



STEM

Research Placements Guide



Introduction

The STEM Research Placement scheme will help to inspire the next generation of researchers. It's an opportunity to give 16-year-olds the chance to discover what a career in STEM (science, technology, engineering or maths) might be like – particularly if they have no family history of attending university or working in a STEM environment.

What are STEM Research Placements?

The STEM Research Placement scheme will give post-15 students hands-on experience of a professional research environment through a 2 week placement in their long school holiday, or a series of one day or half day placement. On the placement the students will carry out a real research project.

The programme will be run by the Inspiring Science project team. It will work through regional networks to link talented students with organisations undertaking research. It will ultimately work with hundreds of different organisations, including universities, commercial companies, government departments and agencies, voluntary organisations and research institutes. The scheme will ultimately aim to place over 1,000 students per year during the school long holiday.



By working with STEM professionals, students will gain insight into a wide variety of STEM careers. They will be able to make more informed choices about what to do after school. The placement scheme will provide students with a life-changing opportunity that will help transform them into a future researcher.

Who are STEM Research Placement students?

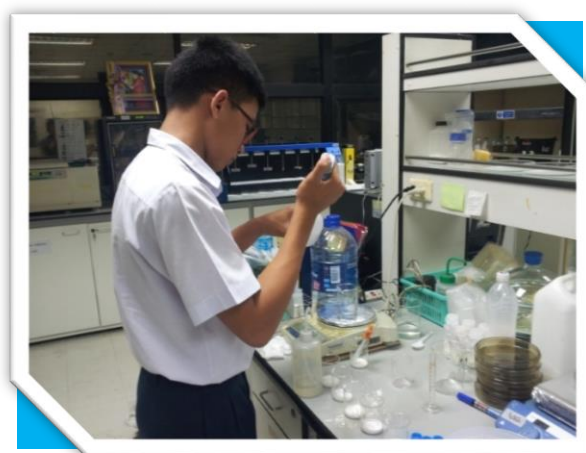
A typical STEM Research placement student will be a 16-year-old student from an OBEC school. They will have just completed their first year of an upper secondary programme in science, technology, engineering or maths.

The students will be intelligent, enthusiastic and committed, and will have been through a rigorous selection process, as places will be limited. We will actively encourage participation from students without a family history of going to university, as well as those attending schools in disadvantaged or rural areas. We make sure no-one is excluded on a financial basis.

Eligibility Criteria

Students will:

- be in their first year of post-15 studies (M4)
- be studying maths, science, engineering or a technology-related subjects in the science stream
- be studying at an OBEC school
- have a good academic record in science and mathematics
- have an interest in studying science, technology, engineering or maths at university
- want to find out more about careers in STEM



Teachers

Undertaking a STEM Research Placement will inspire and motivate your students. It will help to develop their skills and confidence to carry out their own STEM research projects. The experience can be particularly valuable to students who don't have a family history of going to university, or who come from low income families. We want more students from these backgrounds to apply.

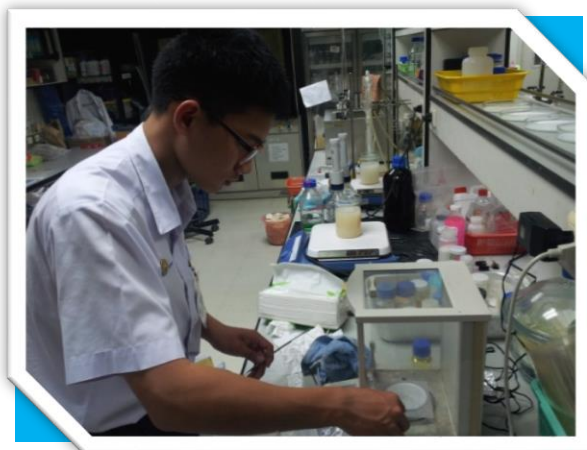
STEM Research Placement expectations

STEM Research Placements are authentic, hands-on research projects, where students will be contributing to the work of their host organisation. They will have a defined project, and be well supervised, but they will also be expected to work independently and use their own initiative.

We will offer placements across all types of science, technology, engineering and maths, and the more open-minded students can be about what placements they will take on, the more likely we are going to be able to find a placement that suits them. If they are too specific about what they want to do - for example, you only want to work on a project about sea turtles - it will be harder for us to find them a relevant project. STEM Research Placements are about skills development as much as subject development - the idea is to learn as much about research skills as the students do about the topic they are working on. Placements are reliant on researchers giving up their time, so they want to see enthusiastic students every day!

When do STEM Research Placements take place?

STEM Research Placements are 2 weeks in length or a series of one or half day placements and take place in the school long holiday or semester.



If I have students interested in taking part in a placement during the school long holiday what should I do next?

Firstly, you should contact your regional coordinator who will be able to provide you with application forms for your students and some guidance notes about the scheme. Your students may find it useful to talk to you about the type of project that interests them before completing their application form. Encourage students to complete an Application Form and then complete the teacher section before submitting the forms

to the Inspiring Science Coordinator. Each student will need to complete an application form. If you have a number of students applying for the scheme, you will only need to provide details about the school as well as supporting the students' application on one of the application forms. You should then submit all of your forms to your local Inspiring Science Coordinator.

What are you looking for in a reference?

In your reference you should comment on:

- the student's motivation and enthusiasm for science and for the area of science, technology, engineering and maths in which they have expressed an interest in finding a project
- how the student would benefit from a research experience - for example, if they come from a family with no experience of higher education, they may benefit from exposure to a new career route
- the student's ability to make a contribution to the project and how the project could provide particular benefit to the student's maturity and career decisions
- the student's ability to work as part of a team and take instructions
- the student's ability to work on their own and take responsibility and initiative
- any other particular skills and attributes that make the student a suitable candidate for a STEM Research Placement

How do I support my students?

A strong written application is the most important part of the process. You can help by talking through ideas with your student, and offering them support. You can help by passing on any contact you have who might be interested in hosting a student. Finding placements is challenging, so the more open-minded students can be about what they want to do and where they want to go, the more likely we are to be able to find them a suitable placement.

Is each student that applies guaranteed a place on the scheme?

The scheme is competitive, and there are a limited number of placements for each region.



Who arranges student placements?

If the student attends an OBEC school, your local Inspiring Science coordinator will help to match you with a project in a university or industry near you.

Project providers

How can I get involved?

The first thing to do is contact your local Inspiring Science coordinator. They can advise you on setting up a placement, give you more information about how the scheme works and help you to shape your project ideas into a distinct plan, with defined scientific or technical content. Your coordinator will then find an appropriate student for your project, and you will have the opportunity to interview the student before he or she starts.

Benefits of hosting a project

STEM Research Placement students will require supervision and guidance, but in return they will make a significant contribution to your organisation. Our students work to a high standard on different types of projects, depending on the organisation and its priorities. For example, it could be a pilot project, or one that has been temporarily shelved due to lack of time, or a specific part of a larger project. It could be lab- or field-based.

Work done by students often leads to published papers, and has been used as the basis for grant applications.

In addition, supervising a student helps researchers to develop their own teaching and mentoring skills. This is particularly useful for PhD students, postdoctoral researchers, and staff looking to gain management experience.

Many of our host organisations provide placements as part of their public engagement or corporate social responsibility work. Universities in particular are increasingly accountable for their access work, and supervising a student shows that your institution is committed to increasing opportunities for young people in your local area.

Host organisations are not required to make any kind of financial commitment.

What should the student do on arrival?

The student will need a general induction to your organisation including appropriate Health & Safety training, introductions to other members of staff and familiarisation with the project. This will probably require introducing new techniques and tools, and pointing the student to background reading. Warn them that the first few days will be atypical with lots of new things to get familiar with. Set out their working hours and the conduct that is expected of them. Encourage them to ask questions and check their understanding of what you've told them.



What sort of work should I give them?

Define the goals of the project as far as possible at the outset through discussion with the student. Try and give the project a self-contained identity even though it may be part of a bigger scheme of work. Allow the student to work independently where practical. As far as possible, the outcome should be reasonably achievable in the time available (2 - 4 weeks). The Inspiring Science Project hopes that this work will be a useful contribution to the host organisation.

How much direction should the student have over the research?

Although there may be a tried and tested route to investigating the question posed at the start, a student should be given a chance to pose different ideas and be imaginative. Then guide them to the most suitable (which you will know from experience). Generating the solutions is the creative part of the project for students. "Creativity" for the student is a clever solution to a problem that is new to them - even though it may be old hat to you. Your encouragement and interest in what they are doing is extremely valuable.

What paperwork does the student fill in?

They need to keep a log, diary or laboratory day book as appropriate within your organisation. A Friday afternoon review of the week and planning for next week is an ideal time to do this. The student must also write a Report at the end of the project and present their work at a STEM Fair.

Can commercial organisations or businesses supervise undergraduate research bursaries?

Yes. As long as there is a STEM research project for the student, placements can take place anywhere.



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