



2016

Leap - Making Music and Marvellous Machines



Helen Weinstein
Historyworks



Leap - Making Music and Marvellous
Machines

Report on Marshall funding

By HistoryWorks

Public grant evaluation for funding received from Marshall Community fund & Norwich&Norfolk Festival Bridge fund

(Spring/Summer 2016 grants)

Please complete and return this evaluation form on completion of your project, along with financial breakdown of the project. We would be grateful for any photographs (max five) showing how the project evolved and the final outcome.

Once received Officers will review the information supplied and contact you if any additional information is required. Once complete, the final payment of your grant will be paid.

1. Your Organisation	Historyworks
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2. Project title	Leap - Making Music and Marvellous Machines
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3. Project grant	£10,000 +VAT
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4. Summary of Project Objectives
<p>This is a project designed by Historyworks to complement and extend the work started in the Abbey area, funded as a Public Art Project to engage children, their teachers and their families, with the relevance of STEM a creative way, funded by the local company of international stature on the Newmarket Road, Marshall of Cambridge, extending the project funded by Norwich & Norfolk Festival Bridge.</p> <p>The Leap Project is therefore designed to engage young people and the wider community with a STEAM approach to creativity (Science, Technology, Engineering, Arts and Mathematics). It was designed to chronologically extend the 'Sounds of Steam' project which had been funded by S106 and the Norwich & Norfolk Festival Bridge award, which had enabled Historyworks to work with more than 3 funded primary schools. Robert Marshall met with Helen Weinstein on two occasions and his guidance was for Historyworks to devise a project which would dovetail with the 'LaunchPad' programme already run by the Marshall apprentices with others. Matt Lane Sanderson was also at the first of these meetings and we decided to rename the Marshall project originally called 'Delta' to be called 'Leap' and provide model-making to encourage creative practice plus music-making to teach STEM themes.</p> <p>To this end, Historyworks has put together for the Leap project a collaboration with the sculptor, Matthew Lane Sanderson; the songwriter for CBBC's Horrible Histories, Dave Cohen; the musicians, choir coaches, and junk band leaders of Mario Satchwell, Tizzy Faller, Bethany Kirby.</p>

5. . Which schools and communities were involved in the project and their geo-locations & contexts in relation to Marshall of Cambridge's "LaunchPad" Project to encourage engineering skills

The 3 primary schools who engaged with the Leap project are all located within walking distance of the Newmarket Road area, namely Abbey Meadows Primary, St Matthew's Primary, St Philip's CofE Primary.

What was learnt by Historyworks in liaising with Primary School Heads and STEM leaders is that the children and teachers find the LaunchPad scheme quite a stretch which only fully engages the students who are perhaps already gifted to understand engineering concepts and designs. Infact, the main cohort of the Y5 children (aged 9/10) in all the Cambridge primaries Historyworks talked to find learning about flight and gravity, friction and forces, very challenging indeed.

Helen Weinstein therefore devised a series of workshops which the Historyworks team delivered in the schools as part of the national marking of Science Week in the Spring of 2016, with a series of field trips to the Cambridge Museum of Technology, and then employing specialist musicians from Historyworks to deliver STEM singing and music making in schools, to make it possible to learn the key concepts through the process of doing the model making, and learning them by rote through singing.

6. Project overview & research findings

The aim of the Historyworks project was therefore to pilot a STEAM approach, for music-making and model-making, to engage children in creative practice to help them understand the basics of the concepts of flight and gravity, friction and forces.

The ethos of Historyworks is to find local stories to give a sense of connectivity to young people and then to develop the stories into place-making projects, so that the project can be extended beyond schools to the wider community.

The key stories which were researched and made into resources for the students and our music-making and model-making leaders, were the following:

- Isaac Newton buying books locally at Stourbridge Fair and the experiential side of scientific discovery, told via the story of the apple tree and gravity
- History of the Marshall family business, the story of flight and the crashed airship Beta II

in 1912, and how the aeroplanes the children see everyday stay up in the sky
- the Jurassic story discovered by Helen Weinstein, that flying Pterosaurs once soared over this area in Cambridge in Jurassic times, and their deposits were mined on Coldham's Common by the Victorian prospectors on Cambridge Greensand land

7. Aim of the project for youngsters within school – Reaching beyond year 5s to entire schools through singing

Historyworks organized for Leap singing sessions in the schools as a key part of the Leap project which the children and the teachers found hugely enjoyable. The singing workshops started with the Year 5s and then cascaded out to School Choirs so that they would know the words and the melodies before we taught the songs to entire School Assemblies, employing the fantastic choir teacher, Mario Satchwell as the Music Leader in the three primary schools.

All the songs were focused on the variety of STEM subjects which could be pinned on geo-locations around Cambridge to give the children a sense of ownership and belonging, and to help the teachers with subjects that they say are challenging for some of the students, particularly gravity, friction and forces.

To this end, Historyworks commissioned Dave Cohen, the CBBC's Horrible Histories songwriter, so that the factoids would be cleverly embedded in the songs, and then Historyworks made online teaching resources and commissioned songs to help the children connect with these stories to learn some of the science at the same time. We've therefore used the Leap funding to share the newly commissioned STEM songs in the 3 primary schools. The favourites are the songs about the Cambridge scientists, Rosalind Franklin, Charles Darwin, and Isaac Newton. The two songs about the Jurassic period Flying Pterosaurs which used to soar over Coldham's Common have also proved very popular. In addition, to help the Year 5s engage and understand the science of gravity, we also have the newly commissioned Historyworks song, 'One Red Apple' about the discovery by Isaac Newton, and a song about Marshalls flying machines, which starts 'My aeroplane flies over the Ocean, Why does it not fall in the Sea? Next year, dependent on the Marshalls' housing project and the potential to apply for a further public art project, we hope to include other primaries close to the perimeter of the airport, who wish to be involved in making their own history trails and having a STEAM experience with song and poetry, namely Fen Ditton Primary and Teversham Primary. Historyworks is also interested in connecting again with the Cherry Hinton Primary, Colville Primary and the Spinney School.

8. Shape of the project for youngsters within school – Reaching year 5s and 6s through visits to museums and model-making.

Historyworks organized and led fieldtrips to the Cambridge Museum of Technology with STEM workshops at the Museum which focus on friction and forces, making hundreds of balloon-powered wagons. Once we had Year 5s in the three schools understanding and testing out their balloon-powered wagons on different surfaces to experience friction and forces for themselves, we then for Science Week had the Year 5s do model-making with the younger children to pass on their knowledge and model-making expertise. We also made air-powered rockets. It was great that Robert Marshall had his PA help source some young staffers from the Engineering team, so we could be joined by Georgina Challans and her colleagues to kick-start the Science Week with a display of balloons flying on a string! And then we also made hundreds of pop rockets, once Historyworks were able to have help from the Marshall volunteers for mass model-making and answering questions from enthusiastic youngsters, which was a great way to have less confident or able students engage with STEM and be exposed to Engineer professionals.

Another model-making project was added once Matthew Lane Sanderson had made a prototype of a glider-shaped Pterosaur, we then had children make these in workshops under his leadership and Historyworks followed-up to produce further resources for schools with templates and glider kits, so we could also cascade the learning about flight design to all of Key Stage 2 students at the primary schools.

You can find our resources for flight-related making for school children here:

HOW TO MAKE A BALLOON-POWERED WAGON:

<http://www.creatingmycambridge.com/songs-creative/resources/balloon-wagon/>

HOW TO MAKE AN AIR-POWERED ROCKET:

<http://www.creatingmycambridge.com/songs-creative/resources/air-rocket/>

HOW TO MAKE A PTEROSAUR PUPPET (FOR YOUNG CHILDREN UNDER 7)

<http://www.creatingmycambridge.com/songs-creative/resources/how-to-make-a-pterosaur-stick-puppet/>

HOW TO MAKE A PTEROSAUR GLIDER (FOR AGED 7 ONWARDS)

<http://www.creatingmycambridge.com/songs-creative/resources/how-to-make-a-pterosaur-glider/>

HOW TO MAKE A KITE:

<http://www.creatingmycambridge.com/songs-creative/resources/how-to-make-a-kite/>

9. Workshops for young people in the holidays

For youngsters in the summer holidays, Historyworks organized a series of FREE workshops which were hosted at Abbey Meadows Community Centre. For the modelling aspect of the workshops, Helen Weinstein purchased a set of 'kite kits for schools' so that all of the participants had the opportunity to make an easy-to-assemble child sized diamond kite to take home and fly with us at the event in August on Coldham's Common.

Importantly, we were joined for one afternoon of the workshop by the sculptor, Matt Lane Sanderson, who showcased how to work in wire, with everyone making a wire 3-D sculpture; and also with a briefing from Helen Weinstein about our 'flight' theme. Matt had created the design for the glider in the shape of the Pterosaur, and all the children had a great time assembling their own gliders and learning to tip the wings to fly them at different speeds and heights. For more information and glider photos please go [here](#).

<http://www.creatingmycambridge.com/songs-creative/resources/how-to-make-a-pterosaur-glider/>

For the music and junk band aspect of the workshops, children made shakers with Tizzy and Mario and Bethany, and then learnt to play these rhythmically, and watch the conductor carefully as they added more tones from other objects, such as pipes and tubes donated by the sculptor, Matt Lane Sanderson; plus tubs and bins and beaters with low and mid notes donated by the Cambridge Scrapstore. After a series of afternoon workshops, a performance was put on for parents and the wider community; and also following on at the Big Wednesday on Coldham's Common. The key song which the children performed was the Pterosaur Rap. For the report about the Junk Band workshops, please read our blog report [here](#).

<http://www.creatingmycambridge.com/events/2016/08/01/making-music-and-magical-machines/>

RESOURCES FOR FAMILIES AND SCHOOLS FOR JUNK BAND:

<http://www.creatingmycambridge.com/songs-creative/resources/how-to-make-a-junk-band/>

HOW TO MAKE A MUSICAL SHAKER:

<http://www.creatingmycambridge.com/songs-creative/resources/how-to-make-a-shaker/>

10. Events for the abbey community & wider audiences

To showcase the workshops and extend our reach beyond schools, Historyworks undertook a very ambitious 'take-over' of Coldham's Common for a free event at the start of the summer holidays. For this, Matthew Lane Sanderson agreed to help with the kite-making and glider-making, and it was great to have his presence as the hook to produce a really large community event with lots of press coverage and a huge campaign in the

area, using school newsletters and facebook and the Cambridge press to help bring attention to this fantastic event.

All of the Historyworks music makers were also employed to bring the junk band and the pterosaur and science songs to a larger audience. The music sessions went on simultaneously with using the large outside field space for kite-flying, pterosaur puppet-making, and glider-making.

We also had huge help from local partners who joined forces with us to make it into a ChYpPS event called a BIG WEDNESDAY so that other outreach departments, such as the University of Cambridge Museums, and the Cambridge United Community Trust joined us to together provide an afternoon of free family-friendly activities.

The event was a huge success, was opened by the Mayor of Cambridge, had more than 400 children and their families attending, and also garnered great press before-hand when Helen Weinstein was interviewed on BBC Radio Cambs about the STEM songs and making workshops and junk band invitations were made by Helen to the wider community using the airwaves! Also, on the day the writing of a good Press Release paid off with a full-page piece printed by the Cambridge News using the quotes Helen had assembled, and showcasing the Coldham's Common activities, including photographs with the sculptor, Matthew Lane Sanderson and the volunteering Marshall staffers, especially with Georgie Challans again! See the lovely photos with the headline, 'Time Flies when you are having Fun':

<http://www.creatingmycambridge.com/multimedia/newspaper-articles/#big-wednesday-cambridge-news-article-4th-august-2016>

11. Feedback from the schools, partners, local community:

Historyworks has had a huge amount of positive feedback about our methodology to underline STEAM learning in school with a creative event as a community event on Coldham's Common to showcase our Junkband and invite the wider community to come along for drumming workshops, and to join us for making marvellous machines: to make kites and gliders for older children, and flying pterosaur puppets for younger ones. This has been a big success and will be repeated in the community calendar, and could become very STEM focused if Marshall could have more staff and apprentices volunteer activities in the future! And the children have asked if Matthew Lane Sanderson could make a giant Pterosaur kite!!

The event also made a difference and benefited the forging of local partnerships because it was great to team up with ChYpPS and Abbey People and Scrapstore and Cambridge United to make this a 'Big Wednesday' event in the ChYpPS summer calendar, the first time one has ever been held on Coldham's Common. ChYpPS laid on a face-painting tent, and organized circus jugglers, outdoor trampolines, pop-up tennis, and a Cambridge United Sports Zone and fun-run. For many families, it was the first time they told us they had picniced on Coldham's Common and had an excuse to hang out there and enjoy this wonderful open space in their community, whilst learning about flight and pterosaurs, friction and forces.

Our other partners from the Abbey People community helped with learning about the wildlife on the common and the community orchard at the Margaret Wright Orchard nearby. Further, partners from the Cambridge University Museum service came along to run activities and object-handling sessions. By special request from Historyworks, the Sidgwick Earth Sciences Museum brought along objects to represent the Jurassic period findings on Coldham's Common, because this is a *new* story we've researched in depth with the Marshall funding, and have then had the privilege to share with the children and the community through song and poetry. It is a fact that the families attending hugely enjoyed seeing and feeling coprolites, the fossilized dung from our flying reptiles!

To read the report about the Coldham's Common event and see photos of the community enjoying this fantastic sunny afternoon of music and making and sporting activities, please find our illustrated report [here](http://www.creatingmycambridge.com/events/2016/08/03/big-wednesday-on-coldhams-common/).

<http://www.creatingmycambridge.com/events/2016/08/03/big-wednesday-on-coldhams-common/>

12. What is the learning & legacy about how best to develop the leap project to fit with the wing public art opportunities

For the school year commencing in September 2017, Historyworks has received requests to work with Fen Ditton Primary, Abbey Meadows Primary, and Teversham Primary to develop and embed this project. We would like to request the Wing Development Public Art funding connected to Marshall of Cambridge to fund further bespoke history trails for the children and their families to learn about the Abbey area. We would also like to extend our making and marvellous machine workshops to go into schools for Science Week in March 2018, and then to run a series of 'popup' workshops in conjunction with ChYpPS at the very end of the summer term of 2018 in the run up to a repeat event on Coldham's Common, this time with a 'mass' kite fly of Pterosaurs, which we hope that the sculptor Matthew Lane Sanderson will design a giant Pterosaur Kite for the event, in August 2018.

Also, there is a need in the Abbey area to run a local history memory-making series of workshops to tell the story of each neighbourhood in the Abbey area which we suggest to the Marshall Housing Development Wing project, would help with community cohesion before and during the building of a new community on the edge of Abbey with a new primary school, which would give the older community and the new community context and connectivity, which history project could commence in Autumn 2018 and run to Autumn 2019, to capture photos and memories of the building and development of the area from the Victorian period onwards especially looking at the employment of local people in the technical industries and their involvement also in supporting the endeavours of WW1 and WW2. We would suggest that an exhibition could then run in early 2020 to showcase the exhibition with a series of local events, perhaps even a musical theatre show with primary school choirs to tell the story of the community to itself.

Lastly for October 2019 and 2020, Historyworks would like to produce a 'Fun Palace' event for the national play day of 'take-overs' of heritage sites by young people. For STEM themes it would be fantastic to curate this across the main sites of significance closeby Marshall, to partner perhaps with the Cambridge Museum of Technology linked with site exhibitions and tours of the local engagement activities at the Marshall Airport facility itself, and run this with local partners at the Cambridge United Stadium and Abbey People for making 'flight' themed workshops for the community including and beyond schools.... We have lots of ideas at Historyworks and our team are pleased that the Historyworks Public Art Project for STEAM themes funded by Marshall of Cambridge was such as success in 2016 and has left a legacy to be developed for the benefit of not only schools but wider community cohesion!

Helen Weinstein, Director Historyworks

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FAMILY DAYS OUT

Time flies, when you're having fun!



Pictures by Warren Gunn



PLAY DATE: Clockwise from left, Connor, 6, Tizzy Falter, junk yard workshop leader, Margaret Johnson with Jacob, 1, and Allie Johnson; Historyworks director Helen Weinstein, Clara, 9, artist Matthew Lane Sanderson, Basil, 8, and Georgie Challans from Marshall; Rhyan, 4, and Nadine, 5; Summer Louise, 4 and Lloyd, 6

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WINGED dinosaurs took to the skies of Cambridge yesterday – but luckily they were just made out of paper.

The prehistoric beasts could be spotted in kite form over Coldham's Common as hundreds of youngsters turned out for a special 'takeover' event to mark National Play Day.

Organised by Historyworks, the Big Wednesday event brought together around 300 children for a special afternoon aimed at celebrating the common's rich history.

Helen Weinstein, director of Historyworks, said the inaugural event had proved a big hit and that everyone who attended had a "wonderful" time.

She said: "It was the first year I've done this and I really had no idea whether it would work but my goodness, did people come in their hundreds – it has been fantastic."

There was a special guest at the event in the form of Matt Lane Sanderson, best known for

FLORENCE SNEAD

Twitter: @FlorenceSneadCN

his creation of the world-famous chronophage clock at Corpus Christi college.

Matt helped children make more than 70 kites in the shape of pterosaurs in homage to the eclectic mix of creatures which once lived on the land millions of years ago.

He told the News: "I couldn't believe how lovely everyone was and how keen they were to make pterosaurs."

"It [Coldham's Common] has such an important history – I

think it's really important for people to feel proud of the place where they come from."

Cambridge mayor Cllr Jeremy Bensead was on hand to deliver an opening address after which a lively punk band entertained the crowds with a creative dustbin performance.



Other activities on offer included pop-up tennis and ping pong, a bicycle skills workshop, face painting, a wildlife walk and a sport zone courtesy of Cambridge United.

Dave Doggett, Cambridge United chairman, said it was a "great" afternoon for the children.

"It's fantastic they can come out for the afternoon – the enthusiasm of people was great so it's really encouraging."

The Big Wednesday on Coldham's Common comes just weeks after schoolchildren teamed up with acclaimed poet Michael Rosen, pictured left, for a creative workshop about the common's history.

Rosen has also written a special poem in honour of the dinosaurs that once roamed the green space, which was introduced at the event by Cllr Bensead.



More pictures online at cambridge-news.co.uk

Matt Lane-Sanderson leading the flight, movement, wire bending and glider workshop



Children making and testing pterosaur gliders with Matt Lane-Sanderson



Making kites with help from Tizzy



Making shakers with help from Mario



Exploring sounds at the junk band workshop and performance



Children making and testing balloon-powered wagons



Big Wednesday flight-themed activities and pterosaur coprolite object handling,
followed by Bethany, Tizzy and Mario leading pterosaur rap and junk band
performance with the Mayor



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Making Music and Magical Machines Workshops:

<https://www.flickr.com/photos/historyworks/albums/72157670941672510>

Big Wednesday on Coldham's Common:

<https://www.flickr.com/photos/historyworks/albums/72157669004354593>