

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

For Teachers



Can courts trust the polygraph?

A grade 9-10 science (Science for all, Biology) module on
 voluntary and involuntary phenomena of the human body



Abstract:

This module presents the subject of voluntary and involuntary muscles and connected it to a real life dilemma regarding the use of polygraph in court. The activity supplies the students with the opportunity to justify their point of view with scientific evidence, and to self assess their own performances.

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

Developers: D. Katchevich and N. Arenst. The activity is taken from the textbook: "Police in the service of society"

Institute: The Weizmann Institute of Science, Rehovot.

Country: ISRAEL



Overall Objectives/Competencies: The students are expected to:

- * learn about the voluntary and involuntary muscles systems.
- * do group self learning and present the main ideas to the class.
- * justify scientifically the claims.

Curriculum content: Pulse, Blood pressure, Perspiration, Respiration rate, Conductivity of the skin.

Kind of activity: Critical reading and group 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 recognizing 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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