

Engineering

Non Sibi Sed Aliis
'Aiming at Excellence'

CONTENTS

- pg 1 Welcome
- pg 2 On the Origin of Species; Treasure Hunt; Radio Stars
- pg 3 Dear Editor...; Careers Convention
- pg 4 Year 11 Enterprise and Business trip; UFO or what?
- pg 5 Freedom of South Ribble; Book reviews
- pg 6 Eco Balshaw's Recycle to Africa; Record pizza event
- pg 7 Jack Hepworth
- pg 8 Family Tree of Charles Darwin; The role of Fossils is not dead!
- pg 9 Mr Morgan's tank driving experience
- pg 10 Did Charles Darwin disprove God?
- pg 11 NUCLEUS - Balshaw's Science News
- pg 13 Balshaw's joins forces with United Utilities; Darwin the man
- pg 14 Year 7 Trip
- pg 15 Balshaw's achieves Eco Schools award
- pg 16 Darwin year launch; Money raised well; Joining our Eco team

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TRANS-FORM

THE ENGINEERING NEWSLETTER
FOR BALSHAW'S C.E. HIGH SCHOOL

We hope that when you read this Edition of Transform, we will have been re-designated as an Engineering School or applied for re-designation. What better year could it be in than 2009.

2009 is designated as the Year of Flight being 100 years since Louis Bleriot made the first flight across the English Channel. It is also 200 years since the birth of Charles Darwin on 12 February 1809. We will be celebrating both of these with a variety of events throughout the year. Our thanks to the Wellcome trust for their grant to celebrate Darwin 200 and the Specialist Schools Trust for their Science Technology Engineering and Mathematics (STEM) grant.

Why not read on for details of both of these.

Yours sincerely

J M Venn, Headteacher

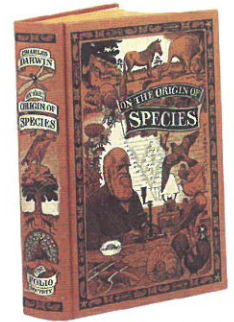
ON THE ORIGIN OF SPECIES

■ AS WE EMBARK UPON DARWIN YEAR, WHY NOT READ ONE OF HIS GREATEST WORKS, THAT OF "ON THE ORIGIN OF SPECIES".

Available in the school Library or via the local libraries, no book has revolutionised our view of life on Earth more than this one. When it was first published in 1859, its central theory was that the natural order was not permanent and unchanging but a gradual process of evolution. This met with fierce opposition. However the first edition sold out within a day and a new era in human thought began from this time.

These ideas had planted themselves in Darwin's mind during his journey on board HMS Beagle, when he made sketches of the fossil packed strata of Patagonia, when he experienced the geological drama of the Andes and when he encountered the extraordinary animal life of the Galapagos

Islands. However on his return, a fear of the probable impact of his discoveries also took root. Darwin was himself a deeply religious man and spent twenty years in rigorous intellectual enquiry before publishing his theories. "On the Origin of Species" remains one of the most influential books ever written and is a testament to the immense energy and startling simplicity of his genius.



Why not read this, or one of his other books; The Expression of the Emotions in Man and Animals or The Descent of Man.

A good year to read one of the books in the library.

TREASURE HUNT...

■ ON SATURDAY 13 SEPTEMBER, WE HAD OUR FIRST HI-TECH TREASURE HUNT. IT WAS SET BY MR AND MRS THOMSON WHO

were the lucky winners of the previous one.

It was a Treasure Hunt with a difference. We started off from school and had to follow the planned route, counting the legs on pub signs as well as look at wrought iron gates to count flowers or trace phone numbers or unscramble road signs.

20 cars took part which was a record and the winners were the Chippendales.

On reaching the Lord Nelson, all the answers were displayed on a lap top with accompanying pictures. A good evening all round.

Mr and Mrs Thomson
grandparents of Anthony Pickford

RADIO STARS 'Be Sharp, Think Sharp'

■ WE ARE OFTEN TELEPHONED BY BBC RADIO LANCASHIRE ASKING OUR VIEWS ON CERTAIN SUBJECTS. LAST YEAR SOME OF US

talked about what it was like to be a new Year 7 just starting school. Recently we were asked about uniform and how we felt about the school's strict rules on this. We also went to the centre in Blackburn to talk about what it is like being a teenager. The school have also had the BBC Radio Lancashire outside broadcast in after the "Be Sharp, Think Sharp" initiative. This is a knife crime initiative which involved a joint presentation between Lancashire Constabulary and the North West Ambulance Service. The package gives our pupils informed advice regarding the repercussions of carrying knives from a policing and health perspective in the hope that illegal carrying of knives will stop.

PC Andy Green and PC Steve McDonnell came in with the Paramedics. They were impressed with the students and said "the school stood out in terms of friendliness and professionalism". Sergeant Michael Baines wrote this in a thank you note to Miss Venn.



We were asked by Leyland Guardian and Radio Lancashire about our views on these. Several of us said it was a bit gruesome and some horrible pictures but we think it is so important that people get the message 'DON'T CARRY KNIVES'.

We are now wondering what else we might be asked by Radio Lancashire. We are fascinated by the outside broadcasting. It taught us a lot about the engineering of sound.

DEAR EDITOR...

■ I AM WRITING TO SAY HOW MUCH I ENJOY READING EACH COPY OF TRANSFORM MAGAZINE WHICH SEEMS TO GET BETTER

and better. Having been a member of the Maths Department for many years I was one of the first to benefit from the Engineering Status by having a brand new classroom. It is good to see the many and varied activities that the Maths Department in particular continue to host. I am amazed at the standard and interesting content of the articles which provide enjoyable reading.

Wishing you continued success.

Viv Lee

■ I WRITE ON BEHALF OF MY HUSBAND, KEITH, AND MYSELF TO EXPRESS OUR FEELING ON READING RECENT ISSUES OF

your newsletter/magazine.

We both began our connection with Balshaw's in 1945, as 1st years. We returned as teachers, Keith for 37 years and me for 27. So, we are very attached to Balshaw's, interested and proud.

Your productions have shown that you, too, are aiming at high standards and keeping Balshaw's in the fore amongst British schools.

At our (year of '45!) reunion '08, in September last, we were all impressed at the outreach of your activities and the level of successes in so many contexts...it all sounds so exciting.

Keith & Gwyneth Smith



Over the years we have watched the changes and developments around the campus, the enlargement of premises and the amazing facilities and technical advances, which we elderly people find overwhelming! What exciting option are open to you all.

We retired from Balshaw's in 1994 but our interest in, and commitment to, Balshaw's have not diminished.

Congratulations to you all. Well done in all your achievements and our very best wishes for you all for the future.

We are proud of you and of all the members of staff who support you so well. Keep the flag of Balshaw's flying high!

CAREERS CONVENTION

■ ON OCTOBER 1ST THE PUPILS FROM YEARS 10 AND 11 WERE ABLE TO SEE A VAST ARRAY OF CAREERS OPEN TO THEM ESPECIALLY

in the world of Science, Technology, Engineering and Maths.

Representatives from all the colleges – Runshaw, Cardinal Newman, Blackburn, Wigan and Leigh, Myerscough and Preston – gave out a wealth of information on Vocational Courses such as the Engineering BTEc Diplomas, Science courses including the very popular Forensic Science and the BTEc National Diploma in Laboratory and Industrial Work. The importance of gaining good GCSEs in Maths, Science, Technology and English was reinforced by the colleges as well as the Training Providers – North Lancs Training, Runshaw and Rathbone. The hall was full of representatives,

parents and pupils.

If it was to be an engineer in the Armed Forces, the Army, Navy and RAF were good stands to visit and if you were still not sure, the Young People's Service gave plenty of help.

A big thank you to Mrs Neville and a team of Year 9 helpers for all their organisation. Comments from Years 10 and 11 included:

"I didn't know that there was so much choice. I need to make sure that I get my best grades."

"It is good to see the representatives from the Forces, and be able to talk to them as people."

One of the Army personnel said that he was hoping to come here again as the pupils seemed very interested, polite and smart. Was he at the right school? I think so.

YEAR 11 BUSINESS AND ENTERPRISE TRIP

18TH NOVEMBER 2008

■ A GROUP OF 8 OF MISS LOCKHART'S BUSINESS AND COMMUNICATION STUDENTS FROM YEAR 11 WERE SENT TO REPRESENT

the school at the Borough's Business and Enterprise Competition, along with Mr Holland.

The day began at the 'British Commercial Vehicle Museum', with an introductory presentation from the event's organisers. This was followed by a tour of the museum, where the highlights included Steven Alty getting to sit in the place of John Paul II aboard the 'Pope Mobile' and Zack Holden measuring himself up against the giant wheels of the fairground 'Showman's Engine'.

From the museum the event moved over to the Worden Arts Centre where the task was given for each school to devise a business plan to revamp and revitalise the museum in the future. Erica and Zack took on the task of devising a new logo, whilst collaboration between Anthony Elliott and Ollie Hatton came up with a zappy new brand name for the centre, the 'British Motoring Evolution Museum'. Jordan Horner, Kayleigh Harris, Ryan Eastham and Ollie Hatton busied themselves filling in the complex Business Plan, writing the presentation speech and picking the brains of the several representatives from different areas of business and commerce present at the event as gurus, to enhance the group's Business Plan.

It must be said that each group approached their particular task with effort and enthusiasm, and that they worked admirably as a team. After the buffet working lunch it was time to put forward the group's presentation to the panel of 'dragons' on the den. The presentation was impressive, the judges remarking they could hardly find any points to question as it was so professional. One judge remarked that he wished his employees could put together such a detailed Business Plan. After all six schools present had delivered their presentations it was time for the result...Balshaw's

UFO OR WHAT?

Inflatable planetarium

■ ON FRIDAY 28 NOVEMBER 2008 A VERY STRANGE LOOKING OBJECT APPEARED IN THE SCHOOL HALL. THIS WAS AN

inflatable planetarium. Head of Science Caroline Molyneux arranged with "The Planet Earth Centre" for the visit so that the GCSE Astronomy group could receive a lesson from Garry Mayes inside the planetarium. After clambering on hands and knees inside the entrance tunnel pupils, staff, governors and even Miss Venn were instructed on the mysteries of the solar system and the night sky. This was projected on the inside of the inflatable dome using equipment costing £10,000. Constellations were described in detail and their apparent motion due to the rotation of the Earth in its orbit around the Sun was clearly shown. I am sure the presentation greatly assisted in the preparation for the pupils' future GCSE exam in Astronomy.

R K WOODCOCK

Governor and former science teacher

winning the prize for 'Best Business Plan'. Two boxes of Celebrations chocolates were the groups well deserved reward for all their hard work.

Well done to all eight of the budding entrepreneurs on their success. Hopefully we will see the museum benefitting from the innovative ideas our Year 11's put forward in the near future.

Mr Holland



FREEDOM OF SOUTH RIBBLE

■ TUESDAY 2 DECEMBER 2008 SAW THE KING'S ROYAL HUSSARS EXERCISING THEIR RIGHT TO 'MARCH THROUGH THE STREETS

of Leyland with bayonets fixed, drums beating and colours flying'.

The honour of 'exercising your right' dates back to the laws of Ancient Rome and is a tradition proudly held by



many military units who serve the Crown. Also the 'right' is held in foreign lands where British military units serve.

On the day Balshaw's C E High School was well represented by Councillor and Mrs Otter (vice Chair of our Governors), Miss Amy Kirk (pupil at school) and myself Mr Temmen (Site Manager), all guests of the Mayor Councillor and Mrs Yates.

The day started with a review of two squadrons of the Hussars behind the Civic Centre by the Mayor and Colonel of the Regiment, Colonel DJB Wood. The rain held off during this review with a few rays of sunshine coming through. Once the review was completed a band from the Royal Armoured Corp lead the Hussars, followed by an armoured reconnaissance vehicle, through Leyland Town Centre to St Mary's Church on Broadfield Drive. Here a regimental church service was held to celebrate the occasion of the Freedom of Leyland.

On completion of the service guests of the Mayor, officers and soldiers of the Hussars retired to the Civic Centre for a hot carvery buffet. Various speeches were made during the lunch period. This included the Mayor presenting Amy with a cash prize for winning a 'design competition for I.T.' Well done Amy! I don't think she knew Mr Otter and I were watching!! During lunch, time was found to quiz the young soldiers of today about their life in the Hussars. They certainly have a full agenda for past, present and future (including another tour of duty in Iraq in May 2009).

To conclude, it was a privilege to attend the event. The tradition of 'Freedom Parades' to towns and cities is an honour which should be treasured dearly and not allowed to fade in the passage of time. Well done South Ribble.

B F Temmen

THERE ARE TWO NEW BOOKS AVAILABLE IN THE LIBRARY TO DO WITH SCIENCE AND DARWIN YEAR.

■ THE AMAZING TRANSPARENT PAGES ARE COMPLETELY UNIQUE, CREATED USING HUNDREDS OF SPECIALIST IMAGES AND

the very latest computer-imaging techniques. Marvel at the multi-dimensional magic as you peel away layer after layer of fascinating detail.

REVEALED DINOSAUR - DORLING KINDERSLEY

Find out all about these remarkable creatures and how they evolved over time, and what might have led to their sudden disappearance. Stalk a pack of vicious Velociraptors on the attack, or see what lumbering vegetarians like Barosaurus ate. Visit dinosaur digs like Egg Mountain and see how the fragile evidence found there can indicate which dinosaurs were good parents. You can also uncover the secrets of how scientists repair and reconstruct bone fragments - and how they build up an incredibly detailed picture of each dinosaur.

With in-depth information about dinosaurs, together with innovative cross-sections and unique transparent layers, find out all about the primordial creatures that have left such a gigantic footprint in our planet's history.

REVEALED HUMAN BODY - DORLING KINDERSLEY

Discover the fascinating story of how your brain communicates with your body, learn about the acid bath that forms inside your stomach when you smell food, and much, much more. With in-depth information about each part of the human body, together with innovative cross-sections and unique transparent layers, you'll be able to explore everything from how your blood clots to the almost magical properties of your skin.

From the top of your head to the soles of your feet, this unique visual reference is a superb way to uncover the real mechanics of the human body.

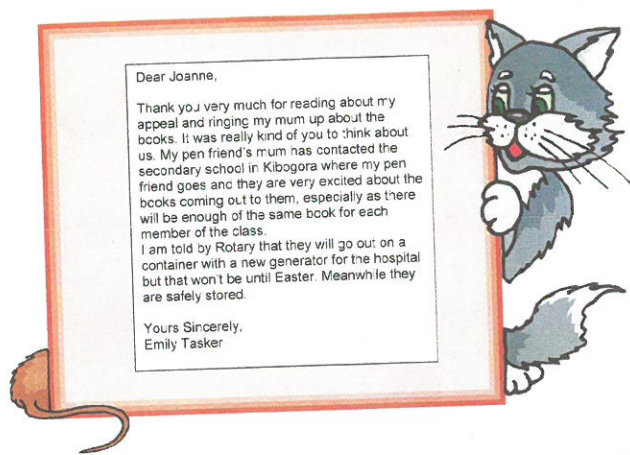


ECO BALSHAW'S RECYCLE TO AFRICA

■ THE SCIENCE DEPARTMENT WAS LOOKING TO DISPOSE BUT HOPEFULLY RECYCLE BOXES AND BOXES OF UNWANTED TEXT BOOKS NO longer used in the curriculum but the 'tinternet' couldn't offer any ideas or solutions.

Then whilst looking through the Leyland Guardian I noticed an article from a young year 8 pupil named Emily Tasker at St Michael's Church Of England School in Chorley. Emily has a pen pal in Kibogora in Rwanda and through correspondence Emily soon realised that her pen pal didn't have essential text books, so Emily embarked on a mission to send text books and revision guides out to where her pen pal lives.

This seemed an ideal solution to our surplus stock so I contacted Emily's mum, Gillian as requested in the article. Gillian was very grateful for the offer and was keen to collect the books as soon as possible. A collection date was arranged



Dear Joanne,

Thank you very much for reading about my appeal and ringing my mum up about the books. It was really kind of you to think about us. My pen friend's mum has contacted the secondary school in Kibogora where my pen friend goes and they are very excited about the books coming out to them, especially as there will be enough of the same book for each member of the class.

I am told by Rotary that they will go out on a container with a new generator for the hospital but that won't be until Easter. Meanwhile they are safely stored.

Yours Sincerely,
Emily Tasker



for later that week. As promised the books were collected by Gillian herself – 400 in total.

I enquired if any other schools had replied to the article but to date Balshaw's is the only school to help. Gillian mentioned that books were also needed for English/Modern Foreign Language (MFL) and Maths, so I put a request on the staff bulletin the following day. Some books were passed to me from the English Department and Mrs Powell contacted me from MFL offering surplus books. Another collection day was organised and the same amount of books were collected. These books will be shipped out in a container by Easter this year with the help of the Rotary Club.

I received a thank you letter from Emily which was very unexpected and a kind gesture. She said that she was so pleased and grateful for the books that she wanted to show her appreciation.

It's a relief to know we have made a space in our store rooms but it's great to know that our unwanted books will mean so much and make such a difference to others.

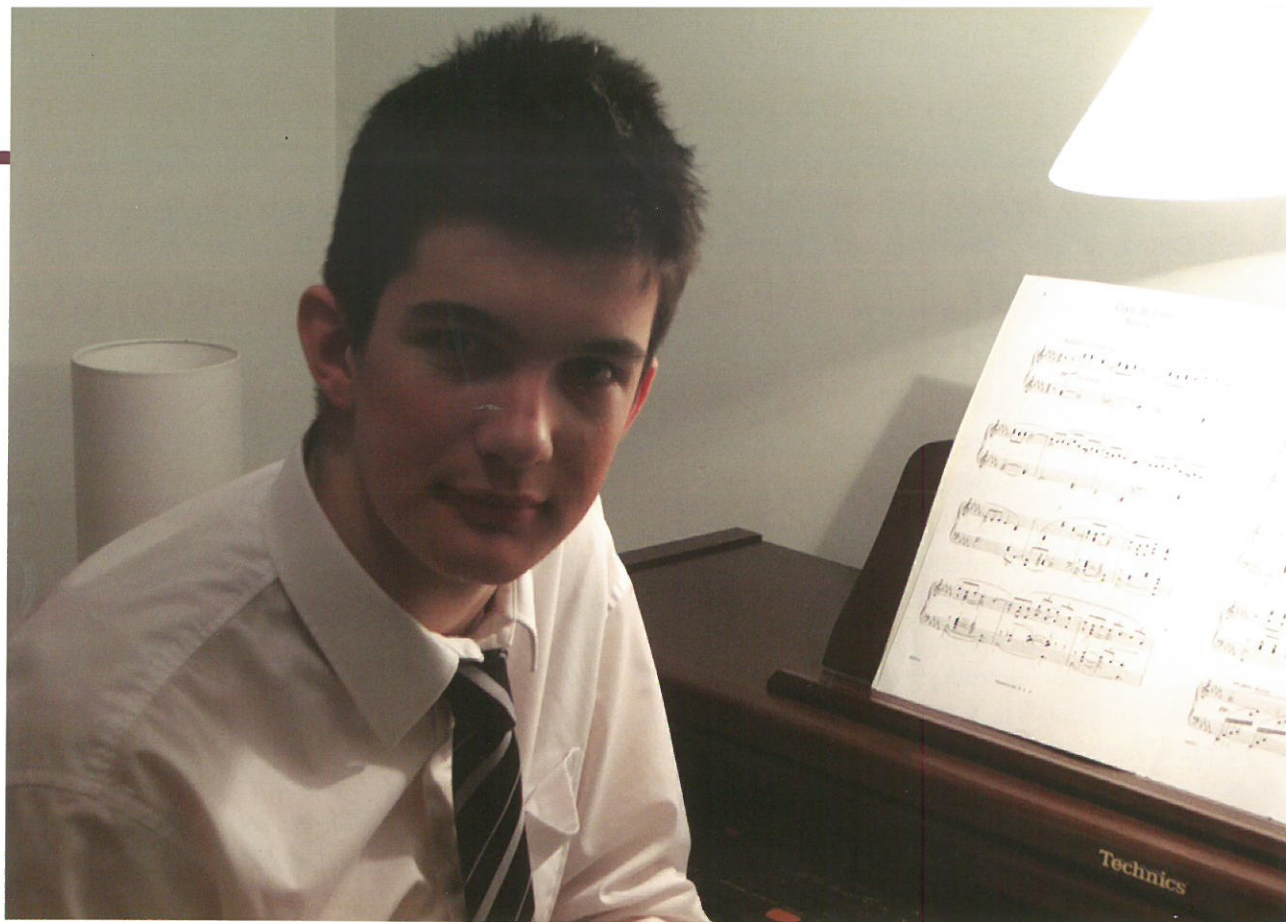
Joanne Rutter – Science Technician

PIZZA RECORD EVENT

■ ONE OF OUR ENGINEERING SPONSORS SCHWAN WHO MAKES THE POPULAR CHICAGO TOWN BRAND JOINED FORCES WITH BALSHAW'S PUPILS SO THAT THEY COULD BREAK THE WORLD RECORD FOR THE LONGEST LINE OF PIZZAS.

On November 13th they broke the record helped by the Big Apple Pizza Company in Florida and were in the Guinness World Records to mark the launch of its Edge to Edge range and broke the record by a massive 60 metres at 285.5metres. Two days later Mangia Pizza in Texas set a new record with 311 metres. But Schwan was not to be outdone, and they asked for our help. Mrs Vanessa Thomas and Year 7's went to lay the pizzas end to end and they reached 354 metres, breaking the previous record by more than 40 metres and using a total of 1,636 pizzas. This is equivalent to three and a half football pitches.

Don't worry the pizzas were not wasted but given to The Big Issue in the North and other Charities. The pupils loved it and gained a voucher and some pizzas. Schwan have helped us a great deal over the years not least with the donation of Pizzas to our Spring Fair. We have also visited the factory to see a variety of Engineers at work.



JACK HEPWORTH (DIP LCM)

■ IN DECEMBER OF LAST YEAR, YEAR 10 PUPIL JACK HEPWORTH GOT THE PHONE CALL TO CONGRATULATE HIM ON BECOMING Jack Hepworth (Dip LCM).

Jack's rare achievement in piano earned him the right to use the letters 'Dip LCM' (Diploma of the London College of Music) after his name, and Jack is one of the youngest candidates to have passed the prestigious exam.

And this qualification was passed by a boy who, aged six months to three years old, had to undergo four different operations to solve a problem that affected his hands. The condition that Jack was born with – syndactyly – affects patients' hands in lots of ways, but the most frequent nature of the problem causes a type of webbed fingers, or in more severe cases, serious malformation of the hands.

Transform looks at the expert engineering that allowed Jack to have the chance to play the piano and now – eleven years on from the final operation – has finally seen the 14 year-old reach the Dip LCM, which is the next step up in piano qualifications from Grade Eight.

When Jack was in Year Eight, his surgeon from years gone by – Dr Andrew Howcroft – was invited to a Christmas concert at which Jack was performing. Dr Howcroft commented,

"I said to Jack's parents, in 1997, that now his hands had been operated upon, Jack could quite possibly become a concert pianist in future years!"

Syndactyly affects around one in 2000 babies, although it is a less-common condition now than it was when Jack was born in 1994. The series of operations that dealt with Jack's particular case saw the fingers properly separated and a large amount of "tissue work" to ensure all nerve endings were present and correct, as well as making sure there would be no reaction to the operations.

Jack commented,

"Everything seems to have gone by so quickly. I only vaguely remember the operations and there has never been any trouble resulting from the treatment, but in truth I was really too young to recall anything too specific. The scars have faded gradually, but I remain very grateful to the amazing work done by Dr Howcroft to give me this opportunity."

"Having the condition as a youngster didn't really have any great bearing on my decision to start playing in the late nineties. But as I began to progress, it was just one of those things I wanted to work on... and now, in hindsight, it shows how terrific modern medical science really is."

It's a sign of the times when we see the level of high-technology medical engineering that has helped Jack and thousands upon thousands of other patients over the years. Considering the degree of accuracy needed in the work done by doctors and surgeons around the world, it's a minor miracle to think about just how astonishing this sort of engineering really is.

THE FAMILY TREE OF CHARLES DARWIN

■ ONE OF THE AREAS OF INTEREST FOR THE WELLCOME TRUST CHARLES DARWIN YEAR IS AN EVENING OF GENEALOGY WHEN MR BANKS,

Miss Hodgson and Mr Temmen will be helping you to trace your ancestry. They will be holding a Genealogy evening on Monday 27 April from 7.30 - 9pm.



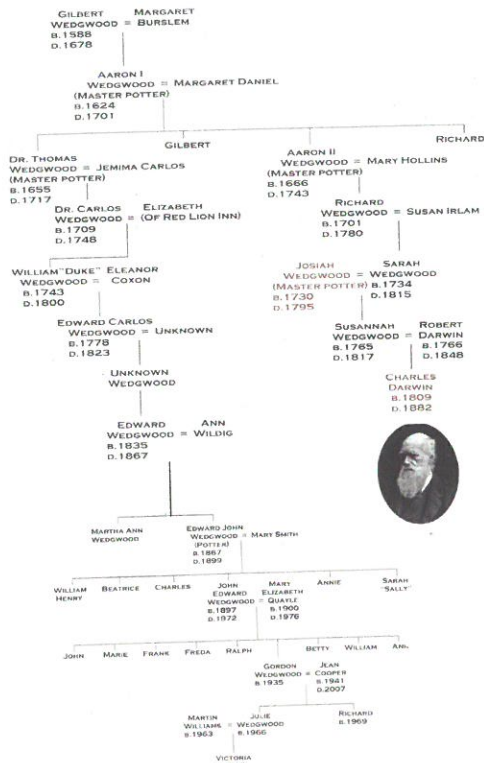
Miss Venn was teaching her Year 7 about Charles Darwin when Victoria Williams announced that she was related to him. We have the family tree and a picture of Victoria and of Charles Darwin. David Hunt from the Museum said "Wouldn't it be good if we found someone who was related to Darwin." - Well

we have!!

Victoria's Great Great Great Great Great Great Great Grandfather and Charles Darwin's Great Great Grandfather were brothers.

You will see that there is also a link with Wedgwood pottery. Pity that times are hard for them, or they may have designed a Charles Darwin plate for this year - or perhaps they have.

THE WEDGWOOD FAMILY



THE ROLE OF FOSSILS IS NOT DEAD!

■ I RECENTLY HAD THE PLEASURE OF SHARING THE COMPANY OF BALSHAW'S STAFF AND PUPILS AT LEYLAND MUSEUM STUDYING

fossils. Being a geologist I was quite excited that such interest is still about, I also showed enough enthusiasm for Miss Venn to ask me to write about the uses of fossil evidence! So here are some thoughts.

Civil Engineering: Fossil evidence in rock strata can assist in both identifying the rock type, and structures. They act as markers so to speak, and enable a geologist to consider the underlying strata. On large structures especially, the load bearing capacity of the underlying structure is very important.

Oil Exploration: Micro fossil evidence is used to establish the age and potential for oil or gas deposits, there are complex catalogues that use microfossils again as markers for strata. This is a highly specialised field of study.

Coal Exploration: Fossils are used much as in oil and gas exploration, and to map folding and faulting. They are mainly from the Carboniferous period, and are essentially plant fossils.

If an oil or gas borehole reaches coal bearing plant fossils, drilling is stopped, as there is no known oil or gas under the Carboniferous deposits, it saves money, BIG money at that!

Academic Fossil Studies: Charles Darwin was essentially a geologist, and his work on the fossil record followed earlier studies identifying evolution in the fossil record, and therefore life. Early work by geologists such as Murchinson clearly identified the argument for evolution, but in the Victorian period this clashed with the accepted view of the evolution of the earth. There was, and still remains a debate about the origins of life on Earth. The fossil record indicates early life from about 600 million ago from the present, but the debate goes on. This period is called the Cambrian from the studies done in Wales.

The study of fossils, as in other areas of science often begs for more questions than answers eg. fossil sharks from the Jurassic period are much as modern sharks, so where is the evolution?

To all budding geologists, keep on looking!!

DR. E.K.Isaac c/o Leyland Museum



MR MORGAN'S TANK DRIVING EXPERIENCE

Sunday 26th October 2008



■ IT WAS WITH GREAT SADNESS THAT I SAID FAREWELL TO A SET OF COLLEAGUES AND INDEED FRIENDS WHEN I LEFT MOUNT ST

Joseph in the summer of 2007 to take up my position of Deputy Headteacher at Balshaws. The History Department at the 'Mount' had racked their brains as to what to give me as a leaving present. Would it be the trusty briefcase? The engraved pens set, or even the personal organiser? No, instead of all the classic, some would say traditional teacher leaving presents my former colleagues decided to go with the tank driving option! Where did that come from I hear you say, well I have no idea but what a fantastic experience!

So on the morning of Sunday 26th October, armed only with a picnic lunch, including flask, (I need regular brews!) and an A-Z of Great Britain, (who needs Sat-Nav?) the Morgan family set off for deepest darkest Leicestershire. Little did we know that this would be a journey which would take us back in time. Well actually back to 1485 as we spent the morning at the Bosworth Battlefield Heritage Centre, scene of one of the bloodiest and most significant battles in English history as it heralded the start of the Tudor dynasty. This was a tremendous site to visit and I have already spoken to Mr Barrett about adding it to the list of visits for year 7 or 8.

My tank driving experience was booked in for 4.00pm that afternoon. After a wonderful, magical mystery tour of the delights of Leicester and its surrounding area, (remember I don't have Sat-Nav!) we finally arrived at a bleak and desolate looking farm complex in the middle of nowhere. Although we arrived about 20 minutes late and they were ready to close for the day they kitted me up and told me to report for briefing ASAP. The tank I was about to drive was a Fighting Vehicle 432 (FV 432). The history of this machine ran parallel to that of the Cold war. There were only 13 made of the turreted version, of which I was driving one. They were originally made for use in Berlin during the 1960s up to the collapse of communism and the end of the Cold War. The beauty of the FV432 was that it was effectively an armoured

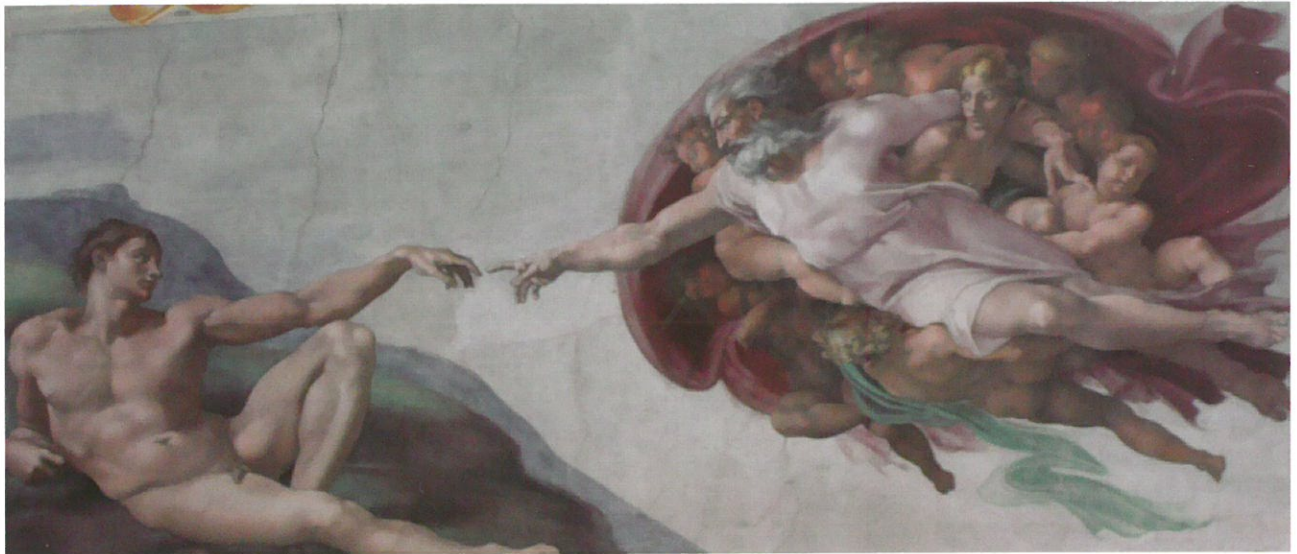
personnel carrier with fire power because it could carry ten infantry personnel in the back.

The engineering of this vehicle is staggering. It has a K60 multi fuel Rolls Royce engine that has 280 break horse power and for the eco friendly amongst you it can manage a not so impressive one mile per gallon! However it does have a top speed of approximately 35 mph, on the road. The experience was to test my ability to drive this beast 'off road'. The first circuit saw me as passenger observing my instructor and listening to his top tips. Then it was my turn. With a mixture of excitement and apprehension I took up the drivers' seat. The noise of the engine is absolutely deafening and the fumes very overpowering. The steering of the FV432 was simple yet bizarre, just two levers, right and left. My initial problem was too much over steer and as my instructor pointed out it would not be a good idea to turn this monster over. (Apparently some over enthusiastic customers had done this before, which is probably why I had to sign a disclaimer at the start just in case there was an accident. Oh that reminds me that another problem with these tanks is that they are prone to over heating and sometimes set on fire! I was briefed on evacuation procedures.) My third and final circuit was done with the hatch down and observing only through the periscope and listening to guidance from my co-driver. This was a tremendously nerve racking lap as I drove almost blind but for a very narrow window of vision and some expert direction.

My taster session driving a tank was an exhilarating and highly enjoyable experience for which I am extremely grateful to all my friends at the 'Mount' for providing me with. As much as I enjoyed the day it did make me think about our servicemen and women who drive or travel as infantry in these tanks or ones like them in Iraq, Afghanistan and other parts of the world today. I have only the utmost respect and gratitude for the work that they are doing in extremely difficult and dangerous circumstances.

Mr Morgan





DID CHARLES DARWIN DISPROVE GOD?

■ THAT'S A COMMON IDEA. CHARLES DARWIN PUBLISHED THE ORIGIN OF SPECIES IN 1859 AS A THEORY TO EXPLAIN THE ORIGINS OF

biological diversity. And at that time, that's all it was – a biological theory, which many Christians were happy to accept. In fact Darwin himself believed in God and never intended his theory of evolution to replace the idea of a Divine Creator. Writing in 1879 to his friend John Fordyce he said:

"It seems to me absurd to doubt that a man may be an ardent Theist (believer in God) and an evolutionist... In my most extreme fluctuations, I have never been an atheist in the sense of denying the existence of a God."

He was not alone. Many of the pioneer scientists believed in God, including Sir Isaac Newton, the mathematician and physicist, who, in his "Principia", wrote:

"This most beautiful system of the sun, planets, and comets, could only proceed from the counsel and dominion of an intelligent and powerful Being. ... Atheism is so senseless. When I look at the solar system, I see the earth at the right distance from the sun to receive the proper amounts of heat and light. This did not happen by chance."

Some point out that there are problems with evolution. For instance, it claims that there once existed a whole series of successive forms of the various organisms alive today. These changed by tiny amounts with each generation as they evolved into the present varieties. If that were so, then you would expect the fossil record to show these gradual changes. But it doesn't. Instead, it shows the sudden emergence of new species out of nowhere, fully complete with all their characteristics and not changing over time. Indeed, Professor

Steven Jay Gould of Harvard University once described this lack of evidence as "the trade secret of palaeontology." Put simply: the more we dig, the more we keep finding the same forms over and over again, never the intermediates. Evolution is still a theory!

Some Christians reading the account of Creation in the Bible, have concluded that the world was created in 6 days. If that idea sounds too ridiculous, ask yourself "If there really is a God, could he have created the world in 6 days?" And ask yourself another question: "If God really did create the world in 6 days and you could have cut down one of the recently created trees, how many rings would it have had?" Presumably, hundreds, yet it would have only been five days old! In other words, a 6 day old world with trees and mountains and rivers would have looked millions of years old!

Whether the world took millions of years to evolve, or just 6 days, in the end, is not the crucial question. How the world came about is fascinating, but why it is here is even more fundamental.

Tony Holland, Professor of Chemical Engineering at Salford University was an atheist, but it was his scientific research which caused him to start believing in God. He wrote:

"On consideration, it was inconceivable to me that the complex system of which we are a part could have occurred without a creator. Just as a symphony testifies to the skill of the composer, the world and the universe testify to the wisdom and power of God. Science is simply a description of God's work."

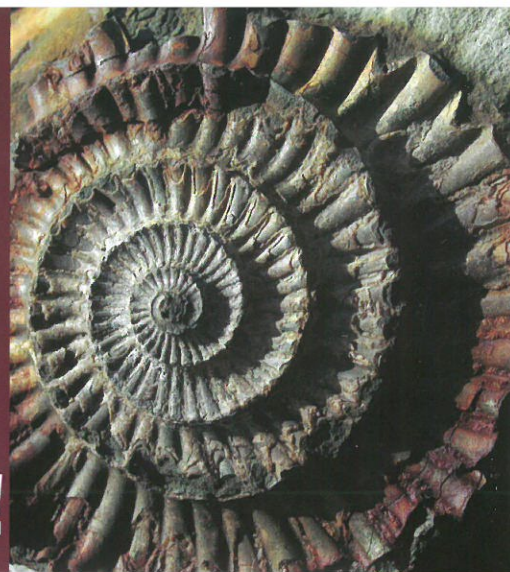
I'm sure if he were here today, Charles Darwin would agree.

David Gibb, Vicar of St Andrew's & Balshaw's Governor

NUCLEUS

BALSHAW'S SCIENCE NEWS

SPECIAL NATIONAL SCIENCE WEEK EDITION!



BARN OWL BILL AT SCIENCE CLUB!

■ AS PART OF NATIONAL SCIENCE WEEK BARN OWL BILL CAME ALONG TO THE YEAR 7 AND 8 SCIENCE CLUB TO TELL PUPILS ALL

about his Bird Sanctuary and Rescue Charity. We met Pauli the Barn Owl, Midge the short owl and many others.

Bill and his team rescue birds in trouble 365 days a year and even let them recuperate in their living room!

For more information go to the website:

www.barnowlbill.co.uk

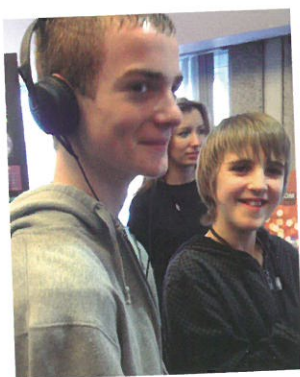


Toby Dearden with a Barn Owl

BIG BANG FOR GCSE ASTRONOMY STUDENTS!

■ THE YEAR 9 GCSE ASTRONOMY CLASS WERE TREATED TO A DAY OUT IN LONDON BY UNITED UTILITIES ON

Thursday 6th March. The "Big Bang" exhibition was held in Westminster and featured hundreds of workshops and stalls all about different Science disciplines. Pupils controlled and talked to the latest generation of robots, heard about up to the minute developments in Sports Technology and had a chance to



Dean Tattersall and Kendal Dixon

meet young engineers and scientists

from schools and colleges across the country who had embarked on exciting Science projects in the past 12 months.

The group will take their GCSE in Astronomy in May and the day was certainly good preparation for the students who even managed a past paper exam on the way home!

BTEC STUDENTS GO CSI!



Footprint casting

■ THE MOST RECENT MODULE THAT THE YEAR 11 BTEC STUDENTS HAVE BEEN COMPLETING IS FORENSIC SCIENCE.

Pupils made footprint casts, looked at fibre and hair evidence, tested blood samples and learned how forensic scientists are involved in making statements in court.

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SCIENCE WEEK EDITION CONT.



FOSSILS WORKSHOP AT LEYLAND MUSEUM



Pupils get to grips with making their own fossils

■ IN JANUARY AS PART OF DARWIN YEAR AT BALSHAW'S THE SCIENCE DEPARTMENT

held a Saturday Workshop on the subject of Fossils at the South Ribble Exhibition Centre.

Pupils of all ages joined us for a look into the past by studying fossils and bones from Balshaw's, took a trip around the Galapagos Islands as well as getting the opportunity to make their very own fossil.

Look out for more workshops at the museum throughout 2009!



Pupils look at the different finches that live on each island

SNAKES ALIVE!



Shaun Kemp doesn't look frightened of Simon!

■ NATHAN SKINNER OF YEAR 8 RECENTLY BROUGHT HIS SNAKE TO WASP CLUB!

His presentation on Simon the Boa Python was excellent and Nathan taught us about the eating, sleeping and hunting habits of snakes like Simon in the wild.

Members of WASP got an opportunity to hold the snake and there were a lot of questions for Nathan to answer!

Thanks Nathan and of course Simon!



Nathan Skinner and Jacob Ashton with Simon

BALSHAW'S JOINS FORCES WITH UNITED UTILITIES



■ EARLIER THIS YEAR BALSHAW'S WAS APPROACHED BY UNITED UTILITIES TO BECOME INVOLVED IN THEIR 'BRIGHT SPARK'

programme. This involves working with primary schools to deliver a unit of work for year 6 pupils on electricity.

A group of primary teachers attended a training session at Balshaw's on using the electrical kits. Following on from this an engineer from United Utilities would visit the primary school and along side the primary teacher work with the pupils. The children are given the opportunity to discover how electricity is controlled to make things work. An extension of this programme is that we will be making kits for the primary schools next year during Y10 Resistant Materials and Electronics lessons.

Another development is that Balshaw's has become a named educational partner for United Utilities. Among the many exciting opportunities this represents is when our pupils apply for an apprenticeship with United Utilities they go straight to the testing phase of the process. This is because United Utilities know a pupil from Balshaw's has the potential to become an engineer of the future that will keep the water flowing and the lights on.

DARWIN THE MAN

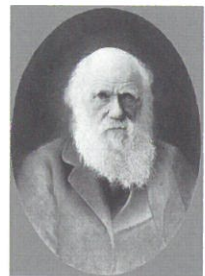
■ IT HAS SURELY BEEN DIFFICULT TO MISS THAT 2009 IS THE 200TH ANNIVERSARY OF CHARLES DARWIN'S BIRTH and the 150th anniversary of what is arguably the most controversial and influential book published in the history of science, Darwin's '*On the Origin of Species by Means of Natural Selection*'.

Darwin did not invent the idea of evolution but he did provide a powerful theory of how evolution could happen, after working out his principles of natural selection following his five years of research in South America and the Galapagos Islands as naturalist on *HMS Beagle*.

But what about Darwin the man? He was born in rural Shropshire. He seems to have been shy, gentle and caring. He married his cousin, Emma Wedgwood and she proved a loyal and loving wife, though she did not accept his views on evolution but remained a creationist all her life. They together had ten children, of whom seven survived into adulthood. Darwin the family man enjoyed the company of his children, even letting them help with some of his experiments. One such undertaking involved dusting bumble bees with flour so that they could be tracked by the children across the local meadow to their next stopping point. It showed that the bees' flight

paths were certainly not random.

The Darwin – Wedgwood family had already achieved prominence through the work of Josiah Wedgwood and later generations include at least ten Fellows of the Royal Society as well as a number of artists and poets. The composer Ralph Vaughan Williams was the grandson of Darwin's older sister and his maternal grandfather was the older brother of Emma (Wedgwood) Darwin.



Down House in Kent, where Darwin lived for forty years until his death in 1882, has been chosen as the UK's 2009 nomination for World Heritage status after much work by English Heritage to show it not only as a family home but also as a modern museum with exhibits giving insight into Darwin's world, including a reconstruction of the cramped cabin on the *Beagle* and interactive displays featuring his notebooks and diaries. His country garden includes the Sandwalk, a tree-lined path of red sand, also known as Darwin's Thinking Path.

Margaret Hodgson

THE YEAR 7 TRIP TO...

■ ON FRIDAY 13TH MARCH YEAR 7 PUPILS EMBARKED ON THE VERY first Science and English trip to the Lake District, home of the famous author and poet John Ruskin. Ruskin was a contemporary of Charles Darwin and they sent each other many letters throughout their lives debating Darwin's Theory of Evolution.



John Ruskin
1819-1900

FRIDAY!

Arrive at the Hawkshead YHA just in time for Games Night!



Josh Fenton and Jak Swarbrick relax after a hard day at school with a game of Connect 4!



The girls prefer a quiz on the Playstation!



Robert Counce and Ryan Jackson like KerPlunk!

SATURDAY!

Science Day! We spent the morning in Grizedale Forest...

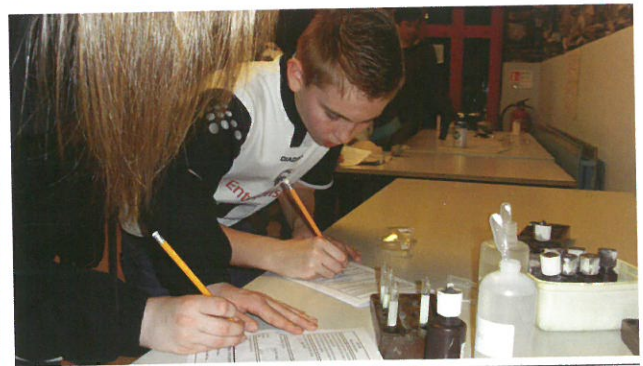
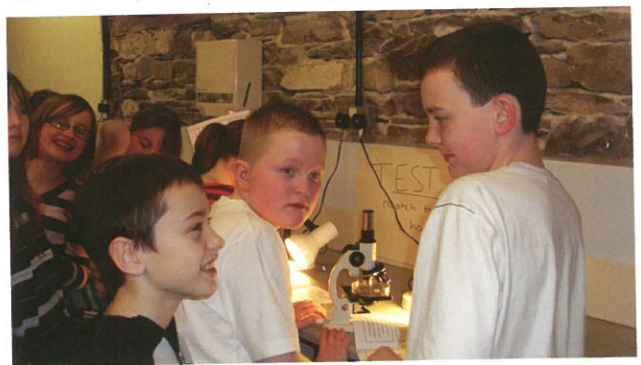


Shelter Building in Grizedale Forest



"Building a shelter was cool" Nathan Cooper

... followed by a Murder Mystery back at the Youth Hostel



"I enjoyed all the experiments" Ruby Riley

SUNDAY!

English/Drama Day! A morning in Ambleside at a Gothic style church with Frankenstein workshops in the afternoon!



"A lovely service of hymns, readings and prayers. Parishioners thought pupils were very well behaved!"



Horror make-up session



"An amazing weekend" Tom Watson

BALSHAW'S ACHIEVES ECO SCHOOLS SILVER AWARD

■ THE ECO COMMITTEE IN SCHOOL HAS BEEN WORKING HARD TO DRAW UP AN ACTION PLAN (WHICH CAN BE FOUND ON THE SCHOOL

website in the Eco section) and fulfil the criteria to achieve the Eco Schools Silver Award, which it successfully achieved on the 20th March 2009.

The school's new Eco code was written by Laura Wade in CU4 and was chosen following a competition in Year 8 run by the English department and this will be placed on the school web site and the Eco notice board. Laura will receive her prize in a forthcoming assembly.

The Eco committee was successful in applying for an award from South Ribble Council that will allow us to build bat and bird boxes for the school grounds and equip them with cameras to allow everyone to take part in Spring Watch.

A big thank you to Mr Temmen, the Site Manager, for his work in placing a new water heating limitation system in school, this was also part of our Action Plan. He is now working on a new lighting control system for the school corridors, another of the targets from our Action Plan.

The Energy Team will be starting their data collection duties as from April and their reports will be placed on the website and they will be giving an assembly later on in the year. Hopefully they will be able to collect some very useful data to help the school become Eco self sufficient.

Finally, but not least there will be an Eco Day on Thursday 2nd July 2009, in school. If you have any eco ideas please let us know, as we will be placing them on an Eco guide which will be given out on the day. We are also very keen to hear from local companies and individuals who would be willing to come into school to either give a talk or put up a display in the school hall or on the grounds. Why not come in and show us your craft skills such as weaving, mat making, knitting, vegetable growing or recycling activities. Please contact school if you would like to be involved.

DARWIN YEAR LAUNCH

■ ON 15 JANUARY 2009 BALSHAW'S CE HIGH SCHOOL LAUNCHED DARWIN YEAR AT THE LEYLAND MUSEUM. THE EVENT WAS

attended by Governors and Staff (past and present), Headteachers of local primary schools as well as the Mayor and Mayoress of South Ribble.

Head of Science (Caroline Molyneux) successfully bid for a grant of £10,000 from the Wellcome Trust to celebrate the bi-centenary of Charles Darwin's birth in 1809.

Local primary schools had participated in an Art Competition to design a poster advertising "Darwin Year

2009". This was won by nine year old Tiara Mistry, a year 5 pupil at Whittle-le-Woods CE Primary School. Her school received a £100 prize and Tiara's family will enjoy a day out to Alton Towers. The prizes were presented by the Mayor Coun Barrie Yates at the Leyland Museum.

Keith Woodcock, who retired three years ago after teaching science at Balshaws for 26 years and is a foundation governor, has been appointed as Darwin Year Co-ordinator. He and Dr David Hunt, the curator at the Leyland Museum, have planned a programme of events which began with "A Beginners Guide to Fossils" on Saturday 17 January.

MONEY RAISED WELL

■ YEARS 10 AND 11 GEOGRAPHERS WERE SO INTERESTED IN THE WORK OF THE ENGINEERS IN TAJIKISTAN AND SRI LANKA

on the water systems to improve the life chances of people there, that they collected money in order to fix a well.

They had had lessons on the difficulties and how they could make a difference by providing safe water for 12 people and make life healthier and easier for everyone, especially the women, who often have to collect water for drinking,

cooking and washing for the whole family. Because of their gift there was a drop in the number of water-borne diseases in the villages where Oxfam installed hand pumps and this gave a better life chance to the under 5's. By fixing the well, they ensured that a community has a reliable source of safe water nearby and the tools and training to fix the wells. Well done Sami, Amy, Becky, Claire, Amber, Graham, Liam, Jessica, Caitlin, Ben, Jamie, Lorna, Ashley, Mrs McLean and Mrs Maxwell

JOINING OUR ECO TEAM

Welcome to Sam Booth who has joined our Environmental team.

■ HE HAS BEEN WITH US FOR OVER A TERM NOW AND DOES AN EXCELLENT JOB IN THE CANTEN AND AROUND THE GROUNDS.

Sam joins Eileen and Barry, all from Crossways Centre. They are well known around the school from Wednesday to Friday each week. Eileen helps to recycle the paper in the office and Barry stock checks and courts in the Technology area, so between them they save us money as well as saving the planet.

Sam's brothers, Danny and Oliver, came to Balshaw's so he soon found his way round. We hope he will be with us for a long time.

