

Midlothian Science Festival

13th - 21st October 2012

Midlothian Science Festival 2012 EVALUATION REPORT



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Executive Summary

Midlothian Science Festival ran from 13th-21st October 2012. The main cash funding was received from The Scottish Government Science Festivals funding. Other cash was received from partners. The majority of 'funding,' however was 'in-kind' in terms of venues and staff time.

The Festival at a Glance

- 30+events including family drop-ins, films, talks by scientists, book groups, author talks, outdoor activities, exhibitions and a children's drawing competition.
- Over 1000 visitors attended events.
- Cash cost of £4600.
- One paid member of staff – Freelance Festival Manager.
- Core festival team provided in-kind by their organisations including Midlothian Libraries, Midlothian Arts and Creativity Team, Midlothian Ranger Service, University of Edinburgh, Moredun Research Institute, Edinburgh Science Triangle (and many more).
- Over 100 volunteers from a range of organisations including industry, higher education institutions and colleges (staff and students), and 'other groups'. 15 of these were STEM (Science Technology Engineering and Maths) Ambassadors.
- 4 public engagement professionals worked over 40 hours each on organising and running events for the festival (only one was paid and even then only for a portion of these hours. The other hours were donated in-kind).
- 2 members of staff from Midlothian Libraries and Midlothian Council Arts and Creativity Team worked over 40 hours each on organising and running events (given in-kind).
- 17 library staff contributed to events at all levels, from participating on organising committee, to organising their own local events.
- 15+ venues were involved, including libraries across Midlothian, Vogrie Park and House, National Mining Museum Scotland, Middleton Village Hall and private individuals' houses.

Events

There were more than 30 events at Midlothian Science festival including:

- 7 outdoor events – scientific bike ride, science walk (particle physics), tree planting (x2), nature art creations, pond dipping and Tiny Tots Trail.
- 5 family events organised by local librarians on a variety of topics (eg Fabulous Bodies, Rocket Blast).
- 4 family drop-in days with a variety of interactive stands.
- 2 Genetic Modification workshops.
- 2 talks by scientists - '*Genetically Modified Food*' & '*Technology on the Farm*'
- 2 performances by Stunt Scientist Dr Bunhead.
- 2 family films – '*The Iron Giant*' and '*October Sky*'.
- 3 book group events with a scientist on the topic of HeLa cells (*The Immortal Life of Henrietta Lacks* by Rebecca Skloot)
- 2 author talks – Stephen Blackmore and Andrew Crumey.
- 3 exhibitions – '*Enlightenment*' (photographs), '*Curiosity Life on Mars*' and '*Gunpowder, Zebras and Cloud Chambers: The history of science in Midlothian*'.
- 1 competition for children – Design a Robot.

Partners

Main Partners (Organisers)

- Midlothian Library Service
- Midlothian Arts and Creativity Team
- Midlothian Council
- University of Edinburgh - including Wellcome Trust Centre for Cell Biology, The Roslin Institute, The School of Biology, SynthSys
- Moredun Research Institute
- Midlothian Ranger Service
- Midlothian Voluntary Action
- Edinburgh Science Triangle
- Mayfield and Easthouses Development Trust
- Roslin Biocentre

Associated Partners (provided events)

- University of Edinburgh - The School of Physics
- Moorflix
- The Kabin
- National Mining Museum Scotland
- Royal Botanic Gardens, Edinburgh
- Scottish Agricultural College
- Edinburgh College
- Hydrogen Office and the Bright Business Partnership
- Penicuik Community Development Trust
- Local Studies Centre, Midlothian Libraries

Other Supporters:

- Scottish Government (funder)
- Forest Research
- EAE (Edinburgh Arts & Entertainment)

Full Evaluation Report

Table of Contents

Acknowledgements

- i) Funders**
- ii) Partners**

1. Introduction

1.1. Aims and Objectives

2. Content

2.1. Programme Structure

2.2. Form of Interaction

2.3. External Venues

3. Audience Participation

3.1. Audience Numbers

3.2. Schools

4. Economic Impact

4.1. Total Cost of Staging Festival

4.2. Total Income for Festival

4.3. How the Scottish Government Grant was Allocated

4.4. Content Provision

4.5. Total Number of Paid Staff

4.6. Total Number of Volunteers

5. Evaluation

5.1. Measures of Success

5.2. Evaluation Comments

5.3. Evaluation of Advertisement Methods

6. Conclusion

Table of Figures

Figure 1 - Visitor figures per event.....	10
Figure 2 - Visitor age distribution.....	11
Figure 3 - Staff distribution.....	16
Figure 4 - How visitors FIRST found out about the festival	21
Figure 5 - Other advertising media visitors had seen	22

Table of Tables

Table 1 - Audience breakdown by event	12
Table 2 - Cash cost of staging festival	14
Table 3 - Total cash income for festival	14
Table 4 - Allocation of Scottish Government Grant	15
Table 5 - Audience distribution	17
Table 6 - Breakdown of visitors by area.....	17
Table 7 - How enjoyable were the events?	18
Table 8 - Attendance at multiple events	18
Table 9 - Enthusiasm for science	18

Preface - Acknowledgements

i) Funders

Scottish Government Science Festival's Funding

Project Partners who provided funds

The Roslin Institute (University of Edinburgh)

Roslin Biocentre

Wellcome Trust for Cell Biology (University of Edinburgh)

School of Biology, University of Edinburgh

ii) Partners

Committee Members

- Midlothian Library
- Midlothian Arts and Creativity Team
- Midlothian Council
- University of Edinburgh - including Wellcome Trust Centre for Cell Biology, The Roslin Institute, The School of Biology, SynthSys
- Moredun Research Institute
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- Local Studies Department, Midlothian Libraries

Other supporters:

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- EAE

1. Introduction

The Midlothian Science Festival was a new venture for 2012. It was put together in just 4 months thanks to the dedication of a small team of very enthusiastic people from organisations within the vicinity of Midlothian.

The initial idea came from Philip Wark (Library Services Manager at Midlothian Council Library Service) who wished to promote an understanding of science, expand the library service's collection of science books and encourage readers to read science based literature through the running of author events and drop-in family science activities. From there it grew into a fledgling festival with over 30 events at a variety of locations, including several libraries.

Plans are already in progress for 2013 and 2014.

1.1 Aims and Objectives

- a. to run stimulating and enjoyable interactive science activities for a wide range of audiences in Midlothian;
- b. to provide a non-threatening entry point for local people from a varied demographic area (including rural and deprived areas) to engage with science;
- c. to showcase, in an engaging way, the current and historical science originating from Midlothian; and
- d. to provide role models for careers in the form of festival staff, volunteers and presenters who work in STEM in the local area.

2. Content

2.1 Programme Structure

Midlothian Science Festival has a strong geographic focus and aims to bring science events to the doorstep of Midlothian residents. All of the events took place within the Midlothian Council area and as far as possible involved Midlothian based scientists and organisations.

The programme avoided prescriptive rules on event types or themes, aiming to be as inclusive as possible and promote involvement of local organisations.

2.2 Form of Interaction

There were more than 30 events at Midlothian Science festival including:

- 7 outdoor events – scientific bike ride, science walk (particle physics), tree planting (x2), nature art creations, pond dipping and Tiny Tots Trail.

- 5 Family events organised by local librarians on a variety of topics (eg Fabulous Bodies, Rocket Blast).
- 4 family drop-in days with a variety of interactive stands.
- 2 Genetic Modification Workshops.
- 2 talks by scientists - '*Genetically Modified Food*' & '*Technology on the Farm*'.
- 2 performances by Stunt Scientist Dr Bunhead.
- 2 family films – '*The Iron Giant*' and '*October Sky*'.
- 3 book group events with a scientist on the topic of HeLa cells (*The Immortal Life of Henrietta Lacks* by Rebecca Skloot).
- 2 author talks – Stephen Blackmore and Andrew Crumey.
- 3 exhibitions – '*Enlightenment*' (photographs), '*Curiosity Life on Mars*' and '*Gunpowder, Zebras and Cloud Chambers: The history of science in Midlothian*'.
- 1 competition for children – Design a Robot.

2.3 External Venues

More than 15 different venues housed events for Midlothian Science Festival.

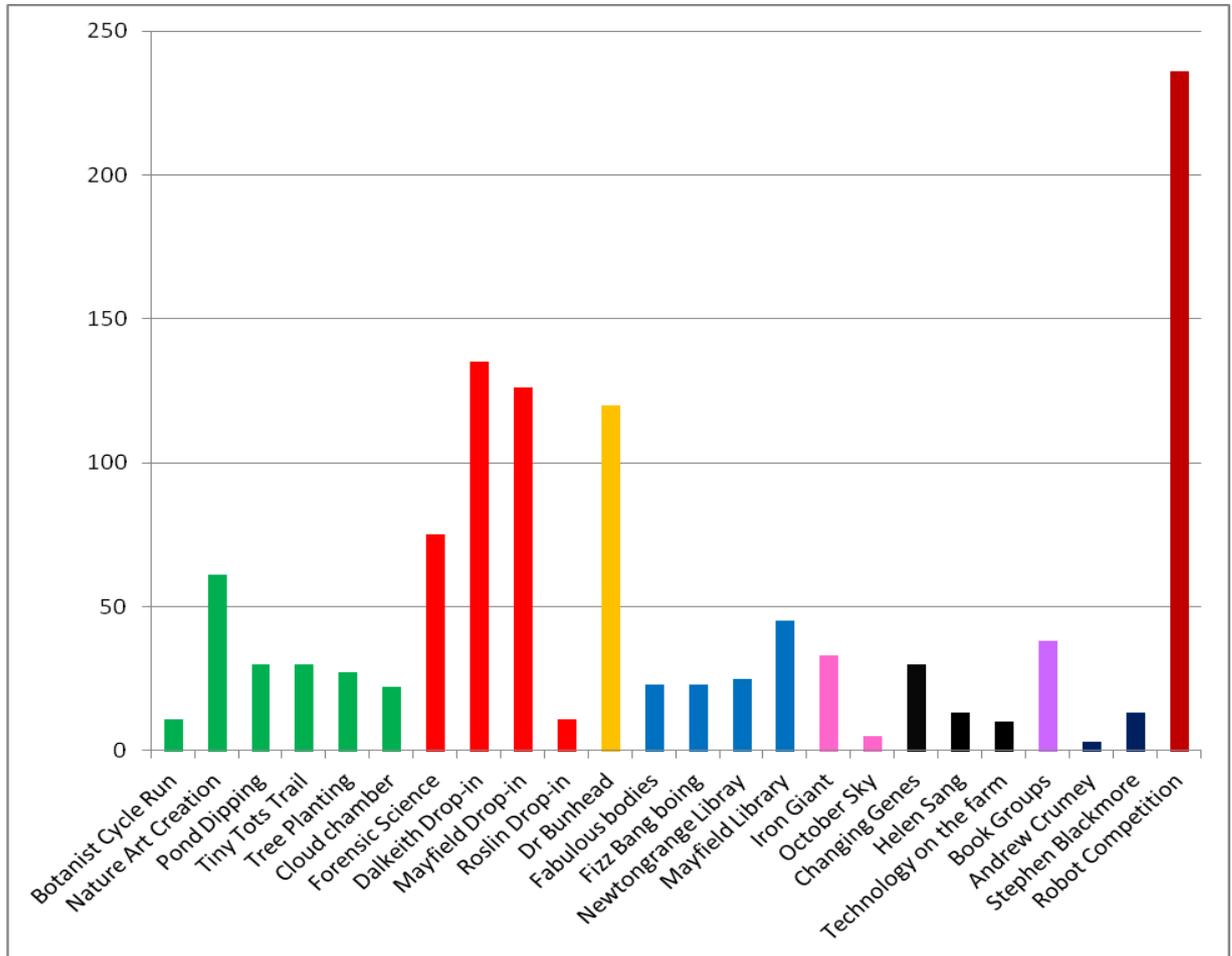
These included:

- Local Libraries across Midlothian
- Vogrie Park and House
- National Mining Museum Scotland
- Dalkeith Arts Centre
- Middleton Village Hall
- The Kabin, Loanhead
- Flotterstone Inn
- Private individuals' houses (Book Groups)
- The great outdoors!

3. Audience Participation

3.1 Audience Numbers

Figure 1 - Visitor figures per event



Outdoor Events

Library's Own

Book Groups

Family Drop-in

Film

Author Talk

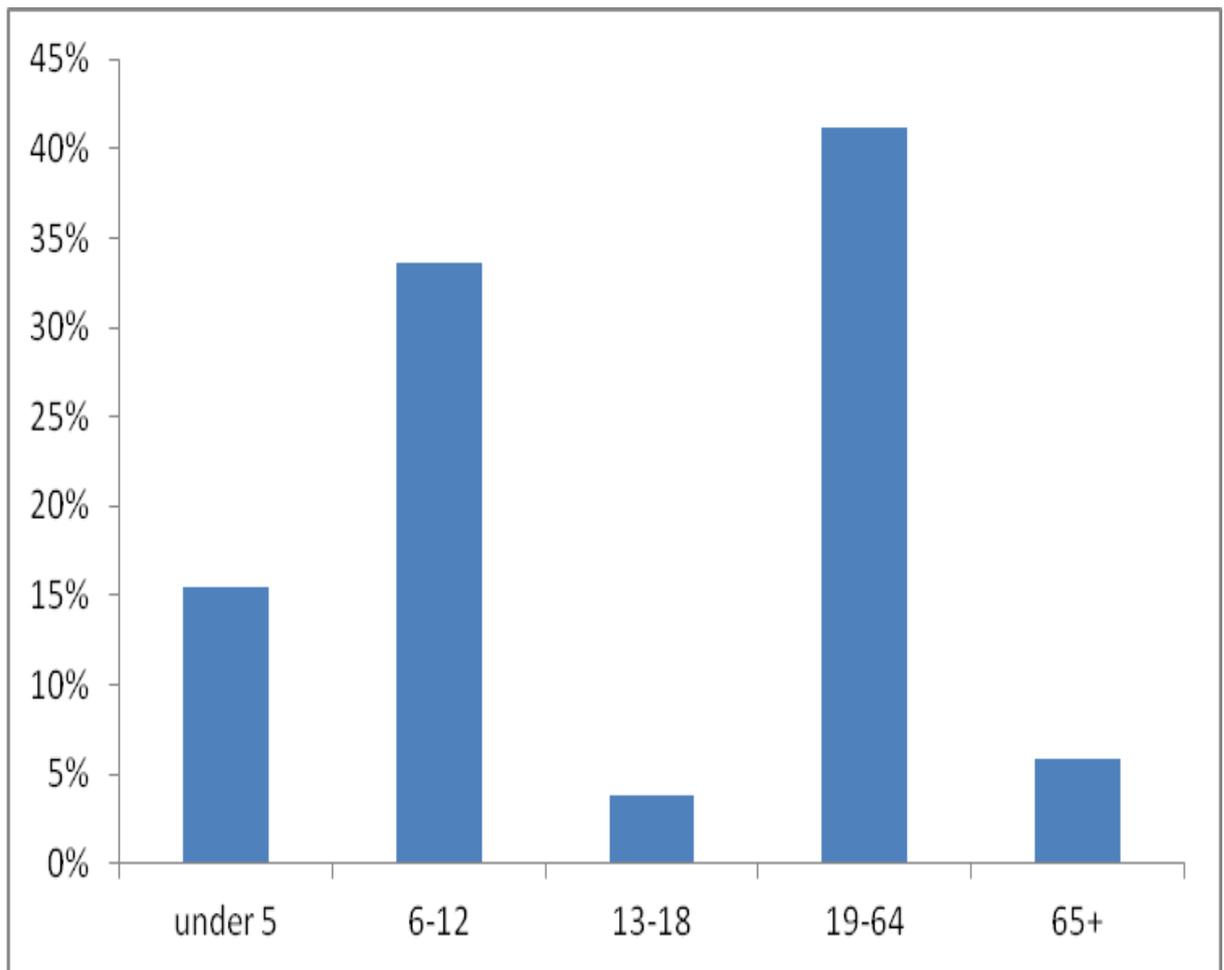
Show

Family workshop/ talk

Competition

NB: The above figures were recorded by the co-ordinators. Numbers were not recorded for our 3 exhibitions, as they took place in public libraries.

Figure 2 - Visitor age distribution



NB: The data in this chart is from the evaluation forms, which not all visitors completed.

Table 1 - Audience Breakdown by Event*

Event	under 5 yrs	6-12 yrs	13-18 yrs	19-64 yrs	65+ yrs		Total Evaluation Responses	Total Counted Visitors	Return Rate
Botanist Cycle Run	0	2	1	5	0		8	11	73%
Nature Art Creation	9	11	0	15	0		35	61	57%
Pond Dipping	4	4	0	5	2		15	30	50%
Tiny Tots Trail	14	0	0	13	1		28	30	93%
Tree Planting	0	11	11	13	3		38	27 public (+ ~40 Scouts)	100%
Cloud Chamber	2	1	1	17	1		22	22	100%
Forensic Science	13	24	0	22	0		59	75	79%
Dalkeith Drop In	8	29	0	18	4		59	135	44%
Mayfield Drop In	12	23	0	23	1		59	126	47%
Roslin Drop-in	3	4	0	4	0		11	11	100%
Dr Bunhead Shows	12	32	1	32	2		79	120	66%
Fabulous Bodies	2	10	0	5	0		17	23	74%
Fizz Bang Boing	0	11	0	7	0		18	23	78%
Iron Giant	1	9		5	1		16	33	48%
Helen Sang	0	2	3	7	1		13	13	100%
Bookclubs	0	0	2	13	10		25	38	66%
Andrew Crumey	0	0	0	3	0		3	3	100%
Stephen Blackmore	0	1	1	6	4		12	13	92%
						Totals	517	805	64%

**NB: The data in this table is from the evaluation forms, which not all visitors completed.*

Visitor breakdown data was not collected at every event, thus some events are missing from this breakdown

The majority of our visitors attended as family groups (adult/child combinations).

The most popular event in terms of 'selling out' were the Dr Bunhead Stunt Scientist Shows. The afternoon show (60 tickets) sold out so rapidly that we decided to put on a morning show too.

The Design a Robot competition received 236 entries and was a good way to stimulate interest in the festival.

The events that attracted the largest audiences were the family drop-in days, where children and families could participate in interactive hands-on science activities with real scientists/students. These events were free and ran for several hours (10 am-4 pm typically).

The free outdoor activities at Vogrie were also very popular. These included pond-dipping, tiny tots trail, tree planting and a nature art event with autumn leaves. Surprisingly good attendance was received at both the Scientific Bike Ride (which was almost fully booked) and the Cloud Chamber (Particle Physics Science Walk/Talk) event.

However, it should be noted that these events are highly weather dependant, and we were lucky with good weather this year!

The book club events provided an in-depth experience for everyone involved – with participants and scientists learning from one another. Three events were run within the festival period and 2 more book groups have made bookings to meet with a scientist in the coming months. The opportunity for groups to borrow the books and meet with a scientist is ongoing and it is expected that many more events will take place throughout the year.

There was disappointing attendance at the author talks, which were targeting the notoriously difficult adult audience. The turnout at the October Sky film was also disappointing.

In order to increase attendance at all events, advertising needs to both improve and be released much earlier, which wasn't possible this year due to the timescale. Additionally, there needs to be an increase in links with local groups and organisations, bringing them on board to both organise and attend events.

3.2 Schools

Number of schools per Education Authority

Schools were not involved during this first year of Midlothian Science Festival, as all events took place in the October school break. However, a few after school clubs did bring their pupils to our events.

The plan for 2013 is to cover the last week of the school term and the first week of the October break, so we can include a number of events for schools.

4. Economic Impacts

4.1 Total [cash] Cost of Staging the Festival

Please note, the majority of our costs were met 'in-kind' by partners.

Table 2 - Cash cost of staging festival

Item	Cost
Festival Manager Salary	£2,100.00
Advertising and Promotions (design, print and distribution)	£1,066.28
Photography	£600.00
Travel Costs	£378.63
Books for reading groups and libraries	£292.70
Other event expenses (event consumables, refreshments, stationery etc)	£232.59
Table hire and moving	£39.00
Prize for robot competition	£33.59
Website Hosting	£16.99
Moorflix (Film rights)	£189.60
Dr Bunhead	£750.00
Total Cost	£5,699.38

4.2 Total Income for Festival

Table 3 - Total cash income for festival

Scottish Government Science Festival's Funding	£4,000
Project Partners <i>The Roslin Institute, (University of Edinburgh)</i> <i>Roslin Biocentre</i> <i>School of Biology, University of Edinburgh</i> <i>Wellcome Trust for Cell Biology (University of Edinburgh)</i>	£500
Midlothian Council Education and Children's Services paid the fees for Moorflix (Film Rights) and Dr Bunhead (show fees)	£939.60
Ticket Sales	£450.88
Total Incoming	£5,890.48
Total Outgoing	£5,699.38
Balance brought forward to start work on 2013 festival	£191.10

4.3 How the Scottish Government Grant was Allocated

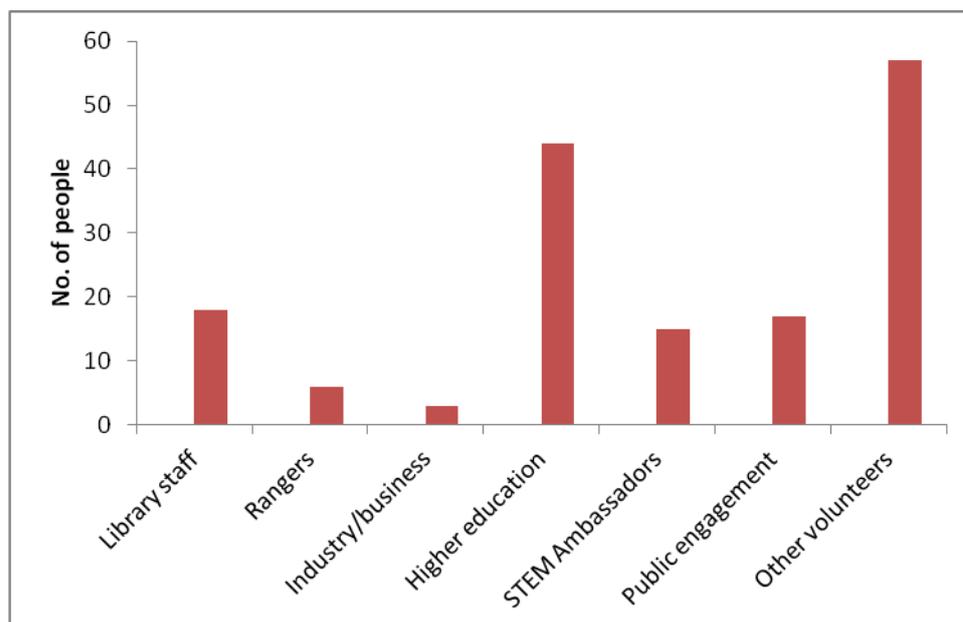
Table 4 - Allocation of Scottish Government Grant

Item	Total Cost	% allocated to Scottish Government Grant	Total Cost Allocated to Scottish Government Grant
Festival Manager Salary	£2,100.00	100%	£2,100.00
Advertising and Promotions (design, print and distribution)	£1,066.28	100%	£1,066.28
Photography	£600.00	31%	£185.03
Travel Costs	£378.63	40%	£150.00
Books for reading groups and libraries	£292.70	100%	£292.70
Other event expenses (event consumables, stationery, photocopying etc)	£232.59	64%	£150.00
Table hire and moving	£39.00	100%	£39.00
Prize for robot competition	£33.59	0	0
Website Hosting	£16.99	100%	£16.99
Total Cost	£4,759.78		£4,000.00

4.4 Content Provision

Almost all of our events were provided by project partners or local organisations. The only 'external' provider was 'Dr Bunhead' who presented Stunt Science shows.

Figure 3 - Staff distribution



NB: The same member of staff may be counted more than once in the above graph if they attended more than one event.

4.5 Total Number of Paid Staff

- One paid member of staff – Freelance Festival Manager (paid for a portion of hours worked).
- 4 Public Engagement Professionals worked over 40 hours each on organising and running events for the festival (only one was paid and even then only for a portion of these hours. The other hours were donated in-kind).
- 2 members of staff from Midlothian Libraries and Midlothian Council Arts and Creativity Team worked over 40 hours each on organising and running events (given in-kind).
- 17 Library staff contributed to events at all levels, from participating on the organising committee, to organising their own local events.
- 3 Midlothian Rangers (including the Senior Ranger) led several outdoor events at Vogrie Country Park. They were assisted by a large number of Scouts and Lothian Conservation Volunteers.
- The core festival organising team were all provided in-kind by their Organisations including Midlothian Libraries, Midlothian Arts and Creativity Team, Midlothian Ranger Service, University of Edinburgh, Moredun Research Institute, Edinburgh Science Triangle.

4.3 Total Number of Volunteers

Over 100 volunteers assisted in the delivery of events. These volunteers came from a range of organisations including Industry, Higher Education Institutions and colleges (staff and students), and 'other groups' (see chart above). Fifteen of these were STEM Ambassadors.

(NB: Some volunteers may be counted more than once in this figure, if they assisted at several separate events)

5. Evaluation

5.1 Measures of Success

1. Engage a wide range of audiences

Table 5 - Audience Distribution

Age in years				
Under 5	6-12	13-18	19-64	65+
15%	34%	4%	41%	6%

The events at the 2012 Midlothian Science Festival catered well for family audiences and events like the book groups gave in-depth experiences for adults. However, a challenge for next year will be to run events that will attract teenagers and to increase our attendance at adult-only events.

2. Engage a Local Audience (Midlothian)

Table 6 - Breakdown of visitors by area

Midlothian	East Lothian	Borders	Edinburgh	Other Scotland	Other UK	Abroad
80%	3%	1%	13%	3%	0%	2%

This was a major area of success with 80% of our visitors residing in the local Midlothian area.

This is important for us, as nearby Edinburgh has a well established Science Festival, which struggles to attract visitors from the Midlothian area.

We have demonstrated that bringing science events into the local area is a successful mechanism for engaging Midlothian residents in science events.

3. Run enjoyable events

Table 7 - How enjoyable were the events?

(1 = low, 4 = high)			
1	2	3	4
0%	1%	25%	74%

All of our events were rated 3 or 4 (out of 4) by the majority of visitors that completed our evaluation forms. Therefore, we can conclude that all of our events were enjoyable.

3. People attend more than one event

Table 8 - Attendance at multiple events

How many events have you attended?			
1	2	3	4
75%	14%	7%	5%

NB: These figures are taken from evaluation sheets. People who attended events at the beginning of the week could not physically have attended more than one event. People attending multiple events may have been counted twice.

The majority of people surveyed attended just one event, thus this is an area for improvement next year.

Factors that may have contributed to these figures are the short timescale for organising and advertising events in this pilot festival. People may not have known about the other events far enough in advance for them to attend.

Our promotions and marketing will be improved next year, and our run-in time will be approximately one year (rather than 4 months), which should increase word-of-mouth promotion.

5. People feel enthusiastic about science after the event

Table 9 - Enthusiasm for science

How enthusiastic are you about science now?			
More than before	Still enthusiastic (no change)	Still not that interested (no change)	Less enthusiastic
51%	47%	2%	0%

The majority of people leaving our events felt enthusiastic about science, and 51% felt more enthusiastic than before. Thus, this objective was achieved.

5.2 Evaluation Comments

Lots of positive comments were received on the evaluation forms. This is just a tiny selection.

Quotes From Schools

n/a

Quotes From Public Events

Quotes from Book clubs:

- Having things explained in an understandable way.
- The discussion between people with varying degree of understanding of science and feeling more enlightened than when I came!
- Talking science in a sociable setting.
- Basic understanding of cells (non-existent before!).
- Get a tiny impression of cells and people who work with them.

Quotes From Family Events

Quotes from Family Drop-ins:

Events were Fun:

- Watching the excitement and wonder and enjoyment of my children taking part.
- That science can be fun.
- Kids had great fun – excellent!
- Fantastic event at Mayfield Library! Very well organised and something very different – fun.
- [We enjoyed the] workshops that the children can join in and they got a lot out of it, more than they get to do in school.
- The science fair was also very informative and learning by doing hands on fun. Well done!

Staff and volunteers were friendly:

- Everyone was very friendly - very child friendly.
- Friendly, helpful staff encouraging children's interests.

Location and timing was good:

- Coming here was local, so that was good for us.

- [I] think it was well timed for autumn half term.
- Coming here was local so great

Content was appropriate:

- All events are accessible, simple but very informative.
- [I learned] what science you can do in your own home.
- Well set up and interesting for everyone.

People want more!:

- Keep it going! It's great to have a Midlothian Science Festival. Well done for putting it on.
- Have really enjoyed the festival and hope it continues.
- More stalls with things to look at / listen to.
- Seeing my little boy enjoy the experiments was great and educational! Would love to see more things like this in the library.

Quote from Scientific bike ride

- a beautiful informative day out

Quote from Dr Bunhead Show

- Explosions - how science concepts was made fun and understandable.

Quotes from Tiny Tots Trail,

- Good length and distance covered. My 3 year olds attention was held by great variety of activities and super to have 'mementos' to take away. Will recommend!
- Ranger is excellent, engaged with kids and adults. Great walk through the forest and of course the bug making. Also good to go for a family walk on a Sunday morning.

Quote from Tree Planting

- [I enjoyed] planting trees which we can come back and visit once they're grown.

What will you remember in 6 months time?

- Trees that we planted / the woodland we created.
- Knowing what I've done will last a very long time
- The location of all my trees.

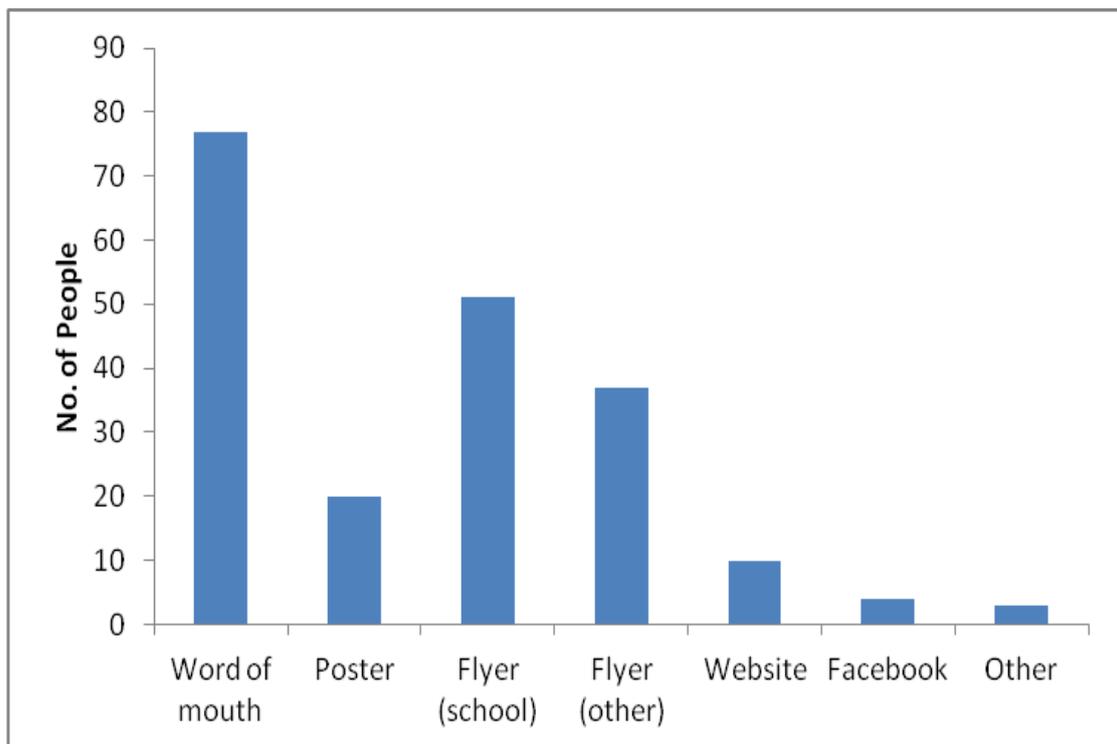
Magical Moments

Numbers never tell the whole story. Many magical moments took place across the festival. Some examples include:

- The miraculous behavioural turn-around of a young boy who was nearly expelled from his holiday club, but who showed perfect behaviour and wonderful engagement when his group attended the drop-in sessions at Dalkeith Arts Centre.
- A mother expressed her thanks for the serenity, learning and safety she found at our Nature Art Creation event, when she attended with children from 3 families with troubled backgrounds (drug/alcohol addiction).
- Families expressed their thanks for the provision of a safe place, where they could enjoy quality family time together for several hours.

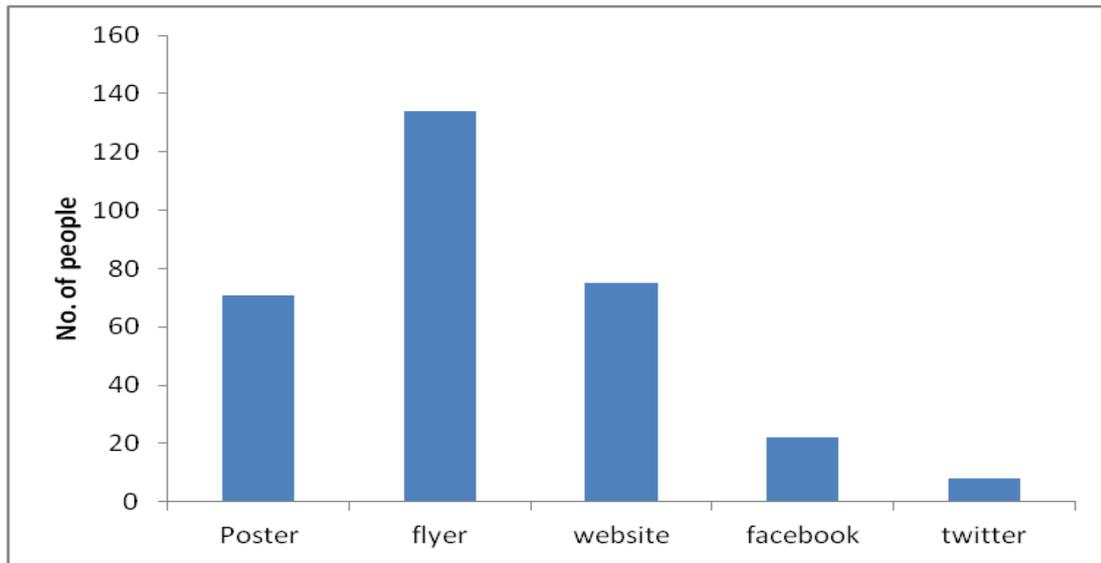
5.3 Evaluation of Advertisement Methods

Figure 4 - How visitors FIRST found out about the festival



This graph is based on evaluation data from across the festival (approx 200 responses). 'Word of mouth' and flyers were the main ways people first found out about the festival. Distribution of flyers was done primarily via primary schools and EAE leaflet stands (EAE is a commercial distribution company). However, partners also distributed flyers through their own networks.

Figure 5 - Other advertising media visitors had seen



Visitors were also asked if they had seen any of the other advertising media. This showed that flyers, posters and the website were all very important.

The website statistics showed that by the end of the festival, the webpage had been viewed over 6,000 times and continues to be viewed up to 30 times per day (*due to the changes in rules regarding cookies, further breakdown on users is not currently available, but will be investigated for 2013*).

Similarly, Facebook statistics show that by the end of the festival over 200 people had viewed the Facebook page and it has over 70 'likes' (followers).

Summary of Advertising Findings

The lead-in time to this first Midlothian Science Festival was extremely short (less than 4 months). This was a particular challenge with regard to advertising.

Word of mouth was an important medium, but this method is very slow. Similarly, producing and distributing the flyer/programme could not be done until the events list was finalised, meaning we had little time for distribution.

Advertising and promotions is an area for improvement in 2013. However, we are hopeful that with a one year run up, the impact of word-of-mouth publicity will be greater, and our print production can occur much earlier.

6. Conclusion

Overall the first Midlothian Science Festival (Oct 2012) was a great success and the enthusiasm from local organisations was overwhelming. The momentum is already gathering towards the 2013 event and beyond.

We have learnt many lessons from this first festival, and will continue to learn more as we move forward. We have, however made a positive start and look forward to seeing the festival grow and mature in future years.