

Competency A1 from RSciTech Apply knowledge of underlying concepts and principles associated with area of work eg where you have taken theoretical knowledge learnt at college and applied to a work situation

Original example	Commentary on what could be improved	Improved version of the example, with <u>changes highlighted</u> SHARE sections shown for clarity, but would not be part of the submitted example
One of the required practicals in GCSE and A-level Biology is a microbiology experiment testing bacterial resistance to antibacterial agents	x SITUATION is not described; it is helpful to introduce the situation, role and the area of work, in relation to the wording of the competency	[SITUATION] In my role, I am required to prepare all equipment and reagents for class practicals, which I apply knowledge that I have gained from college and subsequent training courses to do.
My responsibility is to prepare a class set of bacterial broth and nutrient agar plates or the plates already inoculated with bacteria for a lesson I use aseptic techniques from college to produce the above	 x Application of knowledge is not described, but that is what this competency is about. Details required: what knowledge is being applied, where was this knowledge gained, and what situation is it being applied to? x ACTION (using aseptic techniques) 	 [HINDRANCE] One of the required practicals in GCSE and A-level Blology is a microbiology experiment testing bacterial resistance to antibacterial agents. My responsibility is to prepare a class set of bacterial broth and nutrient agar plates or the plates already inoculated with bacteria for a lesson. [ACTION] I use aseptic techniques to produce the above, applying the knowledge that I gained at college while completing my apprenticeship. I shut the door and windows to avoid draughts and I disinfect the working space with VirKon and a lit Bunsen burner. I then prepare sterile nutrient agar by autoclaving it in a pressure cooker. After cooling it to 55°C, I pour it onto sterile petri dishes in the proximity of a roaring Bunsen flame to avoid airborne.
	 is very short. It is helpful to have specific detail about what was done – how was knowledge applied to the situation? x There is no RESULT or EVALUATION provided: how has using aseptic technique benefited those involved? What is the impact? 	acterial contamination. I then prepare sterile nutrient broth by autoclaving and using aseptic techniques such as flaming the neck of the culture while transferring bacteria t broth with a sterile inoculating loop. [RESULT + EVALUATION] By using aseptic techniques, I minimise the risk of develop unwanted bacteria culture on materials supplied to students; students have appropriat apparatus and materials to gain the skills required to investigate the effect of antiseptic bacterial growth, and teachers are able to move smoothly through the curriculum with delays caused by inappropriately prepared equipment or reagents.



Competency B1 from RSci Work autonomously while recognising limits of scope of practice eg where you work independently to follow and/or improve existing methods and procedures

Original example	Commentary on what could be improved	Improved version of the example, with changes highlighted SHARE sections shown for clarity, but would not be part of the submitted example
I am part of a team that visits UK airports to evaluate ETD operators. As part of the work, training surfaces contaminated with known quantities of explosives are produced.	x Examples should be written in the first person, not in third person like formal scientific writing. This helps assessors to understand the personal contribution that an applicant has made, and the level of responsibility and autonomy that	
These training surfaces are then swabbed by the operators, analysed and the results	they are working with	
are recorded.	 Acronyms, eg ETD, need to be expanded when used for the first time 	
Training surfaces must be reproducible		
swabbing efficiency of the operator.	 x This example would benefit from some more detail regarding exactly what the applicant carries out to produce training 	
To produce these training surfaces a validated SOP must be adhered to.	surfaces (the ACTION), and how they are made. The assessors are	
By following this procedure both my team and I are confident in the quality of the training surfaces we provide.	protessional scientists, but may have a different background so the technical aspects should be explained to introduce the principles	
	x All aspects of the competency should 2	52 TD [(3 <<686420>0 5 <617)4 13-4 [(s)-5 3 Tys tToduc under2\$ y`baye(r)4 9 (s (ac)-5 (enc)7 4

x All aspects of the competency shoul**d** d 252 TD [(.3 <<686420>0.5 <617)4.13-4.[(s)-5.3 Tys tToduc under2\$ v`have(r)4.9 (s (ac)-5.(enc)7.4m) mchoul-4 0.-4ID 35 >>BD[(s)-5.3 eceaguesIP <</MCID (r)42.77(T)4.4 (hi)-4.9 (s)-5>-ha.5 (he)0.6 (A)-2.9 (C9 profNet.304.5 (ex)-.6 (6e)(i)-4.8 1.5 (,)int.5 ()ev6 (t)0i**durs**-12.203 T3Q/q 426.12 56.28 375.12 374uniHdÜ"†p B



Competency 3b from CSciTeach Collaborating with colleagues and the wider professional communities to improve the quality and effectiveness of science education eg sharing and jointly evaluating leaching practices and methods

Original example		Commentary on what could be improved	Improved version of the example, with <u>changes highlighted</u> SHARE sections shown for clarity, but would not be part of the submitted example
We were noticing a drop in student engagement and interest in STEM subjects at my school. We were begin to worry that this could facilitate a dro uptake of these subjects at a post-GO level. Our previous methods to try an encourage student involvement seem be having minimal effect.	nning p in SE d ed to		
To help solve this issue, we reached other teachers that we have met and them for their experiences and guidar	out to asked 1ce.		
Through these discussions we were provided with a range of techniques/activities that they had previously used. We decided on expanding the use of techniques that focus on peer-to-peer learninh0.001 5	5.4i Exa	ampl01<6573>12.1 <20>mshoul01<6420>mbe	wrsi9l<74>mten i01<6E20>mthe fwi9l<72>(s)7<73>12.1 <74>m alpersson. Thi9l<73>12.1 <20>m



Competency D2 from CEnv

Take responsibility for personal development and work towards and secure change and improvements for a sustainable future eg demonstrating that you recognise the value of CPD, have a strong desire to learn and value and actively pursue professional development

Original example	Co	mmentary on what could be improved	Improved version of the example, with changes highlighted
			SHARE sections shown for clarity, but would not be part of the submitted example
My role as an environmental fate modeller and risk assessor means that I interact with a wide range of clients; from small, family-operated businesses to large	x	Examples should be written in the first person. This helps assessors to understand the personal contribution that an applicant has made, and the	[SITUATION] My role as an environmental fate modeller and risk assessor means that I interact with a wide range of clients; from small, family-operated businesses to large national and international companies.
national and international companies.		level of responsibility and autonomy that they are working with	[HINDRANCE] So that I am able to provide the highest quality and most environmentally conscious information to my clients, I need to ensure that my
To ensure that my knowledge is up to			knowledge of environmental issues as well statistical analysis and model development
date, my company puts me through a great deal of internal training to develop	х	What is important about these specific training courses? What is their impact?	skills are up-to-date.
my professional skills as required.			[ACTION] Firstly, I do this by attending a great deal of internal training to develop the
Analysis and Technical Equivalence	Х	It is helpful to provide specific detail of	training include Data Gap Analysis and Technical Equivalence training Luse the
training.		special about the external training	former to determine what information, data, tests results, or modelling outputs, etc, are
		course? The assessors need to know	<mark>missing or lacking as it pertains to thresholds set by national authorities for various</mark>
As well as my company's internal training		why training courses are relevant and	regulatory submissions. I use the latter to help me compare and contrast product
courses, I actively seek opportunities		what their impact would be.	submissions to allow for alternate sources of products in a competitive free market. As well as my company's internal training courses. Lactively seek opportunities outside of
enrolled in. and paid for, five, five-week-	v	What is the impact of the described	this to develop myself. Over the last three years, I have enrolled in, and paid for, five.
long online courses to further my knowledge and CPD. These courses	^	activities on personal development?	five-week- (m)11.2 re f* BT 0 g 0 Tw 9.48 -0 6n2.6 (r)45 (-5.3 ()0.5 (i)-4.8 (n)0.5 (a))13.2 (r) E
provide me with a broader and deeper			

view of environmental sustainability issues

being faced around the globe.



Competency E1 from CSci Comply with and promote relevant codes of conduct and practice eg how you have applied and promoted the codes of conduct under which you practice and the outcome

Original example	Commentary on what could be improved	Improved version of the example, with changes highlighted SHARE sections shown for clarity, but would not be part of the submitted example
I have committed to following the code of conduct and to uphold the highest standards when undertaking my professional activities.	x It is not clear which code of conduct is described – it needs to be specifically defined	[SITUATION] As a member of the RSC, I have committed to following the code of conduct and to uphold the highest standards when undertaking my professional activities.
To ensure that I meet these requirements I take the lead for all laboratory related H&S aspects. I am proactive in developing my skills in H&S.	 x It would be helpful to know if a specific part of the code is followed e.g. anything that relates directly to the role. If so, why is that section of the code particularly important? 	[SITUATION + HINDRANCE] While I follow the whole code, my role as Head Laboratory Technician means I have to pay particular attention to 'Environment, Health and safety and other legislation'. This states that 'Members must be aware of the general principles of law relating to health and safety and the environment, negligence, discrimination, data protection, and any other law relating to their field of scientific work'. This falls within my professional responsibilities as the Head of Health and
I regularly liaise with all staff to ensure that they understand all associated risk(s) and follow the appropriate laboratory practices described in SOPs and risk assessments. This includes the Head of Operations (who I directly report to) as well as new students/ graduates who join the team. My commitment to ensuring compliance with the RSC code of conduct as well as my proactive mentality, has enabled me to develop and advance my H&S skills and knowledge.	 x In the ACTION section, specific details about a proactive approach is needed x What is the impact of adherence to this code? How does following this code help colleagues and their work? 	Safety (H&S) at my laboratory. [ACTION] To ensure that I meet these requirements I take the lead for all laboratory related H&S aspects, from ensuring COSHH compliance for all laboratory occupants, to preparing risk assessments and standard operating procedures (SOP). I am proactive in developing my skills in H&S and, as such, have attended a number of internal H&S courses and obtained the National Examination Board in Occupational Safety and Health (NEBOSH) Certificate in Occupational Health and Safety. I regularly liaise with all staff to ensure that they understand all associated risk(s) and follow the appropriate laboratory practices described in SOPs and risk assessments. This includes the Head of Operations (who I directly report to) as well as new students/graduates who join the team.
		[RESULT + EVALUATION] My commitment to ensuring compliance to the RSC code of conduct as well as my proactive mentality, has enabled me to develop and advance my H&S skills and knowledge, receiving a NEBOSH certificate along the way. This benefits my colleagues and me as I am able to ensure that my team has a safe working environment. This means they are able to carry out their roles effectively, comfortably and responsibly.