

“I must admit that I have thoroughly enjoyed strengthening the link to the primary schools and find it really rewarding to know the pupils that arrive in Year 7, do so with a passion for Science already established!”

An early start for STEM Clubs

Ysgol Bro Gwaun

Pembrokeshire

Introduction

Ysgol Bro Gwaun is an 11-19, predominately English medium, mixed, Comprehensive Secondary School, with significant use of Welsh, which offers subject through the medium of English and Welsh, set on a beautiful site overlooking Fishguard Harbour, against the backdrop of the Preseli Hills. At present there are 625 pupils on roll, which includes 110 in the Sixth Form.

Pupils are from a broad social and cultural spectrum, which gives the School a vibrant atmosphere. The area has a complex linguistic mix – the Welsh heartland in the Preseli Hills, Newport, Strumble and especially the Gwaun Valley, has retained much of its Welsh culture and language. Fishguard Bay has for centuries been an entry point to Britain for the Southern Irish and many Irish families have put down firm roots in the locality, giving the area a unique mixture of cultures



Quick facts for teachers

What is a STEM Club?

Although they complement the curriculum, they are not designed to be about writing, tests, or exams. Activities may involve practical experiments, investigation, discussion and reflection. Most of all, they should be fun.

They can motivate and build confidence in young people who struggle with STEM subjects, and provide an extra outlet for children who already show aptitude and are interested in furthering their learning.

The aims of STEM Clubs are to:

- enrich, enhance and extend the secondary school curriculum
- improve attainment in, interactions with, and experiences of, the STEM subjects among pupils
- improve collaboration between schools and also between schools and industry
- encourage pupils to continue their education in STEM beyond GCSE and Diploma (or equivalent qualification) level.

Brief summary



Teachers at Ysgol Bro Gwaun in Fishguard, Pembrokeshire, have adopted a new way to engage their pupils with STEM subjects – catch them young. They have been running STEM Clubs at local feeder primary schools with promising results – the pupils who have since moved up to secondary school have an appetite for more.

Links to Curriculum

- Solve a relevant, science-based problem, set within a context.
- Work in pairs or small groups, independently of adults.
- Take part in practical, hands-on science activities.
- Think and talk about science.
- Share ideas using a variety of media.

“Children were engaged at all times and couldn’t wait to find out what the next activity was going to be.”

What are STEM Ambassadors?

STEM Ambassadors are volunteers of all ages and from all backgrounds working in STEM related roles from apprentices to geologists and nuclear physicists to zoologists.

Have they received any training to work in schools?

All STEM Ambassadors are registered and have been checked by the CRB, and have each received an induction into working in the classroom.

What do they do?

STEM Ambassadors provide a wide variety of services such as careers talks, mentoring, helping with school events or clubs and facilitating workplace visits. Past activities have included: building rockets, farm walks, mock job interviews, rat dissection and speed dating!

How much does STEMNET charge?

Absolutely nothing.

Sounds great – how can I book my STEM Ambassador?

Simply log on to www.stemnet.org.uk to find your local contact.

Inspire young people in science, technology, engineering and maths (STEM)

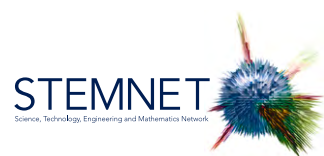
Become a STEM Ambassador

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Details of Club activity

Emma Bowen, the transition co-ordinator for Science at Ysgol Bro Gwaun, determined to introduce the CREST Investigators Badge at selected primary schools. She, and Head of Physics, Rob Woodman, started a weekly after school club for two schools in the summer term of 2012, and continued with a third in the autumn. The idea was to inspire children in science before they start their secondary education.



Each week the club members completed two activities, making a total of 12 completed within six weeks. Pupils were from Years 5 and 6 at Ysgol Ger Y Llan, and Wolfscastle Primary School in the summer term, and Puncheston School in the autumn term. The Club’s CREST award pitch was determined by the age range of pupils attending. Both Ger-y-Llan and Puncheston pupils completed the Super star projects, due to a more advanced KS2 group of pupils attending. In the Wolfscastle Club, a year group range from Year 4-6 completed the Star award.

Activities used came from the British Science Association CREST Investigators packs. Following on from a successful grant application last year, a bank of Crest box resources have been established which are taken out to the primary schools.

Emma Bowen has been successful in applying for funding to build on club activities from primary through to Year 8 at Ysgol Bro Gwaun.

Benefits and impact



The first children to take part in these STEM Clubs arrived at Ysgol Bro Gwaun in September and were asking to do more. They had clearly been talking about the experience with their peers as other children, from other primary schools, were asking if they could get a CREST badge. Year 7 children in general

showed more appreciation and interest in science.

It was hoped to introduce KS3 pupils to CREST Bronze awards through a STEM Club, but this has proved a step too far, with too little time during lunchtime sessions to experiment, and fill in the paperwork. (After-school clubs are difficult in rural areas because pupils generally travel by school bus). It is possible that the CREST Investigators Megastar activities may be more appropriate with a club for Year 7 pupils due to commence after half term.

The teachers hope to visit another primary school this year, and to run a STEM Club for Year 7 pupils during the summer term. It is hoped to extend this to run a permanent CREST Club bringing in all levels in future.

Ysgol Bro Gwaun has also run a successful transition day in the science department, where 100 pupils from feeder primary schools were encouraged to use their scientific investigation skills, team working and communication to complete a challenge. This is an annual event where separate transition day experiences are provided for Year 5 and 6 pupils.