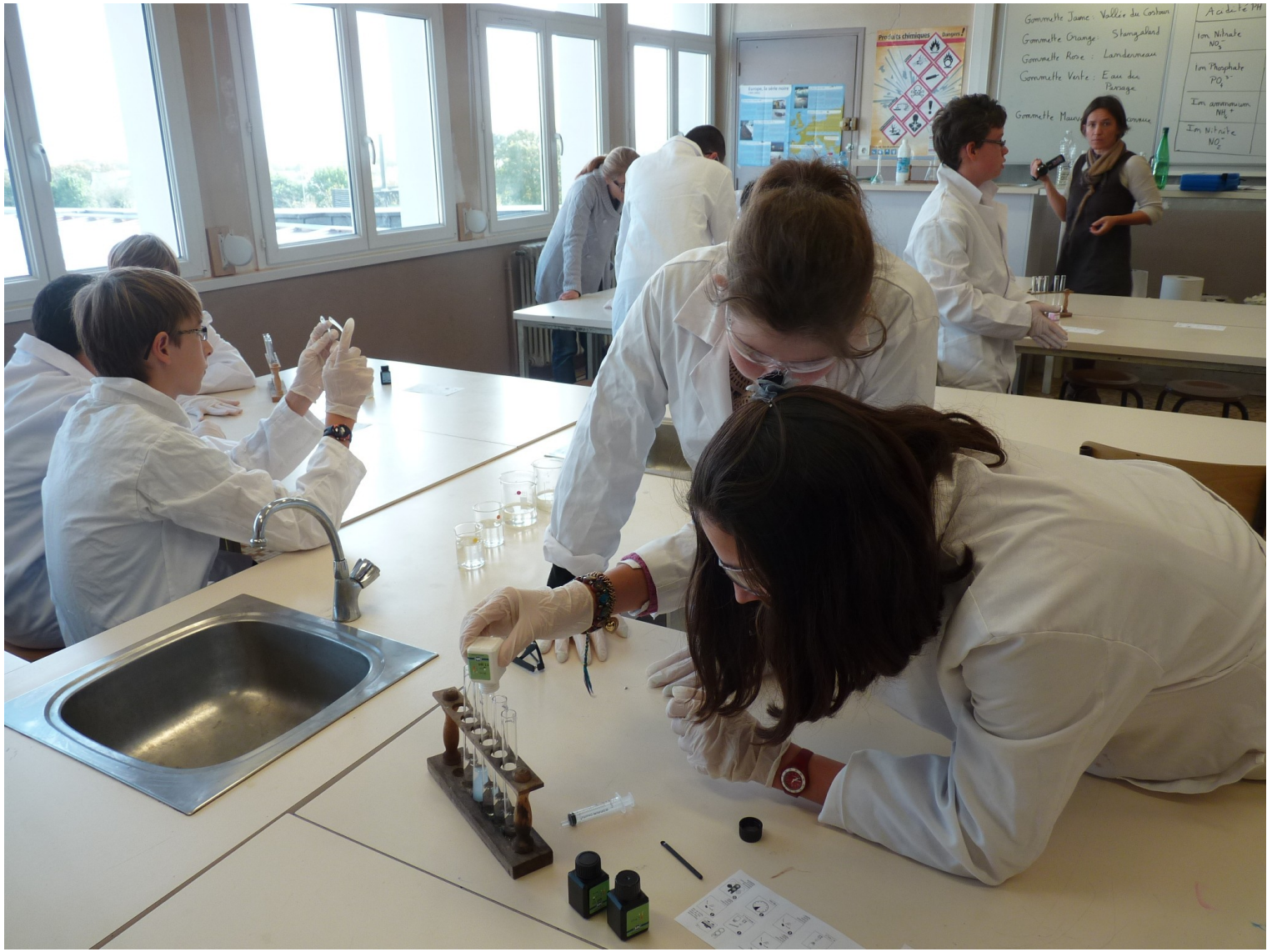
We added 4 drops of NO2-1 in each sample

Nitrite ions tests



Ammonium ions tests

Ammonium ions tests



Ammonium ions tests

Marianne

Lucie

Mr Héronneau Technology teacher

Ammonium ions tests

Mrs Fave History & Bretton teacher

Ammonium ions tests

pH test

Mrs Lafont
Biology teacher

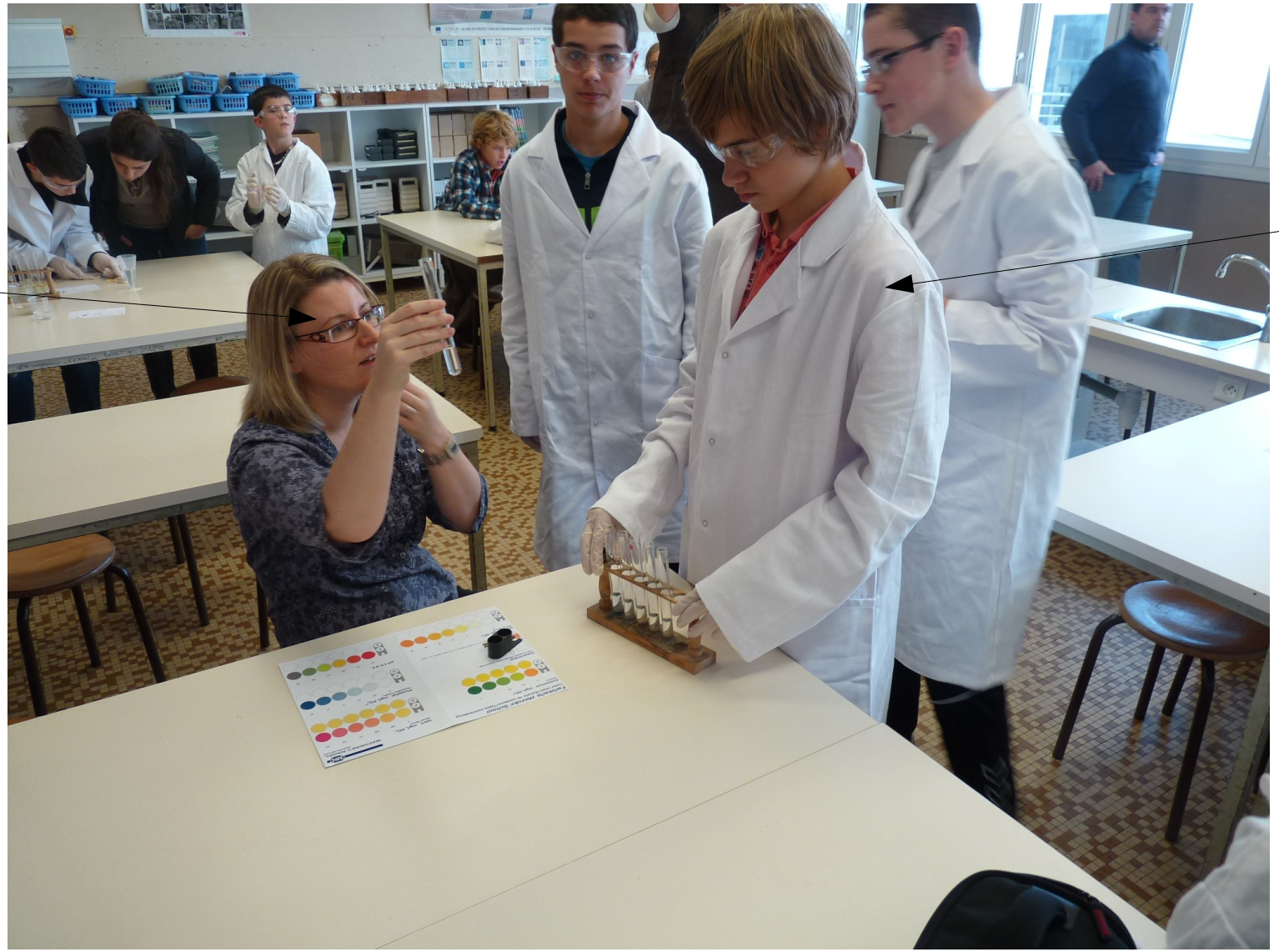
pH test

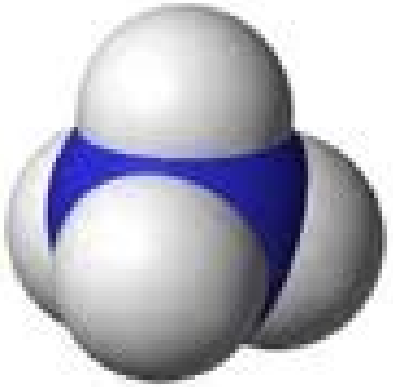
Nitrite ions tests

Nitrite ions tests

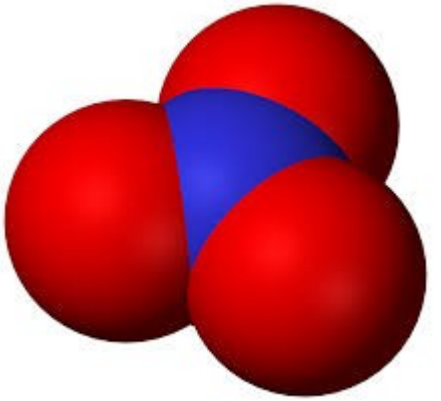
Colour scale measurement

Phosphat ions tests



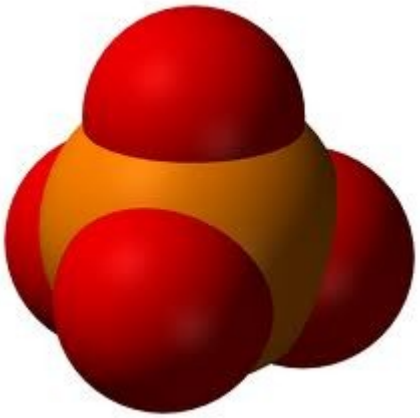


NH_4^+



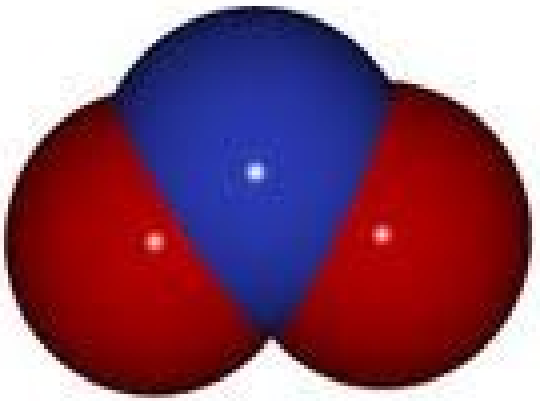
NO_3^-

Tests results



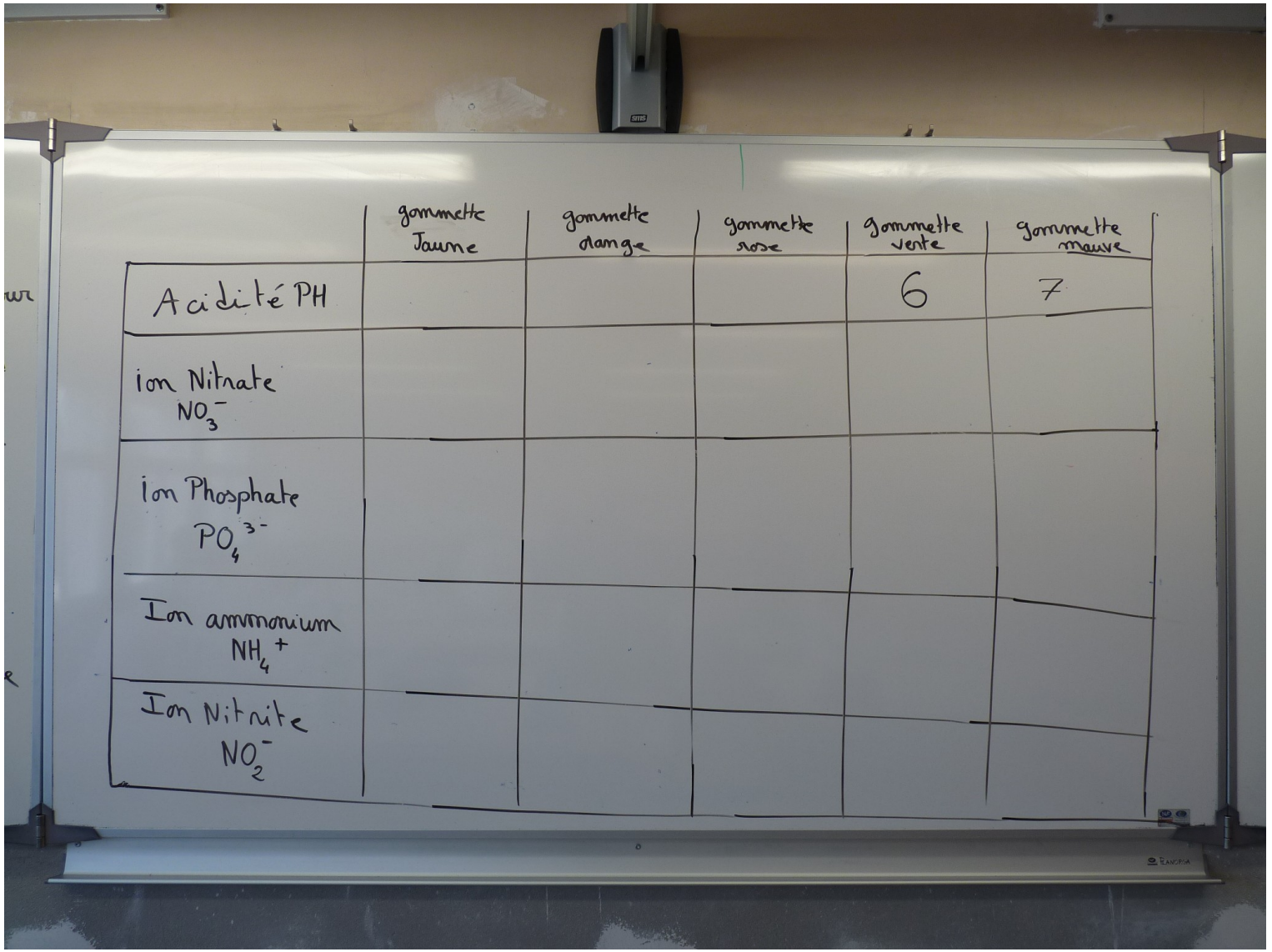
PO_4^{3-}

pH



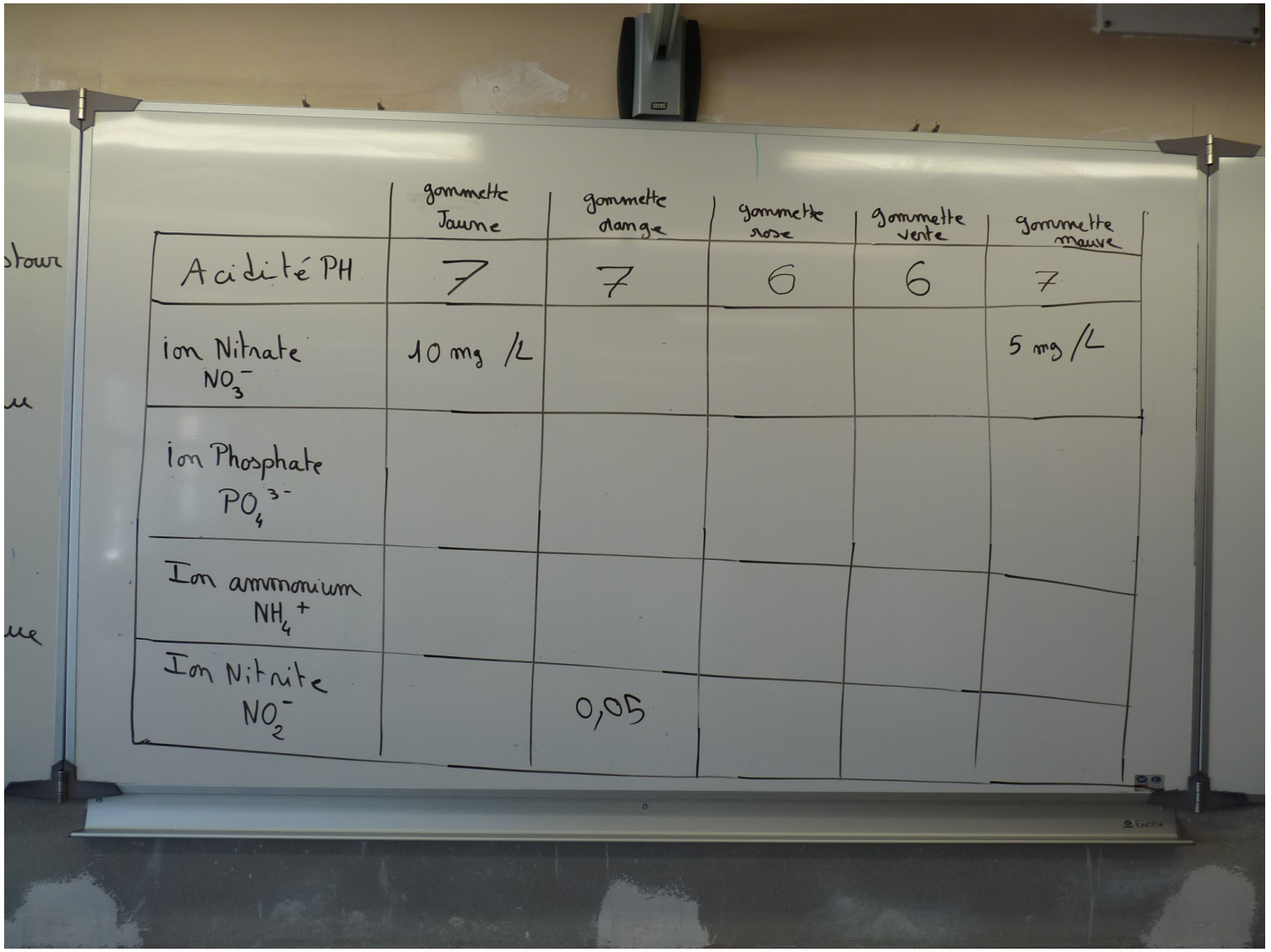
NO_2^-

Here are the results we've obtained



One by one we wrote our results in the chart

Tests results



	gommette Jaune	gommette orange	gommette rose	gommette verte	gommette mauve
Acidité PH	7	7	6	6	7
ion Nitrate NO_3^-	10 mg /L				5 mg /L
ion Phosphate PO_4^{3-}					
Ion ammonium NH_4^+					
Ion Nitrite NO_2^-		0,05			

Tests results

Tests results

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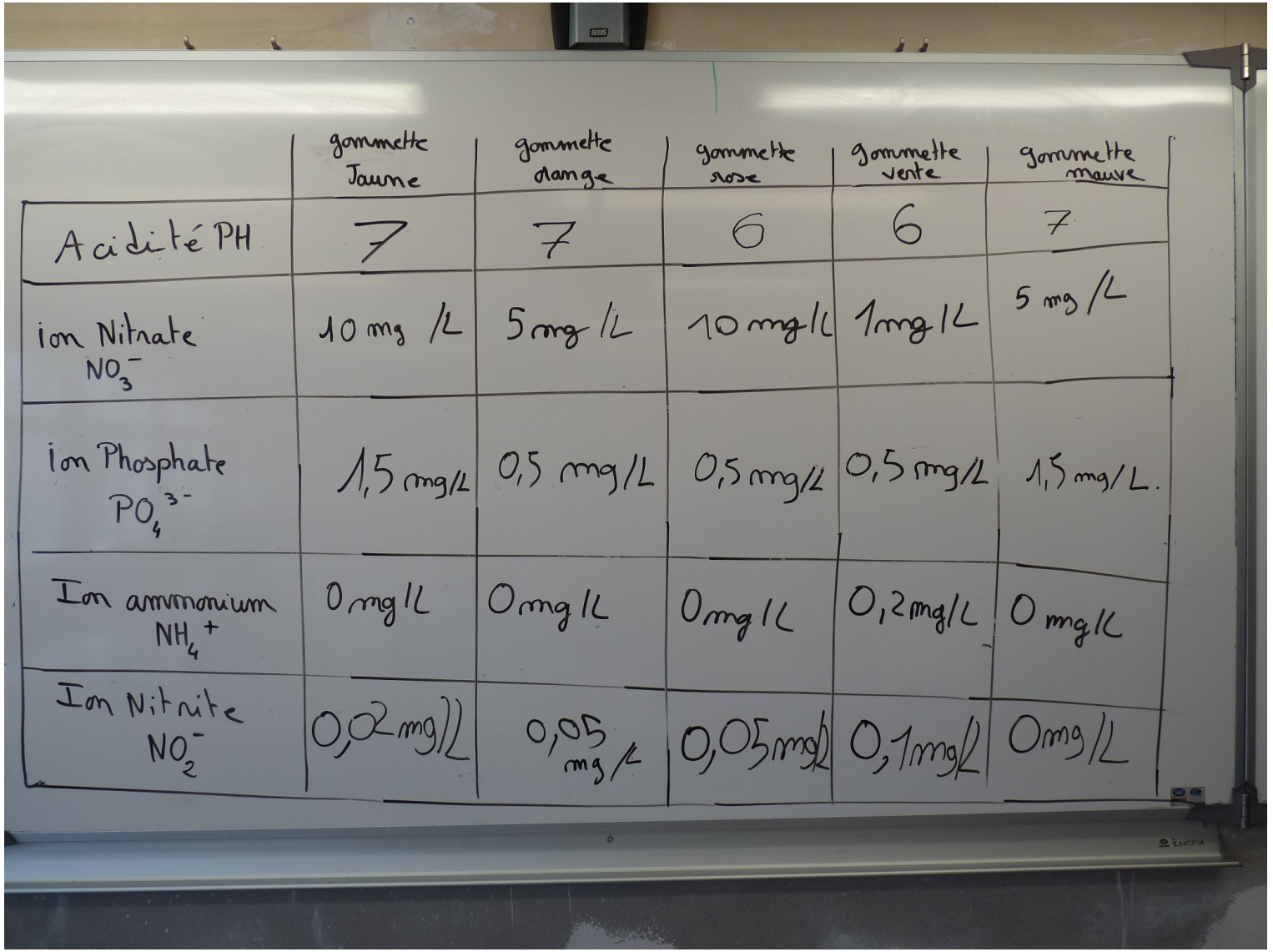
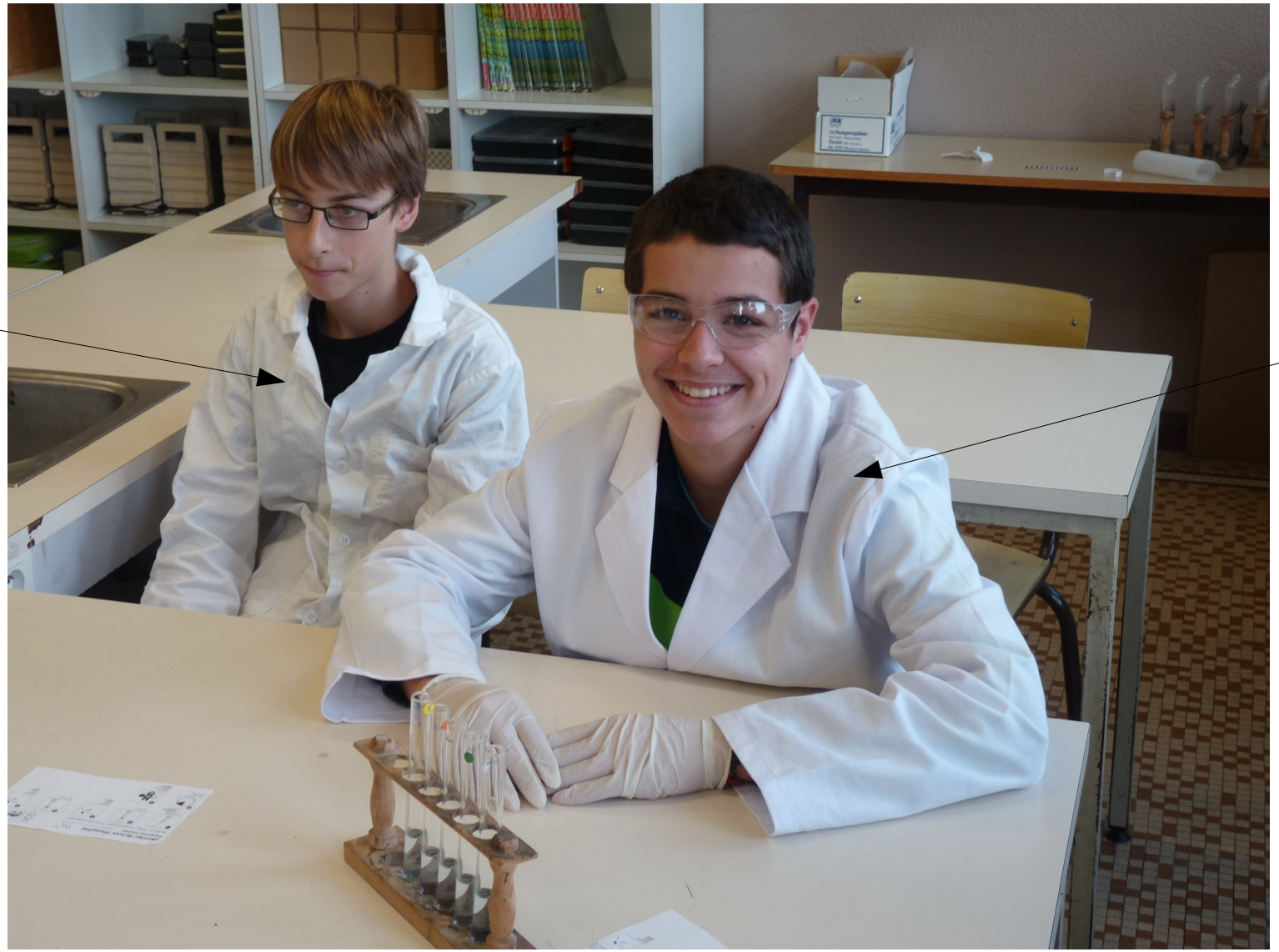


	gommette Jaune	gommette orange	gommette rose	gommette verte	gommette mauve
Acidité PH	7	7	6	6	7
ion Nitrate NO_3^-	10 mg/L	5 mg/L	10 mg/L	1 mg/L	5 mg/L
ion Phosphate PO_4^{3-}	1,5 mg/L	0,5 mg/L	0,5 mg/L	0,5 mg/L	1,5 mg/L.
Ion ammonium NH_4^+	0 mg/L	0 mg/L	0 mg/L	0,2 mg/L	0 mg/L
Ion Nitrite NO_2^-	0,02 mg/L	0,05 mg/L	0,05 mg/L	0,1 mg/L	0 mg/L

Many thanks to all the pupils who took part into this very interesting experiment : Lucie, Marianne, Quentin T, Yohann, Maël, Quentin D., Sylvain, Andrès, Valentin, Téo, Ewen,
Costa et Mathys.

Year 8 Embassador pupils

Year 10 Embassador Pupils



This week, January 19th to 24th 2014, we are proud to be our school ambassadors

Éducation et culture
Éducation et formation tout au long de la vie
COMENIUS

in Constanta, Romania !