Shampoo - Is there Truth behind the Advertising ?

Assessment Criteria

Part A Assessment of Application of Skills

Social values grade - Objectives 1 and 2

Teacher listens to the discussion

x Not able to take part meaningfully in the discussion and suggest a decision

√ Takes part in the discussion but is not able to justify any meaningful decision to be taken

√√ Is able to play a major role in the discussion and make meaningful decisions

Science process grade - Objective 3 and 4

Teacher observes the students and notes the observations recorded

x Not able to suggest a plan and carries out the experiment, but the observations are either not accurate or inappropriate.

√ Able to suggest a plan and carry out the experiment, making meaningful observations

√√ Able to suggest a plan controlling for variables and use carry out the experiments, taking sufficient repeat observations to make the experiment meaningful and reliable

Personal skills grade - Objectives 5 and 6

Teacher observes the students during groupwork and notes the report written in the notebook

x Not cooperative with members of the group and not able to discuss meaningfully in the group. Any report tends to be copied

√ Able to participate as a member of the group, take part in the discussion, participate in the creation of a poster and write a conclusion in their notebook

√√ Able to take a leadership role for the group and encourage others to take part in the discussions, and the poster creation. The report in the notebook are well written and accurate.

Science concept acquisition grade - Objectives 7 and 8

Teacher gives a mark from the written work produced by students for analysing their results and in drawing their conclusion giving appropriate explanations for the science concepts geared to the role of the ingredients of shampoo and the life cycle analysis.

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x Not able to analyse the experimental results and explain the function of the ingredients of shampoo. No life cycle analysis

√ Able to analyse the results and give a simple explanation for the ingredients of shampoo with the help of the teacher. Able to suggest a life cycle analysis.

√√ Carefully analyses the results and in draw a conclusion explains carefully the function so each ingredient of shampoo in scientific terms. Puts forward a good life cycle analysis for shampoo.

Part B Assessment by Lesson

Lesson 1

	Dimension	Criteria for evaluation The student:	Mark/grade given (x,√,√√)
1	Puts forward ideas	Expresses background knowledge on shampoos and cleaning agents in an understandable manner	
		Willing to add ideas to the discussions	
2	Ask questions	Provides suitable questions to provide a platform for further investigation experimentally	
		Provides suitable questions which provides a suitable platform for library searches	
3	Suggests investigations and library searches	Puts forward an appropriate research/ scientific questions and/or knows the purpose of the investigation/experiment	

Lesson 2

	Dimension	Criteria for evaluation The student:	Mark/grade given (x,√,√√)
1	Writes a plan for an investigation	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/hypotheses	

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		Develops an appropriate procedure (including apparatus/chemicals required and safety procedures required) and indicates variables to control	
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 including the use of appropriate graphs, tables and symbols	
		Draws appropriate conclusions related to the research/scientific question	
4	Answers questions	Able to explain life cycle analysis related to shampoo.	

Lesson 3

	Dimension	Criteria for evaluation The student:	Mark/grade given (x,√,√√)
1	Compiles a report	Puts forward an appropriate written report detailing experiments undertaken, outcomes obtained and conclusion made.	
		Report clearly indicates findings of the library/internet search and conclusion derived from this.	
		Includes information on the environmental impact of shampoos related to specific ingredients where appropriate	

Lesson 4

	Dimension	Criteria for evaluation The student:	Mark/grade given (x,√,√√)
1	Scientific or socio-scientific reasoning	Able to put forward creative thinking/procedures as to why people choose a particular brand of shampoo	

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		Gives a justified socio-scientific decision as to whether there is truth in the advertising on shampoos.	

Part C Assessment by Teaching 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/hypotheses	
		Develops an appropriate procedure (including apparatus/chemicals required and safety procedures required) and indicates variables to control	
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 including the use of appropriate graphs, tables and symbols	
		Draws appropriate conclusions related to the research/scientific question	
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	
5	Draws charts/ diagrams/tables/	Able to provide graphical representation as required	

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	models/symbolic representations.	Able to present graphical representations of a suitable size and in suitable detail	
		Able to provide full and appropriate headings for diagrams, figures, tables	
6	Scientific or socio-scientific reasoning	Illustrates creative thinking/procedures in solving problems	
		Gives a justified socio-scientific decision to an issue or concern, correctly highlighting the scientific component	

Assessment tool based on the Teacher's Oral Questioning

	Dimension	Criteria for evaluation The student:	Mark/grade given (x,√,√√)
1	Questions to individuals in a Whole Class setting	Answers questions at an appropriate cognitive level using appropriate scientific language	
		Shows interest and a willingness to answer	
		Willing and able to challenge/support answers by others, as appropriate	
2	Questions to the group	Able to explain the work of the group and the actions undertaken by each member	
		Understands and can explain the science involved using appropriate language	
		Willing to support other members in the group in giving answers when required	
		Thinks in a creative manner, exhibits vision and can make justified decisions	
3	Questions to individuals in the group	Able to explain the work of the group and actions taken by each member	
		Understands the purpose of the work and shows knowledge and understanding of the subject using appropriate scientific language	
		Can exhibit non-verbal activity (demonstrate) in response to the teacher's questions, as appropriate	

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