STEM partner guidance for projects supporting students with Special Educational Needs and Disabilities

The STEM partner is an essential part to any Partnership Grant project, supporting the lead teacher to develop the project idea, assisting with the application preparation and supporting students throughout the course of the project.

The STEM partner can provide subject specialist knowledge, help to share key science, technology, engineering and maths (STEM) skills, and provide an insight into the STEM world of work. Their contribution to the project should be agreed between the STEM partner and the school before the application to the scheme is submitted. Please visit www.royalsociety.org/partnership to find out more about the benefits of being involved with a Partnership Grant project, the role of a STEM partner, and how the application process works. There is additional guidance for schools involving students with special educational needs and disabilities (SEND).

If you are supporting an investigative project that involves students with SEND, there are a few extra things that you will need to consider to ensure the project runs smoothly.

☐ **Speak to the lead teacher about the level of science that is suitable for the students you will be working with**. It is important <u>not</u> to assume that students with SEND will struggle with challenging investigative work. Depending on the nature of their needs and disabilities you should check:
  o what is the most appropriate approach to take to explain or conduct the scientific enquiry; and/or
  o which is the best end goal for the project so that it is realistic and achievable.

☐ **Speak to the teacher about communication with students.** Some students may be supported with symbol systems (eg Widgit) or sign language (eg Makaton); are there key terms which will need interpreting? When working with students with SEND, awareness of body language can be important too.

☐ **Speak to the teacher in advance about how best to introduce yourself to the students.** Dependant on the students' needs and disabilities, you may need to organise some face to face visits to the school in advance of the project starting, to get to know the students informally. This will also help you plan your activities more effectively.

☐ **When planning your activity with the school, you should discuss the following things with the lead teacher:**
  o **How can you help to ensure the consistency of face-to-face time**? For example, what might affect your ability to attend a session with the students, how might this affect them, and what could you and the teacher do to mitigate this?

  o **Which students are going to be involved, and what size of groups will they be able to work in?** Project groups of students with SEND might be made up of students from different academic years and group sizes may be smaller to enable students to work productively together, considering their varied needs.

  o **How will you make the project meaningful and topical for the students?** As well as exploring the science, are the contexts used relatable? What skills will they be developing that will help them to prepare for their future working lives.

  o **Where will certain activities, occurring during the project, take place**? For example, if you would like them to attend your place of work, will they be comfortable doing this and how can you help the teacher prepare the students in advance of

visiting an unfamiliar setting? Does your workplace have suitable toilet facilities and a quiet place where students can be taken if they need a break? How many adults from the school will be needed to chaperone them onsite? These things should not be prohibitive and can generally be easily sorted if you have a discussion with the lead teacher in advance.

- o **What practical activities will the students be undertaking as part of the investigation(s)?** Be aware that loud noises, flashing lights, strong tastes and smells can be challenging for some students with SEND. If undertaking a practical activity in the school, consider any equipment you might be bringing in to support the investigation that the school does not have access to. Will the students be able to operate it, or do you need to think about support and modifications with the lead teacher's advice?

- o **Will you need to change the structure of the classroom/lab space in the school to undertake the experiment?** Some students find change to their daily routine and familiar spaces very difficult. You may need to work with the teacher to adapt the activities to the existing space and time available.

☐ **Check if there are any confidentiality issues around the specific needs or disabilities of any of the students.**

☐ **Get support in understanding SEND in schools**. As SEND in schools is varied, you may wish to use an intermediary informal education provider for SEND schools (for example, your local Science Learning Partnership or Lightyear Foundation representatives) to support you and the teachers to ensure that your project activities are feasible and tailored before they are presented to the students. Please be aware that there may be costs associated with this expertise, and any expenses will need including in your grant application.

It is useful to be aware of some of the acronyms and abbreviations used regarding SEND in education, although we encourage you to speak with the lead teacher to better understand the students you will be supporting. Below are some common acronyms and abbreviations that you may come across, although this list is not exhaustive.

- o **EBD** – emotional and behavioural difficulties
- o **MLD** – moderate learning difficulties
- o **MSI** – multi-sensory impairment
- o **PD** – physical disability
- o **PMLD** – profound and multiple learning difficulties
- o **SEN** – special educational needs
- o **SEND** – special educational needs and disabilities
- o **SLD** – severe learning difficulties
- o **SLCN** – speech, language and communication needs
- o **SpLD** – specific learning difficulties

- o **ADD** – attention deficit disorder
- o **ADHD or ADHS** – attention deficit hyperactivity disorder/syndrome
- o **ASD** – autism spectrum disorder
- o **HI** – hearing impairment
- o **VI** – visual Impairment

- o **ESCO** – early support care co-ordinator
- o **EWO** – education welfare officer
- o **IEP** – individual education plan
- o **LA** – local authority
- o **OT** – occupational therapist
- o **SENDCo** – special educational needs and disabilities coordinator
- o **STT** – specialist teaching team
- o **TA** – teaching assistant