

Activities Catalog

H E T A

ACTIVITIES
AVAILABLE
TO SCHOOLS
IN THE
HUMBER REGION

2011-2012

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STEM Ambassadors

Suitable for:	All	Maximum No:	N/A
Time Required:	Varies	Space Required:	Varies
Date:	Ongoing		

The STEM Ambassadors programme is a free resource for teachers, schools and colleges in the UK, offering you support from hundreds of people from a variety of professional backgrounds to help excite and inspire your learners.

Each volunteer Ambassador is registered, CRB checked and trained and can help you in a variety of ways – within the curriculum and beyond.

Ambassadors come from an extremely diverse range of backgrounds and working environments. What they all have in common is that they all use their skills in their everyday lives and have the desire and enthusiasm to help young people achieve their potential.

Its up to you how you think you can best use their enthusiasm and expertise. Types of activities include:

- Assisting with out-of-school clubs, ie STEM clubs
- Helping to add a work-related perspective to curriculum topics
- Providing insights into career opportunities
- Facilitating workplace visits
- Assisting/providing various activities both within the timetable and outside it
- Working as mentors to learners, helping to encourage them and develop their motivation and employability skills



Green STEM for the Future

Suitable for: All

Maximum No: N/A

Time Required: Optional

Space Required: Various

Date: Ongoing

Are you planning on carrying out investigations into renewable energy? Green STEM for the Future is a set of resources that can be borrowed for a period of 2 weeks to carry out a number of investigations into renewable energy.

Each resource pack includes:

- Wind turbine on stand linked to battery
- Solar panel
- Light meters
- Digital and Mechanical Anemometers
- Solar Oven
- Energy Catch Ball
- Solar Beads
- Inverter
- Weather Cube
- Lesson Ideas
- Assortment of other related items

The resource pack has been designed to fit within a medium-sized family car for ease of transportation and can be used in a variety of ways to show how we can harness the energy from the wind and sun.



Jaguar F1 Demonstrations

Suitable for: KS1/2

Maximum No: 40

Time Required: ½ Day

Space Required: Hall

Date: Ongoing

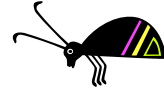
The Jaguar F1 design challenge was introduced to raise the profile of engineering across our schools. It was primarily aimed at secondary schools but it has now been adapted to allow primary schools to also participate.

The original challenge consists of teams designing and manufacturing a racing car from a balsa wood block to race along a specially designed track. The cars are propelled by CO2 gas cartridges. Regional, national and world finals are held each year.

As an introduction to the challenge, we are able to bring the track and some examples of cars to your school. The children will be introduced to the principles of aerodynamics and design as well as having the chance to race the cars along the track.



Bug Hunt



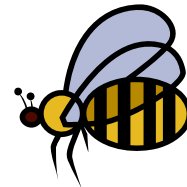
Suitable for: KS1/2 **Maximum No:** N/A

Time Required: Optional **Space Required:** Outdoors

Date: 9 - 15 March 2012

The 'Regional Bug Hunt' is an annual event that takes place in Primary Schools throughout the Humber region during National Science Week (Fri 9th – Sat 17th March). It will give your learners the opportunity to take part in a regional science investigation. This activity can also be carried out individually at any other time of the year to suit your school requirements.

- Learners survey the number of bugs they can find in different habitats in the school grounds over the space of one hour.
- Learners record their findings on a simple table.
- HETA (with kind help from the Yorkshire Wildlife Trust) will provide you with a pack containing;
 - Worksheets
 - Bug Identification Charts
- The findings are then sent back to HETA who will collate the information for the whole of the Humber region into a child friendly report/newsletter. Learners will then be able to see their work in the context of the other regional schools taking part. The collated report will also be sent to the Yorkshire Wildlife Trust.



CREST * Investigators

Suitable for: KS1/2 **Maximum No:** N/A

Time Required: Varies **Space Required:** N/A

Date: Ongoing

CREST * Investigators is a UK-wide award scheme, launched in September 2007, that enables children to solve scientific problems through practical investigation. The activities focus on thinking about, talking about, and doing science. They are designed to be used primarily outside of class time (e.g. in a science club), though some are suitable for use in the classroom.

There are five guiding principles:

- Small groups or pairs working together
- Think and talk about science
- Active, hands-on practical activities
- Relevant scenarios
- Sharing results using different media

There are three levels of CREST * Investigators:

- Star – 8 activities to complete level (out of 12)
- Superstar – 12 activities to complete level (out of 18)
- Megastar – 3 projects to complete level (out of 4)

CREST * Investigators is suitable for learners from 7-12 years and are progressively more complex with Megastar acting as a bridge towards a bronze CREST award.

Resource packs include all projects for appropriate level, star logs, stickers and button badges for a total of 30 learners.



STEM in Action

Suitable for: KS2

Maximum No: 20

Time Required: 1 Day

Space Required: N/A

Date: 24/25 November 2011

STEM in Action is a STEM fair held annually over 2 days at the KC Stadium in Hull, devised to bring more awareness to young people using a hands-on approach and utilising local companies.

Volunteers from major local industry provide a carousel of hands-on activities, each demonstrating a different scientific or mathematical principle in a fun way. Companies who have attended in the past include: BAE Systems (making planes), BP (making slime), Humberside Police (solving crimes), Arco (health & safety), Hull FC (fitness training), Hull KR (nutrition), Kingston Communications (internet simulation) and many more.

Each group of young people attend 5 different workshops during the day.

STEM in Action is designed to:

- Give an understanding of the 'real world' context of STEM by providing hands-on experiences of real world problems
- Raise young peoples' standards of achievement by re-enforcing the knowledge gained at school through the hands-on activities
- Engender a positive attitude towards STEM by giving the young people a hands-on experience
- Promote careers in Science, Engineering and Technology with the support of local companies

STEM in Action is very successful and is now in it's 9th year with over 5,000 young people and 100 schools having attended over that period.



Bloodhound SSC

Suitable for: KS2/3

Maximum No: 40

Time Required: ½ Day

Space Required: Hall

Date: Ongoing

“Bloodhound SSC is the engineering project of the 21st century. We are pushing the limits and inspiring our young engineers and scientists with our incredible car capable of 1,000 mph.”

Richard Noble – Project Director

Arco are one of the sponsors of this fantastic project and they have a number of STEM Ambassadors who can offer an exciting activity to your learners based around this amazing car.

The activity consists of a presentation about the project followed by a practical session where the students can build and race their own balloon-powered cars.



Building a balloon powered ‘rocket car’ will provide opportunities for investigation, team work and design skills, along with elements of Science, Technology and Maths.

arco[®]
Experts in Safety



SMart Futures

Suitable for:	KS3	Maximum No:	250/40
Time Required:	1 Day	Space Required:	Hall
Date:	Ongoing		

SMart Wind have been awarded the contract to build the Hornsea Offshore Wind Farm and, working with HETA, have designed a schools programme to engage young people with the offshore wind industry.

The programme consists of a one-day activity comprising a presentation for upto 250 learners, followed by a practical hands-on activity for upto 40 learners, centred around the offshore wind industry.

The activity is a scientific investigation into capturing energy from wind. Learners will investigate, entirely through practical work, the effect of changing the many variables in a wind turbine.

Learners taking part in the practical activity all receive a CREST Bronze Award through their CREST in a Day programme.

Following on from the practical activity, there is also a competition between all participating schools for a team of 4 learners from each school to put together and present a proposal around the logistics of transporting wind turbine parts.

The winning teams will then have a chance to name one of the zones within the Hornsea Wind Farm with their schools being forever linked with the offshore wind farm.



HETAthletes

Suitable for: **KS3/4** **Maximum No:** **20**

Time Required: **1 Day** **Space Required:** **Large Classroom**

Date: **Ongoing**

2012 is the year of the London Olympics and we have teamed up with IET to offer an Olympic-linked engineering activity to learners.

Learners are split into small groups where they must work together to design and build a remote-control Meccano robot capable of undertaking one of five sporting disciplines such as running, jumping, throwing, weight-lifting and football.

This is an exciting hands-on activity that:

- Allows learners to understand the skills to be an engineer – either through designing or manufacture
- Enhances employability skills of teamwork, communication, working to deadlines, presenting information, problem solving and estimating costs

The winning team from each school is invited to take part in a final against the other participating schools to be named overall HETAthletes champions.



CREST Awards

Suitable for: KS3/4 **Maximum No:** N/A

Time Required: Varies **Space Required:** N/A

Date: Ongoing

CREST is Britain's largest national award scheme for project work in STEM subjects. It gives 11-19 year olds opportunities to explore real world projects in a dynamic way.

Since CREST was established 23 years ago over 300,000 young people have achieved a CREST award.

CREST awards are extremely flexible. Linking closely to the curriculum, projects fall into three categories:

- Research
- Investigation/Design and make
- Science Communication

CREST awards can be achieved through a variety of linked schemes and in numerous contexts. Some projects might be done in a day, others over several months, its up to you.

CREST awards are available in three levels:

- Bronze – around 10 hours of project work expected
- Silver – around 30 hours of project work expected
- Gold – around 70 hours of project work expected

CREST awards are also recognised by UCAS as being well-regarded, high quality and a tangible recognition of success.

Learners taking part in CREST can take part in regional and national Big Bang Fairs held annually.



JIT Business Simulation Challenge

Suitable for: KS3/4

Maximum No: 40

Time Required: 1 Day

Space Required: Hall

Date: Ongoing

This activity provides an enjoyable, action-packed environment that will mould a group of young people into a world-beating team in the space of one day.

The desire to succeed in this demanding business simulation will force the young people to use communications, teamwork, problem solving, data analysis, forward planning, quantity control and quality assurance techniques, whilst respecting human needs.

The simulation is run over a total of five rounds, each representing one year's operation of a business.

Each round is run in three distinct phases:

- Manufacture a product using K'Nex in response to a customer's demand.
- Evaluate performance and determine operational costs
- Identify and implement changes

The simulation ends with a review of the exercise to highlight key learning points.



Contact Details

This portfolio is not exhaustive and other projects and events are coming on-line all the time. The portfolio will be updated when necessary.

We are also able to work with schools with such things as bespoke activities, making links with companies and a large range of other schemes.

If you require any further information about any of the schemes listed in this portfolio, or you have any other questions about how we can help, please do not hesitate to contact us:

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