



ENGINEERING FOCUS

MAY 2012



INSIDE THIS ISSUE:

BSKC 2
National Finals

Primary 2
Engineer
National Finals

BAE 3
Engineering
Experience

Arkwright 3
Scholarships

Interested? 4

NEXT TIME:

**Summary of
Engineering
Events 2011-
2012**

BLOODHOUND SSC IS...

Our launch event as the South East Regional Education Centre for Bloodhound SSC was a huge success.

For the launch we invited hundreds of Key Stage 2 and 3 students to come and learn all about the Bloodhound SSC project and the work of the designers and engineers developing this record breaking car. The key stage 2 students also had the option to enter a competition— Bloodhound SSC is...?

This was an opportunity for them to reflect on what they had found out about the challenge and what aspects of the car fascinated them. They could use any media to present their work and it was all about what the Bloodhound SSC project meant to them.

Judging for the competition took place during the Easter holidays and all of the competition entries were of an excellent standard, however the work of four students from one school stood out above the rest because of their use of colour, imagery and information about the Bloodhound SSC. All of the students who took part in the competition should be congratulated but the winners, all from Joydens Wood Junior school, were—Jessica Elphick, Maizie Tucker, Bethany Salmon and Finlay Cleland. Congratulations!



Competition Entry from Bethany Salmon

Since the launch event we have run many Bloodhound SSC projects at local primary schools. We talk about the Bloodhound SSC project and what the design team for the project are aiming to do. The response is always astonishment with questions about how and why and when. The idea of going at 1000mph is very exciting.

All of the students we work with really enjoy the opportunity to get involved with hands-on engineering tasks that help develop their teamwork and communications skills as well as learning about different engineering principles. Groups either build balloon cars or k'nex cars and test and develop their designs as they learn about friction, accuracy and alignment. There is always a buzz when we run these projects and students show

how they can use their imagination to overcome any initial problems they have with their designs.

To arrange for our team to visit your school contact Mrs J Smith at

esmith@wgsb.org.uk



Students receive their prizes of Bloodhound SSC goodies.



STRATEGY, SPORTSMANSHIP AND EXCEPTIONAL DRIVING



Through to the National Finals!



Preparing for the race

“Simplicity is the ultimate sophistication”

Leonardo Da Vinci

Three WGSB teams progressed from the freezing local finals to the regional finals at Buckmore Park where competition was really tough. One team, Lewis King, Levi King and Dan Burgess, drove hard taking third place and securing their spot at the National Finals at the start of the Easter holidays.

At the National Finals Lewis had the team well & truly organized and in practice they came out for the first lap in perfect sequence led by Lewis who determined the best racing lines, then proceeded to change the lead on each lap making

sure they were all familiar with the track and racing lines for their races.

They all drove exceptionally well, were extremely well behaved (Daytona were very strict with black flags and our team had no penalties) and were totally focused - they certainly represented the school well. They had some bad luck on Lewis's 1st race as he got knocked off three times and even though he battled his way back up the places each time, the last one was just before the finish.

It was a fantastic event - the boys ended up in 20th place out of 34. Even though they drove exceedingly well, their final result didn't really reflect

the effort they put into their tactical and strategical approach and the team spirit they displayed throughout the event. We were very proud of their sportsmanship. The winners were Caterham, winners of the regional finals at Buckmore Park.

I'm afraid the team didn't win a cup for the school this time, but watching them competing on the day there is no reason why WGSB couldn't be serious contenders for the title in the future... maybe next year?

We all had a lot of fun and look forward to next year!



PRIMARY ENGINEER NATIONAL FINALS

As a regional centre for Primary Engineer we recently held the regional finals for their national challenge.

All of the students who took part did exceptionally well and the winners from that event then went on to take part in the National Finals in Manchester.

Representing Bronte School and the South East in the Engineering level 2 category was Team Audi R18 - Alex Brooker and Joe Robinson and at Engineering level 1 there were two teams Sandhu Power - Manraj and Kanwasher Sandhu, and Bronte Gear - Alex Curwood and Ben Palmer. The venue was absolutely packed with teams from all

over the UK. The imagination of the students at both apprentice (KS1) and engineering (KS2) level was phenomenal with some schools focusing on topics like the Wacky Races and Mr Men.

Everyone was very excited and there was a real buzz at the event as car after car tackled the test ramp, straight line test and in some cases the speed trial. Once the testing session was over it was time for the judges to interview each team. The ability of the students to explain the engineering behind their work was fantastic and really showed how much they had learned from being involved in the project.

As the prizes were awarded amid whoops and cheers from students, teachers and parents, we waited patiently for the results at engineering level 1; sadly the teams had not made it into the top 3.

Then the tense wait again for level 2 – SUCCESS!! Alex and Joe had won first place in this very challenging competition. The judges had been so impressed with their extremely detailed knowledge of all aspects of the design.

This event was a great experience and I am looking forward to working with schools again next year so that they can take part in this brilliant competition.



Joe and Alex take 1st place at the National Finals



Great designs from the opposition



BAE ENGINEERING EXPERIENCE



David Bevis has recently benefited from a unique, hands-on learning experience at Harper Adams University in Shropshire.

This four day residential programme was organised by the Smallpeice Trust and sponsored by BAE Systems to engage year 9 students and provide them with the

opportunity to learn about engineering through a series of presentations and practical hands-on workshops.

Working in teams they spent two days of the course tackling 'real-life' challenges on projects designed and facilitated by young role model engineers and various divisions of BAE Systems. The projects included designing and building armoured vehicles, army transport helicopters, military aircraft carriers, mine sweeper robots and model submarines.

As well as working on the design, build and test elements of these projects, they developed lifeskills such as teamwork, communication,

problem solving, time management, finance and presentation. Students also benefited from careers talks which gave them some inspiration about where a career in the engineering industry could take them.

The Smallpeice Trust Engineering Experience Course is part of an ongoing programme of subsidised residential courses to help young people aged 13 – 18 develop skills in engineering, design, technology and manufacturing. Information about future courses is shown on the back page of this issue of Engineering Focus.

“The invisible power behind a flying machine is engineering”

Malitha Rangodage

ARKWRIGHT SCHOLARSHIPS

An Arkwright Scholarship is a very hard earned, prestigious award that students can apply for if they intend to take Engineering or Design Technology at A-level.

To apply you must complete a detailed application form in January of year 11 as well as getting references from your current teachers. You then take a gruelling aptitude test based on your ability to design a range of new and complex products during March and then you wait.

If you have shown the Arkwright Foundation that you are an exceptional candidate because of the variety of projects you have been involved in and referred to in your application, and shown that you have the ability to

design and problem solve through the aptitude test you might just be able to move on to the next and final stage in your application – the interview.

Only a small percentage of students who sit the aptitude test make it through to the interview stage and then the pressure is on to show the interviewers what you can do. Taking examples of your work always makes it easier to lead into the interview with a topic that you are confident about. After the interviews in April it is then a long wait while the Arkwright Trust deliberates over the applicants from all over the country before offering their support to the successful scholars.

Josh Brown, Jack Pitchers and James Bevis, some of our top

engineering diploma students in year 11, are the first students from Wilmington Grammar School for Boys to have applied for this scholarship and the benefits it has to offer. James and Josh were both successful in moving on to the interview stage, I would like to wish them luck as they wait for the outcome of their applications and find out in July whether they have been included in the elite group of students who receive this prestigious scholarship award.



Arkwright
SCHOLARSHIPS

INTERESTED?



If you are interested in the Smallpeice Trust courses go to

http://www.smallpeicetrust.org.uk/index.php?option=com_timetable&sort=position&Itemid=183

Year	Subject	Location	Cost	Dates
Yr9, 13/14 yr old	Marine Technology	Southampton	175	10th - 13th July 2012
Yr10, 14/15 yr old	Marine Technology	Strathclyde	175	1st - 5th July 2012
Yr 9 13-14 yr old	Physics in Engineering	Surrey	175	23rd -26th October 2012
Yr11, 15/16 yr old	Low Carbon Energy Challenge	Newcastle	225	23rd - 26th July 2012
Yr 9, 13/14 yr old	Engineering Experience	York	175	9th-12th July 2012
Yr 9 13-14 Yr old	Automotive Engineering	Coventry	FREE	30th July - 2nd August 2012
Yr 9, 13/14 yr old	Nuclear Marine Engineering	HMS Sultan, Gosport	175	30th July - 2nd August 2012
Yr 9, 13/14 yr old	Railway Engineering	York	95	30th July - 2nd August 2012

The courses above had spaces available on 3rd May 2012

FIRE YOUR ENTHUSIASM AT TREVITHICK'S INDUSTRIAL DARTFORD BE PART OF THE EXPERIENCE

This is the 4th year that the Trevithick's Industrial Dartford event has run in Dartford Central Park and Wilmington Grammar School for Boys have been there since the event began.

This year the team will be testing our microsteam car to see if we can beat last year's endurance record of 1km on 20ml of fuel. We will also be helping visitors test and build balloon cars and k'nex cars to fire down the test track. Our new addition for this year is the model Stirling Engines that our team of students will be building on site.

This is always an excellent event and we look forward to seeing you in the Education marquee.

Look out for our full photo report in the next issue.

TREVITHICKS INDUSTRIAL DARTFORD
4th Annual Event
MAY 12th 2012
Dartford Central Park 10am-5pm
STEAM IN DARTFORD

FREE ENTRY

FULL SIZE STEAM ENGINES
VINTAGE VEHICLES
MINIATURE STEAM ENGINES
STATIONARY ENGINES
VINTAGE TRACTORS

Road Run Dedicated to Richard Trevithick
Sunday 13th at 12 noon Overy St Dartford
Contact: Colin Wheeler 07762 301463
wheelereng@btinternet.com



Common Lane Wilmington Dartford Kent DA2 7DA

tel: 01322 223090 fax: 01322 289920 email: office@wgsb.org.uk www.wgsb.org.uk

Company Registration No.07682311