

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



# Popcorn – a fat free snack

A grade 9-12 science (Chemistry, Science for all) inquiry laboratory



## Abstract:

This activity combines a well known cooking activity (preparing popcorn) with an inquiry process. It does not require any preliminary scientific knowledge; therefore it can be modified to any level of science teaching. Usually the popcorn we eat is made with butter or oil. In this activity we will check whether the use of fats is really needed in order to prepare popcorn.

Sections included		
1.	<a href="#">Student activities</a> (for the students)	Describes the scenario in more detail and the tasks the students should perform
2.	<a href="#">Teaching guide</a>	Suggests a teaching approach
3.	<a href="#">Assessment</a>	Gives suggested formative assessment strategies
4.	<a href="#">Teacher notes</a>	States the theoretical physics and gives the expected calculations

**Developer:** Relly Shore

**Institute:** The Weizmann Institute of Science

**Country:** ISRAEL



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**Overall Objectives/Competencies:** The students are expected to:

- \* improve the understanding of the scientific state of matter concept
- \* understand the process of popcorn formation.
- \* perform an experiment
- \* ask questions
- \* formulate an inquiry question and a hypothesis
- \* plan an experiment
- \* conclude conclusions
- \* write a report

**Curriculum content:** Vapour pressure, Energy transfer, Composition of seeds.

**Kind of activity:** Inquiry experiment

**Anticipated time:** 4 lessons

**Prior Learning:** not necessary

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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 real life to science and attempts to specifically meet student learning needs and interest.

This uniqueness is specifically exhibited by:

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

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