

Marking criteria

Section: Experimental Research

Division: Intermediate (9 – 10)

VELS: Level 5, progressing to level 6

Student name:

Links to VELS progression points – Science at Work	CRITERION	H 3	M 2	L I	NS 0
<p>VELS 5.25</p> <ul style="list-style-type: none"> - development of an experimental design which includes an hypothesis, and the justified use of procedures, equipment, electronic components & instruments, as appropriate. - reporting which includes identification of sources of experimental errors and comments related to the supporting or disproving of hypotheses - application of safety procedures in carrying out investigations, using MSDS <p>VELS 5.5</p> <ul style="list-style-type: none"> - an experimental design which includes an hypothesis, and a consideration of the use of procedures, equipment, electronic components & instruments in obtaining reliable data. - reporting which includes use of symbols & balanced chemical equations to summarise chemical reactions, units of measurement, identification of the nature of experimental errors, & comments related to the supporting or disproving of hypotheses. - selection & application of appropriate safety procedures to investigations, with reference to MSDS <p>VELS 5.75</p> <ul style="list-style-type: none"> - an experimental design which includes an hypothesis, and the justified use of procedures, equipment, electronic components & instruments in obtaining reliable data.. - reporting which includes use of atomic symbols & balanced chemical equations to summarise reaction changes, comments related to the supporting or disproving of hypotheses & predictions made, and evaluation of experimental design & methodology - application of safety procedures to investigations, including risk assessment and use of MSDS information. 	<p>Abstract or summary Include clear and relevant abstract or summary</p>	Clear, relevant and comprehensive abstract or summary	Mostly clear and relevant abstract or summary, with some weaknesses or omissions	Attempted with little relevant information	Not done
	<p>Introduction Outline why you chose this topic. Describe how you got started.</p>	Includes detailed, clear & relevant information	Includes relevant information but is incomplete &/or unclear	Attempted with little relevant information	Not done
	<p>Aim(s) Describe what you are trying to find out. What you think will happen.</p>	Clear description, good structure. Includes prediction.	Acceptable description & structure; no or inappropriate prediction.	Unclear &/or poor structure; no prediction	Not done
	<p>Materials List all equipment and materials that you used.</p>	Appropriate materials used; thorough listing	Acceptable materials used, but limited	Limited listing &/or choice of materials poor	Not done
	<p>Method (What I did) List everything you did, in order (like a recipe).</p>	Appropriate methodology-well ordered & thorough	Acceptable methodology– Acceptable order & completeness	Weak methodology– poor order, missing parts	Not done
	<p>Results Record your results systematically & include everything you found out. Include graphs, tables, pie charts, photos, etc to help show results.</p>	Systematic, comprehensive & includes good range of appropriate presentation methods. Excellent quality of information/data.	Acceptable recording & quality of information/data. Limited range of presentation methods.	Little or no attempt to use a range of presentation methods. Some inappropriate or incorrect information/data	Not done
	<p>Discussion Discuss your results. Include how to improve the experiments.</p>	Excellent discussion of results. Appropriate suggestions made for improvement.	Acceptable discussion of results. Limited attempt at suggestions for improvement.	Limited discussion of results. Little or no suggestions for improvement.	Not done
	<p>Experimental design Appropriate, fair & safe design</p>	Design is appropriate to achieve aim, enables fair & valid testing, and procedures are safe	Design is acceptable with minor weaknesses, enables reasonably fair & valid testing, and procedures are safe	Design has several weaknesses, limits ability to achieve aim and/or leads to invalid data/results. Procedures are safe	Not done
	<p>Conclusion List the main things you have discovered or found out – what the results tell you.</p>	Excellent conclusion drawn.	Acceptable conclusion drawn.	Limited conclusion drawn.	Not done

STS-specific & not directly related to VELS progression points

CRITERION	H 3	M 2	L 1	0
Originality and creativity Topic is original and interesting.	Highly original & interesting	Some elements of originality; interesting	Little or no originality	Not done
Overall presentation Report is clearly presented (logical and readable).	Clear & logical report.	Moderately clear and logical.	Poor clarity & logic.	Not done
Acknowledgements and references List any books or websites you used. Include a list of people who gave you help or advice.	Complete and correctly referenced	Complete with some incorrect referencing; or correctly referenced but incomplete	Incomplete or incorrectly referenced	Not done
Packaging Present report stapled into a paper manila folder (not plastic), with completed face sheet firmly attached		Stapled in paper manila and completed face sheet firmly attached to front cover	In paper manila folder with face sheet, but not securely stapled. Can be easily fixed before submission to STS.	Not done

Total score = ____ / 38