ROYAL SOCIETY OF CHEMISTRY

Science Council

CSciTeach
Chartered
Science Teacher

An applicant's guide to becoming a Chartered Science Teacher (CSciTeach)

CONTENTS

1. WHAT IS A CHARTERED SCIENCE TEACHER (CSciTeach)?

CSciTeach is a chartered designation which recognises the unique combination of skills, knowledge, understanding and expertise that is required by individuals who practice and advance science teaching and learning. This is underpinned by an annual commitment to continuing professional development (CPD). CSciTeach is awarded by the Royal Society of Chemistry under licence from the Science Council.

You can apply for CSciTeach if you are a member of the Royal Society of Chemistry at MRSC or FRSC level and meet the eligibility requirements outlined below.

2. ELIGIBILITY REQUIREMENTS

To be eligible to apply for CSciTeach through the Royal Society of Chemistry you should hold an BSc (Hons) degree in the chemical sciences and a Master's level qualification in education/pedagogy.

Those without a Master's level qualification can demonstrate meeting this standard through a minimum of five years' appropriate teaching experience following attainment of Qualified Teacher Status (QTS), or equivalent. As a guide, we would normally expect at least two years of an applicant's experience to include additional responsibilities, such as leading initiatives that have a clear and positive impact on teaching and learning. Typically, the time required to achieve the required competencies will be longer for those candidates applying without a Master's level qualification in pedagogy. If you are unsure if you are eligible, please contact us before completing the application form.

Master's level equivalence
Normally, Master's level (M-level) study is at, or is informed by, the forefront of an academic or professional discipline. M-level graduates are expected to show originality in applying their knowledge and understand how the boundaries of knowledge are advanced through research. They will be able to deal with complex issues both systematically and creatively, and they will show originality in tackling and solving problems. They will have the qualities needed for employment in circumstances requiring sound judgement, personal responsibility and initiative in complex and unpredictable professional environments. In the absence of an M-level qualification, applicants can demonstrate equivalency where M-level skills, knowledge and experience have instead been gained through working.

Current role and qualified teacher status (QTS)
To apply for CSciTeach, you must be active in science teaching and learning. This includes teachers in all types of schools, colleges and universities and those working in other settings (eg science centres and museums) as well as advisers, inspectors, consultants and researchers. If you hold qualified teacher status (QTS) you should give details of your initial teacher training, including your training provider and dates.

3. THE APPLICATION PROCESS

STEP 1

First, you become a member of the RSC, visit **www.rsc.org/membership-and-community**

STEP 2

Identify an appropriate supporter and ask them if they would be happy to support your application. Your supporter should be a senior colleague that is very familiar with your work. This person is usually your line manager. The role of the supporter is to provide guidance in completing the form and to confirm that you are meeting or exceeding the competencies.

STEP 3

Work with your supporter to complete the application form. You will provide an example against each competency that demonstrates how you meet the criteria to become CSciTeach. Make sure you sign the form (electronic signatures are accepted), and tick the declaration.

The form is available to download from the RSC website **www.rsc.org/careers/cpd/practising-scientists**

STEP 4

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

STEP 5

Your application will be assessed by two members of the RSC's Chartered Science Teacher Assessor Panel. This may take up to eight weeks. The assessors will share their comments, feedback and recommendation with the team at the RSC, who will forward this on to you as soon as possible. Your application might be accepted, rejected, or the assessors might ask for more information on certain areas of the application. If the assessors would like more information, you will be invited to revise your application accordingly. Once you have submitted your revised application, it will be sent for reassessment. This takes another two weeks.

STEP 6

We will inform you of the outcome of your application. If successful, you will be presented with a certificate and will be permitted to use the letters CSciTeach after your name.

If you are a current applicant or just considering CSciTeach and would like more information or support, please contact us.

Email: **csciteach@rsc.org**

4. THE ROLE OF YOUR SUPPORTER

Before applying for CSciTeach, you must identify a suitable supporter who is expected to make detailed comments on your application. This should be a senior colleague, such as your head of department or manager, who is able to comment on your teaching practices and confirm that the examples you have provided are legitimate. Ideally, they should also be member of the Royal Society of Chemistry and hold chartered status, however, this is not mandatory.

The role of the supporter is to provide guidance to the applicant in 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.

5. HOW TO WRITE EXAMPLES IN COMPETENCY BASED APPLICATION FORMS

In general, we encourage the use of the SHARE format when writing examples in competency based applications. Each letter in the word 'SHARE' represents a different component of a good competency example. Using this model 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 250 and 500 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 CSciTeach 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 **csciteach@rsc.org**

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 teaching practices and methods.

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
We were noticing a drop in student engagement and interest in STEM subjects at my school. We were beginning to worry that this could facilitate a drop in uptake of these subjects at a post-GCSE level. Our previous methods to try and encourage student involvement seemed to be having minimal effect. To help solve this issue, we reached out to other teachers that we have met and asked them for their experiences and guidance. 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 learning. The aim was to encourage our students to strengthen their understanding of a subject and cooperatively work towards the answer. We immediately began noticing an improvement in our students' understanding and interest in STEM subjects.	• Examples should be written in the first person. This helps assessors to understand the personal contribution that an applicant has made, and the level of responsibility and autonomy that they are working with • It would be helpful to know more about the SITUATION • The ACTION that was taken needs to be described clearly and in detail. How were the connections to other teachers made – the assessors need to clearly understand how collaboration has been possible • More detail on the RESULT would be helpful. A change is noted, but what caused this change? What, specifically, was different? What techniques were used? • In the EVALUATION it would be good to have discussion of how the described activities will develop in the future	***[SITUATION] I rely on a variety of sources to help maintain my ability to provide an effective and productive learning environment for my students. This involves relying on a range of conventional educational literature as well as more modern formats eg the Education in Chemistry Twitter account. However, the most important source of information I have found is the discussions I have with my colleagues as well as those I encounter at conferences.*** [HINDRANCE] My colleagues and I were noticing a drop in student engagement and interest in STEM subjects at my school. We were beginning to worry that this could facilitate a drop in uptake of these subjects at a post-GCSE level. Our previous methods to try and encourage student involvement seemed to be having minimal effect. [ACTION] To help solve this issue, ***I reached out to other teachers that I had met through attending a range of education conferences (HEA STEM, MICER) as well through my work as part of a STEM-Teacher network. I asked them for their experiences and if they could provide any guidance on how they responded when encountering this problem in their classroom***. Through these discussions I was provided with a range of techniques/activities that they had previously used. ***I then shared all this advice with my colleagues so that we could collectively work together to implement any changes.*** We decided on expanding the use of techniques that focus on peer-to-peer learning. ***These specifically included the use of open-ended questions to encourage students to explore a subject in more detail, and more small group discussion sessions during the lessons.*** The aim was to encourage our students to strengthen their understanding of a subject and cooperatively work towards the answer. [RESULT] I immediately began noticing an improvement in our students' understanding and interest in STEM subjects. ***The specific combination of open-ended questions and small discussion groups allowed the students to organically develop their interest. This was reflected in an increased number of students openly talking about taking STEM subjects beyond GCSE level.*** ***[EVALUATION] I plan to expand peer-to-peer learning and embed it into more of my lesson plans. I aim to use it during difficult topics to maximise its benefits for my students.***

6. 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 250-500 words) in the **SHARE** format.

Chartered Science Teachers 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	**Field**	
	Teacher	**Academic**
1A: A broad and up to date knowledge and understanding of science and its impact on your work. *Typically this may include:* *• Using information from current developments in science to extend the learning of others*	• Discussion of your career • Discussion any publications you have authored • How you have maintained an up to date knowledge of educational levels (KS levels + A Levels) • Discussing new curriculum plans you have created/ implemented	• How do you maintain up to date knowledge from a range of sources (journals, publications, governmental bodies) • Discussion of your career • Discussion of what you teach and where • Any external teaching or outreach activities
1B: A broad and up to date knowledge and understanding of teaching, learning and assessment specifically related to science education. *Typically this may include:* *• evaluating and implementing different approaches to teaching and learning*	• Introduction of technology into the classroom (include source literature) and its result • Designing practical tasks for students and, where not possible, using simulations instead • Encouraging the use of correct scientific vocabulary • The use and evaluation of formative assessments • Your role as a curriculum leader	• Describing your teaching methods. • Discussing the theories or principles behind what you do • Describe the teaching environment you create • Your encouragement of team based learning • Describe new teaching methods • Describe new assessment methods • Attendance of seminars and what you learnt from them
1C: A knowledge and understanding of students and how different contextual factors can impact on their learning in science. *Typically this may include:* *• how a learning issue was identified and what steps were taken to mitigate its impact on science learning*	• Discussion of socio-economic factors, their impact of teaching and attempts to minimise their effects • Organising/ encouraging STEM interest • How you respond to additional learning needs (ALN) • Awareness of unconscious bias and preventing it	• Discussion of your practical teaching • Discussion of socio-economic factors, their impact of teaching and attempts to minimise their effects • Any advisory position you have • Your role as a mentor • Pedagogical designs/ activities you follow/ implement • The use and evaluation of technology (apps/ programs) created to encourage education
2A: Planning coherent programmes of teaching in science that develop investigative skills and are intellectually challenging, emotionally supportive and physically safe. *Typically this may include:* *• developing, monitoring and evaluating the schemes of work appropriate to the students that are being taught;* *• maintaining a knowledge of health and safety requirements and enable students to develop the ability to assess risks involved in experimental work;* *• introducing activities and ideas which challenge the students' understanding of scientific concepts and evaluate their impact;* *• creating an inclusive and supportive learning environment*	• Programmes and their use to encourage students to see the bigger picture • Discuss and impact of adapting lessons plans	• The use and impact of learning objectives and examples of these being implemented

Competency and description	Field	
	Teacher	**Academic**
2B: Engaging students in the collection, analysis and evaluation of evidence to extend their scientific knowledge. *Typically this may include:* *• enabling students to apply ideas to new situations and to suggest alternative interpretations of the evidence available;* *• demonstrating ways in which scientific principals underpin new technologies.*	• Encourage interest in science through practical experiments • Organising and conducting mini research projects for students • The use and impact of directed activities related to text (DART) or comprehension tasks • Encouraging the analysis of major scientific ideas • Encouraging debates on ethics of scientific innovations	• The use and results of practical teaching sessions, discussion of any changes/ modifications • The use and implications of data collections • The use of research projects with students • Discussion of any outreach/ externals events and their impact on the wider community • Methods to increase student involvement in lectures • Methods to encourage student discussion of topics
2C: Developing students' confidence and their ability to understand and use scientific knowledge and processes in a range of scenarios. *Typically this may include:* *• engaging students in debates about scientific ideas* *• helping students to understand the application of science to their everyday life*	• The use of concept maps (seeing the bigger picture) that encourage students to put things in context • The use and impact of open-ended questions to encourage students to explore a subject • Designing and implementing new practical experiments • Use and impact of pedagogical strategies	• The use of student feedback on your teaching and assessment processes • Providing coursework that is applicable in the workplace • Encouraging the use of career objectives/ activities in students • Encouraging placements/ external activities • Designing and implementing new practical experiments • Use and impact of educational literature • The use and impact of technology
2D: Assessing students' learning and providing effective feedback. *Typically this may include:* *• monitoring students' progress* *• developing strategies using formative assessment to enhance student learning;* *• using the outcomes of assessment to inform the curriculum*	• Discussing the use and impact of a range of methods used • The use of online quizzes and their result • The use and impact of technology • The use and impact of 1:1 discussions	• How you monitor student progress and implement any observations • The use of partial credit multiple choice • The use of online quizzes and their result • Processes of providing feedback • The use and impact of technology • The use and impact of 1:1 discussions
3A: Analysing, evaluating and refining teaching to improve student learning. *Typically this may include:* *• Selecting and interpreting evidence to identify ways of improving their own teaching*	• Setting targets based on your observations/ feedback • The use of formatives assessments followed by discussions • How you alter your teaching strategies and their impact • The use and impact of student surveys • The use and encouragement of self and peer-assessment • Evidence of reflection from students • Encouraging independent learning	• Your modification to tutorials, lectures and teaching methods and their impact • The use and evaluation of technology (apps/ programs) created to encourage student development • The use and impact of recording lectures and other lecture capture software • Your interactions with students and their results
3B: Collaborating with colleagues and the wider professional communities to improve the quality and effectiveness of science education. *Typically this may include:* *• Sharing and jointly evaluating teaching practices and methods* *• Supporting the development of others*	• Discussion of any panel you are on • Working with outside organisations • Working with colleague to deliver classes together • The sharing of resources • Mentoring new staff • Attending/ presenting at external teacher related events • Working with other schools	• Your membership/ participation in education focused groups • Attendance/ presenting at conferences (educational focused) • Your role as a STEM ambassadors at internal and external events/ activities • Your involvement with networking events

Competency and description	Field	
	Teacher	Academic
3C: Taking responsibility for leadership, management and development of science teaching. *Typically this may include:* *• Leading colleagues in the development of teaching.* *• Acting as a mentor to newly qualified colleagues in order to help their professional development*	• Taking the lead for organising practical and mock exams • Introduction of new testing process • Being the programme leader • Working with your local RSC coordinator • Leading by example and encouraging challenging targets • Organising and hosting weekly meetings both internal and external	• Your role as the module/ course organiser • Coordinating teaching staff • Your role on advisory boards • Involvement in accreditation of courses • Chairing departmental meetings

7. MAINTAINING CSciTeach STATUS

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

The fee to maintain CSciTeach is £66.40 annually and this is payable along with your membership renewal fees.

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

A key requirement for holding chartered status is that you must demonstrate your commitment to continually maintaining and updating your professional expertise and competence. After being awarded CSciTeach, you will be expected to revalidate your status annually by signing a declaration on your membership renewal form to confirm that you are maintaining accurate records of your CPD activities.

Every year a sample of CSciTeach registrants will be asked to submit a CPD return, outlining the CPD activities they have conducted and the subsequent impact of these on the professional practice of both themselves and the users of their work.

Your CPD should be a mixture of learning and development activities with relevance to sustainability and the environment. They should include activities in at least three (exceptionally two) of the following categories:

1. Work based learning (eg supervising staff/students, reflective practice)
2. Professional activity (eg involvement in a professional body, mentoring)
3. Formal/Educational (eg attending training courses, writing articles/papers)
4. Self-directed learning (eg reading journals or other relevant material)
5. Other (eg voluntary work, public service)

If you would like further advice, please contact us by

Email: **csciteach@rsc.org**