

PROFILES IBSE Learning Module

Introduction

IS THE PLANTS FOOD NATURAL?
What happens to substances dissolved in groundwater?



A grade 7 Science (Chemistry / Physics / Biology) Module on Solutions and Capillarity

Developed by: Niculina Zuga
Institution: National College "Constantin Cantacuzino", Targoviste, Romania
Webpage: <http://profiles.ssai.valahia.ro>

Abstract:

Life is closely related to the existence of water and biological fluids. It is therefore natural that surface effects to play a role in everyday life. In this module, the students will have the opportunity to examine the capillary, a phenomenon known in the everyday life. Students will investigate the solutions switching from a container to another through porous materials, the floating of the bodies denser than water, the concept of the water surface tension, and will perform various experiments to visualize the phenomenon of capillarity, experience rising water solutions with different plants, and collect / process the data.

Sections included		
1.	Student activities	Describes the scenario in more detail and the tasks the students should perform
2.	Teaching guide	Suggests a teaching approach
3.	Assessment	Gives suggested formative assessment strategies
4.	Teacher notes	Provides additional information about food plant composition and student worksheets

Acknowledgement:

This module has been developed in the frame of the Continuous Professional Development Programme organized in the frame of PROFILES project, by "Valahia" University Targoviste. For more information, please consult the local PROFILES website: <http://profiles.ssai.valahia.ro>

Overall Competencies: The students are expected to learn to be able to:

- make use of the information in specific language related to the the practical applications in the Science area;
- use biological terminology in different communication situations;
- asses the risk factors and recognize the importance of some chemical substances;
- asses of the risk factors resulted from the application in practice of chemical reactions and recognizing their importance;
- use in communication a specific language in organizing and processing qualitative data, structural and contextual;
- raise their own scientific knowledge.

Curriculum content: Capillary phenomenon. Substances dissolved in water. Plant food.

Kind of activity: Scientific investigation, laboratory practice, mutual learning mixed in groups, pairs and individually.

Anticipated time: 4 lessons

Prior knowledge: Notions about capillarity and photosynthesis phenomenons, solubility.

This unique teaching-learning material is intended to guide the teacher towards promoting students' scientific literacy by recognising learning in 4 domains – intellectual development, the process and nature of science, personal development and social development.

Its uniqueness extends to an approach to science lessons which is designed to follow a 3 stage model. For this the approach is intentionall from society to science and attempts to specically meet student learning needs.

This uniqueness is specifically exhibited by:

- a motivational, society-related and issue-based title (supported in the student guide by a motivational, socio-scientific, real life scenario);
- forming a bridge from the scenario to the scientific learning to be undertaken;
- student-centred emphasis on scientific problem solving, encompassing the learning of a range of educational and scientific goals;
- utilising the new science by including in socio-scientific decision making to relate the science aquired to social needs for responsible citizenship.