



Teaching –learning module compiled by the PARSEL consortium
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Popularity and Relevance of Science Education for scientific Literacy



UNIVERSITY OF TARTU



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Shampoo – is there truth behind the advertisement ?

A grade 10-11 science (chemistry) module on Shampoo, its ingredients and the environmental impact

Abstract:

This module is designed to make students aware of the ingredients of commercial shampoos and their role within the product. Students become aware that much attention goes into appearance and smell of the product even though they play little role in the functioning of shampoos. Students become aware of the power of the advertising industry in promoting a product and influencing public choice. They also become aware of how the environmental implications of products such as shampoo can be considered.

Sections included		
1.	Student activities (for students)	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	Gives student worksheets and outcomes on the making of shampoos and background information on environmental impact studies (life cycle analysis).

Developer: Birgitta Linda Bodil Nilsson and Declan Kennedy; edited by Jack Holbrook

Institute: International Council of Associations for Science Education (ICASE)
Country: Sweden



Overall Objectives/Competencies: The students are expected to:

- Analysing and deciding the reasons why people choose a particular brand of shampoo.
- Planning and performing experiments with many variables.
- Examining the different ingredients in shampoos
- Co-operating with other students in groupwork
- Communicating orally and written within the group and with different companies, research institutions, consumers' organisations etc.
- Explaining the role of different ingredients in shampoos, e.g. detergents, solvents and emulsifiers.
- Explain what is meant by Life Cycle Analysis.

Curriculum content: understanding role of ingredients in shampoo, perfume, life cycle analysis.

Kind of activity: experimental investigation of shampoo, independent search for life cycle details related to shampoos; discussion on the use/misuse of advertising,

Anticipated time: 4 Lessons

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 be popular and relevant. For this the approach is intentionally from society to science and attempts to specifically meet student learning needs.

This uniqueness is specifically exhibited by:

1. a society related and issue-based title (supported in the student guide by a scenario);
2. student-centred emphasis on scientific problem solving, encompassing the learning of a range of educational and scientific goals;
3. including socio-scientific decision making to relate the science acquired to societal needs for responsible citizenship.

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