

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



What is worse, cigarettes or narghile?

A grade 9-12 science (Science for all, Chemistry) module on
the chemical process of smoking and the components of smoke



Abstract:

This activity describes laboratory activity that examines the chemical process of smoking and the components of smoke, of both cigarettes and water-pipes (narghiles also known as "hookah"). The aim of this activity is to expose adolescents to the scientific aspects of smoking; and to present the relevance of chemistry in everyday life situation.

Sections included		
1.	Student activities (for the 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	States the theoretical physics and gives the expected calculations

Developer: Ron Blonder

Institution: The Belmonte Science Laboratory Center, The Hebrew University of Jerusalem.

Country: ISRAEL



Overall Objectives/Competencies: The students are expected to:

- * understand the chemistry concept behind smoking
- * understand the relevance of chemistry in real life
- * base the decision regarding smoking on scientific knowledge.

Curriculum content: Acids/bases, Solids, Gases..

Kind of activity: Laboratory activity

Anticipated time: 4 lessons

Prior Learning: Not required

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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