



Chemical Industry Skills Matrix



Skills Matrix Overview

Education Stage		Key Stage	Age	Centre for Industry Education Collaboration	Cogent Skills	Royal Society of Chemistry	Salters
Early Years Foundation	EY	Early Years	3 to 5	●		●	
Primary	PR	KS1	5 to 11	●	●	●	●
		KS2		●	●	●	●
Secondary	SE	KS3	11 - 14		●	●	●
		KS4	14 - 16		●	●	●
Further Education	FE		16+		●	●	●
Higher Education	HE		18+		●	●	●
Graduates	GR		18+		●	●	●
Postgraduates	PG		18+		●	●	●
Industry Support	IS			●	●	●	●

Centre for Industry Education Collaboration

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EY

Online publications telling industry stories.

IS

Children Challenging Industry programme.

PR

Children Challenging Industry programme.

Online publications telling industry stories, sharing industry careers, focus on National Curriculum for science.

Online publications telling industry stories, sharing industry careers, focus on National Curriculum for science.

Training on effective communication with primary aged children.

Brokering partnerships with primary schools.

Established in 1988, CIEC creates and sustains links between industry and school science. You can get involved in several ways.

STEM Ambassadors Programme: Become a catalyst in the North West

Join our Summer STEM Primary Partnerships as a STEM Ambassador in the north west region. As an Ambassador, you will undergo comprehensive training aimed at honing your communication skills and developing innovative approaches to engage 9-11 year olds in the wonders of science.

You will have the opportunity to inspire and mentor the next generation of STEM leaders, leaving a lasting impact on their education and future career aspirations.

Our Impact: Shaping Future STEM Leaders

Our research and evaluation show CIEC and our industry partners have a profound impact on the youngest members of our society and their teachers:

- 93% of teachers report an improvement in their knowledge of industry practices and processes
- Children exhibit more positive attitudes towards the role of industry in their communities, with many expressing an interest in future STEM careers



Children Challenging Industry

Children Challenging Industry (CCI) is the flagship programme of CIEC, linking primary schools with local STEM industries to inspire future scientists and engineers. Since 1996, it has reached more than 62,000 children and 15,500 teachers in 2,100 primary schools across the UK, currently operating in the north east, north west, humber, and east of England. The programme includes stimulating classroom activities tailored to your industry story, site visits, and professional development for STEM professionals, aimed at bridging the skills gap and encouraging early interest in STEM careers.

CCI offers a unique opportunity to make an impact on the STEM aspirations of local children.

Research shows 85% of 9-11 year olds enjoying science, yet only 15% want a science-related career when they leave school.

By collaborating with us as an industry partner, you will directly inspire the STEM professionals of the future.

Sustainability Stories: partner with us to make a lasting impact

At CIEC, we work with companies dedicated to fostering a culture of responsible care, improving industry reputation, and promoting STEM careers in their sectors. Our expertise helps companies refine their education engagement policies, align with both environmental, social and governance (ESG) objectives and UN Sustainable Development Goals.

Since 2020, we've been enhancing our sustainability resources for schools, integrating companies' "sustainability stories" into our downloadable resources for teachers. We work with industry partners to develop classroom activities to their company, pilot these activities in schools nationwide, and actively promote each sponsor's sustainability messages in primary conferences, journals, and other outlets.

By sharing your sustainability journey, you can inspire future generations and enhance your reputation as a socially and environmentally conscious company.



Children Challenging Industry

CCI stands out as a programme that really does change young people's perceptions about the chemical industry and a career in science. Not only does it have measurable impact on the children involved, it also offers employee development and aligns well with our strategic objectives.

Sally Jones

Director - Investor Relations and
Corporate Communications
Johnson Matthey

PR

Careers Outreach Ambassadors
Careers Taskforce

SE

Careers Outreach Ambassadors
Futures in Science
Careers Taskforce
Not Just Lab Coats website

FE

Careers Outreach Ambassadors
Futures in Science
Careers Taskforce
Not Just Lab Coats website

HE

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Futures in Science
Careers Taskforce
Not Just Lab Coats website

GR

Careers Taskforce

PG

Careers Taskforce

IS

Careers Outreach Ambassadors
I am a Careers Outreach Ambassador -
This is me
Futures in Science
Careers Taskforce
Bespoke support packages
Industry Ambassador Awards.

What are Careers Outreach Ambassadors?

Careers outreach ambassadors work with young people, parents, teachers, and careers advisers to promote the many careers available within the science-based industries. We welcome industry ambassadors in all job roles to help us to promote the breadth of careers available.

This is achieved through visits to schools, colleges, and universities or even social groups such as cadets, Scouts, etc.

Careers outreach ambassadors present working in science-based industries in a positive light, dispelling myths and stereotypes.

Our ambassador programme is delivered in collaboration with the national STEM ambassador programme, allowing ambassadors to access a broader range of resources and opportunities, enabling them to provide high-quality outreach activities to the next generation.

Support from employers can play a key part within careers education:

- Raising aspirations and broadening horizons
- Tackling gender and other stereotyping from an early age
- Give reliable, relatable first-hand evidence on different routes into work

Careers Outreach Ambassador Training

It is essential to prepare your staff to deliver careers outreach fully, and that's where we can help.

An interactive session, which will allow participants to:

- Practise delivering activities with constructive feedback to build confidence
- Learn how to work with and inspire young people
- Tailor careers outreach activities to suit different ages, abilities, and timings
- Familiarise themselves with "Futures in Science" resources
- Network and share experience



This is me - I am a Careers Outreach Ambassador

This is a one-hour virtual training session, through which our partner STEMFirst will take the careers outreach ambassadors through how to prepare a simple, impactful and memorable two-slide presentation to showcase who they are. This personalised resource will save time, develop their confidence, help them get active and can be used again and again.

The session will take Ambassadors through slide content, a punchy two-minute talk and how to talk about themselves in a simple, impactful way. We will then illustrate how to offer these talks on the STEM Ambassador website and highlight why this is such a step change to how previous STEM Volunteer support was requested by schools and youth organisations.



It was great to have Rachel come to site and deliver Ambassador Training recently!

The day was interactive and confidence building. I'd recommend anyone wanting to work as an ambassador to complete this training as they offer a lot of resources and support.

Developmental Chemist - Victrex

Careers Taskforce

This group of young industry professionals supports our commitment to building a globally competitive science-based industry in the UK. It helps Ambassadors engage young people and raise awareness of the wide range of careers available in science industries.



Members of the Taskforce

- help shape the outreach activity at a strategic level
- build a pipeline of future talent
- make a difference to the lives of young people

This outreach work gives early careers professionals the opportunity to give something back to the sector, while expanding their knowledge, skills and confidence.

Not Just Lab Coats

A careers website for the science sector, coming soon...

Not Just Lab Coats. Our mission is to spark curiosity, boost ambition, and demystify working in science today.

The goal? Inspire more young people than ever to consider a challenging and rewarding career in the science sector.

We get a buzz talking about trailblazing jobs and what's more cutting-edge than science?

Through our website, young people can discover amazing futures that could shape tomorrow for the better.

From academic thinkers to innovative creatives, technicians to marketers, environmental analysts to robotic engineers - science needs all kinds of skills.



**NOT JUST
LAB COATS**

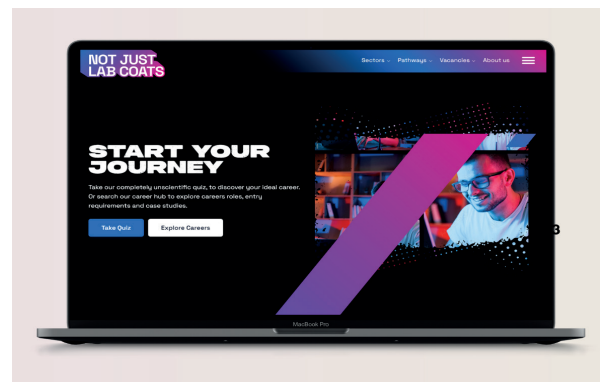
Futures in Science

Futures in Science is a resource for career outreach ambassadors which showcases the wide range of careers and pathways in the science industries.

Futures Science

The pack contains materials including pupil worksheets, an in-depth ambassador guide and an interactive presentation.

It also links to the science curriculum and current issues affecting our society - including sustainability, climate change, antibiotic resistance and plastic usage - making it relatable to young people.



EY

Steps into Science website

PR

Steps into Science website
RSC members
Thought leadership

SE

RSC members
Careers website A Future in Chemistry
Teacher training scholarships
Thought leadership

FE

RSC members
Teacher training scholarships
Chemistry career information, webinars,
self-assessments
Conferences and events
Thought leadership

HE

RSC members
Teacher training scholarships
Chemistry career information, webinars,
self-assessments
Conferences and events
Thought leadership
Free RSC membership
Funding and grants
Accredited degrees

GR

Thought leadership

IS

Bespoke support packages
RSC members
Accredited company schemes
Thought leadership
Free RSC membership
Funding and grants
Accredited degrees

As the professional body for chemistry in the UK, the Royal Society of Chemistry (RSC) supports the chemical science community in making the world a better place. We advocate for the community and increase its visibility. We work directly with our community as leaders, partners, facilitators and agents of change across the chemical sciences. We want to convey the excitement of chemistry and the extraordinary part that a career in chemistry plays.

Our commitment to building a thriving chemistry industry begins at five years old. We work with our members to provide events, visit schools, showcase careers in chemistry and we also deliver information through our journals, website and social media activity. As a member (free for apprentices and students) individuals benefit from a range of career-enhancing activities which include grants and professional recognition.

5 to 11 yrs

Community: RSC members host and join careers-in-chemistry events. These can be organised by the local section committees or be in response to invitations from schools/other organisations.

Content: Steps into Science website: STEM careers and skills activities: Adapted for each age group, career fact files and activities, skills card sort game, career posters. Teacher support guide. Tailored resources for each nation and its curriculum.

Steps into Science
Inspiration, support and resources for primary teaching

11 to 16 yrs

Community: RSC members host and join careers-in-chemistry events. These can be organised by the local section committees or be in response to invitations from schools/other organisations.

Content: Chemistry making the difference
Inspiring video career profiles of real-life chemists on TikTok and the RSC A Future in Chemistry website.

Practical "how to" articles about vocational, technical and academic routes into a chemistry career, getting work experience, salaries and options with a chemistry qualification.

Teaching support:

- Profiles are mapped to the GCSE and A level (or equivalent) curriculums for teachers to integrate into their lessons
- Teach chemistry provides support including events, resources and discounts for teachers and technicians in secondary schools, colleges and teacher training
- Teacher training scholarships.

Thought leadership:

- Aspires 3 - Young People's STEM Trajectories, Age 10-22
The Science Teaching survey
- The elements of a successful chemistry curriculum
- Green shoots: A sustainable chemistry curriculum for a sustainable planet

16+ and HE Community

- RSC Membership benefits support individuals with their career in chemistry
 - Getting recognised for experience
 - Opportunities to learn and connect with others
 - Plus other benefits tailored to 16+ or student membership
- Conferences to network and build knowledge



Content: members (rsc.org)

- Online career support and materials to support career advancement and decision making
- ChemCareers webinars - insights and advice into different job choices and professional development
- Track and manage professional development
- Download articles and ebooks from the Royal Society of Chemistry
- Chemistry World

In addition:

- Accredited apprenticeship training providers
- Accredited degree courses
- Bespoke programme (Broadening Horizons) to support chemistry students and graduates from Black and minority backgrounds to pursue careers in chemistry

Industry support Community

- RSC Membership benefits support individuals with their career in chemistry e.g. getting recognised for experience.
- Recruit/promote chemistry roles
- Bespoke programme (Broadening Horizons) to support chemistry students and graduates from Black and minority backgrounds to pursue careers in chemistry

Content

- Get impartial information and guidance on apprenticeships
- Find an RSC approved training course
- Benchmark salaries and benefits

In addition:

- Accreditation for company training and development
- Opportunities to get involved in governance, policy, responding to consultations
- Thought leadership on what the future may bring for the chemical sciences - Report: Future workforce and education pathways



PR Wild City
Experiment of the Month & Family events.
Outreach Ambassadors

SE Chemistry Club
Festivals of Chemistry
Outreach Ambassadors

FE Chemistry Awards
Outreach Ambassadors

HE Chemistry Awards
Outreach Ambassadors
Alumni programme

GR Chemistry Awards
Alumni programme

PG Salters' Fellowship
Alumni programme

IS Alumni programme

Wild City

Wild City is a free science-based project that brings to life biodiversity for Year 5 students, based in London. This five-month project will see students work with experts, the Salters' Institute and Edible Landscapes London to explore the importance of green spaces in their lives and local communities culminating in the students designing a green space for their school. Wild City features strong links to the KS2 science curriculum, off-site visits and the opportunity to have a green space built at the school. There are four stages to the project: photography competition, launch days, school visits, celebration days.



Wild City

Wild City gave our students so many rich experiences: testing soil, carrying out site surveys, measuring, designing, researching, negotiating and communicating their ideas.

Teacher - 2022



Chemistry Club

Salters' Chemistry Club is a unique online learning platform that reaches an international audience. It aims to demystify chemistry and showcase the breadth and depth of the subject and the wide range of careers chemistry that can lead to for learners aged 11-14 years old.



It promotes independent learning and gets students to explore chemistry in our everyday lives and see that being a chemist isn't all about wearing a white coat in a lab. Every weekday at 8am new content and activities are shared including videos, infographics, fill in the blanks, guess the element, word searches and quizzes. Learners can log in from anywhere in the world and learn something new, through bite-sized activities that explore different topics in chemistry.



Chemistry Club

What I like most about Chemistry Club is that there are so many things that are related to chemistry that I didn't know about

KS3 Student - 2021



Festivals of Chemistry

The Salters' Festivals of Chemistry this is a three-stage, hybrid approach aimed at learners 14-16 years old which includes videos, classroom activities, day trips to universities and a team challenge. It explores all that chemistry offers as a subject area and how it can act as a gateway to many careers. It encourages learners to discover chemistry and to immerse themselves in the breadth of possibilities opened by chemistry and the related sciences. The three stages are:

1. Discover Chemistry Careers - a range of short careers lesson plans with accompanying videos for teachers to use in their lessons. They align with Gatsby Benchmark 4 and cover topics such as: Medicinal Chemistry, Chemical Engineering, Green Chemistry, and Computational Chemistry
2. Discovery Days - hosted at partner universities with an inspiring speaker, hands on practical chemistry and a careers panel. There is also CPD provision for teachers attending. Spaces at these days are prioritised for schools which are in areas of low income backgrounds, low socioeconomic groups and/or low progression to higher education
3. Chemistry for Good Challenge - Inspires students through a nationwide challenge that explores how chemistry is used for good and to create sustainable futures. Students work in small teams developing their understanding of chemistry and building on their independent research skills



Awards

The Salters' Institute champions students, educators and future leaders who are making a positive difference in and with chemistry and chemical engineering. We do this through a programme of awards:

- Chemistry Changemakers Award (16- 17 year olds) - awarded for innovative chemistry solutions to create a positive impact within their communities through a poster competition and interview
- A Level Awards - Year 13s who achieved the highest national mark in their cohort studying Salters' A Levels in Chemistry, Biology and Physics
- The Porter Prize - funds a summer research project with a strong chemistry focus proposed by a 1st or 2nd year undergraduate in the UK
- Graduate Awards - for outstanding final-year undergraduate students studying chemistry and chemical engineering across the UK
- Technician Award - for outstanding secondary school science technicians who go above and beyond for their students



Alumni

The Alumni Programme brings together individuals from across the Salters' Company and Salters' Institute, who have been granted scholarships, awards and bursaries. Our alumni are able to get involved with networking events, mentoring and career coaching, social events and educational outreach. The mentoring programme began in 2023 and gives the opportunity for members of our network to learn from one other in order to enhance their professional development.