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TOGETHER WE CAN DO MORE

Dear Readers,

Exploring the laws of nature is a fascinating field of study for any child. Unfortunately when growing up, this spontaneous curiosity of the world is replaced by the necessity to memorize many facts, names, and terms which are in many cases abstract or concern the microscopic level that is not seen with the naked eye. Even though it is widely encouraged to reject encyclopaedic study and to focus on problem-solving, in many schools the former model of education is still prevalent. As a result, students are able to discuss a plant taxonomy in detail, but they are not able to recognize trees in the park, they can recite the physical properties of many substances, but they cannot individually forecast whether, in the event of fire, it is better to crawl or jump from chair to chair, they know chemical names of hydrocarbons but cannot see that it is not appropriate to keep milk products in a plastic bottle used for mineral water. It is one of the problems that require constant efforts to be taken by chemistry didactic theoreticians and its practitioners as well. The second important problem is the lack of subject integration in countries where different fields of science (chemistry, biology, earth sciences) are not taught as one subject. In our chemistry lessons we teach students that oxygen does not dilute in water (oxygen collection from thermal decomposition of KMnO_4 above water) and in our biology lessons we discuss the adaptation of organisms to breath oxygen diluted in water (gills). In our physics lessons we warn against touching electrical devices with wet hands, because water is a electrical conductor, and in our chemistry lessons students learn that water does not conduct electricity, contrary to electrolyte solutions. This is why it is necessary to work closely in inter-disciplinary teams. I think that everyone will contribute to taking up collective research topics, developing didactical materials for teachers, allowing knowledge integration and the application of scholastic knowledge to everyday life and also developing problem-solving skills. GU/NSE provides the possibility to present works that are highly theoretical as well as works that are more practical to a wider group of recipients. Now the only thing left to be done is to draw conclusions from the first ones and solutions from the second ones into educational practice.

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