

Global Science

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With the assistance of the following students:

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Abstract. *The second „Science Club” activity has been organized by the High-School „Costin C. Kiritescu” on April 16 2005. The activity is part of the „Hands on Science” project (110157 – CP – 1 – 2003 – 1 – PT – COMENIUS – C3).*

The projects presented in this activity cover a large spectrum of classes: physics, chemistry, biology, computer science, ecology, consumer protection, health and security at the work place.

The projects were composed of: laboratory experiments, virtual laboratory experiments, the utilization of IT in the learning process, an exposition of teaching materials manufactured by the students.

1. Activity purposes:

1. Laboratory experiment promotion (real and/or virtual)
2. The conception of simple experiments and with a maximum cognitive impact
3. Continuous interdisciplinary – up dating scientific information
4. Dissemination activities accomplish in the „Hands on Science” project
5. The extension of the „Hands on Science” group.

2. Activity program:

• Projects:

1. „Bio field phenomena” – represent the biophysics application of radiations in the medical area (unsolved problems of cancer illness)
2. „Carnivorous plants and their capturing mechanisms”



3. „Water pollution” – substances that pollute water and their effects; the main pollution sources
4. „Power and its effects” – its physiological effects are emphasized

• Virtual presentations

1. „Tourism and pollution” – which recommends different holiday locations where the vacation can be spent, a tourism firm is presented because there are polluted sectors, and an initiative is pointed out in order to stop pollution.
2. „Healthy alimentation reported to the blood type”
3. „Mobile communication and its pernicious influences” – a virtual enterprise is presented, which trades mobile phones, but warns about the way they are used so that pernicious influences are avoided
4. „Laws of the ideal gas” – Boyle-Mariotte, Gay-Lussac and Charles laws are introduced (mathematics equations and graphics), and also at the end a questionnaire to be applied.

• **Real experiments**

1. Laws of the ideal gas: the Boyle-Mariotte and Charles laws are verified using the experimental montages; measurements and than graphics can be made



2. Protection methods of the consumer
The following experiments are performed:

- determination acidity of candies



- identification of starch substances



- determination of the acidity of flour



- physical-chemical characteristics of bread



- quality characteristics of consumable milk



- **Mediation of the security and health in work campaign: „You learn today to beware a life time”**
- **Sketch: „Beware of drug dealers”**



• **Exhibitions:**

1. Lab experiments for the physics class: the checking of the law of Ohm, visualization of the magnetic field lines, the phenomenon of electromagnetic induction, the light dispersion (the optical prism), calorimetric reading, etc



2. Didactic material made by students



3. Parts and home use devices damaged due to incorrect use

The teachers from other high schools have participated at this activity too: „Tudor Vladimirescu” Theoretical High School, „Eugen

Lovinescu” Theoretical High School, PPTC High School, „Tudor Vianu” National College, „Elena Cuza” National College and „Gheorghe Lazar” National College, “Sfântul Sava” National College.

3. A list of projects to be presented in the science fair.

• **Collaborating projects (virtual presentations)**

1. “Kirlian Effect”
Authors: students – Andreea Marinela Panait, Alina Valeria Ciocalteu, class XI F
Coordinating teachers – Maria Enache, “Economic High School Costin C. Kiritescu”
2. Oscillatory motion
Authors: students – George Badea, Alexandr, class XI C
Coordinating teachers – Maria Enache, “Economic High School Costin C. Kiritescu”
3. Laws” verification of ideal gas (Ideal gas laws verification)
Authors: students – Florentina Aurelia Ungureanu, Claudiu Armean, Mihai Ene, class XI D
Coordinating teachers – “Economic High School Costin C. Kiritescu”
4. Identification of textile fibres
Authors: students – Florentina Aurelia Ungureanu, Claudiu Armean, Mihai Ene, class XI D
Coordinating teachers – Nicoleta Mada, “Economic High School Costin C. Kiritescu”
5. Falsification of alimentary products
Authors: students – Alina Tanase, Cristina Blanaru, Mihai Florea, class X C
Coordinating teachers – Crina Cornea, “Economic High School Costin C. Kiritescu”
6. The tourism and pollution
Authors: students – Florentina Aurelia Ungureanu, Claudiu Armean, Mihai Ene, class XI D
Coordinating teachers – Maria Enache, “Economic High School Costin C. Kiritescu”

• **Posters**

1. Ideal gas laws
Experiment authors – Florentina Aurelia Ungureanu, Claudiu Armean, Mihai Ene, class XI D
Coordinating teachers – Maria Enache, “Economic High School Costin C. Kiritescu”
2. The identification of starch products for cream

Experiment authors: the student Georgiana Scripcaru, class XII H

Coordinating teachers: Rodica Stoian and sampler technician Badrea Eugenia, "Economic High School Costin C. Kiritescu"

3. The determination of flour's tartness

Experiment authors: the students – Catalina Anton, Rebeca Vasile, class XII H

Coordinating teachers: Rodica Stoian si sampler technician Badrea Eugenia, "Economic High School Costin C. Kiritescu"

4. The physical and chemical characteristics of bread

Experiment authors: the student: Iulia Pandelescu, class XII H

Coordinating teachers: Rodica Stoian and sampler technician Badrea Eugenia, "Economic High School Costin C. Kiritescu"

5. The characteristics of consumer's milk

Experiment authors: the student: Maria Madalina Chiva, class XII H

Coordinating teachers: Rodica Stoian and sampler technician Badrea Eugenia, "Economic High School Costin C. Kiritescu"

• **Science friends:**

1. Role-playing: "The CPO (Consumer Protection Office) in surveillance"

Authors: the students of the X D class

Coordinator teacher: Nicoleta Vaduva, Economic "Costin C. Kiritescu" High School

2. Role-playing: "Bank negotiation between Japan and Belgium"

Authors: the students of the XI G class

Coordinating teacher: Nicoleta Vaduva, Economic "Costin C. Kiritescu" High School

3. Scene: "The little great physicians"

Authors: the students – Elena Marcela Ene, Irina Teodorescu, Victor Dumitrache, Mihai Parva, the IX G class.

Coordinating teacher: Maria Enache, Economic "Costin C. Kiritescu" High School

4. Rebus: "Foreign languages and sciences"

Author: the student Sofia Diana Maria Galceava

Coordinating teacher: Doinita Janulya Costache, School No. 156

5. Posters that have participated at the national tournament "Advertising Physics" dedicated to the International Year of Physics 2005.

Authors: the students Mocioi Alexandru, Baskir Sorina, Constantinescu Sorana Elena, Tulea Claudia Oana, Ghergheleasa Mihai,

Neamu Madalina, Vasile Violeta, Banisor Liviu.

Coordinating teacher: Maria Enache, Economic "Costin C. Kiritescu" High School

6. Films:

a) "The CPO (Consumer Protection Office) in surveillance"

b) "Bank negotiation between Japan and Belgium"

c) Identification and verification methods of textile fibers quality

d) The faking of double refined alcohol and identification of albuminous substances

e) Identification of the way to fake coffee

f) Identification of milk faking

• **Real experiments**

1. Identifying the internal organization of the fish class

Authors – Eugen Ștefan

Coordinating teacher – Șerbănescu Ovidiu, „Costin C. Kiritescu” Economic High school

2. Falsifying double refined alcohol

Authors – Mihai Florea, Gabriel Florea

Coordinating teacher – Crina Cornea, "Costin C. Kiritescu" Economic High school

3. Identifying albuminose substances in whip cream

Authors – Mihai Florea, Gabriel Florea

Coordinating teacher – Crina Cornea, "Costin C. Kiritescu" Economic High school

4. Methods of identifying the quality of textile fibers

5. Learning physics with the aid of graphics

Authors – Cociorva Alexandru

Coordinating Teacher – Constantin Liliana Violeta, "Elena Cuza" National College

6. Projects (virtual presentations)

-Electrical circuit with fuses

Author – Costin Marian Postolache

-Learning the traffic rules

Author – Sarah Taban

-Lizard man

Author – Cosmin Mocanu

-Light reflection from a plane mirror

Author – Vasile Bogdan Claudiu

-Lamp flashing

Author – Alexandru Constantin

-The Howercraft

Author – Andrei Eremia

Coordinating teacher: Elisabeta Radoi, School No. 45