Invitation to tender:

STEM Clubs Support: Space Themed Activity Programmes for Students Aged 11 - 14

1. Summary

It is the intention of the European Space Education Resource Office – UK (ESERO-UK) to provide a programme of activities to assist STEM club leaders working with secondary school aged students. This programme of activities will use the context of space to encourage investigation and problem solving. The resulting resource will be available for download from the STEM Clubs section of www.stem.org.uk and the ESERO-UK microsite (www.esero.org.uk).

The resource will contain a programme of activities which enhance students' key skills through the medium of STEM project work. The themed activities will encompass all STEM subjects. Each activity may be either cross curricular or focus on individual STEM specialisms and will use the context of space (including observing the Earth from space). Upon completion of a programme students will be rewarded with a certificate of achievement.

2. Background

The UK STEM Clubs programme, co-ordinated by STEM Learning, exists to ensure that all young people in UK schools can benefit from engagement in STEM Clubs activity, providing settings and opportunities to increase STEM understanding, engagement and achievement and – through this – encourage more young people, particularly those from under-represented groups, to pursue STEM studies and careers post-16.

The impact of STEM Club activity on students, teachers, schools, colleges and wider partners, includes but not necessarily limited to:

For Students, improved levels of:

- STEM understanding, engagement and achievement
- Key skills: Communication, Application of Math's, Information Technology, Improving Own Learning and Performance, Working with Others and Problem Solving
- Progression into STEM subjects post-16 and STEM-related careers

For Teachers and other educators, increased;

- STEM subject and pedagogical content knowledge and STEM careers awareness
- confidence, motivation and competence in teaching STEM subjects
- knowledge of and ability to use real-life and industry context in teaching STEM subjects
- ability to to link learning across STEM subjects as taught in school

In addition, schools and colleges participating in the UK's STEM Clubs Network will be able to demonstrate some or all of –

- increased capacity and capability for teaching STEM subjects,
- improvements in engagement and achievement of vulnerable and under-represented groups
- improved collaboration within and between departments, and with other schools
- enhanced stakeholder engagement, including with local employers

3. Requirements: Themed Activity Programmes for Students Aged 11-14

The programme of activities should be suitable for students aged 11-14 and must include activities to support clubs whose focus includes, but is not limited to, STEM based learning.

The resource should be designed to cover approximately six weeks of 1 hour club sessions, with a variety of engaging STEM based activities or experiments which use the context of space. The resource should include activities with various lengths of time to complete, enabling club leaders and students to select how many activities they will participate in during a club session, this can include carrying over activities into a following week.

The programme of activities must be presented in such a way as to promote ease of use for the club leader. This includes producing possible learning objectives, curriculum links, and suggested differentiation for students with ideas for follow-on or extension activities which may encompass all areas of the curriculum. The activities should recognise the different learning abilities of students, and provide opportunities for achievement at all levels.

Activities must be fit for purpose under the theme of space and may focus on cross curricular STEM content as well as individual subject specialisms. Whilst activities should be supportive of the STEM subject curriculum they should not feature in the normal scheme of work.

All activities must be fun, innovative, and creative and promote the development of key skills and knowledge suitable for the age of the students.

Each activity must be supported with a comprehensive set of club leader notes and a separate student set of notes. All activities must include a list of resources and equipment required and an expected length of time to complete.

4. Intellectual Property Rights

All intellectual property arising from any work will be vested in ESERO-UK.

5. Key Deliverables

Key deliverables are:

- Research and devise an engaging space themed STEM based programme suitable for students aged 11-14 years old. The programme must include a minimum of eight STEM based activities or experiments.
- Activities must be fun, innovative and lend themselves to exciting overarching themes suitable for STEM Clubs.
- Each activity should enable student differentiation, promote key skills and enhance a student's knowledge base.
- Activities must contain an expected length of time to complete, have a comprehensive set of teaching and student notes, and a list of materials and components.
- Teaching and student notes should include two or three bullet points with brief fun facts such as information on real world scenarios, famous scientists or engineers linked to the activity or information on careers etc.
- Suggested follow-on or extension activities both STEM based and cross curricular should be included.

The successful contractor is expected to be able to demonstrate the following skills and experience, all considered critical to the success of the project:

- Experience in STEM education
- STEM curriculum and pedagogy knowledge
- Excellent project management skills

Where you require additional skills, knowledge and experience to be brought into the development process to successfully meet the deliverables as noted, you should clearly highlight these within your submission.

6. Timescales

Activity	Milestone
Open, competitive ITT issued	06th November 2017
Closing date for tenders to be received	**23rd November 2017, 12 noon**
Successful bidder announced	01st December 2017
Inception meeting (if required) and commencement of work	04th December 2017
Milestone 1: Outline of each activity to be incorporated into the programme. Produce a schedule of work.	13th December 2017
Milestone 2: Complete resource ready for edits and comments from ESERO-UK.	18th January 2018
Milestone 3: Handover of programme of activities, with all amendments from edits and comments incorporated.	26th January 2017

7. Costing and pricing

Proposals should include a fully detailed and costed breakdown to deliver this contract. Cost should not include design or printing of the activity pack. This fee should be exclusive of VAT and will be payable upon completion of milestone 3. Decisions will be based on perceived value for money, rather than the lowest cost proposal.

Within the region of £9,000 (inclusive of VAT) for the contract period

8. Tender process

Tenders should show, as a minimum:

- Examples of previous similar work completed, or examples of areas of expertise relevant to the contract as detailed.
- a work plan showing key dates/milestones and deliverables
- initial ideas of themes and activities
- a breakdown of costs by staff, if appropriate
- Full CV(s) of the staff undertaking the work

9. Submission and format of proposals

The deadline for receipt of submissions is noon on 23rd November 2017. Late submissions will not be accepted. All submissions will be acknowledged with a notification of receipt. An electronic copy of

the proposal should be received in PDF format by this deadline. This is an electronic only submission process; therefore all documentation must be submitted in PDF format as a single zipped folder if the size of the submission is greater than 10Mb.

Proposals should be no longer than 6 sides of A4 (excluding CVs of people involved) and typed in Arial size 11 font. If the proposal exceeds this limit evaluators will be advised to disregard any information outside the limit. Proposals should be emailed to: a.brown@stem.org.uk

ESERO-UK reserves the right not to award a contract.

A decision will be made as soon as possible after receiving the tenders, with a face-to-face clarification meeting if needed. Any questions for clarification should be emailed to t.lyons@stem.org.uk

10. References

Tenderers should indicate the names of two references prepared to act as referees.

11. Selection Criteria

Proposals will be evaluated against the following criteria which are not listed in order of importance:

- Compliance with, and understanding of, requirements outlined in this tender document
- Relevant experience of the tendering team
- Ability to meet the required timetable
- Value for money

12. Enquiries

Enquiries about this tender should be directed to:

Tom Lyons, ESERO-UK Teacher Fellow - National STEM Learning Centre & Network,

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