



Which Soap is Best ?

Developers: Jack Holbrook

Institute: ICASE

Country: UK

Assessment criteria



Suggested Assessment of Student Learning.

The teacher can decide whether to assess students based on the learning outcomes put forward for each lesson and whether all students are assessed each time or whether one or two groups are assessed only.

The suggested method of assessment in each cases is formative i.e. takes place during the learning. This means that the marking needs to be kept simple and a 3-point scheme is put forward. It is left to the teacher to decide whether marks are given to individual students, or whether on some or all occasions marks are given for the work of the group as a whole, this encouraging teamwork and student-student assistance where additional understanding is required.

Lesson 1 (Two separate marks are suggested)

	Dimension	Criteria for evaluation The student:	Mark/grade given (x,√,√√)
1	Compare soaps and answering questions in writing	Able to compare soaps based on price.	
		Able to answer questions on soap provided by the teacher	
2	Cooperate as a group	Cooperates with others in a group and fully participates in the work of the group.	
		Illustrates leadership skills – guiding the group by thinking creatively and helping those needing assistance; summarising outcomes.	

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Lesson 2 (Three separate marks are suggested)

	Dimension	Criteria for evaluation The student:	Mark/grade given (x,√,√√)
1	Writes a plan for a procedure	Develops an appropriate procedure to compare soaps	
2	Collect experimental data collected	Undertake experiments on the solubility of soaps and record observations	
3	Interpret or calculate from data collected and making conclusions	Correctly carries out calculations on the solubility of soaps	
		Draws appropriate conclusions	
4	Answers questions	Provides correct written answers to questions given orally or in written format	

Lesson 3 (Three separate marks are suggested)

	Dimension	Criteria for evaluation The student:	Mark/grade given (x,√,√√)
1	Record experimental data collected	Carries out tests on the cleansing action of soaps and records observations/data collected appropriately (in terms of numbers of observations deemed acceptable/accuracy recorded/errors given)	
2	Interpret or calculate from data collected and making conclusions	Interprets data collected on the solubility of soaps in a justifiable manner	
		Draws appropriate conclusions	
3	Answers questions	Provides correct written answers to questions given orally or in written format	
		Provides answers in sufficient detail especially when called upon to give an opinion or decision	

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Lesson 4 (Two separate marks are suggested)

	Dimension	Criteria for evaluation The student:	Mark/grade given (x,√,√√)
1	Answers questions	Able to explain the manner in which soaps act as cleansing agents	
		Provides answers in sufficient detail	
	Scientific or socio-scientific reasoning	Gives a justified decision on the 'best' choice of soap	

Part C Assessment by Teacher Strategy

Assessment Tool based on the Teacher's Marking of Written Material

	Dimension	Criteria for evaluation The student:	Mark/grade given (x,√,√√)
1	Writes a plan or report of an investigation	Puts forward an appropriate research/ scientific question and/or knows the purpose of the investigation/experiment	
		Creates an appropriate investigation or experimental plan to the level of detail required by the teacher	
		Puts forward an appropriate prediction	
		Develops an appropriate procedure (including apparatus/chemicals required and safety procedures required)	
2	Record experimental data collected	Makes and Records observations/data collected appropriately (in terms of numbers of observations deemed acceptable/accuracy recorded/errors given)	
3	Interpret or calculate from data collected and making conclusions	Interprets data collected in a justifiable manner	
		Draws appropriate conclusions	
4	Answers questions	Provides correct written answers to questions given orally or in written format	
		Provides answers in sufficient detail especially when called upon to give an opinion or decision	

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5	Scientific or socio-scientific reasoning	Gives a justified decision on the 'best' choice of soap	
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Student Assessment Tool based on the Teacher's Observations

	Dimension	Criteria for evaluation The student:	Mark/grade given (x,√,√√)
1	Performing the experiment (at the pre-inquiry and inquiry phases)	Performs the experiment according to the instructions/plan created.	
		Maintains an orderly and clean work table.	
		Understands the objectives of the experimental work and knows which tests and measurements to perform.	
		Uses lab tools and the measurement equipment in a safe and appropriate manner.	
		Behaves in a safe manner with respect to him or herself and to others.	
2	Functioning in the group during experimentation or discussion	Contributes to the group discussion during the theoretical inquiry phases (raises questions and hypotheses, designs the experiment, draws conclusions, makes justified decisions) .	
		Shows tolerance with, and gives encouragement to, the group members.	
		Cooperates with others in a group and fully participates in the work of the group.	
		Illustrates leadership skills – guiding the group by thinking creatively and helping those needing assistance (cognitive or psychomotor); summarising outcomes.	
3	Presenting the experiment orally	Presents the activity in a clear and practical manner with justified decisions.	
		Presents by illustrating knowledge and understanding of the subject.	
		Uses precise and appropriate scientific terms and language.	