

SCIENTIFIC ENGLISH COURSE, CTF A-Z- a.a. 2017/2018

Dott. Giulia Stazi

FILA A

21/06/2018

NOME e COGNOME:.....MATRICOLA:.....

- 1) Briefly define the differences between inductive and deductive reasoning. Which part of an argument do they represent? (max. 6 lines)

- 2) Read the text and answer the questions:

A researcher reported that treating headaches with relaxation exercises and biofeedback is helpful. Three-fourths of 95 people with chronic tension headaches and about half of 75 migraine sufferers studied reduced the frequency and severity of their headaches after learning how to relax head, neck, and shoulder muscles and control stress and tension with biofeedback.

- a) Which is the issue? _____

- b) Which is the conclusion? _____

- c) Which are the reasons? _____


- d) Can you suggest any possible rival causes? _____

- 3) Read and analyse the following abstract. Identify the 5 key elements composing an abstract (Background, Purpose, Methodology, Results, Conclusion). Are they all included? Based on this abstract summarize in two lines what you expect from the paper and give two possible keywords different from those given by the author.

Production of Colorful Aluminum Keepsakes and Gas Sensing Smart Materials: Anodizing, Dyeing, and Etching Small Aluminum Parts on a Budget

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 Supporting Information

ABSTRACT: This work describes an effective, low cost method to anodize small aluminum objects. The use of a PVC spacer between the anode and cathode significantly reduces the size of the electrochemical cell and electrolyte required for its operation. Students will explore the physical and chemical properties of aluminum and anodized aluminum. They will have the opportunity to apply the techniques they have learned during the design and production of a personalized aluminum name tag. Immersion of the anodized aluminum samples in aqueous pH indicators bromocresol purple or thymol blue produces solid-state gas sensors that are used to detect $\text{HCl}(\text{g})$ or $\text{NH}_3(\text{g})$. The modules described in this work are acceptable for introductory chemistry classes both at the high school and undergraduate levels.

KEYWORDS: *High School/Introductory Chemistry, First-Year Undergraduate/General, Laboratory Instruction, Hands-On Learning/Manipulatives, Electrochemistry, Surface Science, Materials Science*

Chemistry + Creativity → Double Rainbow



- 4) Explain what the IMPACT FACTOR of a scientific journal is. (max. 5 lines)

- 5) The Method section from a research report in the field of medicine is given here with the sentences in scrambled order. Rearrange the sentences in a conventional order and determine which element they represent (Overview/design of the experiment; Population/sample; location; restriction/Limiting conditions; Sampling Technique; Procedures; Materials; Variables Statistical treatment).

MAINTENANCE ENERGY COST OF PREGNANCY
AND INFLUENCE OF DIETARY STATUS IN
RURAL GAMBIAN WOMEN

Method

- a. In other respects the supplemented ten women were similar to the unsupplemented. All received the same clinical and prenatal care.
- b. At the time of birth, the weight, head circumference, and gestational age of the babies were assessed as described previously (Lawrence et al., 1983).
- c. Twelve women from one of these villages were offered supplementary food 6 days a week. The remaining ten women from the other two villages were unsupplemented.
- d. Resting metabolic rate (RMR) and body weight for each woman were measured approximately every 6 weeks during pregnancy. Subjects were asked not to eat or work beforehand. After the subject had lain quietly in an air-conditioned room for 30 min, RMR was measured by open-circuit calorimetry.
- e. Twenty-two pregnant women ages 20–32 years from three villages in a remote rural area of Gambia, West Africa, were investigated.
- f. The subjects breathed through a respiratory valve and expired air was collected into a Douglas bag. The volume was measured with a large capacity wet-type gas meter (Alexander Wright Co Ltd, London). Oxygen and carbon dioxide concentrations were measured with a Servomex OA580 oxygen analyser (Taylor Instrument Analytics Ltd, Crowborough, Sussex) and a model SSI carbon dioxide analyser (Analytical Development Co Ltd, Herts).

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Dott. Giulia Stazi

FILA B

21/06/2018

NOME e COGNOME:.....MATRICOLA:.....

- 1) Briefly define the differences between inductive and deductive reasoning. Which part of an argument do they represent? (max. 5 lines)

- 2) Read the text and answer the questions:

Apple Computer, Inc. has failed to convince computer users that its systems are better than those of its largest competitor, Microsoft. How do we know? Just look at the market share of each company's respective operating systems. Of the estimated 490 million personal computers in use, 468 million are non-MAC PCs-the vast majority of which are Windows OS. Mac OS, by comparison, is used on a mere 22 million computers, about 4.5 % of the total market share. Consumers have stated their preference and Windows is it.

e) Which is the issue? _____

f) Which is the conclusion? _____

g) Which are the reasons? _____

h) Can you suggest any possible rival causes? _____

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- 3) Read and analyse the following abstract. Identify the 5 key elements composing an abstract (Background, Purpose, Methodology, Results, Conclusion). Are they all included? Based on this abstract summarize in two lines what you expect from the paper and give two possible keywords different from those given by the author.

Reduced Graphene Oxide Joins Graphene Oxide To Teach Undergraduate Students Core Chemistry and Nanotechnology Concepts

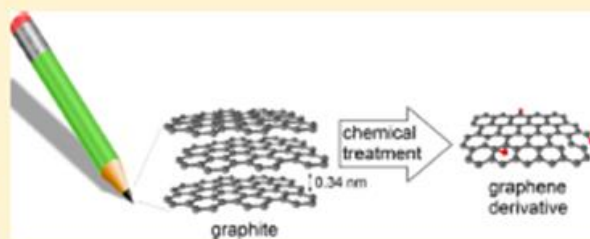
Izabela Kondratowicz, Małgorzata Nadolska, and Kamila Żelechowska*^{ORCID}

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 Supporting Information

ABSTRACT: Novel carbon nanomaterials such as reduced graphene oxide (rGO) and graphene oxide (GO) can be easily incorporated into the undergraduate curriculum to discuss basic chemistry and nanotechnology concepts. This paper describes a laboratory experiment designed to study the differences between GO and rGO regarding their physicochemical properties (e.g., color, hydrophobicity, type of functional groups, electrical conductivity, etc.). In this course, students carry out the chemical reduction of GO using ascorbic acid, a mild and environmentally friendly reducing agent. The differences between GO and rGO can be spotted by the naked eye and can be further evaluated by spectroscopic methods, as Fourier transform infrared and UV–vis spectroscopy and X-ray diffraction. Simple and applicable in all laboratories, use of the multimeter to measure resistance was proposed to reveal the different electrical properties of GO and rGO. Moreover, the proposed laboratory experiment is an ideal pretext to discuss the definition of graphene in the context of the overuse of this term in the literature.

KEYWORDS: *Second-Year Undergraduate, Laboratory Instruction, Interdisciplinary/Multidisciplinary, Hands-On Learning/Manipulatives, IR Spectroscopy, Nanotechnology, UV–Vis Spectroscopy, Physical Properties*



- 4) Explain what the IMPACT FACTOR of a scientific journal is. (max. 5 lines)

- 5) Read each of the following sentences or group of sentences. They are all taken from the method section of different published studies. In each case, determine which element is represented

(Overview/design of the experiment; Population/sample; location; restriction/Limiting conditions; Sampling Technique; Procedures; Materials; Variables Statistical treatment).

1. The abdomen was closed and the electrodes were connected to two Disa stimulators (Disamatic, Inc.) so that the costal and crural parts could be stimulated separately.
2. The study areas were established on a watershed draining the southeast slopes of Mt. Summerford on the Dona Ana range on the University Ranch, 40 km NNE of Las Cruces, Dona Ana County, New Mexico.
3. Three gibberellic acid combinations, 0, 500, and 1000 ppm, were used in a factorial combination of treatments replicated 10 times in a completely randomized design.
4. The ocean depth in the area under study is 2000 m. '
5. The subjects were 116 students of English as a second language enrolled in the Continuing Education Program at Queens College, New York.
6. A proportionate, stratified, random, cross-sectional sample was employed. The number of workers from each trade included in the study reflected the proportion of the construction population represented by that trade.
7. Analyses of variance were used to detect significant differences among varieties or locations. Duncan's multiple range test was used to separate means.