

“In Tec club you can be creative...your own genius! We make all kinds of fun projects like buggies, ball launchers, torches and speaker systems. It’s great fun.”

The Tec Club

Afon Taf High School

Merthyr Tydfil

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.

Introduction

Afon Taf High School is a comprehensive high school for pupils aged 11 to 18, based in the village of Troed-y-Rhiw in Merthyr Tydfil County Borough. It serves a large catchment area of surrounding villages in the Merthyr valley, from Abercanaid & Pentrebach in the north to Bedling in the south. Afon Tâf is a popular and successful comprehensive school which aims to raise pupils’ aspirations in order to ‘Maximise Potential’. The school is fortunate in having pleasant and conscientious pupils, committed members of staff and supportive parents. As a result, our pupils achieve personal and academic success. Afon Tâf High School is able to offer its pupils a sense of belonging in a caring school community, educational achievement, opportunities to accept responsibility and a chance to become independent learners.

Brief Summary

Emma Davies, Design and Technology teacher has set up a STEM Club with support from a CREST grant funded by the National Science Academy. The 20 pupils initially carried out activities to develop their skills in technology and will be carrying out a ‘Design and Make’ Bronze CREST Award by building an MP3 speaker system.

Links to Curriculum

Many of the activities carried out at the Technology Club reflect the KS3 Design and Technology Curriculum. At the same time the pupils are focusing on a modern day device and recognising the importance of problem-solving in a real world context. It enables the pupils to appreciate the role of engineering. In addition it supports the curriculum by the pupils:

- Investigating how existing products look and function as a source of ideas for their own products,
- Creative thinking when considering and recording solutions to problems that arise during their designing and making
- Considering the safety, reliability and sustainability of their activities/ products,
- Evaluating their design ideas as they develop and considering the needs of the user,
- Choosing appropriate materials, equipment, tools/utensils and techniques.

“Tec club is really fun and is a place that really cheers you up.”

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

For further information visit: www.stemnet.org.uk

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Details of STEM Activity

Emma Davies, Design and Technology teacher at Afon Taf High School, has started up a lunchtime club for Year 9 students with a focus on giving pupils an insight into GCSE/BTEC technology subjects, as well as improving the Key Stage 3 attainment levels.

Emma successfully applied for a CREST grant to set up and run the technology club which carries out CREST Awards with funding from the Welsh Government through the National Science Academy.

Each week the club members initially concentrated on improving their practical skills by completing small STEM projects provided by See Science with funding from the IET. The pupils are now developing their skills further by focussing on building an MP3 speaker system. This 'design and make' project will allow them to construct and investigate control systems alongside improving their design skills. The pupils will enter the project for a Bronze CREST Award.

Emma Davies now plans to register the students for a CREST bronze award.

The club currently has 20 members and is becoming more popular each week.

