

Stage		Emerging		Developing		Securing		Mastering	
		Competent	Advanced	Competent	Advanced	Competent	Advanced	Competent	Advanced
P l a n n i n g	E q u i p m e n t	I have stated some basic equipment I need.	I have stated what equipment is for	I have stated some scientific equipment I need.	I have described how I will use the equipment	I have stated specific equipment I need, including capacity details	I have explained why this equipment is appropriate for my experiment	I have stated specialist equipment I need including capacity and accuracy details	I have explained why this equipment is appropriate, and why other equipment is not.
	M e t h o d	I have given simple steps for my practical	I have given an organised set of step for my practical	I have given clear, simple steps that will allow me to collect results	I have given clear, simple steps that will allow me to collect valid results with repeats	I have given clear steps that will allow me to collect valid results which are reliable	I have given a clear full method that will allow me to collect valid, accurate and reliable results	I have given a detailed method that shows a clear understanding of valid, accurate and reliable result collection	I have given a detailed method that shows many considerations for the collection of valid, accurate and reliable result collection.
	V a r i a b l e s	I have stated an independent variable to investigate	I have stated dependent and independent variables for my investigation	I have given dependent and independent variables with values and units for my investigation, and a control variable	I have given dependent, independent and control variables, all with values and units.	I have stated all relevant control variables in my investigation, and have included ways of controlling them.	I have stated all relevant control variables in my investigation, and described ways of controlling them,	I have considered a wide range of variables, and have explained the angles I am going to investigate with reasons	I have considered at least two independent variables to investigated, and have planned accordingly
E x p e r i m e n t i n g	S a f e t y	I have stated a hazard in my investigation	I have stated at least one hazard in my investigation	I have stated hazards, and have given a control for each	I have stated hazards, and described how I will keep myself safe	I have stated all relevant hazards and described how I will keep myself and others safe	I have stated all relevant hazards, described control measures and assessed the risk of each	I have outlined all possible hazards, described the control measures and assessed the risk	I have carried out a complete risk assessment of my practical and have detailed control measures for total safety of all involved.
	M e t h o d	I have carried out an element of my practical	I have carried out my method as described	I have carried out my practical	I have carried out my practical, and fulfilled my objective	I have carried out my practical, and have collected repeat results	I have carried out my practical, and have collected accurate repeat results	I have carried out my practical, making adjustments along the way	I have carried out a full practical, including making adjustments to improve my work

	R e s u l t s	I have collected at least two results	I have collected at least three results	I have collected at least five results	I have collected at least five continuous results	I have collected at least five continuous results with repeats	I have collected at least five continuous results with two repeats	I have collected at least five continuous results with at least two repeats	I have collected at least five continuous results for two variables, with at least two repeats
A n a l y s i s	P a t t e r n s	I have compared my results	I have stated differences in my results.	I have stated differences in my results, and suggested patterns	I have stated a pattern in my results	I have used my repeats to calculate a mean, and stated the pattern	I have described patterns in my results and described differences in my repeats	I have explained the patterns in the data and commented on the value of repeats	I have explained the patterns in my variables, and commented on the value of the repeats
	E x p l a n a t i o n	I have stated a reason for the difference	I have stated reasons for the differences	I have described the pattern, and given a reason	I have described the pattern, and described reasons	I have described the pattern, and explained reasons using basic science	I have described the pattern, and explained reasons using scientific knowledge	I have explained the pattern with in depth scientific knowledge, considering different angles and reasons	I have explained the patterns with in depth scientific knowledge, considering different angles and reasons
	D r a w b a c k s	I have commented on how only two results may limit my experiment	I have commented on how the lack of results may affect my experiment	I have realised drawbacks of my experiment and have stated how they affect the experiment	I have stated drawbacks of my experiment and have described how they affect the experiment	I have described drawbacks of my experiment and explained the effect on the experiment	I have explained drawbacks of the experiment in terms of both method and practical performance	I have recognised and addressed shortfalls in my experiment, and taken steps to rectify them	I have recognised and addressed shortfalls in my experiment and taken steps to rectify them on the go
E v a l u a t i o n	S t r e n g t h	I have stated something that went well	I have stated what went well in my experiment	I have described what went well in my experiment	I have explained what went well in my experiment	I have explained what went well in my experiment and why	I have described strengths of my experiment in terms of my method	I have described strengths of my experiment in terms of my method and practical skills	I have described strengths of my experiment in terms of my method, practical skills and adaptability

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	W e a k n e s s e s	I have stated something that has not gone well	I have stated what didn't go well in my experiment	I have described what didn't go well in my experiment	I have explained what didn't go well in my experiment	I have explained what didn't go well in my experiment and why	I have described weaknesses of my experiment in terms of my method	I have described weaknesses of my experiment in terms of my method and practical skills	I have described weaknesses of my experiment in terms of my method, practical skills and adaptability
	I m p r o v e m e n t s	I have stated one thing I could have done differently	I have stated what I could have done differently	I have stated improvements to my experiment	I have stated improvements to my experiments, and suggested why	I have explained improvements and used reflection to comment on the difference they would have brought	I have explained improvements in terms of my method, and the difference they would have brought	I have explained improvements in terms of my method and skills and commented on the difference they would have brought	I have explained improvements in terms of my method, skills and adaptability and commented on the difference they would have brought