ROYAL SOCIETY OF CHEMISTRY

Science Council

RSciTech
Registered
Science Technician

An applicant's guide to becoming a Registered Science Technician

CONTENTS

1. WHAT IS A REGISTERED SCIENCE TECHNICIAN (RSciTech)?

RSciTech is an award for technicians, those in technical support roles, and assistant scientists.

As skilled problem solvers, Registered Science Technicians use the most appropriate scientific techniques, procedures and methods to achieve solutions. They work with minimal supervision and play a pivotal role in supporting high quality science, teaching and research in a variety of settings, including laboratories, hospitals, universities and schools.

By becoming RSciTech you will:
- receive professional validation of your highly developed technical competence
- be entitled to use the designatory letters RSciTech after your name
- elevate your credibility and confidence as a skilled technician
- demonstrate your commitment to maintaining high professional standards
- demonstrate that you have transferrable skills and are committed to improving them
- increase your appeal to potential employers – RSciTech is a mark of excellence
- show personal and professional integrity

2. ELIGIBILITY REQUIREMENTS

To be eligible, you will currently be working in a technical role, applying chemical science knowledge and skills.
Applications to become a Registered Science Technician through the Royal Society of Chemistry (RSC) are open to members in any category who demonstrate, through reflective statements, that they satisfy the required competencies set out by the Science Council (see Section 5).

You will be working to, or qualified to at least level 3 of the Regulated Qualifications Framework (RQF)
Examples of qualifications at this level include AS and A-levels, advanced apprenticeships, Scottish and National Vocational Qualifications at level 3 and Scottish Highers.

If you do not have qualifications at RQF level 3 or above, then your experience gathered through your role is used to determine if you are working at the appropriate level. We call this demonstrating equivalency.

How do I demonstrate equivalency?

In the application form for RSciTech, your supporter will confirm that you either have a relevant qualification at level 3 or above, or they will confirm that you are working at that level. Someone working at RQF level 3:

- Has factual, procedural and theoretical knowledge and understanding of a subject or field of work to complete tasks and address problems that while well-defined, may be complex and non-routine.
- Is aware of the nature of the area of study or work.
- Is aware of different perspectives or approaches within the area of study or work.
- Can identify, select and use appropriate cognitive and practical skills, methods and procedures to address problems that while well-defined, may be complex and non-routine.
- Can use appropriate investigation to inform actions.
- Can review how effective methods and actions have been.

A quick check tool from the Science Council is available online to help you determine if you are eligible, based on your education level and experience: **sciencecouncil.org/scientists-science-technicians/which-professional-award-is-right-for-me**

3. THE APPLICATION PROCESS

There are two ways you can apply for a professional award:
1. A written application.
2. An interview with the award assessors.

The interview option may be more accessible for you for a number of reasons, which might include a disability or learning difference, such as neurodivergence (e.g. autism, ADHD, dyslexia). There is no need to provide any evidence of these in order to apply via the interview route, although you are welcome to submit details of any disability-related adjustments or access requirements in advance of the interview.

STEP 1

First, you become a member of the RSC. Visit **rsc.li/join**

STEP 2

Identify an appropriate supporter and ask them to support your application. See section 4 for more information.

STEP 3

Complete the application form. Download the application form from **rsc.li/rscitech**

WRITTEN ASSESSMENT

You will provide a **detailed** example of between 200-400 words against each competency that demonstrates how you meet the criteria to become RSciTech.

INTERVIEW ASSESSMENT

Complete a **brief competence report** using the full application form. You will provide one brief but specific example against each of the competencies that demonstrates how you meet the criteria to become RSciTech.

Make sure you sign the form (electronic signatures are accepted) and tick the declaration.

STEP 4

Email the completed form, your CV and evidence of your relevant highest qualification(s) to **registers@rsc.org**. We will make an initial review of your application, and work with you to make sure it is ready to go out for assessment.

STEP 5

Your application will be sent to two assessors.

WRITTEN ASSESSMENT

Assessment can take up to eight weeks. Your application might be accepted, rejected, or the assessors might ask for more information on certain areas of the application, in which case you might be invited to revise your application accordingly for reassessment.

INTERVIEW ASSESSMENT

The RSC will arrange an interview approximately six weeks after submitting your application. The interview will take around 45 minutes to an hour. The assessor will seek to ask for further information on any of your examples to assess how you apply each skill in your daily role.

STEP 6

We will inform you of the outcome of your application via email. If successful, you will be presented with a certificate and will be permitted to use the letters RSciTech after your name. You will also be invited to appear on the Science Council's online register.

If you are a current applicant or just considering RSciTech and would like more information or support, please contact us. Email: **registers@rsc.org**

4. THE ROLE OF YOUR SUPPORTER

Your supporter should be a senior colleague who is very familiar with your work. This person is usually your line manager. The role of your supporter is to provide guidance to the applicant on completing the form and to confirm that the applicant is meeting or exceeding the competencies.

It is vital that your supporter provides a specific comment in support of each of the five competency areas before the completed application is returned to the RSC. They must also sign the declaration.

Guidance is available at any stage of the process, to both applicants and supporters, from a member of our Accreditation and Qualifications Team. Please contact **registers@rsc.org** for support.

5. HOW TO WRITE EXAMPLES IN COMPETENCY BASED APPLICATION FORMS

In general, we encourage the use of the SHARE format when preparing examples in competency-based applications. Each letter in the word 'SHARE' represents a different component of a good competency example. Using this model in both written applications and for a brief competency report for an interview application helps you to make sure that you cover all the key information that the assessors will want to see.

S **Situation:** describe the situation, set the scene

H **Hindrance:** describe the problem or challenge that you needed to overcome, or the task you needed to complete

A **Action:** describe the action that YOU took to overcome the problem

R **Result:** show how the action that you took was the correct one, and describe the outcome

E **Evaluation:** how the situation turned out. You could even contrast it with what would have happened had you taken no action or a different course of action

You may find that you don't need to go through each part of the SHARE format in order. You might also combine some components within your narrative, eg the **result and evaluation**, or the **situation and the hindrance**. This isn't a problem, but it's important that each component part is there.

The key thing is that the assessors need to see **specific examples** from your work and understand **your personal level of responsibility and impact** in your workplace. For each competency, you should **focus on describing just one example** and, as a rough guide, you should aim for **somewhere between 200 and 400 words per competency example**. Examples should ideally be from your current job, and no more than two years old.

In the following table is an example answer that could have been given in an application for RSciTech based on the SHARE format. We've described how it might have been strengthened to give assessors an accurate impression of how the applicant is working at the required competency level. This increases the chances of the application being successful in the first instance.

If you have any questions about your application, please contact **registers@rsc.org**

Competency A1 from RSciTech
Apply knowledge of underlying concepts and principles associated with area of work.
e.g. what we are looking for here is an example of how you apply your knowledge in your day to day work.

Original example	Commentary on what could be improved	Improved version of the example, with *changes highlighted* SHARE sections are 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 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	• 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 • 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? • ACTION (using aseptic techniques) is very short. It is helpful to have specific detail about what was done – how was knowledge applied to the situation? • There is no RESULT or EVALUATION provided: how has using aseptic techniques benefited those involved? What was the impact?	***[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.*** [HINDRANCE] One of the required practicals in GCSE and A-level Biology 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 bacterial contamination. I then prepare sterile nutrient broth by autoclaving and using aseptic techniques such as flaming the neck of the culture while transferring bacteria to the broth with a sterile inoculating loop.*** ***[RESULT + EVALUATION] By using aseptic techniques, I minimise the risk of developing unwanted bacteria culture on materials supplied to students; students have appropriate apparatus and materials to gain the skills required to investigate the effect of antiseptics on bacterial growth, and teachers are able to move smoothly through the curriculum without delays caused by inappropriately prepared equipment or reagents.***

6. CONDUCT WITHIN AN APPLICATION

The content of an application for professional registration should be the work of the applicant and we expect all applicants to adhere to our Code of Conduct.

The RSC acknowledges that Artificial Intelligence (AI) tools may appropriately and ethically be employed as aids in composing or enhancing an application. Acceptable uses of AI include:
- translation
- checking and correcting spelling
- checking and correcting grammar
- checking the readability of an application
- generating suggestions for alternative words (online thesaurus)

Applicants bear responsibility for the originality, validity, and integrity of the content of their application, even when employing AI tools for certain elements. Unethical use of AI (for example, generating generic or untrue evidence statements that don't relate to the applicant's personal experiences) or plagiarism may result in applications being rejected.

Applicants who use AI tools in the writing of an application, other than for the acceptable uses outlined above, **must declare this when they submit their application**. Further information on the use of AI can be found in our **Guide to Ethics**.

7. COMPETENCY EXAMPLES

The examples below will help you identify potential topics for you to discuss in your application form. They are designed to serve as inspiration rather than a complete answer. To make sure that you provide sufficient detail, write your answers for each competency (around 200-400 words) in the **SHARE** format.

Registered Science Technicians work in many different settings. Here, we have provided examples of some industries and fields that previous applicants have been involved in (it is not an exhaustive list). However, many of these examples can apply to more than one sector so you might find it helpful to look over them all.

Competency and description	**Industry/field**			
	School lab technician	**University teaching lab technician**	**Water**	**Beverage analysis**
A1: Apply knowledge of underlying concepts and principles associated with area of work. *What we are looking for here is an example of how you apply your knowledge in your day to day work.*	*In all these examples, underlying knowledge has been acquired through education, such as college, apprenticeships or university; on-the-job training; and/or dedicated training courses.*			
	• Setting up an A-level required practical which involved sub-culturing bacteria from a slope. • Preparing stock chemical solutions for practicals based on the periodic table. • Using aseptic techniques to prepare class sets for a microbiology experiment testing bacterial resistance to antibacterial agents. • Running extracurricular classes to complement GCSE education.	• Assisting students with the theory and application in a specific lab. • Demonstrating a process in a lab practical, and the knowledge of what extra chemicals are required to improve the resulting products. • Applying concentration calculations to make up required concentrations for teaching labs. • Ensuring glassware is clean to avoid a number of adverse consequences like accidental dilution or a dangerous reaction with chemical residues.	• Gaining competency in laboratory skills including use and calibration of equipment. • Filling out daily logs, make up standards and ensure they are within their expiry timeframes and stored correctly, adhere to health and safety measures, and maintain and calibrate the instruments and equipment used every day to uphold the standards of UKAS accreditation. • Describing the process of analysing water samples for volatile organic compounds using a specialised instrument, including AQC, blank and check samples.	• Carrying out analytical tests based on knowledge associated with the General Certificate in Distilling. • Undertaking wash analysis and applying knowledge of result ranges to decide whether further analysis is required. • Carrying out specific testing, based on knowledge learnt from the General Certificate of Malting. • Analysing malt and barley, and advising on any efficiency problems that may need investigating.
A2: Review and select appropriate scientific techniques, procedures and methods to undertake tasks. *This means that you can explain the underlying reasons for undertaking tasks and why a particular procedure, technique, or process is appropriate.*	• Suggesting a less time-consuming method for a required practical which could be carried out as a microscale experiment. • Due to cost of a complex piece of equipment, investigating other options and successfully identifying an accurate, cost-effective alternative. • Choosing and applying a range of analytical techniques to identify ions present in unlabelled solutions. • Improving an existing demonstration on reactivity and surface area using underlying scientific knowledge.	• Selecting the most appropriate analytical technique to identify unknown waste samples from an undergraduate project. • Carrying out quality control testing on products formulated in undergraduate lab practicals which feed in to another lab class. • Learning about separation techniques while working in teaching labs, then applying the knowledge to support novel research. • Advising an academic on a particularly harmful chemical, resulting in less use, and carrying out a demonstration only, in one fumehood to limit technician and student exposure.	• Using experience and judgment to pour appropriate volumes of non-statutory samples for analysis, knowing when different volumes would be needed. • Prioritising samples that have just been received based on stability, number of samples, and whether there are any incident or leak samples which should be treated urgently. • Identifying whether environmental samples are contaminated, and what the contaminant is, by utilising one method over another and why it is more appropriate for this type of analysis.	• Analysing yeast samples for bacteria contamination. • Analysing cooling water samples from distillation condensers for alcohol concentration and different sensitivities of different methods. • Analysing wash from a number of distilleries and each stage of the process. • Analysing malt samples for specific compounds, and how many samples can be run in a day together with control samples.

Competency and description	Industry/field			
	School lab technician	**University teaching lab technician**	**Water**	**Beverage analysis**
A3: Interpret and evaluate data and make sound judgements in relation to scientific concepts. *This means you can explain how you recognise when your activity appears to have been successfully carried out, or not, and what data, observations, or measurements you are evaluating mean, relating it to the underlying principles. You should also be able describe how you present information in an appropriate manner in order to explain your judgement.*	• Preparing a new practical for a science club using extensive research, several test stages and help from a senior technician. • Reacting to a failed practical by troubleshooting and identifying one of the chemicals had decomposed by being left out of the fridge. • Unexpected results observed during a practical session, identified as resulting from a standard solution made up using older stock than provided to students. • Improving experiment results to fall within a smaller margin of error, to increase accuracy and precision, and updating the procedure.	• Providing additional equipment to rescue a student's experiment when they had performed it incorrectly and lost sample as a result. • Providing technical assistance in interpreting the results of the quality control testing and evaluating the data against industry standards. • Designing a movable radiation detector stand while ensuring students are protected from radiation, by reviewing existing stands and developing a new suggestion. • Trialling a practical before a class to determine the volumes required for a titration, and passing this information to the academic to ensure the correct calculations are carried out.	• Pouring volumes of final effluent samples for analysis, taking stability and incubation time into account to ensure an accurate result is produced and preventing bias. • Interpreting turbidity results and identifying samples which need repeating, and those with results which need escalating to water quality. • Ensuring quality control checks have passed, and the process to follow if there are failures. This includes the AQC, blank, check sample, and that no samples fall outside of the concentration reporting limits.	• Setting up micro maltings where the results can determine the malt quality that will be achievable when the barley is fully mature. • Reacting to unexpected results to determine whether contamination of yeast occurred at the supplier, during transportation or at the distillery. • Performing carbohydrate/acid analysis on wash and wort. • After a completed wash analysis, evaluating the results and re-preparing and reanalysing any samples that fall outside the normal range, and any further investigations as necessary.
B1: Work consistently and effectively with minimal supervision to appropriate standards and protocols and know when to escalate appropriately. *We are looking for an example of how you carry out work with minimal input from your supervisor for certain key tasks, experiments or procedures associated with your role and completing them to the appropriate standards and time frame. We are also looking for evidence that you know when to escalate appropriately and that you are able to make a judgement on when to escalate.*	• Overseeing the after school biology club and preparing all practicals for each week's activities. • Independently trialling all A-Level practicals before the lab sessions to ensure everything works as required. • Preparing chemicals, putting together equipment for requested practicals and clearing up afterwards, together with required safety equipment. • Designing and delivering practical experiments required by the school curriculum, based on an outline and topic from the teacher.	• Ensuring waste is neutralised before disposal, according to a process in place as a result of acidic waste causing a spill in the past. • Carrying out a stock check of all chemicals and glassware in advance of a class and ordering any required stock, as well as checking the equipment is functioning properly and running calibrations as required. • Cleaning and calibrating lab balances, and completing the associated form to show they are fit for use. • Maintain and update technician notes for each practical, based upon academic feedback and personal observation of the previous year's class.	• Describing the procedure for measuring suspended solid mass within samples, and gaining competency in the process for independent working. • Completing training records for carrying out specialised tests to be able to work unsupervised. • Carrying out routine tasks including uploading results to the internal system, injecting samples with internal standard, instrument calibrations and cleaning. If unexpected errors with the instruments arise, assistance from a supervisor is requested.	• Carrying out multiple analyses in conjunction with each other, and managing the time taken for each test and coordinating with other colleagues. • Analysing new spirits for specific compounds including control graphs, generating reports and administering monthly data/graphs from the different distilleries. • Carrying analyses on malt and barley samples and managing workload to ensure testing is completed in a timely manner. • Carrying out each stage of preparation, analysis and data interpretation of wash analysis without supervision.

Competency and description	Industry/field			
	School lab technician	**University teaching lab technician**	**Water**	**Beverage analysis**
B2: Demonstrate how you apply safe working practices. *This means that you can explain the safe working practices applicable to your area of work and describe how you follow them.*	• Complying with PPE requirements, to adhere to the Personal Protective Equipment at Work Regulations. • Checking chemical Hazcards from CLEAPSS before preparing stock solutions, and working accordingly. • Using SSERC model risks assessments when carrying out tasks as agreed with the Head of Department. • Ensuring all equipment and chemicals have been put away correctly, workstations have been thoroughly cleaned and decontaminated, all glassware has been cleaned and dried properly, and that all waste has been disposed of in a safe and responsible manner, conforming to legal requirements.	• Checking project students' risk assessments and COSHH forms are accurate and fit for purpose before starting project work. • Ensuring all COSHH regulations are met and that the classes have been risk assessed by the academic member of staff leading the practical. • Reading and understanding the risk assessment, COSHH form and standard operating procedure (SOP) for a particular process in advance of attending a training session. • Referring to a chemical's safety data sheet and implementing safety measures in the lab based on associated risks.	• Completing a relevant and appropriate health and safety document prior to carrying out potentially dangerous activities. • Maintaining knowledge of how to clean up spills and the location of spill kits, and reporting health and safety issues using the internal system. • Acting as a member of the site health and safety committee to liaise with other members of the team, health and safety manager and the site manager when any issues arise.	• Working to COSHH and risk assessment practices when carrying out analysis. • Being aware of the hazards associated with using acetylene gas after attending a gas bottle safety training course. • Ensuring gas bottles do not run out during testing, and being able to disconnect and connect replacements in a safe manner. • Adhering to COSHH forms and risk assessments for making up solutions for the analytical system, which is recorded on training and competence records.
B3: Take responsibility for the quality of your work and the impact on others. *This means that you can describe how you take responsibility for the quality of the work that you undertake and its impact on others within defined parameters and timelines – including if an activity does not work in the way that you expect.*	• Introducing teachers to new equipment, and ensuring it is fully functional and calibrated beforehand. • Adapting to a shortage of required chemicals by contacting the relevant teacher and identifying suitable alternatives. • Regularly performing safety checks and maintenance tasks. • Maintaining a database of risk assessments and COSHH forms which is accessible by all scientific staff.	• Conducting pipette calibration checks on all of the auto pipettes used within labs outside of term time. • When new practicals are introduced, trialling the procedure to check they works as expected and to obtain a trial set of data. • Carrying out checks on equipment that may only be used a few times a year. • Ensuring preparation for a practical is completed in enough time, and factoring in extra time to make up chemicals as needed.	• Training and gaining competence in data integrity for data monitoring of different teams. • Reporting any AQC failures on the charts and reporting system suitability failures onto a spreadsheet. • Running quality samples with batches to ensure accuracy and precision, and performing calibration checks.	• Calibrating an instrument before analysing wash samples for alcohol percentage. • Accurately preparing standard solutions for use on an instrument. • Ensuring all reagents and buffers are prepared and stored ready for the next technician to commence with analyses. • Calibrating the analytical system used for carbohydrate analysis.

Competency and description	Industry/field			
	School lab technician	**University teaching lab technician**	**Water**	**Beverage analysis**
C1: Demonstrate effective and appropriate communication skills. *What we are looking for here is an example that you are an effective communicator. The example can be through appropriate oral, written or electronic means.*	• Emailing teachers as a reminder to send in requisitions, and to ask any related questions. • Relaying health and safety information to the science department when required. • Having conversations with teachers if practical requisitions are late or not detailed enough. • Weekly communication with the head of science, either via email or in person as required, with notes being recorded and disseminated after.	• Setting up first thing in the morning and briefing the senior technician in advance of practicals starting, which is then passed on to the academic to begin the lab. • Weekly meetings with the teaching area manager to discuss any issues that arise in the teaching laboratory, provide feedback on completed practicals and to update on progress with various personal objectives. • When submitting orders, informing people if there are any delays or other issues coming from those orders. • Ensuring SOPs are written to be clear, easy to follow and detailed, and making sure documents are peer reviewed before use.	• Demonstrating how to complete a new software process when no training time had been allocated, so core information and relevant links were disseminated via email. • Communicating to late shift workers about the work done that day using digital recording systems and a shared whiteboard. • Sending an update email to scientists and team leader when working a Saturday shift. • Contributing in health and safety committee meetings by listening to others and offering thoughts and suggestions, and then passing on important information and updates.	• When consumables run low, submitting an order request, notifying the purchaser of the urgency of the request and notifying other technicians of the order. • Preparing training samples and a presentation, and communicating training results in terms of scores and progress. • Due to shift patterns, ensuring instructions and notifications are left for the technician taking over the analysis the next day. • Undergoing a monthly meeting with line manager to discuss growth and objectives, and also to feedback and discuss progress on training and ongoing studies.
C2: Demonstrate effective interpersonal and behavioural skills. *This means that you can demonstrate skills that you use to interact with colleagues in a constructive way within the work setting. In these situations it may be appropriate to discuss these with your supervisor, as an external perspective is often very useful in this regard.*	• Engaging in weekly technician meetings, respectfully, participating often, and not interrupting or talking over colleagues. • Raising issues with suppliers, such as missing items or delivery delays, and communicating effectively and appropriately to resolve problems. • Tactfully advising newly qualified teachers on practicals. • Introducing a piece of equipment and safety measures at the beginning of a practical session, taking into account the audience.	• Supporting and encouraging students in practical sessions to carry out the best method or how to approach an issue. • Allowing postgraduate research students to use various specialised equipment from the teaching laboratory when not in use during practical classes after providing training. • Interacting with varied audiences at open days to present a positive image and, where necessary, direct them to the appropriate people for specific information. • Managing working relationships with a team within a shared office.	• Completing a training course on recognising mental health symptoms to look out for in colleagues and how to best support colleagues. • When working on sample reception, being able to interact with a range of people including couriers, customers and other staff, in person and over the phone. • Training another member of staff by first describing what the task involves and why it is done in a particular way, allowing them to perform the task under supervision, and then giving feedback and answer any questions.	• Carrying out analysis on samples from another lab, and communicating with technicians from that site regarding the results. • If samples arrive on-site mislabelled, engaging with the production manager responsible to request a new label, highlighting the target deadline. • Training a new technician by demonstrating the process, introducing risk assessments and COSHH forms, and adapt training to the trainee's learning style. • Working together with staff at a malting site regarding specific analysis, results and any urgent samples.

Competency and description	Industry/field			
	School lab technician	**University teaching lab technician**	**Water**	**Beverage analysis**
C3: Demonstrate an ability to work effectively with others *This means 'team work', which can be in a large team or on a 1:1 basis. Your example should illustrate how you worked collectively with others, what your specific role was within the team, and what the outcome was.*	• Arranging borrowing required equipment from another site. • Discussing with two teachers when microscope practical requests come in for the same time and, due to limited equipment supplies, one will need to be rescheduled. • Planning, organising and sharing resources for Chemistry, Biology and Physics experiments across neighbouring collaboration schools. • Being part of a health and safety team to carry out daily checks for fire safety and food hygiene, and reporting findings to the responsible colleagues.	• Collaborating with another technician to set up and run two machines during a lab, taking care to avoid bottlenecks. • Working with student groups in a class to monitor progress and offering technical advice to ensure they reach each milestone in the process within the correct time frame. • Consulting and coordinating with other technicians/ seniors when labs must accommodate two different groups/ practicals. • Logistical planning with a colleague to provide technical provision for very large class sizes.	• Ensuring effective and efficient collaboration by handing out/delegating tasks at the beginning of the shift, and working together when a batch of samples completes. • Having to work closely with a team leader and analysts to complete an instrument validation. • Working with engineers and technicians from external agencies when they have been called to perform maintenance.	• Working with the team of technicians to produce a document for the company and delegating the different tasks, utilising regular meetings and completing tasks to deadlines. • Carrying out lots of different analyses with other teams/departments as part of a trial. • Adapting to a temporary shift pattern when technicians were required to work at distillery sites, and working alongside distillery operators. • Collaborating with other team members to plan and prioritise workload.
D1: Recognise problems and apply appropriate scientific methods to identify causes and achieve solutions. *What we are looking for here is an example of where you have problem solved or attempted to problem solve.*	• Troubleshooting and improving a method and associated operating procedure for students after observing common mistakes in a lab session and to improve testing conditions and results. • Recognising a problem causing a failed practical that one of the chemicals had been improperly stored, so preparing a fresh batch as replacement. • Undertaking a methodical investigation into a failed demonstration and replacing a broken component. • Developing supporting materials/ways of engaging with an experiment to ensure the science is accessible to all students.	• Identifying the issue when one group out of a class were experiencing inaccurate results by checking equipment and observing, and advising the group accordingly. • Being familiar with an instrument to be able to identify issues at a service, and being able to solve problems. • When assisting research students, running a series of tests to identify ideal solvent proportions and improving polarity for more successful results. • Noticing a missing step in a laboratory practical, and raising this to the academic and the importance of including the additional stage in student's learning.	• Identifying sample carryover from a high concentration sample into a blank (resulting in a failed quality control sample) and ensuring the contamination was cleared. • Following procedure in the event of an AQC failure, including reporting on internal software and carrying out an investigation. • Carrying out an investigation to identify the source of sample contamination.	• Investigating the cause of considerable variation between sets of results to identify the issue and implement new equipment purchasing and updated written procedure documents. • Establishing the cause of samples and control results falling out of range, and making up fresh solutions to solve the issue. • Noticing a sudden change in results from a distillery site so communicating to identify the issue and discussing and advising on process changes. • Carrying out checks before running a set of titrations, and remaking a reagent which was falling outside of the accepted values.

Competency and description	Industry/field			
	School lab technician	**University teaching lab technician**	**Water**	**Beverage analysis**
D2: Demonstrate how you use resources effectively *This means that you can give examples of work that you have undertaken where the method, procedure, programme, equipment, or materials used was chosen as the best (or most relevant) to use. Your example should describe how you planned and organised these to complete the task, and also how you reviewed choices – why the one you selected was the best compared to others that are available.*	• Using CLEAPSS guidance and teacher notes to prepare bespoke apparatus for a practical which needed to be set up before a class and easily transported to other labs. • Finding a cost-effective alternative to a complex instrument, which was fully tested before allowing students to use it. • Maintaining a file on the different experiments which are used, for reference when setting up for practicals. • Cataloguing chemicals to find out what needs to be replaced, and what could be used more effectively.	• Arriving early to prepare an instrument and run all necessary background checks in advance of a practical. • Choosing between different particle sizing instruments to ensure accurate measurements are obtained and to ensure the instruments are not damaged. • Ensuring there are plenty of resources at the beginning of a practical, and preparing stock lists for ordering. • Pre-weighing samples of a chemical for students to avoid mess, bottlenecks and sharing of limited equipment eg spatulas.	• Using a sample manager system to check for any overdue samples and tracking samples to ensure they meet deadlines. • Carrying out research into different chemical suppliers and identifying more cost-effective or space saving options, which still meet ISO standards. • In anticipation of a new piece of equipment being installed in a lab – arranging quotes and invoices with the manufacturer, making sure there is appropriate space, associated equipment, and appropriate access to things like water lines.	• Carrying out checks and calibrations before running analyses, and ensuring results are accurate by making adjustments/making up new solutions as necessary. • Replacing components of an instrument to maintain accuracy, precision and timeliness of analysing samples. • Utilising quicker analysis techniques to identify repeats as soon as possible, and delivering results faster and more cost-effectively.
D3: Participate in continuous process improvement. *What we are looking for is an example of how you have improved the efficiency of a way of working, for example this could include maintenance of stock levels, improved methods, new ways to increase throughput, health and safety, or ways to increase cost-effectiveness.*	• Attending a CLEAPSS health and safety course and reporting back to the department to inform best practice. • Standardising all practicals and giving each a code so teachers are able to request practicals by code rather than printing and sending multiple worksheets/ notes. • Developing an online requisition system for teachers to utilise to request equipment, increasing accuracy and timeliness in requests. • Taking responsibility for all practicals delivered, keeping up to date with exam board requirements, and improving on or finding creative solutions if required which are shared throughout the department.	• Contributing to a particular practical where traditionally only one technician has been present, increasing overall efficiency. • Carrying out research to replace an outdated instrument to enhance student experience by demonstrating cutting edge equipment. • Handling department budget and seeking out cost-effective alternatives and ensuring everything required will be covered by the budget. • Ensuring just enough chemicals are ordered for the academic year to make sure there are no shortages and to limit wastage.	• Scrutinising different stages of a process within a dedicated lab for issues or bottlenecks that reduced efficiency of analytical methods, and contributing to and implementing solutions. • Developing a template document for mediators to write reports and mediation agreements, amongst other documents, to create consistency and save time. • Working on a project to move away from the use of helium in the lab, and investigating alternatives which satisfy cost constraints and maintain performance.	• Undertaking a practical course and being able to carry out repairs and maintenance on a system for the department as a result. • Conducting a trial on an alternative piece of equipment which was found to be easier to use, quicker and more cost-effective. • Negotiating better prices for consumables to improve lab spending and consumable budget. • Contributing to a lab continuous improvement program to improve the productivity and quality of lab output.

Competency and description	Industry/field			
	School lab technician	**University teaching lab technician**	**Water**	**Beverage analysis**
E1: Comply with and promote relevant codes of conduct and practice. *This means that you can give examples of how you comply with a code of conduct (eg of your professional body) or how you work within all relevant legislative, regulatory and local requirements.*	• Observing an aspect of the Royal Society of Chemistry's Code of Conduct regarding minimising adverse effect on health, safety and the environment by familiarising with relevant legislation. • Regularly checking CLEAPSS for updates to procedures or Hazcards. • Complying with internal policies such as Safeguarding and Child protection, Whistleblowing, Fire, First Aid and Sickness and Absence. • Adhering to the internal code of conduct and maintaining a culture of equality and mutual respect.	• Adhering to the internal School Safety Handbook, which includes health and safety policies and codes of practice. • Completing an e-learning data protection module to ensure work is GDPR compliant with the new legislation. • Adhering to dynamic guidelines adjusting to the COVID-19 pandemic. • Working to the internal incident reporting procedure using an online form and informing the supervisor or Area Health and Safety Co-ordinator of the area.	• Due to working in a UKAS accredited lab, carrying out a health and safety observation regarding bottle disposal. • Following the RSC Code of Conduct by maintaining and continually improving scientific knowledge and maintaining confidentiality of results and customer information. • Running and recording AQCs for each batch of test samples and ensuring all equipment maintains accuracy with daily calibration checks according to ISO17025 accreditation by UKAS.	• Complying with internal code of business conduct. • Reading and understanding all relevant COSHH forms and risk assessments prior to undertaking a new procedure. • Adhering to HMRC requirements and ensuring all paperwork is completed and traceable. • Working to health and safety standards, and challenging any unsafe practices observed.
E2: Maintain and enhance competence in own area of practice through professional development activity. *This means that you can give an example of an activity you have undertaken to enhance your competence in your own area of practice i.e. Continuing Professional Development (CPD) and reflect on its impact on you and others. We are not looking for a list of courses here but evidence of how your CPD benefits your practice and benefits others. Your CPD may include work-based learning, professional activity, formal/educational and self-directed learning.*	• Participating in an online continuing professional development (CPD) course. • Completing a course from STEM Learning on developing effective COSHH forms and risk assessments. • Expressing interest in CPD opportunities at annual appraisal, and undertaking those identified as beneficial. • Reading monthly journals and magazines, such as *Chemistry World*, *Education in Chemistry* and *Nature*.	• Attending personal development training courses as specified in appraisal targets. • Being involved with a Green Impact Sustainability project. • Attending optional training from outside companies for larger, specialised practical equipment. • Tracking development at annual professional development reviews, including strengths and areas for improvement.	• Take part in annual appraisals to discuss goal setting and development over the next year. • Taking part in internal career progression route and undertaking training to complete a portfolio of evidence. • Subscribing to regular email updates from instrument manufacturers and engineers.	• Discussing and agreeing objectives to work to for the next year with line manager. • Identify training courses to attend to support personal development. • Displaying enthusiasm and seeking out opportunities to take part in off-site trials. • Seeking opportunities for formal training and additional qualifications to support everyday work.

8. MAINTAINING RSciTech STATUS

Everyone who holds RSciTech status commits to continuous professional development (CPD) to maintain their registered status – it's a mandatory requirement.

CPD enables you to take charge of your career. By keeping track of your professional development you can identify gaps in your knowledge and opportunities to learn new skills. And in a fast-changing world, keeping your skills up to date is essential. To make this easier, we offer our members a **free CPD recording tool**.

Revalidation

Every year, we also select a random sample of members for revalidation. If you're selected, we'll contact you to explain the process. You'll be asked to describe your relevant learning activities from the past year in at least three of the following five areas:

- work-based learning (eg, supervising staff/students, reflective practice)
- professional activity (involvement in a professional body, mentoring)
- formal/educational (writing articles/papers, further education)
- self-directed learning (reading journals, reviewing books/articles)
- other (voluntary work, public service)