

All primary schools which meet the criteria can apply for a Science Foundation Ireland Discover Science and Maths Award in 2016/17.

Over the last number of years a gap has arisen between schools completing the minimum requirement to meet the award criteria, and those carrying out more extensive work in science, technology, engineering and maths (STEM). To reflect this divide Science Foundation Ireland will make two awards in 2016/17.

→ **A Certificate of STEM work in the school.**

→ **A Plaque of STEM Excellence** for deeper engagement; whole school involvement, working with others e.g. collaboration with other schools, visits to centres, participation in STEM events or speakers visits to school.

The adjudication panel will make the final decision on which will be awarded to each school.

Process

From October 3rd 2016 until March 16th 2017 you can register your school's intention to apply for an award on the website (www.primaryscience.ie). This is to give us an indication of how many schools will be participating in the coming year.

Immediately after the Easter holidays you will receive an application form by email (*if you have registered*) which **must** accompany your Log of Evidence. Closing date for receipt of Logs of Evidence accompanied by the application form is **5pm on Monday 8th May 2017**.

Digital logs may be sent using USB, CD or DVD or send us a URL to your school website or blog where you or the children can upload the evidence.

Logs of Evidence

- Logs are simply evidence that the STEM work has been carried out. Your log should provide only the evidence that the adjudication 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 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. Then simply send us the URL on the application form. Remember to upload and organise under the relevant Steps.

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

Tips from previous schools which received the Award of Science & Maths Excellence

- ✓ Plan early 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 the experiments 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 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 the Log of Evidence.

SFI CERTIFICATE OF STEM

2 classes

SFI PLAQUE OF STEM EXCELLENCE

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 ICT and maths, trips, speaker visits, presenting at or attending the science open day in the school or other events.

STEP 1 SCIENCE: Provide evidence of the **children** engaging in hands-on science investigations in school (indoors or outdoors). You can come up with your own ideas for investigations. You can use the DPSM classroom activities guide www.primaryscience.ie/teacherplanningguide, ESERO Ireland activities (www.esero.ie/primary-level), or **any other resources** available to you. Remember to use maths with your students to record investigation results where appropriate - this will help with STEP 4 Maths!

SFI CERTIFICATE OF STEM**3 hands-on science investigations**

These can be from any of the four strands:

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

SFI PLAQUE OF STEM EXCELLENCE**6 hands-on science investigations, with at least one from each of the four strands**

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

AND (choose from one or more of the following)

- Invite a science speaker to your school or visit a Discover Centre www.primaryscience.ie/activities_discover_centres.php
- Participate in science events or projects run by other organisations, see www.primaryscience.ie/outreach for some examples.
- Attend or host a Science Week event in 2016 (www.scienceweek.ie)
- Attend or host a Space Week event in 2016 (www.spaceweek.ie)

STEP 2 TECHNOLOGY (ICT): Provide evidence of how the **children** used technology as part of their school work. By technology in this step we mean Information Communications Technologies [ICT].

SFI CERTIFICATE OF STEM**1 example of the children using ICT**The following are some **examples** of ICT:

- Participate in the Irish Computer Society Scratch programme at <https://scratch.ics.ie/>
- Use technology to record and analyse data collected e.g. a spreadsheet or graph.
- Use technology to access a range of science/engineering/maths information.
- Evidence of the **children** developing a PowerPoint presentation.
- Develop a Blog, website or video (There must be evidence that this is the children's work). Use the school website or blog for your Log of Evidence. Get the children to upload the evidence. Remember to organise the website/blog using the STEPS as headings
- Additional examples can be found on the DPSM website at http://primaryscience.ie/awards_steps.php

SFI PLAQUE OF STEM EXCELLENCE**2 or more examples of the children using ICT**

STEP 3 ENGINEERING: Provide evidence of how **children** investigated engineering in class or in the local area.

SFI CERTIFICATE OF STEM**1 example of the children investigating engineering in class or in the local area**

- Check out the Engineers Week Section on the DPSM website investigations (http://www.primaryscience.ie/engineers_week.php)
- Search for any design and make activity e.g. making models (exploring, planning, designing, making, evaluating). For sample activities like design a bridge, a boat, a rocket, a water pump, a catapult see http://www.primaryscience.ie/activities_advanced_search.php
- Invite an engineer to the school to speak to the children about their work.
- Investigate engineering in your local area e.g. a bridge, a factory, a wind farm.
- Attend or host an Engineers' Week event in 2017 (www.engineersweek.ie)

SFI PLAQUE OF STEM EXCELLENCE**2 or more examples of the children investigating engineering in class or in the local area**

STEP 4 MATHS: Provide evidence of how the **children** used their maths skills.

SFI CERTIFICATE OF STEM**1 example of the children using their maths skills as part of their science work**

- Using maths skills and knowledge as part of science e.g. measuring distances, capacity, weight, recording and analysing data. Using maths operations; ratio, percentages, averages. Activities can be found here http://www.primaryscience.ie/activities_simple_search.php
- Use maths to record your science investigation results where appropriate.
- Attend a Maths Week event in October 2016.
- Develop a maths trail around school, see www.primaryscience.ie/mathstrail for examples.
- Additional examples can be found on the DPSM website at http://primaryscience.ie/awards_steps.php.

SFI PLAQUE OF STEM EXCELLENCE**2 or more examples of the children using their maths skills as part of their science work**

STEP 5 STEM Show and Tell: Provide evidence that the **children** have presented and explained their STEM work to others (beyond their own class).

SFI CERTIFICATE OF STEM**Choose one of the following:**

- 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 any science fair where the children can present and discuss their work e.g. RDS Science Fair, Limerick Education Centre Junior Scientist Science Fair etc.

SFI PLAQUE OF STEM EXCELLENCE**Choose one of the following:**