The Institute for Research in Schools

TEACHER GUIDE

IRIS

IRIS was founded on the belief that young people have the capacity to change the world.

Overview

When education empowers young people with the tools, they can contribute to the community of scientific research right now.

Since 2016, we've worked with leading universities and industry to create ways for school-aged students to get involved in today's research projects.

Our projects are free for UK state schools and fully supported by our team. They are suitable for students of all ages and abilities from secondary school to sixth form and college. They cover a vast range of subjects from coding to chemistry and geography to particle physics - so students can explore subjects that interest them.

We've designed our projects to launch in the autumn and wrap up before our summer conferences. But schools can choose a timeline that suits them.

Most schools run IRIS projects as an additional session, often after school or at lunchtime. Others run them within timetabled lessons or for Extended Project Qualifications. How you run your research at your school is entirely up to you and what works best for you and your students.

Whether you need advice on picking a project, designing a research poster for our conferences, help getting your head around an unfamiliar subject or anything else; our Regional School Engagement Leads are here to support you. As former teachers, they understand the challenges of the profession and will be eager to help or point you in the right direction.

Meet our engagement team

Anne O'Leary
Regional Lead

Mike Grocott
Regional Lead

Dr Neil Garrido
Regional Lead

About us

IRIS wants to change the culture in UK education so that authentic research and innovation is part of every young person's experience.

Our charity:

- Provides life changing opportunities for young people to take part in high-level meaningful research projects while in school
- Showcases the impact of research and innovation in schools
- Facilitates, influences and drives change to embed a culture of research and innovation in schools

400+

Since 2016, we've worked with over 400 schools

80+

Universities and institutes involved in IRIS projects

2750+

Students, teachers, researchers and members of the wider STEM community have participated in our conferences over the last five years

Student, Limavady Grammar School

"Instead of just reading from a book, I had the chance to figure out what works and doesn't. So the learning stuck with me."

Student, Queen Elizabeth's School

"It built on our foundations in A-level maths and furthered our programming skills in Python, reinforcement, and machine learning."

89%

Of IRIS students attended state-funded secondary schools, sixth forms or colleges in 2023

6 OUT OF 8

IRIS research projects help to meet 6 of the 8 Gatsby Benchmarks

Chemistry teacher, St John Fisher Catholic Voluntary Academy

"IRIS is a breath of fresh air that has supported students and staff in our school to conduct research that would never be possible without their help. There is no stress, no planning, just a premade project for you to pick up and enjoy. The only thing you need is enthusiasm and resilience."

97%

Of teachers involved in IRIS said students were more engaged and motivated by science after completing an IRIS project

IRIS projects

Whether student research is a new concept in your school or you have an existing culture of research; we have projects to suit different year groups and interests.

All our projects have suggested age guidelines to help you choose the best projects for your students. But with additional teacher support, there is no reason students couldn't do a more advanced project.

We suggest starting small; choose one project for a few students and see how it works. Once you and your students become more confident with the project, you can invite more students to join the following year. Maybe consider working with other STEM departments on cross-curricular research, including computing, design, geography or maths.

Students can either work in groups or individually. We support those doing original research projects too. This could be an extension to a previous IRIS project or a novel research idea in a completely different field – we encourage all paths. Our projects can form the basis of an Extended Project Qualification (EPQ) or other student awards, like CREST. Many schools have used our projects as an enrichment activity, allowing students to set up their own research groups with minimal support from teachers.

Our charity provides support and assistance to make facilitating research in school as easy and simple as possible. You don't have to be an expert in the area your students are researching. We have a team of specialists that can help. You can reach out to our Regional School Engagement Leads at any time.

Getting started

1
Join
Register online:
https://researchinschools.org/join/

2
Let's talk
We'll be in touch to arrange a time to talk through our projects and discuss how we can support you.

3
Agree a plan of action
Together we'll agree the best plan for your school. To garner your school's support, we'll send you an online agreement to complete.

4
Get prepared
Once we have your agreement, you'll receive login details for the IRIS Resource Centre, where you'll find our project resources.

5
Tell us who's taking part
Once you've scanned through the Phase 1 documents on the Resource Centre, submit the student registration form.

6
Check-in
Get in touch with your Regional School Engagement Lead to talk about resources, ask questions and share any concerns.

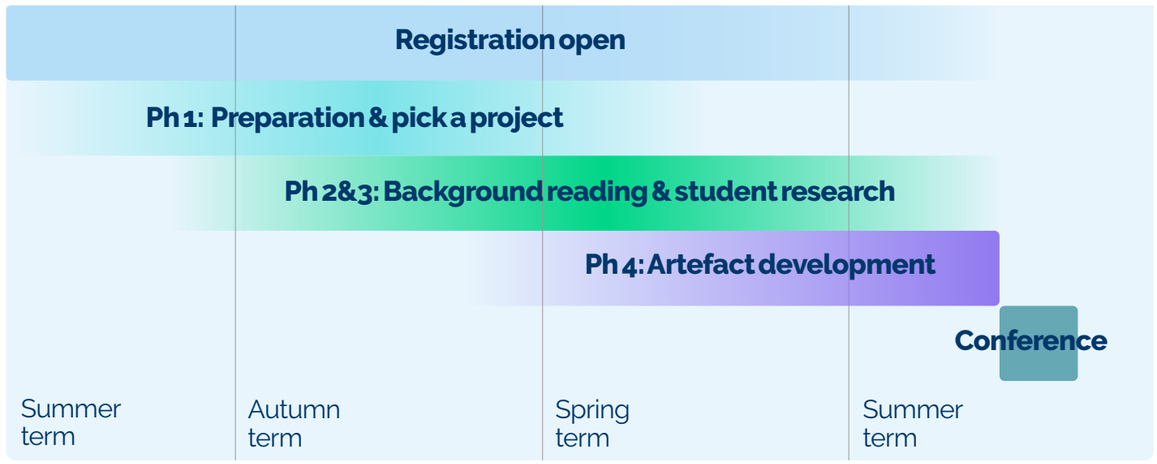
7
Set expectations
Complete the teacher and student online surveys to set your students' expectations for the year.

8
Keep informed
Look out for our 'Month ahead' emails from info@researchinschools.org, with updates and news, including the latest webinars and events.

Flexible timeline

Our research projects are designed to run through the academic year. However, schools are welcome to register at any point. Many join in the autumn term (or even before the summer break) to ensure students have sufficient time for their research.

Phased, flexible timeline



There is, of course, flexibility in this timeline. Teachers can run projects to suit staffing capacity and other school commitments – whether that's starting a project mid-year or spanning research across two academic years.

Project phases

To empower students to work independently, IRIS projects follow four phases. Each project has its own resources and guides for each phase, which can be accessed online through the IRIS Resource Centre. This includes the student registration form, links to evaluation surveys and the Phase 1 Introduction booklet.

Phase 1 — Preparation & pick a project

After teachers get students on board and choose their project (we have material to help you do this), it's time to prepare and launch the project.

You can find all the materials you and your students will need to get started on the Resource Centre.

Phase 2 — Background research & skills development

With teachers' support, students develop the knowledge and skills required to successfully complete research using guides and resources found in the IRIS Resource Centre.

Some IRIS projects feature various tasks and activities for students to complete. Teachers will need to submit these before moving on to the next phase.

Phase 3 — Student research

Students should be ready to get started on their research. They'll systematically investigate, record, analyse and establish their conclusions.

Phase 4 — Artefact development & conference

Time for student researchers to communicate their findings by producing an artefact - an academic paper, poster or presentation. They can find guides and templates in the Resource Centre.

We encourage students to develop a poster to communicate their work so far - even if they plan to continue their project. Schools can showcase posters an IRIS Student Conference,

Student conferences

Our annual conferences are a chance for IRIS students to share their research with their peers from other schools and the wider academic community.

Like most academic conferences, the day features poster sessions, research presentations, a keynote speaker and a panel discussion with real researchers.

Whether preparing or taking part, the conference experience strengthens self-confidence, builds communication skills and fosters collaboration with like-minded individuals. To support schools, we offer guides and templates for preparing academic posters and presentations and provide feedback for those wanting it.

IRIS conferences are free to attend and every project group gets their poster printed. Registration opens in spring. Once you are registered with IRIS, further details for conference can be found on the IRIS Resource Centre.

More information can be found on the IRIS website.

"It's nice to see the different opinions from other schools and the approaches they take to their research."

Yumi, Student, Camden School for Girls

433

Students from 56 schools attended the IRIS conferences 2023

89%

Of students registered for conference were from state funded schools, sixth forms or colleges

"It's good as we're all pushing ourselves out of our own comfort zones."

Mehreen, Student, Lampton School

"It's really nice to see the students' work displayed. It's something they can be really proud of."

Samantha Costa, Teacher, Cumberland School

"Students are doing really well-motivated work, using advanced and appropriate methods and tools, most familiar to those at graduate level."

Alan Barr, Professor of Particle Physics at the University of Oxford

98%

Of teachers agreed that students gained the experience of a real research conference

IRIS events

IRIS events offer students additional opportunities outside of the classroom to contextualise their research, gain new experiences and meet researchers.

Awards ceremony

Launched in 2022, the IRIS Awards celebrate student research, from young people's outstanding work to the teachers and partners that make it possible. Award nominees are selected at the end of each academic year, with winners announced at the IRIS Awards ceremony in September. Held in London, the event is attended by students, teachers, project partners, IRIS trustees and the wider scientific community.

International Day of Women and Girls in Science webinar

To celebrate women and girls in science, we bring top women scientists together to talk about their work and how they got there. The online session is an opportunity for budding scientists to learn more about STEM careers and the unique paths panellists have taken to get there.

The next generation of particle physicists

IRIS students met particle physicists at the **Rutherford Appleton Laboratory (RAL)** for a masterclass as part of **Big Data: ATLAS**. Organised by RAL and the **University of Oxford Department of Physics** to encourage young people to pursue a future in STEM subjects, students received ATLAS coding support, took part in a particle physics lecture, attended careers talks and toured the Diamond Light Source and ISIS Neutron and Muon Source.

Shattering perceptions of chemistry

IRIS students from Northern Ireland visited Queen's University Belfast to kick-start their research for **Ionic Liquids: Towards Greener Fragrances**. They analysed samples and met academic researchers in the Ionic Liquids Laboratories at the School of Chemistry and Chemical Engineering, the oldest and most established centre dedicated to studying ionic liquids.

Art, science and computer design at nanoscale

As part of our **DNA Origami** project, IRIS students met with scientists at the University of Leeds to share their research, learn more about nanotechnology and discover potential careers in materials science. They had a chance to see inside the £100 million Sir William Henry Bragg Centre – the newest building on the University campus – and cutting-edge equipment usually used by PhD level researchers.

Young Researcher Programme

As part of the IRIS Young Researcher Programme, our team provides bespoke, one-to-one support for students writing up their research.

The programme is open to all state school students who have worked on a novel piece of research, which would be suitable for a published article or journal paper.

Each year, we guide these students on how to publish their work through online or in-person meetings, webinars and workshops. Students can also access support materials online through our Resource Centre.

"It has helped me to get a thorough feel of a complete academic research project, which will be really useful going ahead, as I wish to gain a PhD in a physics specialism"

Surayyah, Student, Bordesley Green Girls' School and Sixth Form

Any questions?

Please get in touch:

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info@researchinschools.org

Facebook, X & YouTube:
ResearchInSch

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