



HSC Senior Science

Lifestyle Chemistry

Due Date: 1 st December 2017	Assessment Name: In Class Practical Task
Mark: x/28	Weighting: 20 %

SYLLABUS OUTCOMES TO BE ASSESSED:

H8. Relates properties of chemicals to their use.

H11. Justifies the appropriateness of a particular investigation plan.

H12. Evaluates ways in which accuracy and reliability could be improved.

H14. Assesses the validity of conclusions from gathered data and information.

DIRECTIVES TO BE ASSESSED:

Relate - To discuss one object by comparison to another.

Justify - Support an argument or conclusion

Evaluate - Make a judgement based on criteria; determine the value of

Assess - Make a judgement of value, quality, outcomes, results or size

TASK DESCRIPTION:

- Distinguish between a solution, suspension and colloid and **relate** their properties to their uses.
- Perform a first-hand investigation to distinguish between oil in water emulsions and water in oil emulsions.
- Perform a first-hand investigation to identify the pH of some materials and use this information and that from a secondary source to **assess** data and produce conclusions.
- Evaluate how the accuracy and reliability of the investigations could be improved.

ASSESSMENT CRITERIA – STUDENT CHECKLIST:

You will be assessed on your ability to:

- Collect and record data.
- Relate** the properties of emulsions to their use.
- Draw scientific diagrams.
- Draw conclusions from data and secondary sources.
- Justify** your conclusions.
- Assess** the validity of the results.
- Evaluate** your tests and suggest ways in which the test could be improved.

MARKING GUIDELINES

Guideline	Possible Mark	Mark
H8. Relates properties of chemicals to their use. 1. Gives an example of each type of mixture (solution, colloid, suspension). 2. Links properties of each type of mixture with its use.	3/2/1 3/2/1	
H11. Justifies the appropriateness of a particular investigation plan. 1. Effectively distinguishes between all 3 types of mixture 2. Distinguishes between 2 types of mixture or partially distinguishes between 3 of them 3. Attempts to distinguish between mixtures 4. Makes no attempt or gives no pertinent information	3 2 1 0	
H11. Justifies the appropriateness of a particular investigation plan. 1. Uses 3 or 4 tests for emulsions and justifies the use of the test in each case. 2. Uses 1 or 2 tests for emulsions and justifies the use of the test in each case. 3. Does not include any information on this section.	3-5 1-2 0	
H11. Justifies the appropriateness of a particular investigation plan. 1. Uses 2 or 3 tests for pH and justifies the use of each test. 2. Uses 1 test or pH and justifies its use or uses 2 or 3 tests with no justification. 3. Does not include any information on this section.	3-5 1-2 0	
H12. Evaluates ways in which accuracy and reliability could be improved. 1. Describes both positive and negative aspects of the methods followed to find pH and identities of emulsions. Makes a judgement about each aspect as to its impact on the accuracy and reliability of the final results. Makes a judgement as to how suggested improvements might impact accuracy and reliability. 2. Describes a positive and a negative aspect of the methods followed to find pH and identities of emulsions. Makes a judgement about each aspect as to its impact on the accuracy and reliability of the final results. Makes suggestions for improvements and gives reasons as to why they might impact accuracy and reliability. 3. Makes some judgement about the overall accuracy and reliability of the methods. Suggests some improvements to the methods. 4. Makes no attempt at this section.	5-6 3-4 1-2 0	
H14. Assesses the validity of conclusions from gathered data and information. 1. Compares results with manufacturer's claims. Analyses accuracy and reliability of student's results and makes a judgement about the quality of the manufacturer's claims. 2. Compares results with manufacturer's claims. Makes a judgement about the quality of the manufacturer's claims without reference to their own results. 3. Makes a judgement about the manufacturer's claim without reference to their own results. 4. Makes no attempt at this section.	5-6 3-4 1-2 0	

H8	H11	H12	H14	Total
				/28

Assessment Task 1.

Distinguish between a suspension, a colloid and a solution.

1. Construct a set of directions (series of steps) that could be used by a person who needed to distinguish between a solution, suspension and a colloid. Detail tests that would allow you to do this. (H11)
2. Give an example of each type of mixture and give a reason as to why that type of mixture is used in that situation. (H8)

Distinguish between an oil in water emulsion and a water in oil emulsion.

1. Use up to 4 tests to determine whether the emulsion you have been given is oil in water or water in oil. Give the reasons for using each test (Why is it an appropriate test to use?) (H11)
2. Complete a report that details the methods you used, the results you found and justifying the conclusion you drew. (H14)
3. How might you improve the method(s) you used to make them more accurate and reliable? (H12)

Determine the pH's of various substances and compare them to the manufacturer's claims.

1. Use one or a series of tests to determine the pH's of 3 substances. Write the method you used to do this. (H11)
2. Compare the pH you found with the pH as claimed by the manufacturer. Are the claims justified? What errors might you have in the way you tested your substances? (H12, H14)