



**SALTERS'
AWARDS
& ALUMNI**



THE SALTERS' INSTITUTES' CHEMISTRY CHANGEMAKERS AWARD

**APPLICATION PACK
2023**





CALLING ALL CHANGEMAKERS!



**THIS APPLICATION PACK HAS BEEN CREATED TO HELP
YOU IN CREATING YOUR POSTER...**

The Salters' Institute believes that chemistry can change our world for the better.

Chemistry can be involved in solutions to reduce air pollution, provide sustainable energy, increase food security, and combat many health challenges.

We are looking to you to come up with innovative solutions using chemistry to create a positive impact in your community and beyond!

This award asks students aged 16-17 to create a poster that identifies and tackles a societal issue. This can be something that effects you, your community, your country or the world.

However your issue must relate to one of the following themes:

- Travel and Transport
- Homes and Habitats
- Health and Lifestyle

Your poster should be aimed at group of scientists who could support you in bringing your solution to life!

The poster needs to include the following information:

- A brief description of the societal issue
- Why is it an issue and who it affects
- Your chemistry-related solution/invention and how it will help

Judges will also be looking for:

- Data or references to support any information given
- Creativity and originality
- That the poster is in your voice - *we are really excited to hear your ideas for solving the issue presented*

DEADLINE

***Friday, 5 January 2024
21:00***

***Judges will then shortlist for interview where finalists will present their posters in person.
This will take place in London on Tuesday, 27 February 2024.***

Standard class transport will be reimbursed.

COMMON QUESTIONS

“How many winners can there be?”

We are looking to give up to 3 people an award

“What is the prize if I win?”

If selected as a winner, you will be given £300 and your school's science department will also receive £300

“Can we enter the competition as a group?”

This award is for individuals only, BUT we encourage students to pick their topic and do research as a group to share knowledge and ideas.



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CHEMISTRY CHANGE MAKERS

FINDING YOUR SOCIETAL ISSUE...

List the societal issues related to Travel and Transport



Blank white box for listing societal issues related to Travel and Transport.

List the societal issues related to Homes and Habitats



Blank white box for listing societal issues related to Homes and Habitats.

List the societal issues related to Health and Lifestyle



Blank white box for listing societal issues related to Health and Lifestyle.

CHOOSE ONE OF THESE ISSUES FOR YOUR POSTER



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CHEMISTRY CHANGE MAKERS

Designing your poster...

Step one to designing your poster is choosing the issue you wish to explore.

Below are some of the issues highlighted in the 2022 applications.

You can explore one of the issues below or choose another that you feel passionate about.

AIR POLLUTION

WATER POLLUTION

SPREADING OF DISEASES

FAST FASHION

SUSTAINABLE BUILDINGS

PLASTIC POLLUTION

CONTRACEPTION

OIL & GAS

REFUGEE CRISIS

VAPING

Questions to consider when designing your poster

What is the issue?

Why is it an issue?

Who does it affect?

Why do you want to tackle this issue?

How do you know this is an issue? — Consider data

What is your solution?

What is the chemistry link to your solution?

How will your solution help tackle the issue?



You can design your poster by hand or use Powerpoint or other software.

Please make sure your poster is clear, legible, and has the research to support your chemistry related solution.

THE ISSUE

Plastic waste litters our city streets, is scattered in rural fields, is carelessly discarded on mountain ridges and floats in our oceans and fresh-water systems. Nowhere is safe and we are facing a devastating future if we do not take action now.



Where does this plastic waste come from?

	World population	Plastic waste produced
1950	2.5 billion	1.5 million tons
2019	7 billion	353 million tons
2060	10 billion	1,014 million tons

(OECD, 2017; OECD, 2022)

Communities around the globe are dealing with plastic waste problems on a mammoth scale. It is reported that globally only 9% of plastic waste is recycled (OECD, 2019).

WHY IS IT AN ISSUE?

TITLE:

THE PLASTIC PROBLEM

MY SOLUTION

THE CHEMISTRY

WHO DOES IT AFFECT?



Sources I have used

1. [oeecd.org/newsroom/global-plastic-waste-set-to-almost-triple-by-2060.htm](https://www.wwf.org.uk/news/blogs/the-life-cycle-of-plastics)
2. <https://www.wwf.org.uk/news/blogs/the-life-cycle-of-plastics>
3. <https://www.kent.ac.uk/esrcites/services/waste-recycling/index.html>

POSTER CHECKLIST

Once you have finished your poster use the checklist to make sure you have included everything.



Your issue

- ☐ Does it relate to one of the three categories listed on page 1?
- ☐ Have you clearly described what the issue is?
- ☐ Have you explained why it is an issue?
- ☐ Have you given data to explain why it is an issue?
- ☐ Have you explained who the issue affects?




Your solution

- ☐ Have you clearly described what the solution is?
- ☐ Have you shown how your solution links to chemistry?
- ☐ Have you explained how your solution will help tackle the issue?
- ☐ Have you considered and listed some of the challenges your solution might face?



Your design

- ☐ Is it clear to read?
- ☐ Is it eye-catching?
- ☐ Is it creative?
- ☐ Has your poster been written in your own voice? — Please do not copy and paste other people's ideas without giving the source
- ☐ Is the solution your idea? — You can take inspiration for other ideas but make sure to use these as a starting point to create your own solution.



Types of data you can include:

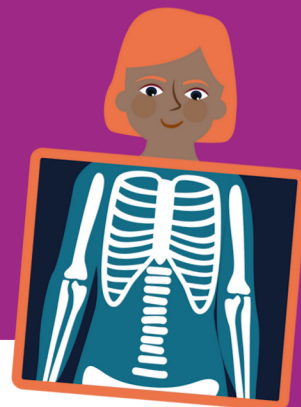
- ☐ Statistics — Bar graphs, tables of information, percentages, survey information
- ☐ Quotes & statements — From charities, government, scientists, public, newspaper articles



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CHEMISTRY CHANGE MAKERS

Useful information to begin your research



USEFUL VIDEOS

Our Festivals of Chemistry has lots of useful videos and lesson plans to delve into chemistry as a subject, its applications in the real world, and the career pathways it offers.

This should provide information on some real world issues and how scientists are looking to make changes in those fields!

You can sign up at <https://festivalsofchemistry.org/login>, but will need a school code which can be obtained by e-mailing festivals@saltersinstitute.org

Please explain in your email that you are interested in accessing the page for the Chemistry Changemakers award, with your school name and post code.

USEFUL LINKS

The 17 UN Development Goals:

<https://sdgs.un.org/goals>

Office for National Statistics:

<https://www.ons.gov.uk/>

National Geographic:

<https://education.nationalgeographic.org>

NHS Statistics:

<https://www.england.nhs.uk/statistics/>

Inventions supporting society:

<https://greenisthenewblack.com/10-crazy-but-cool-inventions-that-are-solving-the-worlds-environmental-problems/>

Government data:

<https://www.data.gov.uk/>

Greenpeace:

<https://www.greenpeace.org.uk/all-resources/education-resources/>

Inventions tackling environment:

<https://pvcase.com/blog/7-new-inventions-that-could-fight-the-effects-of-climate-change/?privacy=updated>

BBC news:

https://www.bbc.co.uk/news/science_and_environment

The Prime Minister's priorities: <https://communication-plan.gcs.civilservice.gov.uk/the-prime-ministers-priorities/>

The European Commission's priorities:

https://commission.europa.eu/strategy-and-policy/priorities-2019-2024_en

WWF:

<https://www.wwf.org.uk/get-involved/schools/resources>

Habitat for Humanity:

<https://www.habitatforhumanity.org.uk/>

Food cycle: <https://foodcycle.org.uk/who-we-are/reports-publications/>

Health innovations:

<https://www.mckinsey.com/industries/healthcare/our-insights/ten-innovations-that-can-improve-global-health>



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SCIENTISTS MAKING A DIFFERENCE

Dr. Laura Barter

Reader in Plant Chemical Biology
in the Chemistry Department at
Imperial College

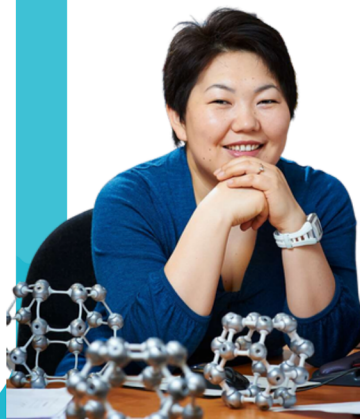
Currently she is working
on creating Chemical
Biology tools to to
ultimately enhance
photosynthetic
efficiency & crop yield.



Dr. Asel Sartbaeva

Reader in at the University of Bath

She has developed a silica coating
which prevents
vaccines from
degrading at room
temperature. It could
provide better access of
vaccinations for
millions of people,
especially in hard-to-
reach communities.



Professor Tom Welton

Professor of Sustainable Chemistry
at Imperial College London

His research focusses on
Sustainable and Green
Chemistry, aiming to
make related industries
more environmentally
and economically
sustainable.



Gitanjali Rao

Recognised as America's Top Young
Scientist and received an EPA
Presidential award for her inventions

This includes "Tethys"—a
tool used to detect lead
in water, and "Kindly"—
an anti-cyberbullying
service using AI and
Natural Language
processing.





**THANK YOU FOR APPLYING TO BE A
CHANGEMAKER!**

**PLEASE SUBMIT YOUR POSTER AND
APPLICATION FORM TO US BY
FRIDAY, 5 JANUARY 2024 AT 9pm.**

**WE LOOK FORWARD TO RECEIVING YOUR
APPLICATIONS.**

Remember to apply through our website:
**[https://saltersinstitute.org/programmes/awards/
changemakers-award/](https://saltersinstitute.org/programmes/awards/changemakers-award/)**

If you have any issues or questions please contact
awards@saltersinstitute.org using your school email
address.

Please don't forget to also cc your educator into the
email.

