All primary schools meeting the criteria can apply for an SFI Discover Science and Maths Award in 2019/2020.

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 speakers visits to school.

How to apply for an SFI Plaque of STEM

- From the 25th of September 2019 to 20th of March 2020 you can register your school’s intention to apply for a Plaque of STEM through the DPSM homepage (www.primaryscience.ie).
- All application forms must be completed through the online system this year. After completing registration, you will receive an automatic email from primaryscience@sfi.ie with your login details and the application form will be available for you to start working on from the end of October.
- 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.
- If you would prefer to create a blog or website for your Log of evidence, you can include a link to this site in your online application form.
- Closing date for receipt of Logs of Evidence and submission of the online application form is 1pm on Friday 24th of April 2020.

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 STEM activity as evidence for your Log of Evidence. Photos, pictures of pupils’ work and videos can tell as much as, or more than, long written accounts.
- Upload your work directly to the system as it is completed.
- Set up a STEM section on the school website or blog. Teachers (or pupils!) 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.

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 (e.g. Step 1 - Science, Step 2 - Technology, Step 3 - Engineering, Step 4 - Maths, Step 5 - STEM Show and Tell).
- The evidence included can be pupils’ accounts of work carried out, photos or videos of children doing the activities in question, etc. Teacher’s written accounts alone do not suffice.
- 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.
**Award criteria for SFI Plaque of STEM**

**Participation:** Involve most classes i.e. more than half the number of classes in the school in some aspect of the steps outlined below e.g. investigations, using technology and maths, trips, speaker visits, presenting at or attending a science open day in the school or other events.

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**STEP 1 - Science**

Provide evidence of the children investigating and applying their STEM knowledge and skills (critical thinking, creativity, curiosity, collaboration, communication) in science activities and inquiry.

1 hands-on investigation from each of the four curriculum strands (4 in total):
- Living things
- Energy and forces
- Materials
- Environmental awareness and care

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.

AND 2 or more examples of how the children engage in informal STEM education:
- Participate in Science events or projects run by other organisations, see examples at www.sfi.ie/events or the ‘other resources’ section of www.primaryscience.ie
- Invite a Science speaker to your school
- Visit an SFI Discover Centre, see www.primaryscience.ie for details
- Take part in Science Week 2019 www.scienceweek.ie
- Take part in Space Week 2019 www.spaceweek.ie
- Show how pupils have used STEM skills in projects on environment or sustainability, see www.seai.ie/teaching-sustainability/primary-school, www.marine.ie/Home/site-area/areas-activity/education-outreach/explorers-education-programme or www.globe.gov

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**STEP 2 - Technology**

Provide evidence of 2 or more examples 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
- 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 2020 www.techweek.ie
- Explore renewable energy technologies e.g. Use solar energy kits, build simple windmills
- Investigate and develop an understanding of how everyday items work e.g. bicycle gears, bike pump, vacuum cleaner, hair-dryer etc.
- Organise an event during Engineers Week 2020 www.engineersweek.ie or use the Engineers Week 2020 classroom pack
- Participate in the STEPS Young Engineers Award www.steps.ie

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**STEP 3 - Engineering**

Provide evidence of 2 or more examples of how the children investigated engineering in class or in the local area by applying their STEM knowledge and skills (critical thinking, creativity, curiosity, collaboration, communication).

**Examples can include:**
- Design and make activities e.g. making models (exploring, planning, designing, making, testing, evaluating). For sample activities such as design a bridge, a boat, a rocket, a water pump, a catapult, see the ‘classroom activities’ section of www.primaryscience.ie
- Participate in the STEPS Young Engineers Award www.steps.ie
- Investigate Engineering in your local area e.g. bridge, factory, wind farm, church, sports facility
- Take part in Maths Week 2019 www.mathsweek.ie
- Develop a Maths trail around your school, see www.mathsweek.ie for templates
- 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
- Use Maths in practical ways to help explore and solve real world problems
- Engage pupils in the use of game-based learning such as Minecraft
- Use microscopes during investigations
- Participate in Tech Week in May 2020 www.techweek.ie
- Explore renewable energy technologies e.g. Use solar energy kits, build simple windmills
- Organise an event during Engineers Week 2020 www.engineersweek.ie or use the Engineers Week 2020 classroom pack
- Participate in the STEPS Young Engineers Award www.steps.ie

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**STEP 4 - Maths**

Provide evidence for 2 or more examples 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 etc.)
- Use Maths to record and analyse your science investigation results where appropriate
- Use Maths in practical ways to help explore and solve real world problems
- Engage pupils in the use of game-based learning such as Minecraft
- Use microscopes during investigations
- Participate in Tech Week in May 2020 www.techweek.ie
- Explore renewable energy technologies e.g. Use solar energy kits, build simple windmills
- Investigate and develop an understanding of how everyday items work e.g. bicycle gears, bike pump, vacuum cleaner, hair-dryer etc.
- Organise an event during Engineers Week 2020 www.engineersweek.ie or use the Engineers Week 2020 classroom pack
- Participate in the STEPS Young Engineers Award www.steps.ie

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**STEP 5 - STEM Show and Tell**

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

**Examples can include:**
- Hold a Science open day or evening where pupils 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, First Lego League

**Reflections:**
Please include in your log book examples of reflections from teachers about the STEM showcase. These could include:
- 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.

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For queries please contact: primaryscience@sfi.ie or 01 6073247