

Guidance Notes – 2018/2019 Barrow Engineering Project

Introduction

The Barrow Engineering Project (BEP) was launched in April 2008 and is a major component of the Academy's ongoing effort to encourage greater numbers of young people - and young people from a more diverse range of backgrounds - to become engineers and technicians.

This application invites schools and colleges within the BEP to apply for funding for the following purposes in AY 18/19

1. In-house funding for engineering activities (Main project/s) – up to £500
2. Tomorrow's Engineers Week – up to £150 (5th-9th November 2018)
3. British Science Week – up to £150 (8th – 17th March 2019)

Applications for all required funding should be made in a single application.

Eligibility Criteria

- Applications will only be accepted from schools invited to apply for the funding.
- Applications will be approved by a panel review from the RAEng
- Applications should demonstrate the provision of an enhanced 'E' in the STEM learning experience for students.
- Applications should demonstrate how students will develop an understanding of engineering careers.

Please note:

- Any applications that are incomplete or do not adhere to the guidelines may be rejected.

Submission Deadline

There is one round of applications held each year. The submission deadline for this round of applications is **Wednesday 10th October 2018 at 5pm.**

Contracts, Monitoring and Reporting

Each application will be reviewed by a panel from the RAEng. Once approved, a letter of notification will be sent to the designated in-school coordinator and orders can be placed by the school.

Once approved a contract will be provided to the in-school coordinator, which will need to be signed and returned to RAEng along with the completed bank details section of the contract.

In-school coordinators will be provided with an end of term report pro-forma and scorecard (template shown in appendix 2). The closing date for submission of the end of term report and scorecard via this Grant Management System will be Friday 5th July 2019.

Along with the end of term report schools and colleges will be required to submit an expenditure statement which itemises the equipment and/or services which the grant/s were spent on.

How to Apply

All applications must be submitted via the online Flexi-Grant application system, available here: <https://grants.raeng.org.uk>. All applicants must be registered with the Academy's single sign-on system, or must first register and provide some basic log-in details to create a profile.

All registrations should provide your name, the school/college contact details (not your personal contact details), which include your school/college address, your school email and phone number.

Completing the Application Form

After logging in to the Flexi-Grant system via the Academy website and selecting the Barrow Engineering Project you will be presented with the "Instructions" screen. Here you will see some general instructions on how to use the system as well as the application form:

At any stage in the application process you can save your work and return to it at a later time. You can answer the questions in any order you like so you may freely skip some sections to return to later if you so wish.

Application Form

Contact Details

As a registered user, the form should autocomplete your name and contact details. You must ensure your email address is recorded accurately, as this will be how the Academy will contact you regarding the application.

Q – *School/College*

Provide the name of your school/college

Funding Application

Q1. £500 is available to deliver one or more Engineering based STEM projects.

Applications can include aspects of Computing and Design/Technology

You may request funding for more than one activity. For each activity, please provide the following information:

Project Name

Brief Details

Provide brief details (maximum 150 words) of the proposed activity – [see Appendix 1 for examples.](#)

Start Date

Provide the start date of the proposed activity, or the date the activity will be taking place

Target Year Group

Please state which year groups will benefit from the proposed activity

Number of Pupils Involved

State the number of pupils likely to benefit from the proposed activity. Please also provide a likely gender breakdown of the pupils.

Funding Required

For each activity, state the funding required for the proposed project up to a total value of £500 for all activities.

Collaborative Project or in-house

State if the project will be a collaboration (between schools/colleges) or delivered in-house.

Priority will be given to re-useable and sustainable resources.

Q2. £150 is available to run an activity to mark Tomorrow's Engineers Week.

Tomorrow's Engineers Week is a 5-day celebration of Engineering careers taking place between 5th – 9th November 2018

Provide a brief description of an activity you wish to run to celebrate Tomorrow's Engineers Week in your school. If you are purchasing kit or equipment, please list what equipment you will be purchasing and how it will be used.

Examples of previous Tomorrow's Engineers Week funding include:

- TechCard construction kits
- STEM Lego Club
- Badge Maker

Please also indicate how many students are likely to benefit from the activity.

Please visit the [Tomorrow's Engineers Week website](#) for more information and to request a toolkit.

Q3. £150 is available to run an activity to mark British Science Week

British Science Week is a ten-day celebration of STEM taking place between 8th – 17th March 2019.

Provide a brief description of an activity you wish to run to celebrate British Science Week in your school. If you are purchasing kit or equipment, please list what equipment you will be purchasing and how it will be used.

Please also indicate how many students are likely to benefit from the activity.

Examples of previous British Science Week funding include:

- In-house engineering challenge
- K'nex construction kits
- Poster competition
- Whole school STEM quizzes

Please visit the [British Science Week website](#) for further information and ideas.

Contact

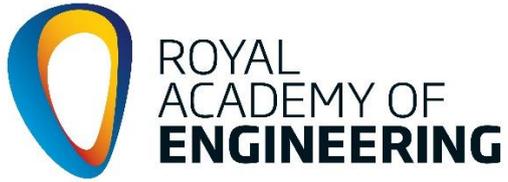
If you have any further queries with regards to your application, please contact [Lynda Mann](#) (Head of Education Programmes).

Appendix 1 – examples of previously funded activities

- The k'nex modelling has been a great success in our STEM club and we would like to add to our sets with the energy, motion and aeronautics (this would also link to our flight theme for BSW). We would also like to purchase 2 more solar panels +motors to make more use out of the sets we already have.
- We would like to take 50 students to the Science museum in London so that they can take part in Energy and Engineering workshops and make use of the hands-on galleries related to Engineering and Energy of the future. This visit will build upon previous workshops in School related to mechanisms and both solar / wind energy. After the visit the students involved will present their work during assemblies to other KS3 year groups. The cost will cover transport arrangements to/from London. Whilst access to the Science museum is free the cost of transport (£15 per student approximately) puts the visit beyond the reach of most families in the catchment area of the Academy.
- We are trying to engage our lower ability KS3 in STEM activities. After half term we are starting an afterschool and /or lunchtime games/puzzle club, to help develop their maths, logical reasoning and thinking skills. We would like to build on the limited resources we have to make this a fun and engaging club for them. www.puzzlesforschools.co.uk order no 16PPK34B (£199.99 + VAT). This is a pack with 16 puzzles and games for differing abilities
- We want to take our Engineering Apprentice group to the Halewood car plant in Liverpool. Their Education Business Centre is a unique facility which provides learning opportunities in a real working environment, demonstrating to students the relevance and application of the subjects they are studying. There is a factory tour that introduces young people to the world of work and the manufacturing process. Each tour is planned and tailored to the requirements of the school and the subject area.
- We would like to purchase some segment displays and PIC microcontroller mother boards. These will be used in Year 9 and in extra-curricular activities to work towards the demands of the new specifications that are coming into play in Sept 2017. They will be used by approximately 50 boys and 40 girls who will benefit from this new technology that we cannot ordinarily afford from standard capitation. Hopefully, utilising this equipment will help enthuse the boys and thus help us close the gap that exists between boys' and girls' attainment.
- As part of our KS3 DT, Product Design and Resistant Materials with Engineering courses at GCSE and A Level Product Design we develop our student's ability to select and use a full range of measuring, marking out, cutting, shaping and forming equipment and tools. They are taught new skills and techniques and are then required to make products to a high standard from working drawings. We currently have half class sets of Engineering equipment, which we are now finding hinders learning and progress. I would like to use our allocation to purchase extra Engineering tools and equipment which will help us deliver more Engineering in the DT curriculum. I would look to purchase more measuring, marking out and cutting equipment and also introduce some scrolling, rolling and bending equipment. These tools would benefit the whole of our KS3 students (approx. 550 students) and the KS4 & 5 students who have opted for a DT course (approx. 120 students)
- In conjunction with a local employer the 6th Form College is planning to take

part in the Engineering Education Scheme. Although some of the funding for the project is donated by the partner company, this does not cover all the expenses that the project attracts. We are looking for funding for transport and accommodation. Accommodation for most of the university workshop visit is provided but to allow an effective start we would plan to stay an extra night. The project will include testing and development of a solution to a problem set by the partner company. Part of the funding will allow for the purchase of materials and equipment that will allow a completed product to be prototyped.

- St. Bernard's would like to bid for £500 towards some science shows from 'Science Made Simple' for British Science Week. We would like to provide three, 1 hour shows. The first would be for year 7 and Year 5 or 6 from local primary schools – Science Sleuths. The second and third would be for year 8 and 9 - A Rough Guide to Engineering. The shows will cost approximately £680 and we would like £500 to put towards this. (£150 already secured). We had the team in last year to deliver some shows and they were excellent! The best thing about the shows is that all of our KS3 pupils benefit.
- Funding would enable us to purchase multimeters as these are something that our normal capitation would not allow us to purchase. Their intended use will be for fault finding as this is new to the KS4 Electronics curriculum. Not only is this new on the curriculum but fault finding is a real world, engineering skills that will set the students in good stead on leaving school and taking up apprenticeships and/or engineering based college courses. As such we intend to make fault finding an integral part of the engineering portfolio that we have introduced. 19 x Digital LCD multimeter voltmeter ammeters @ £4.84 each
- We would like to introduce a 'Royal Academy of Engineering Award' at KS3. This would be awarded to the student who has made the most progress in the subject of technology. Currently, no engineering awards exist at KS3. We feel this award would raise aspirations of students in the area of engineering. (£79.99). We would also like to introduce a 'Royal Academy of Engineering Award' at KS4 (£54.99)
- We would like to purchase around 5 programmable robot arms for Technology. These will be used in KS3 lessons where 330 boys and 270 girls will benefit from them. In addition, we would like to use these for a STEM club where we are wanting to run an after school CAD programming club. This is not something that our recently cut capitation can extend to and being able to purchase these and make advances in this new area of the curriculum would be massively beneficial to the department the school and above all, the students.



Barrow Engineering Project
Annual report 2018-2019

School: **insert name here**

In-school coordinator: **insert name here**

FOR GDPR COMPLIANCE - DO NOT MAKE SPECIFIC REFERENCE TO ANY NAMED PERSON OR PERSONAL DETAILS

Section A: How was the funding used? Please refer specifically to each of the 3 activities below.
(maximum of 150 words for each activity)

- In-house funding for engineering activities (£500)
- Tomorrow's Engineers Week activities (£150)
- British Science Week activities (£150)

In-house funding for engineering activities

Tomorrow's Engineers Week (5th – 9th November 2018)

British Science Week (8th – 17th March 2019)

Section B: What impact have these activities made in your school and on your students (300 word guide)

Describe the impact in each of the following areas.

- Motivation and engagement in STEM and collaborative learning
- Increase in numbers of pupils participating in STEM activities – male/female opportunities
- Increase in Level 2 & 3 option choices of STEM focused subjects
- Wider skills (e.g. problem-solving, leadership, teamwork)
- An early interest in STEM/engineering careers

Blank area for describing the impact of activities in the areas listed above.

Section C: Scorecard

For all activities funded by the BEP and/or FESP, detail the activity that took place and the number of pupil beneficiaries, staff involvement, STEM Ambassador involvement and Employers involvement in each activity.

Details of Activity	Year Group	Male Numbers	Female numbers	Total M + F Numbers	Staff Numbers	STEM Ambs' Numbers	Employers' Numbers
TOTAL NUMBERS							

Add additional STEM activities your school has been involved in.

Section D: Photographs and social media content

Add photographs and links to any school/college social media, website or newsletter mentions here.

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