

SFI Plaque of STEM

All primary schools meeting the criteria can apply for an SFI Discover Science and Maths Award in 2021/2022.

The second level of the Award is the SFI Plaque of STEM, which will award your school's deeper engagement with STEM; whole school involvement, working with others e.g. collaboration with other schools, visits to centres, participation in STEM events or inviting speakers to school, in person or virtually!

How to apply for an SFI Plaque of STEM

- ▶ From the **13th October 2021** you can register your school's intention to apply for a Certificate of STEM through the DPSM homepage, www.primaryscience.ie.
- ▶ Once registered, you will receive an automated email from primaryscience@sfi.ie with your log-in details. The application form buttons will appear on your profile for you to begin working on your application.
- ▶ The Awards are now fully digital, and all application forms must be completed through the online system.
Note: We no longer accept hard copy Logs of Evidence.
- ▶ The online platform will enable you to upload digital evidence (pdf, PowerPoint, Word, video, web URLs) directly to the system for each step.
- ▶ Approval from your school principal is required before your application can be submitted to Science Foundation Ireland. Your principal will be emailed a link to approve your application.
- ▶ Once approved, make sure to log back in and click 'Submit'. The closing date to submit your application is **5p.m. on 29th April 2022**.

Providing your school's Log of Evidence

- ▶ This is simply evidence to back up your answers within the application and provides an account of the hands-on, student-based STEM work carried out in your school.
- ▶ Your evidence should be uploaded with a file name that clearly aligns to the criteria within each step of the application e.g. a PowerPoint labelled "Step 1 – Science".
- ▶ All evidence of STEM work should represent the students' hands-on learning including clearly labelled photos/videos/projects/written accounts. Teacher write-ups and lesson plans are not judged.
- ▶ There are a number of ways to present your Log of Evidence but some of the best are, a clearly labelled blog/website, a clearly labelled social media post, a PowerPoint file for each step or a Word/pdf document for each step.
- ▶ We cannot judge Logs submitted by email, on USBs, folders with multiple files, hard copies or using a format that isn't compatible with Windows, or any that require a password to access.

Note: Please check your application to ensure that all links and files are easily accessible and clearly labelled before submitting. We may return your application if it is not well organised or not clearly labelled.

Tips from Award winning schools

- ▶ Start early and plan to ensure all steps of the programme will be covered. Assign different tasks to different classes - Remember if each class meets one or two of the criteria the load is shared!
- ▶ Make sure the activities are suitable and accessible to all the learners in the class.
- ▶ Keep investigations and activities relevant to the learners everyday lives and environments.
- ▶ Take photos of each experiment as evidence for your Log of Evidence. Photos and pictures can tell as much as, or more than, long written accounts.
- ▶ Create a folder on a shared drive for teachers to upload their work as it is completed.
- ▶ Set up a STEM section on the school website or blog. Teachers (or students!) can then upload evidence all through the year. Make sure to organise headings under the relevant steps.
- ▶ Assign one member of staff responsibility for compiling and submitting the Log of Evidence.

Award criteria for SFI Plaque of STEM

Participation must involve most classes (more than half the classes in the school) in some aspects of the steps outlined below. Activities for this include STEM investigations, trips and speaker visits (virtual options accepted), attending at or presenting at a science open day, in school or digitally.

STEP 1 - Science

Provide evidence of the **learners** engaging in science activities in the school, or online.

One hands-on investigation from each of the four curriculum strands (four in total):

- ▶ Living things
- ▶ Energy and forces
- ▶ Materials
- ▶ Environmental awareness and care

You may come up with your own ideas, use the DPSM/ESERO resources on www.primaryscience.ie or www.esero.ie, or any other options that are available to you.

Two or more of the following:

- ▶ Participate in science events or projects run by other organisations (live or online), see examples at www.sfi.ie/events on www.primaryscience.ie.
- ▶ Invite a science speaker to your school, in person or digitally. Check out Skype a Scientist.
- ▶ Virtual or in-person visit to an SFI Discover Centre. Check www.primaryscience.ie.
- ▶ Take part in Science Week www.scienceweek.ie.
- ▶ Take part in Space Week www.spaceweek.ie.
- ▶ Show how pupils **have used STEM skills** in projects on environment or sustainability. (see www.seai.ie/teaching-sustainability/primary-school or www.greenschoolsireland.org for ideas).
- ▶ Take part in Citizen Science Projects e.g. www.biodiversityireland.ie, www.birdwatchireland.ie, www.exploreyourshore.ie.
- ▶ Take part in I'm a Scientist Get me out of here www.imascientist.ie or I'm an Engineer www.imanengineer.ie.

STEP 2 - Technology

Provide evidence for **two or more examples** of how the **learners** used technology as part of their school work. By technology we are referring to the use of Information Communications Technologies (ICT), coding or robotics (see list below).

Examples can include:

- ▶ Record and analyse data collected e.g. a spreadsheet or graph.
- ▶ Develop a blog, website or video.
- ▶ Use electronic components to build simple circuits.
- ▶ Take part in coding and computer science projects: National Scratch Competition, Hour of Code, EU Code Week.
- ▶ Explore robotics e.g. First Lego League.
- ▶ Engage pupils in the use of game-based learning such as Minecraft.
- ▶ Participate in Tech Week in March.
- ▶ Explore renewable energy technologies e.g. use solar energy kits.

STEP 3 - Engineering

Provide evidence for **two or more examples** of how the **learners** investigated engineering in class or in the local area. Video and photo evidence of at-home investigations are also accepted.

Examples can include:

- ▶ Design and make activities e.g. making models (exploring, planning, designing, making, evaluating). For sample activities including design a bridge, a boat, a rocket, a water pump, a catapult, see the 'classroom activities' section of www.primaryscience.ie.
 - ▶ Digital investigations of engineering (example- using Google Maps, online research and project creation) are accepted.
 - ▶ Investigate and develop an understanding of how everyday items (e.g. bicycle gears work).
 - ▶ Organise an event during Engineers Week or use the Engineers Week classroom pack.
 - ▶ Participate in the STEPS Young Engineers Award.
- Note: The use of PowerPoint, ICT and online supports by teachers do not count as technology for this Award.

STEP 4 - Maths

Provide evidence for **two or more examples** of how the **learners** have applied their maths knowledge and skills in practical ways.

Examples can include:

- ▶ Children using maths skills and knowledge as part of science, technology, engineering/design and make, or other activities such as baking or gardening e.g. ordering, measuring distances, capacity, weight, recording and analysing data. Using maths operations; ratio, percentages, averages.
- ▶ Use maths to record and analyse your science investigation results where appropriate.
- ▶ Take part in Maths Week.
- ▶ Develop a maths trail around your school.
- ▶ Use maths in practical ways to help explore and solve real world problems.
- ▶ Take part in other maths focused activities e.g. Mathletes Challenge, Mangahigh or Maths Eyes.

STEP 5 - STEM Show and Tell

Provide evidence for **one or more example** of how the **learners** have presented and explained their STEM work to others (**beyond their own class**).

Examples can include:

- ▶ Evidence of students presenting their science work to others in the school or online e.g. digital showcase over Zoom with parents/grandparents/other classes.
- ▶ Take part in a science fair (live or online) where students present and discuss their STEM projects e.g. ESB Science Blast, Junior Lego League, BT Young Scientist.
- ▶ Take part in Creating Our Future by using our resources and completing the show and tell aspect with your classes. For more information, go to www.primaryscience.ie. The first resource will be available from mid-September 2021.

Reflections

Please include examples of reflections from teachers about the STEM showcase.

- ▶ Are pupils more excited about their STEM work?
- ▶ Can children clearly articulate what they have learned?
- ▶ Evidence of reflections can include written feedback, videos, testimonials, surveys etc.

For queries please contact: primaryscience@sfi.ie