

SFI Certificate of STEM



All primary schools meeting the criteria can apply for an SFI Discover Science and Maths Award in 2018/2019.

The first level of the Award is the SFI Certificate of STEM, which will award your school's engagement with STEM (Science, Technology, Engineering, Maths).



How to apply for an SFI Certificate of STEM

- ▶ From the **2nd of October 2018 to the 15th of March 2019** you can register your school's intention to apply for a Certificate of STEM through the DPSM homepage (www.primaryscience.ie).
- ▶ All application forms **must** be completed through the **new online system** this year. At the start of April, you will receive login details for your online application form by email (*if you have registered*), which **must** be submitted electronically*.
- ▶ The online system will help you to create a digital log of evidence by allowing you to **upload evidence saved in PDF format directly** to the system for each step.
- ▶ **Approval from your school principal** will be required before your application can be submitted to Science Foundation Ireland, and your principal will be emailed a link to electronically approve your application when it is ready.
- ▶ Closing date for receipt of Logs of Evidence and submission of the online application form is **1pm on Friday 3rd of May 2019**.

***Please Note:** While we are willing to accept hard copy Logs of Evidence that are posted to Science Foundation Ireland this year, we would encourage you to prepare a digital Log of Evidence that can be uploaded to the online system, as this will help us to move to a more environmentally friendly and sustainable process, which is good news for the planet!

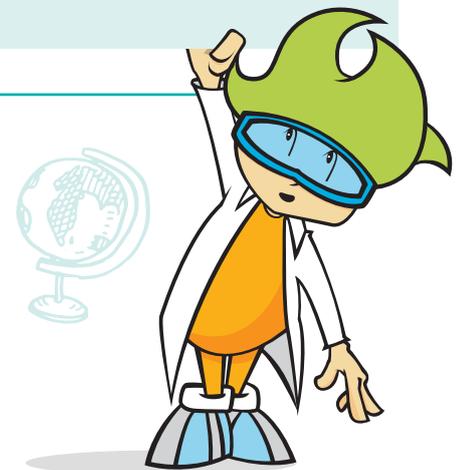
Providing your school's Log of Evidence

- ▶ Logs are simply evidence that the STEM work described overleaf has been carried out. Your log should provide only the evidence that the judging panel needs to demonstrate that your school meets all the criteria required.
- ▶ Logs should be divided, and marked clearly into sections as per each Step of the Awards Criteria (eg Step 1 – Science, Step 2 – Technology, Step 3 – Engineering, Step 4 – Maths, Step 5 – STEM Show and Tell).
- ▶ The evidence included can be students' accounts of work carried out, photos, videos, etc.
- ▶ Logs of Evidence can be stored on the school website or blog (remember to upload and organise evidence under the relevant Steps). Then simply include the URL in the online Awards application system.
- ▶ Digital Logs of evidence created using programmes such as MS Word, MS PowerPoint or other similar programmes **saved in PDF format** can be uploaded directly to the Awards online application system.

Note: While we celebrate your effort, we don't need to see everything the school has done – just evidence that each criterion has been met.

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 children in the class.
- ▶ Keep investigations and activities relevant to the children's 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 the 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.





Participation: Involve a minimum of 2 classes

STEP 1 - Science

Provide evidence for **3 examples** of the **children** engaging in hands-on science investigations in school (indoors or outdoors). You and the children can come up with your own ideas or use the DPSM classroom activities guide on www.primaryscience.ie, ESERO Ireland activities www.esero.ie/primary-level, or **any other resources** available to you.

3 hands on investigations from any of the four curriculum strands:

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

STEP 2 - Technology

Provide evidence for **1 example** of how the **children** used technology as part of their school work. By technology we mean the use of Information Communications Technologies [ICT], coding, robotics or product design using materials (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.
- ▶ Use different materials e.g. wood, metals and plastics, for design and make projects.
- ▶ Take part in coding and computer science projects: National Scratch Competition www.scratch.ics.ie, Hour of Code www.hourofcode.com/ie, EU Code Week www.codeweek.eu
- ▶ Explore robotics e.g. First Lego League www.firstlegoleague.org
- ▶ Engage pupils in the use of game-based learning such as Minecraft.
- ▶ Use microscopes during investigations.
- ▶ Participate in Tech Week in May 2019 www.techweek.ie
- ▶ Explore renewable energy technologies e.g. Use solar energy kits, build simple windmills.

STEP 3 - Engineering

Provide evidence for **1 example** of how the **children** investigated engineering in class or in the local area.

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
- ▶ Investigate Engineering in your local area e.g. a bridge, a factory, a wind farm.
- ▶ Investigate and develop an understanding of how everyday items e.g. bicycle gears work.
- ▶ Organise an event during Engineers Week 2019 or use the Engineers Week 2019 classroom pack.

STEP 4 - Maths

Provide evidence for **1 example** of how the **children** 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 2018** www.mathsweek.ie
- ▶ Develop a Maths trail around your school, see www.primaryscience.ie for templates.
- ▶ Use Maths in practical ways to help explore and solve real world problems.

STEP 5 - STEM Show and Tell

Provide evidence for **1 example** of how the **children** have presented and explained their STEM work to others (**beyond their own class**).

Examples can include:

- ▶ Show evidence of the children presenting their Science work to other classes in the school.
- ▶ Hold a Science open day or evening where students present and explain their STEM work to the school, parents or the wider community.
- ▶ Participate in a joint Science event with another school where students present their work.
- ▶ Take part in a Science fair where the children present and discuss their work e.g. ESB Science Blast, delivered by RDS, Junior Lego League etc.