University of BRISTOL

Destination Space

Final Evaluation Report

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April 2017

DESTINATION SPACE!
Join The Crew

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1. Executive Summary

1. Destination Space was a three-year national STEM engagement programme funded by the UK Space Agency. The programme vision was to engage, inspire and involve families with school-age children, school groups and communities across the UK with the amazing stories, science and achievements of human spaceflight, as part of a national celebration of Tim Peake's 'Principia' mission. Destination Space was led by the UK Association for Science and Discovery Centres (ASDC) and the content was co-developed with teams at the National Space Centre in Leicester, the Science Museum in London and Jodrell Bank Discovery Centre in Cheshire.

2. Twenty ASDC members organised a programme of family and school events from October 2015 to October 2016 to coincide with Tim Peake's mission to the International Space Station.

3. The actual attendances far exceeded the targets. A total of 733,017 attendees took part in a school workshop or a family show against a target of 250,000.

4. Evaluation instruments were designed for school children in three age groups 5-7, 7-11 and 11-14. A total of 12,120 evaluation forms were returned from school children by the centres. In terms of gender, 52% were boys and 48% were girls. A total of 904 family groups and 573 teacher evaluations were also carried out by centres making this one of the largest evaluations of its type in the UK. The data were analysed by the University of Bristol.

5. Overall results were very positive with more than 97% of students liking or enjoying the activities.

Students aged 5-7

6. After the show, more than half the students aged 5-7 thought that a job in space would be interesting. Males were significantly more likely to be interested in a job in space than were the girls.

Students aged 7-11

7. Most of the students thought that the workshop would help with their school work. Only 4% did not think that it would help. Females were significantly more positive about the impact of the workshop on their school work.

8. Three-quarters of the students thought that the workshop made them feel more positive about science. Only 2% of students thought that they were less interested in science after taking part in the workshop.

9. More than half the students said that the workshops made them more interested in having a job in science. Boys and girls were equally positive about the impact of the workshop.

Students aged 11-14

10. Students were very positive about the workshop with over three-quarters saying that they would recommend it to someone else their age. Fewer than one in 20 students would not recommend the workshop to other children their age.

11. Only 6.5% of students reported that they used similar equipment in school 'often' whereas 59% of students said that they had never used it.

12. Over 93% of students thought that the activities would help them with school science with only 6.4% saying that it would not.

13. Almost half the students felt that the activities made them feel more positive about studying science in the future. Half the students said that they were just as interested after the workshop as they were before.

14. Almost half the students felt that the workshop made them more positive about a job in science. Only 7% of students felt less positive after the workshop.

Teachers' views

15. Overall, 98% of teachers rated the activities as very good or good.

16. In total, 99% of teachers considered that the knowledge of the centre staff was very good or good. Fewer than 1% considered that it was average. Teachers valued the enthusiasm, the knowledge and the approachability of the staff.

17. Overall, 97% of teachers considered that the access to the science content was very good or good.

18. In total, 98% of the teachers declared that the equipment used in the activity was very good or good. Only 2% of them considered that the equipment was average.

19. Overall, 97% of the teachers found that the venue was very good or good. Only 3% of the teachers considered that the venue was average.

20. Most of the teachers (84%) declared that they would use ideas, experiments, films or online resources related to the activities in their classroom with 14% of teachers unsure while 2% said that would not.

21. Overwhelmingly, teachers (97%) declared that they would recommend the workshop to other teachers. Only 2% of teachers were unsure about recommending the workshop and less than 1% would not recommend it.

22. Most of the teachers (87%) indicated that they felt that the workshop was good value for money whereas 11% were unsure and less than 2% felt that the workshop was not good value for money.

23. Just over half (53%) of the teachers reported that they knew about the work of the UK Space Agency or the European Space Agency before engaging with this programme.

24. Teachers mostly heard about the workshop through the science centre/museum website and social media.

Families

25. A total of 95% of the children visiting in a family group reported that they liked space 'a lot' or 'a bit' more than they did before the show.

26. Most of the children (79%) declared that they were more interested in science than before the show.

27. A total of 92% said that they would be more likely to be interested in studying science in the future.

Gender

28. Across the data there were very few occasions where the responses of the girls differed from those of the boys.

Children from schools in areas of multiple deprivation

29. Across the data the responses from children in schools from areas of multiple deprivation were no different from children from other schools.

2. Introduction and background

> *"Celebrating Tim Peake's mission to the International Space Station, Destination Space is an exciting and hands-on season of astronauts and adventure for families and schools. It will be coming to a science centre near you from October 2015, with schools workshops starting when Tim is in space in January 2016."*

Destination Space was a three-year programme funded by the UK Space Agency. It was an ambitious educational initiative aimed at UK school students and families. The programme was developed by the UK Association for Science and Discovery Centres (ASDC) in Bristol in

collaboration with the teams at the National Space Centre in Leicester, the Science Museum in London and Jodrell Bank Discovery Centre in Cheshire.

Families and schools could join *Destination Space* through a calendar of family shows and live events running from October 2015 including special events for Tim Peake's launch, meet-the-expert sessions and an 'astronaut show' aimed at engaging and inspiring family audiences with the mission. The prime delivery agents were the 20 members of ASDC shown below.

1.	National Space Centre	Leicester
2.	Science Museum	London
3.	Glasgow Science Centre	Glasgow
4.	Our Dynamic Earth	Edinburgh
5.	World Museum Liverpool	Liverpool
6.	Thinktank, Birmingham Museums Trust	Birmingham
7.	Centre for Life	Newcastle
8.	Techniquest	Cardiff
9.	W5	Belfast
10.	Eureka! The National Children's Museum	Halifax
11.	At-Bristol Science Centre	Bristol
12.	Observatory Science Centre	Sussex
13.	Jodrell Bank Discovery Centre	Cheshire
14.	Cambridge Science Centre	Cambridge
15.	Satrosphere	Aberdeen
16.	Techniquest Glyndwr	North Wales
17.	Winchester Science Centre	Winchester
18.	Dundee Science Centre	Dundee
19.	Eden	Cornwall
20.	Royal Observatory Greenwich	London

Curriculum-linked activities for school children aged 5-14 started in January 2016 and continued while the astronaut was in space (15 December 2015 – 18 June 2016). The events were supported by an online resource.

3. The aims of Destination Space

The Programme Vision and Mission

The Vision: To engage, inspire and involve families with school-age children, school groups and communities across the UK with the amazing stories, science, achievements and innovative ideas of human spaceflight as part of a National Celebration of Tim Peake's mission.

The Mission: To deliver an inspirational and hugely exciting national hands-on programme of space activities and experiments for children, schools and families across the UK,

through the successful infrastructure of the UK's science and discovery centres and science museums.

The programme aimed to support learning about Tim Peake's work on the International Space Station and to celebrate the team behind the scenes, highlighting employment opportunities for young people across the science and space sector. It has been estimated that the UK will have 100,000 extra jobs in the space sector by 2030.

> *"We want to show there is a huge crew of women and men from all areas of science and engineering who work to make space missions possible. This is a chance to celebrate their endeavours, giving young people the confidence and curiosity to explore and ask questions long after they leave the science and discovery centres."*
>
> Dr Penny Fidler, CEO of ASDC

4. Evaluation of the programme

The aims of the evaluation

The overarching purpose of the evaluation was to assess the programme's impact and success. The evaluation was also designed to provide information to partners to help them to reflect on their experiences and, thus, inform any future initiatives.

Evaluation data collection

The evaluation consisted of a series of standardised evaluation forms and some short interviews (see Appendix 2). A short evaluation form was designed for each key stage. A form was designed for the teachers and for visiting families.

Participating centres were asked to ensure that the evaluation forms were completed by a minimum number of students, teachers, families and scientists taking part in your project activities. Centres were asked to allocate appropriate time for participants to complete the forms. Responses from the paper evaluation forms were entered by volunteers or staff at each centre into an online survey instrument. Centres were told to expect that this process might take three days of a volunteer's time for this data input.

Centres were asked to provide the following evaluation data:

- School classes: 20 school classes (students aged 5-14) (a minimum of 500 students)
- Teachers: 25 teachers who accompanied their classes (not teaching assistants)
- Families: 30 families at the show (short 2-3 minute interviews)
- Families: 15 families at special events

Programme targets and actual number of participants

The targets set across the project for participant involvement were as follows:

School workshops: 30,000 students
Family shows, etc.: 220,000 visitors
Total: 250,000 people

Table 1 shows that the actual attendances far exceeded the targets. A total of 733,017 attendees took part in a workshop or a show.

Table 1: Summary of the number of participants reached (n=20 centres)

Activity/stakeholder	Numbers reached	Total	Overall Target
School Workshop – students (KS1,KS2,KS3)			
Students from KS1	19,756		
Students from KS2	46,289		
Students from KS3	6,474	**72,519**	**30,000**
Family show audience	270,831		
Families involved in a special event:			
a) Special launch event	299,152		
b) Meet the expert	43,800		
Badged groups (Scouts, etc.)	13,692	**627,475**	
ROG Meet the expert schools			
a) From schools	27,578		
b) General public	4,363	**31,941**	**220,000**
Total		**731,935**	**250,000**

5. Findings from the evaluation forms

Findings from the Families

Overview of the respondents

A total of 941 family evaluation forms were returned by the 20 centres. Table 2 shows the number of forms returned by each centre.

Table 2. Breakdown of family evaluation forms completed by centre (n=531)

Science centre/institution	Family Evaluation Form			
	Show	Other	Not	Total
Aberdeen Science Centre & Satrosphere	41	15	-	56
At-Bristol Science Centre	33	12	-	45
Cambridge Science Centre	32	14	-	46
Dundee Science Centre	36	23	-	59
Dynamic Earth	14	12	-	26
Eden Project	8	5	-	13
Eureka! The National Children's Museum	33	13	-	46
Glasgow Science Centre	52	2	1	55
International Centre for Life	31	14	-	45
Jodrell Bank Discovery centre	26	1	-	27
National museums Liverpool	46	1	-	47
National Space Centre	31	14	-	45
Observatory Science centre	32	12	-	44
Royal Observatory Greenwich	29	0	-	29
Science Museum, London	53	0	-	53
Techniquest, Cardiff	32	17	-	49
Techniquest Glyndwr	39	4	-	43
Thinktank: Birmingham Museums Trust	39	24	1	64
W5	80	20	-	100
Winchester Science centre	14	0	35	49
Total	**701**	**203**	**37**	**941**

The family evaluation form reflects the views of 3,122 people. Table 3 shows the breakdown of adults and children by gender and by centre.

Table 3. Proportion of children and adults completing the family evaluation forms by centre (n=531)

Science centre/institution	Children		Total Children	Adults		Total Adults	**Total People**
	Female	Male		Female	Male		
Aberdeen Science Centre & Satrosphere	37	50	87	41	17	58	**145**
At-Bristol Science Centre	47	28	75	51	25	76	**151**
Cambridge Science Centre	34	29	63	32	26	58	**121**
Dundee Science Centre	46	56	102	45	31	76	**178**
Dynamic Earth	26	23	49	45	27	72	**121**
Eden Project	15	7	22	14	10	24	**46**
Eureka! The National Children's Museum	60	45	105	23	13	36	**141**
Glasgow Science Centre	49	57	106	46	26	72	**178**
International Centre for Life	42	41	83	43	26	69	**152**
Jodrell Bank Discovery centre	23	37	60	44	19	63	**123**
National museums Liverpool	34	53	87	31	24	55	**142**
National Space Centre	44	40	84	34	40	74	**158**
Observatory Science centre	37	51	88	48	22	70	**158**
Royal Observatory Greenwich	21	32	53	38	20	58	**111**
Science Museum, London	47	51	98	27	22	49	**147**
Techniquest, Cardiff	42	44	86	46	27	73	**159**
Techniquest Glyndwr	37	59	96	43	33	76	**172**
Thinktank: Birmingham Museums Trust	57	52	109	43	37	80	**189**
W5	84	109	193	75	52	127	**320**
Winchester Science centre	39	41	80	90	40	130	**210**
Total	**821**	**905**	**1726**	**859**	**537**	**1396**	**3122**

Overall, 62% of the adults who participated in the activities were female. The gender distribution for children is more balanced (48% female; 52% are male). Table 4 shows the age distribution of the children.

Table 4. Age of children contributing to the family evaluation forms by centre (n=531)

Science centre/institution	Age of Children			Total Children
	2-6 years old	7-11 years old	12-19 years old	
Aberdeen Science Centre & Satrosphere	27	53	9	89
At-Bristol Science Centre	44	29	3	76
Cambridge Science Centre	19	40	4	63
Dundee Science Centre	32	51	19	102
Dynamic Earth	19	26	4	49
Eden Project	7	12	3	22
Eureka! The National Children's Museum	36	64	4	104
Glasgow Science Centre	25	54	24	103
International Centre for Life	12	56	15	83
Jodrell Bank Discovery Centre	18	37	4	59
National Museums Liverpool	27	45	14	86
National Space Centre	22	47	15	84
Observatory Science Centre	22	54	12	88
Royal Observatory Greenwich	20	27	5	52
Science Museum, London	34	50	10	94
Techniquest, Cardiff	34	40	11	85
Techniquest Glyndwr	44	44	8	96
Thinktank: Birmingham Museums Trust	43	59	7	109
W5	61	103	29	193
Winchester Science Centre	21	52	7	80
Total	**567**	**943**	**207**	**1717**

Adults on family visits who work in a science-related job

Table 5 shows that one in four of the adults in family groups self-identified as working in a science-related job.

Table 5. Breakdown of family evaluation forms completed by centre (n=1,375)

Do you work in a science-related job?		
Yes	No	Total
363	1012	1375
26%	74%	100%

Table 6 shows the proportion of adults with and without science-related jobs by gender and by centre. Of the 26% of adults with a science-related job, 48% were female and 52% male.

Table 6. Proportion of adults completing the family evaluation forms who reported having a science related job by gender and by centre (n=1,375)

	Do you work in a science-related job?						
	Yes		Total science related job	No		Total non-science related job	
Science centre/institution	Female	Male		Female	Male		**Total**
Aberdeen Science Centre & Satrosphere	4	10	14	37	6	43	**57**
At-Bristol Science Centre	5	14	19	31	14	45	**64**
Cambridge Science Centre	10	13	23	24	7	31	**54**
Dundee Science Centre	13	10	23	40	27	67	**90**
Dynamic Earth	4	8	12	14	5	19	**31**
Eden Project	2	0	2	9	5	14	**16**
Eureka! The National Children's Museum	8	10	18	38	12	50	**68**
Glasgow Science Centre	7	12	19	34	24	58	**77**
International Centre for Life	11	1	12	31	15	46	**58**
Jodrell Bank Discovery centre	7	7	14	24	9	33	**47**
National museums Liverpool	5	8	13	34	26	60	**73**
National Space Centre	15	15	30	25	19	44	**74**
Observatory Science centre	8	9	17	38	14	52	**69**
Royal observatory Greenwich	2	3	5	18	14	32	**37**
Science Museum, London	8	10	18	42	17	59	**77**
Techniquest, Cardiff	7	8	15	30	19	49	**64**
Techniquest Glyndwr	7	9	16	36	28	64	**80**
Thinktank: Birmingham Museums Trust	15	13	28	44	25	69	**97**
W5	21	19	40	83	41	124	**164**
Winchester Science centre	14	11	25	32	21	53	**78**
Total	**173**	**190**	**363**	**664**	**348**	**1012**	**1375**

Family attitudes towards space after taking part in activities

95% of the children visiting in a family group reported that they liked space 'a lot' or 'a bit' more than they did before the show (Table 7).

Table 7. Breakdown of family evaluation forms completed by centre (n=1690)

Thinking about the whole show do you now like space….				
A lot more than before the show?	A bit more…?	A bit less…?	A lot less..?	Total
940	670	63	17	1690
55%	40%	4%	1%	100%

When children were asked about what they liked the most about the activity and why, the answers mirrored those found in the school student evaluation. They mentioned a wide range of the activities including the hovercraft, rocket, space suit, experiments and demonstrations and 'the bangs'. Children liked activities that were funny, interesting, exciting and inspiring. Typical responses were:

- 'All of the experiments'
- 'Learning about drinking pee', because 'it was disgusting and also I'd never thought about how they got water in space'
- 'Water filtration and methane bubbles', because [it was] 'Cool and weird'
- 'The doll's head was gross but really good. I can imagine what it's like to be in space',
- 'Silica Tile experiment', because 'You can see the science happening'

Table 8 shows the views of the children after taking part in the activity by centre.

Table 8. Children who now like space by centre (n=940)

Science centre/institution	Thinking about the whole show do you now like space….			
	A lot more than before the show?	A bit more…?	A bit less…?	A lot less…?
Aberdeen Science Centre & Satrosphere	33	54	0	0
At-Bristol Science Centre	23	37	4	2
Cambridge Science Centre	33	25	1	0
Dundee Science Centre	75	26	2	0
Dynamic Earth	23	21	2	0
Eden Project	21	1	1	0
Eureka! The National Children's Museum	68	29	4	4
Glasgow Science Centre	58	38	7	3
International Centre for Life	23	44	11	1
Jodrell Bank Discovery centre	36	21	0	0
National museums Liverpool	67	21	0	1
National Space Centre	47	31	6	0
Observatory science centre	36	46	1	0
Royal observatory Greenwich	23	29	1	0
Science Museum, London	56	34	5	1
Techniquest, Cardiff	46	30	3	1
Techniquest Glyndwr	46	41	4	0
Thinktank: Birmingham Museums Trust	72	35	5	0
W5	119	64	2	3
Winchester Science centre	35	43	4	1
Total	**940**	**670**	**63**	**17**

Children's views on whether the visit made them more interested in science

Most of the children (79%) declared that they were more interested in science than before the show (Table 9).

Table 9. Children's views on whether the visit made them more interested in science

Do you think today has made you more interested in science?			
Yes	Maybe	No	Total
1332	309	41	1682
79%	18%	3%	100%

Table 10 shows the breakdown by centre.

Table 10. Children who stated that they were more interested in science by centre (n=1,682)

	Do you think today has made you more interested in science?			
Science centre/institution	Yes	Maybe	No	Total
Aberdeen Science Centre & Satrosphere	45	40	0	85
At-Bristol Science Centre	54	9	3	66
Cambridge Science Centre	43	15	1	59
Dundee Science Centre	82	19	0	101
Dynamic Earth	31	14	2	47
Eden Project	18	4	1	23
Eureka! The National Children's Museum	89	11	4	104
Glasgow Science Centre	87	15	3	105
International Centre for Life	69	11	2	82
Jodrell Bank Discovery centre	41	12	3	56
National museums Liverpool	67	17	1	85
National Space Centre	67	14	3	84
Observatory Science centre	72	12	1	85
Royal observatory Greenwich	39	11	2	52
Science Museum, London	73	18	5	96
Techniquest, Cardiff	55	25	0	80
Techniquest Glyndwr	77	13	1	91
Thinktank: Birmingham Museums Trust	93	13	4	110
W5	163	23	2	188
Winchester Science centre	67	13	3	83
Total	**1332**	**309**	**41**	**1682**

To what extent are children more likely to be interested in studying science in the future?

Of the 1,692 children asked, 92% said that they would be more likely to be interested in studying science in the future (Table 11).

Table 11. Children who stated that would be more likely to study science in the future (n=1,692)

Do you think you would be more likely to be interested in studying science in the future?				
than before today?	A bit more likely…?	Less likely…?	A lot less likely…?	Total
680	881	105	26	1692
40%	52%	6%	2%	100%

Table 12 shows the figures for each centre.

Table 12. Children who are more likely to be interested in studying science after the day's activities by centre (n=1,692)

Science centre/institution	Do you think you would be more likely to be interested in studying science in the future?			
	A lot more likely than before today?	A bit more likely…?	Less likely…?	A lot less likely…?
Aberdeen Science Centre & Satrosphere	8	76	0	0
At-Bristol Science Centre	19	39	6	3
Cambridge Science Centre	25	27	2	0
Dundee Science Centre	75	31	2	0
Dynamic Earth	14	23	0	1
Eden Project	18	5	1	0
Eureka! The National Children's Museum	50	49	11	3
Glasgow Science Centre	38	44	21	4
International Centre for Life	16	57	7	0
Jodrell Bank Discovery centre	20	28	4	2
National museums Liverpool	52	34	0	1
National Space Centre	31	47	7	2
Observatory science centre	21	52	8	0
Royal observatory Greenwich	21	28	1	0
Science Museum, London	43	50	6	1
Techniquest, Cardiff	26	50	4	1
Techniquest Glyndwr	39	44	8	2
Thinktank: Birmingham Museums Trust	47	54	4	4
W5	87	100	6	1
Winchester Science centre	30	43	7	1
Total	**680**	**881**	**105**	**26**

Findings from the Schools Workshop evaluation analysis

A total of 12,120 evaluations were received from the 20 centres across all three key stages. The largest number of evaluations came from students in KS2 (7,504). Table 13 shows a summary of the number of evaluation forms delivered by each centre.

Table 13: Summary of the number of evaluation forms per key stage delivered by centre (n=20)

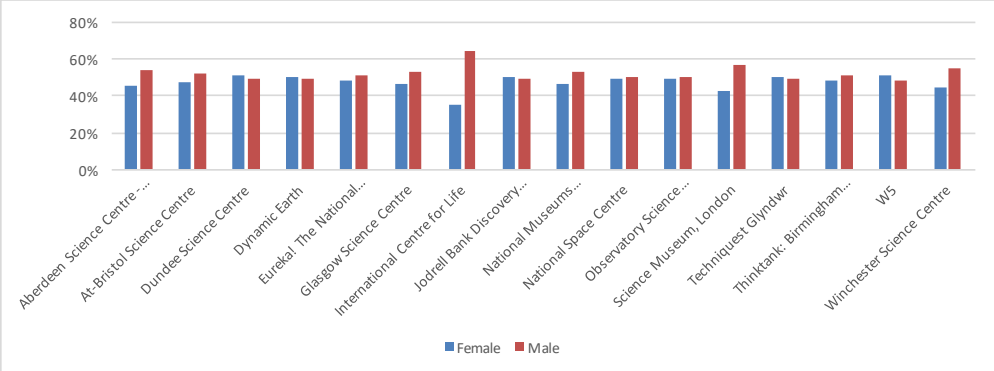
Science Centre/Institution	Number of evaluations			
	KS1	KS2	KS3	Total
Aberdeen Science Centre & Satrosphere	197	692		889
At-Bristol Science Centre	236	575		811
Cambridge Science Centre		499	230	729
Dundee Science Centre	240	421	28	689
Dynamic Earth	87	277		364
Eden Project		36		36
Eureka! The National Children's Museum	298	316		614
Glasgow Science Centre	140	270	26	436
International Centre for Life	91	376	116	583
Jodrell Bank Discovery Centre	184	309		493
National Museums Liverpool (World Museum)	442	802		1244
National Space Centre	129	337	56	522
Observatory Science Centre (Herstmonceux)	164	361	28	553
Royal Observatory Greenwich		346	148	494
Science Museum, London	398	239		637
Techniquest Glyndwr	142	292	56	490
Techniquest, Cardiff		621		621
Thinktank: Birmingham Museums Trust	146	278	263	687
W5	249	140	320	709
Winchester Science Centre	202	317		519
Total of centres	**16**	**20**	**10**	
Total of evaluations	**3345**	**7504**	**1271**	12120

Overview of participation by age and gender

KS1 students

A total of 3,345 students aged 5-7 (47% female, 53% male) participated in the school workshop evaluation from 16 centres (Figure 1). In general, the gender distribution in each centre was balanced. Two centres showed significant imbalances: Centre for Life (65% male; 35% female) and Science Museum, London (57% male; 43% female).

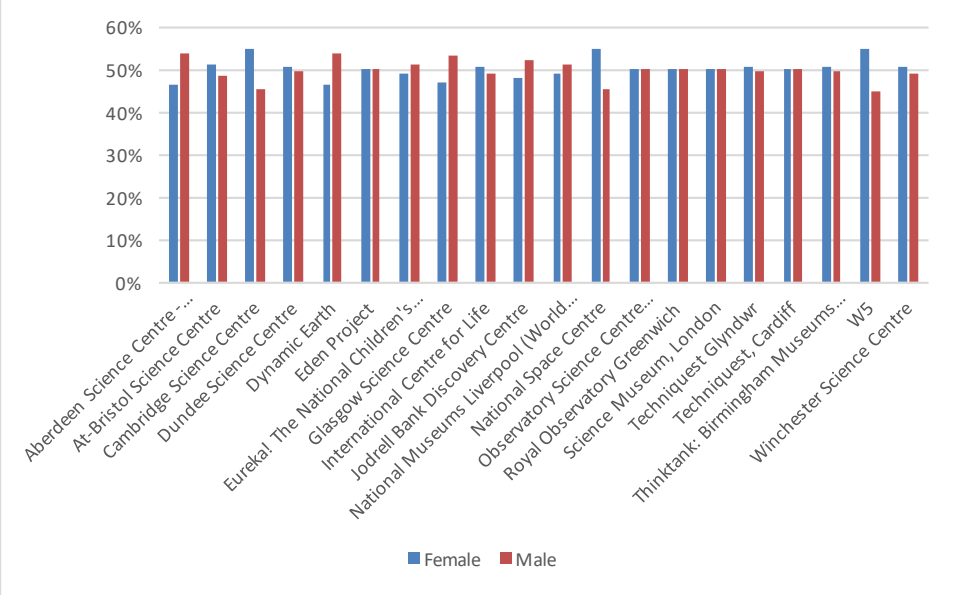
Figure 1. Gender breakdown of students aged 5-7 completing the evaluation (n=3,345)



KS2 students

A total of 7,504 students aged 7-11 (50% female; 50% male) participated in the workshop evaluation from 20 centres (Figure 2). Most of the surveys that were received were from students aged 9-10 (73%).

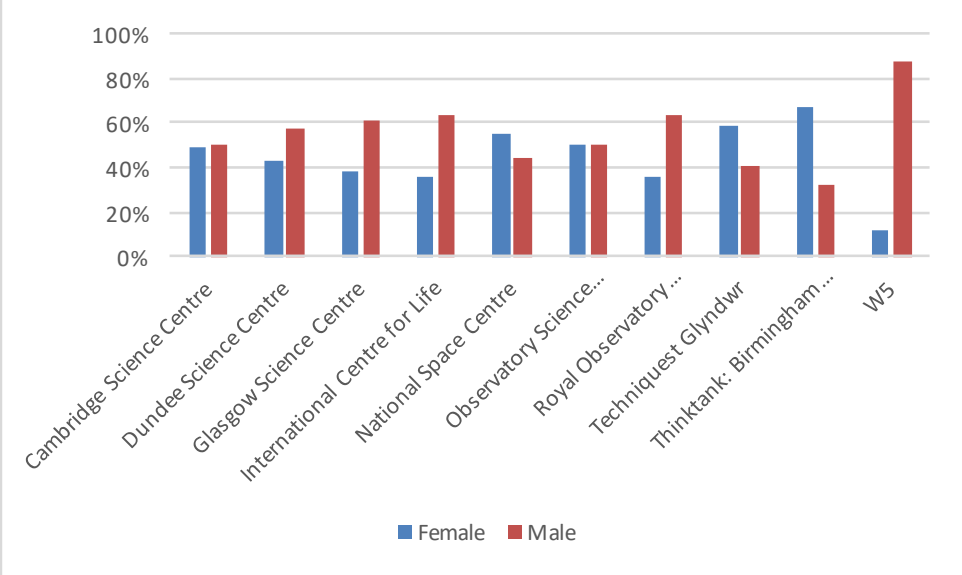
Figure 2. Gender breakdown of students aged 7-11 completing the evaluation (n=3,345)



KS3 students

A total of 1,271 students aged 11-15 years old (41% female, 59% male), participated in the workshop evaluation from 10 centres. The gender distribution within each centre was not balanced. The biggest differences within centres was in W5, where 88% surveys were answered by males and 12% by females. Thinktank, Birmingham delivered more female evaluations (67%) than males (33%). In terms of age, most of the surveys that were received came from students aged 12-13 (71%) while 10% came from students aged 14-15 years.

Figure 3. Gender breakdown of students aged 11-15 completing the evaluation (n=3,345)



Key Stage 1 Students: aged 5-7

Enjoyment of the show

Students were asked 'How did the show make you feel?' Overall more than 97% of students were positive (Like/enjoyed – 89.6%; OK – 8.2%; Did not like/enjoy – 2.2%) (n=12,083) (Table 14).

Table 14. Students aged 5-7 attitudes towards the show by centre (n=3,345)

Science centre/institution	How did the show make you feel?		
	like/enjoyed it :)	It was OK :|	did not like it :(
Aberdeen Science Centre - Satrosphere	88.0%	6.8%	5.2%
At-Bristol Science Centre	77.5%	18.2%	4.2%
Dundee Science Centre	90.7%	7.6%	1.7%
Dynamic Earth	87.2%	10.5%	2.3%
Eureka! The National Children's Museum	92.2%	5.4%	2.4%
Glasgow Science Centre	98.5%	1.5%	
International Centre for Life	90.9%	6.8%	2.3%
Jodrell Bank Discovery Centre	92.4%	6.0%	1.6%
National Museums Liverpool (World Museum)	93.0%	5.5%	1.6%
National Space Centre	88.4%	10.1%	1.6%
Observatory Science Centre (Herstmonceux)	83.8%	13.8%	2.5%
Science Museum, London	88.9%	9.3%	1.8%
Techniquest Glyndwr	87.9%	9.3%	2.9%
Thinktank: Birmingham Museums Trust	93.1%	6.9%	
W5	90.2%	7.3%	2.4%
Winchester Science Centre	89.5%	8.5%	2.0%
Total	89.6%	8.2%	2.2%

Table 15 shows the distribution of responses by gender.

Table 15. Students aged 5-7 attitudes towards the show by gender (n=3,345)

Child - Gender	How did the show make you feel?		
	like/enjoyed it :)	It was OK :|	did not like it :(
Male	87.60%	9.50%	2.90%
Female	91.80%	6.80%	1.40%
Total	**89.60%**	**8.20%**	**2.20%**

Would a job in space science be interesting when you grow up?

More than half the students aged 5-7 thought that a job in space would be interesting (Table 16).

Table 16. Students aged 5-7 views on whether a job in space would be interesting (n=3,272)

Do you think a job in space science would be interesting when you grow up?			Total
Yes	Not sure	No	
1819	930	523	3272
55.6%	28.4%	16.0%	100%

Table 17 shows the responses for each centre.

Table 17. Students aged 5-7 views on whether a job in space would be interesting by centre (n=3,272)

Science centre/Institution	Do you think a job in space science would be interesting when you grow up?		
	Yes	Not sure	No
Aberdeen Science Centre - Satrosphere	46.4%	37.4%	16.2%
At-Bristol Science Centre	56.4%	25.0%	18.6%
Dundee Science Centre	55.2%	25.7%	19.1%
Dynamic Earth	37.6%	29.4%	32.9%
Eureka! The National Children's Museum	58.6%	25.3%	16.1%
Glasgow Science Centre	62.9%	29.3%	7.9%
International Centre for Life	54.9%	17.1%	28.0%
Jodrell Bank Discovery Centre	57.1%	27.5%	15.4%
National Museums Liverpool (World Museum)	61.7%	22.7%	15.6%
National Space Centre	64.1%	16.4%	19.5%
Observatory Science Centre (Herstmonceux)	27.8%	46.3%	25.9%
Science Museum, London	64.1%	27.1%	8.8%
Techniquest Glyndwr	63.7%	23.7%	12.6%
Thinktank: Birmingham Museums Trust	57.2%	30.3%	12.4%
W5	48.8%	41.7%	9.6%
Winchester Science Centre	48.7%	31.0%	20.3%
Total	**55.6%**	**28.4%**	**16.0%**

Table 18 shows the responses by gender. Males were significantly more likely to be interested in a job in space than were the girls.

Table 18. Students aged 5-7 views on whether a job in space would be interesting (n=3,272)

Child - Gender	Do you think a job in space science would be interesting when you grow up?		
	Yes	Not sure	No
Male	59.70%	25.00%	15.30%
Female	51.00%	32.20%	16.80%
Total	55.60%	28.40%	16.00%

Key Stage 2 Students: aged 7-11

Enjoyment of the workshop

Students were overwhelmingly positive about the workshop with 92% reporting that they enjoyed it with 7% not sure. Only 1% of students did not enjoy the experience (Table 19).

Table 19. Students aged 7-11 attitudes towards the show (n=7,398)

Did you enjoy the workshop?			
Yes	Not sure	No	Total
6801	521	76	7398
91.9%	7.0%	1.0%	100.0%

Table 20 shows the responses to the show by centre.

Table 20. Students aged 7-11 attitudes towards the show by centre (n=7,398)

Science centre/Institution	Did you enjoy the workshop?		
	Yes	Not sure	No
Aberdeen Science Centre - Satrosphere	88.2%	10.4%	1.5%
At-Bristol Science Centre	94.2%	5.5%	0.4%
Cambridge Science Centre	95.3%	4.3%	0.4%
Dundee Science Centre	90.7%	8.6%	0.7%
Dynamic Earth	83.4%	12.3%	4.3%
Eden Project	88.2%	11.8%	
Eureka! The National Children's Museum	94.6%	5.1%	0.3%
Glasgow Science Centre	98.9%	0.4%	0.8%
International Centre for Life	93.1%	6.1%	0.8%
Jodrell Bank Discovery Centre	91.5%	7.8%	0.7%
National Museums Liverpool (World Museum)	91.9%	7.2%	0.9%
National Space Centre	88.1%	10.4%	1.5%
Observatory Science Centre (Herstmonceux)	91.1%	8.1%	0.9%
Royal Observatory Greenwich	89.9%	8.6%	1.5%
Science Museum, London	97.1%	2.5%	0.4%
Techniquest, Cardiff	93.9%	4.6%	1.5%
Techniquest Glyndwr	95.8%	3.1%	1.0%
Thinktank: Birmingham Museums Trust	94.1%	5.5%	0.4%
W5	89.1%	9.4%	1.4%
Winchester Science Centre	86.3%	12.7%	1.0%
Total	**91.9%**	**7.0%**	**1.0%**

Table 21 shows the distribution of the responses by gender. Boys and girls enjoyed the show equally.

Table 21. Students aged 7-11 attitudes towards the show by gender (n=7,398)

Child - Gender	Did you enjoy the workshop?		
	Yes	Not sure	No
Male	91.00%	7.70%	1.30%
Female	92.90%	6.30%	0.80%
Total	91.90%	7.00%	1.00%

Students' opinions as to whether the workshop would help with their schoolwork?

Most of the students aged 7-11 thought that the workshop would help with their school work. Only 3.7% did not think that it would help (Table 22).

Table 22. Students' aged 7-11 opinions as to whether the workshop would help with their school work (n=7,432)

Will this workshop help you with some of your schoolwork?			
Yes	Not sure	No	Total
4603	2556	273	7432
61.9%	34.4%	3.7%	100.0%

Table 23 shows the results by centre.

Table 23. Students' aged 7-11 opinions as to whether the workshop would help with their school work by centre (n=7,432)

	Will this workshop help you with some of your schoolwork?		
Science centre/Institution	**Yes**	**Not sure**	**No**
Aberdeen Science Centre - Satrosphere	51.50%	45.00%	3.50%
At-Bristol Science Centre	68.30%	30.00%	1.70%
Cambridge Science Centre	58.50%	38.30%	3.30%
Dundee Science Centre	60.20%	36.90%	2.90%
Dynamic Earth	38.20%	54.20%	7.60%
Eden Project	48.60%	48.60%	2.90%
Eureka! The National Children's Museum	60.80%	36.10%	3.20%
Glasgow Science Centre	52.20%	40.70%	7.10%
International Centre for Life	65.20%	31.80%	3.00%
Jodrell Bank Discovery Centre	79.20%	18.80%	1.90%
National Museums Liverpool (World Museum)	70.70%	26.00%	3.40%
National Space Centre	67.10%	29.60%	3.30%
Observatory Science Centre (Herstmonceux)	54.50%	40.20%	5.30%
Royal Observatory Greenwich	64.10%	30.90%	5.00%
Science Museum, London	65.10%	32.40%	2.50%
Techniquest, Cardiff	60.60%	36.30%	3.10%
Techniquest Glyndwr	71.60%	24.30%	4.10%
Thinktank: Birmingham Museums Trust	59.30%	36.00%	4.70%
W5	54.10%	40.00%	5.90%
Winchester Science Centre	67.00%	29.50%	3.50%
Total	**61.90%**	**34.40%**	**3.70%**

Females were significantly more positive about the impact of the workshop on their school work (Table 24).

Table 24. Students' aged 7-11 opinions as to whether the workshop would help with their school work by gender (n=7,432)

	Will this workshop help you with some of your schoolwork?		
Child - Gender	Yes	Not sure	No
Male	59.00%	36.00%	5.00%
Female	64.90%	32.80%	2.30%
Total	**61.90%**	**34.40%**	**3.70%**

Students' views on how the workshop made them feel about studying science

Three-quarters of the students thought that the workshop made them feel more positive about science (Table 25). Only 2% of students thought that they were less interested in science after taking part in the workshop.

Table 25. Students' aged 7-11 opinions how the workshop made them feel about studying science (n=7,436)

How did this workshop (and today's activities) make you feel about studying science?			
More interested	The same	Less interested	Total
5478	1798	160	7436
73.70%	24.20%	2.20%	100.00%

Table 26 shows the distribution of responses by centre.

Table 26. Students' aged 7-11 opinions how the workshop made them feel about studying science by centre (n=7,436)

	How did this workshop (and today's activities) make you feel about studying science?		
Science centre/Institution	More interested	The same	Less interested
Aberdeen Science Centre - Satrosphere	68.70%	29.70%	1.60%
At-Bristol Science Centre	72.60%	25.70%	1.70%
Cambridge Science Centre	81.10%	17.20%	1.60%
Dundee Science Centre	73.80%	23.00%	3.10%
Dynamic Earth	56.70%	40.10%	3.20%
Eden Project	75.00%	22.20%	2.80%
Eureka! The National Children's Museum	76.00%	20.80%	3.20%
Glasgow Science Centre	72.30%	27.00%	0.70%
International Centre for Life	76.70%	22.80%	0.50%
Jodrell Bank Discovery Centre	75.90%	20.20%	3.90%
National Museums Liverpool (World Museum)	75.70%	22.80%	1.50%
National Space Centre	70.20%	28.00%	1.80%
Observatory Science Centre (Herstmonceux)	74.70%	24.00%	1.40%
Royal Observatory Greenwich	68.70%	28.40%	2.90%
Science Museum, London	73.90%	23.50%	2.50%
Techniquest, Cardiff	76.70%	20.20%	3.10%
Techniquest Glyndwr	77.50%	19.40%	3.10%
Thinktank: Birmingham Museums Trust	75.80%	21.70%	2.50%
W5	78.80%	19.70%	1.50%
Winchester Science Centre	71.70%	26.40%	1.90%
Total	**73.70%**	**24.20%**	**2.20%**

Female and male students were almost equally positive about the impact of the workshop on their attitudes to science (Table 27).

Table 27. Students' aged 7-11 opinions how the workshop made them feel about studying science by gender (n=7,436)

	How did this workshop (and today's activities) make you feel about studying science?		
Child - Gender	More interested	The same	Less interested
Male	72.80%	25.00%	2.20%
Female	74.60%	23.40%	2.10%
Total	**73.70%**	**24.20%**	**2.20%**

A job in science?

Students were asked 'How did this workshop make you feel about maybe one day having a job in science?' Overall more than half the students said 'more interested'. Fewer than one in ten said 'less interested' (Table 28).

Table 28. Students' aged 7-11 opinions how the workshop made them feel about having a job in science (n=7,421)

How did this workshop make you feel about maybe one day having a job in science?			
More interested	The same	Less interested	Total
4049	2756	616	7421
54.60%	37.10%	8.30%	100%

Table 29 shows the distribution of responses by centre.

Table 29. Students' aged 7-11 opinions how the workshop made them feel about having a job in science by centre (n=7,421)

	How did this workshop make you feel about maybe one day having a job in science?		
Science centre/Institution	More interested	The same	Less interested
Aberdeen Science Centre - Satrosphere	51.90%	41.10%	7.00%
At-Bristol Science Centre	49.70%	41.60%	8.70%
Cambridge Science Centre	59.20%	36.20%	4.60%
Dundee Science Centre	56.00%	36.60%	7.40%
Dynamic Earth	43.30%	45.50%	11.30%
Eden Project	48.60%	37.10%	14.30%
Eureka! The National Children's Museum	58.30%	29.80%	12.00%
Glasgow Science Centre	45.70%	46.40%	7.90%
International Centre for Life	51.60%	38.60%	9.80%
Jodrell Bank Discovery Centre	61.60%	32.60%	5.90%
National Museums Liverpool (World Museum)	60.40%	32.50%	7.10%
National Space Centre	52.40%	38.00%	9.60%
Observatory Science Centre (Herstmonceux)	56.10%	36.30%	7.50%
Royal Observatory Greenwich	45.90%	45.60%	8.40%
Science Museum, London	56.60%	39.60%	3.80%
Techniquest, Cardiff	57.10%	30.80%	12.10%
Techniquest Glyndwr	57.40%	34.70%	7.90%
Thinktank: Birmingham Museums Trust	60.40%	32.40%	7.20%
W5	56.50%	28.20%	15.30%
Winchester Science Centre	51.00%	40.80%	8.30%
Total	**54.60%**	**37.10%**	**8.30%**

Boys and girls were equally positive about the impact of the workshop on how they felt about having a job in science (Table 30).

Table 30. Students' aged 7-11 opinions how the workshop made them feel about having a job in science by gender (n=7,421)

	How did this workshop make you feel about maybe one day having a job in science?		
Child - Gender	More interested	The same	Less interested
Male	55.30%	36.40%	8.20%
Female	53.80%	37.80%	8.40%
Total	**54.60%**	**37.10%**	**8.30%**

Key Stage 3 Students: aged 11-14

Students' enjoyment of the workshop

Students were very positive about the show with 85% saying that they enjoyed it and only 3% saying that they did not like it (Table 31).

Table 31. Students' aged 11-14 opinions about the workshop (n=1,250)

Did you enjoy the workshop?			
Yes	Not sure	No	Total
1056	154	40	1250
84.50%	12.30%	3.20%	100.00%

Table 32 shows the distribution of responses by centre.

Table 32. Students' aged 11-14 opinions about the workshop by centre (n=1,250)

	Did you enjoy the workshop?		
Science centre/Institution	**Yes**	**Not sure**	**No**
Cambridge Science Centre	80.2%	15.4%	4.4%
Dundee Science Centre	85.7%	14.3%	
Glasgow Science Centre	96.2%		3.8%
International Centre for Life	81.8%	16.4%	1.8%
National Space Centre	85.7%	12.5%	1.8%
Observatory Science Centre (Herstmonceux)	100.0%		
Royal Observatory Greenwich	89.7%	8.3%	2.1%
Techniquest Glyndwr	89.1%	10.9%	
Thinktank: Birmingham Museums Trust	87.7%	11.5%	0.8%
W5	80.1%	13.3%	6.6%
Total	**84.5%**	**12.3%**	**3.2%**

Females and males were equally positive about the workshops (Table 33).

Table 33. Students' aged 11-14 opinions about the workshop by gender (n=1,250)

Child - Gender	Did you enjoy the workshop?		
	Yes	Not sure	No
Female	85.50%	13.20%	1.40%
Male	83.70%	11.70%	4.50%
Total	**84.50%**	**12.30%**	**3.20%**

Would students recommend the workshop to other people their age?

Again, students were very positive about the workshop with over three-quarters saying that they would recommend it to someone else their age. Fewer than one in 20 students would not recommend the show (Table 34).

Table 34. Students' aged 11-14 opinions about whether they would recommend the workshop (n=1,219)

Would you recommend this Workshop to other people your age?			
Yes	Not sure	No	Total
917	248	54	1219
75.2%	20.3%	4.4%	100.0%

Table 35 shows the distribution of responses by centre.

Table 35. Students' aged 11-14 opinions about whether they would recommend the workshop by centre (n=1,219)

Science centre/Institution	Would you recommend this Workshop to other people your age?		
	Yes	Not sure	No
Cambridge Science Centre	76.2%	17.5%	6.3%
Dundee Science Centre	82.1%	14.3%	3.6%
Glasgow Science Centre	84.6%	11.5%	3.8%
International Centre for Life	75.0%	23.2%	1.8%
National Space Centre	76.4%	21.8%	1.8%
Observatory Science Centre (Herstmonceux	82.1%	17.9%	
Royal Observatory Greenwich	83.3%	13.0%	3.6%
Techniquest Glyndwr	73.6%	26.4%	
Thinktank: Birmingham Museums Trust	74.0%	20.5%	5.4%
W5	69.8%	24.8%	5.4%
Total	**75.2%**	**20.3%**	**4.4%**

Boys and girls were equally positive in their responses (Table 36).

Table 36. Students' aged 11-14 opinions about whether they would recommend the workshop by gender (n=1,219)

Child - Gender	Would you recommend this Workshop to other people your age?		
	Yes	Not sure	No
Female	76.60%	20.30%	3.10%
Male	74.30%	20.30%	5.40%
Total	75.30%	20.30%	4.40%

The extent to which students thought that they had used this type of equipment before at their school

Only 6.5% of students reported that they used similar equipment in school 'often' whereas 59% of students said that they had never used it (Table 37).

Table 37. Students' aged 11-14 opinions about whether they had used similar equipment in school (n=1,206)

Have you used this type of equipment before at your school?			Total
Yes, often	Yes, occasionally	No, never	
78	416	712	1206
6.5%	**34.5%**	**59.0%**	**100.0%**

Table 38 shows the distribution of responses by centre.

Table 38. Students' aged 11-14 opinions about whether they had used similar equipment in school by centre (n=1,206)

Science centre/Institution	Have you used this type of equipment before at your school?		
	Yes, often	Yes, occasionally	No, never
Cambridge Science Centre	9.3%	11.1%	79.6%
Dundee Science Centre	3.6%	46.4%	50.0%
Glasgow Science Centre	19.2%	26.9%	53.8%
International Centre for Life	13.9%	60.2%	25.9%
National Space Centre	1.8%	55.4%	42.9%
Observatory Science Centre (Herstmonc	3.6%	28.6%	67.9%
Royal Observatory Greenwich	3.2%	11.1%	85.7%
Techniquest Glyndwr	1.9%	50.0%	48.1%
Thinktank: Birmingham Museums Trust	7.5%	43.5%	49.0%
W5	3.6%	37.5%	58.9%
Total	**6.5%**	**34.5%**	**59.0%**

There were no significant gender differences in the responses (Table 39).

Table 39. Students' aged 11-14 opinions about whether they had used similar equipment in school by gender (n=1,206)

Child - Gender	Have you used this type of equipment before at your school?		
	Yes, often	Yes, occasionally	No, never
Female	6.40%	36.20%	57.50%
Male	6.60%	33.30%	60.10%
Total	**6.50%**	**34.50%**	**59.00%**

Students' opinions about whether the activities would help them with school science

Over 93% of students thought that the activities would help them with school science with only 6.4% saying that it would not (Table 40).

Table 40. Students' aged 11-14 opinions about whether they had used similar equipment in school (n=1,205)

How much do you think today's activities will help you with school science?				
A lot	Quite a lot	A little	Not at all	Total
178	460	490	77	1205
14.8%	**38.2%**	**40.7%**	**6.4%**	**100.0%**

Table 41 shows the distribution of responses by centre.

Table 41. Students' aged 11-14 opinions about whether they had used similar equipment in school by centre (n=1,205)

Science centre/Institution	How much do you think today's activities will help you with school science?			
	A lot	Quite a lot	A little	Not at all
Cambridge Science Centre	24.9%	36.9%	32.7%	5.5%
Dundee Science Centre	7.1%	35.7%	39.3%	17.9%
Glasgow Science Centre	3.8%	15.4%	65.4%	15.4%
International Centre for Life	11.8%	55.5%	32.7%	
National Space Centre	7.4%	31.5%	53.7%	7.4%
Observatory Science Centre (Herstmonceux)	10.7%	60.7%	28.6%	
Royal Observatory Greenwich	21.1%	43.6%	30.1%	5.3%
Techniquest Glyndwr	16.7%	29.6%	44.4%	9.3%
Thinktank: Birmingham Museums Trust	6.8%	32.3%	53.4%	7.6%
W5	15.5%	38.2%	39.5%	6.9%
Total	**14.8%**	**38.2%**	**40.7%**	**6.4%**

Males were slightly more positive than females about the usefulness of the activities (Table 42).

Table 42. Students' aged 11-14 opinions about whether they had used similar equipment in school by gender (n=1,205)

Child - Gender	How much do you think today's activities will help you with school science?			
	A lot	Quite a lot	A little	Not at all
Female	12.60%	37.10%	44.00%	6.30%
Male	16.40%	38.90%	38.30%	6.50%
Total	**14.80%**	**38.10%**	**40.70%**	**6.40%**

The extent to which the workshops influenced how students felt about studying science in the future

Almost half the students felt that the activities made them feel more positive about studying science in the future (Table 43).

Table 43. Students' aged 11-14 opinions about how the activities affected how they felt about studying science in the future (n=1,197)

How did the Destination Space workshop (and today's activities) make you feel about studying science in the future?			
More interested	The same	Less interested	Total
568	586	43	1197
47.5%	49.0%	3.6%	100.0%

Table 44 shows the distribution of responses by centre.

Table 44. Students' aged 11-14 opinions about how the activities affected how they felt about studying science in the future by centre (n=1,197)

	How did the Destination Space workshop (and today's activities) make you feel about studying science in the future?		
Science centre/Institution	More interested	The same	Less interested
Cambridge Science Centre	51.4%	42.1%	6.5%
Dundee Science Centre	46.4%	50.0%	3.6%
Glasgow Science Centre	50.0%	46.2%	3.8%
International Centre for Life	36.9%	59.5%	3.6%
National Space Centre	45.5%	54.5%	
Observatory Science Centre (Herstmonceux)	39.3%	60.7%	
Royal Observatory Greenwich	61.1%	35.1%	3.8%
Techniquest Glyndwr	36.5%	63.5%	
Thinktank: Birmingham Museums Trust	44.1%	54.3%	1.6%
W5	48.2%	47.2%	4.6%
Total	**47.5%**	**49.0%**	**3.6%**

There were no significant differences in the attitudes of the boys and the girls (Table 45).

Table 45. Students' aged 11-14 opinions about how the activities affected how they felt about studying science in the future by gender (n=1,197)

	How did the Destination Space workshop (and today's activities) make you feel about studying science in the future?		
Child - Gender	More interested	The same	Less interested
Female	45.10%	52.70%	2.20%
Male	49.10%	46.30%	4.60%
Total	**47.40%**	**49.00%**	**3.60%**

How the workshops made students feel about having a job that involves science

Almost half the students felt that the workshop made them more positive about a job in science. Only 7% of students felt less positive after the workshop (Table 46).

Table 46. Students' aged 11-14 opinions about how the activities affected how they felt about studying science in the future (n=1,194)

How did this workshop make you feel about maybe one day having a job that involves science?			
More interested	The same	Less interested	Total
498	613	83	1194
41.7%	51.3%	7.0%	100.0%

Most students declared that they felt the same about having a science related job in the future. Nevertheless, 41.7% of students declared that are more interested in it.

Table 47 shows the distribution of responses by centre.

Table 47. Students' aged 11-14 opinions about how the activities affected how they felt about studying science in the future by centre (n=1,197)

	How did this workshop make you feel about maybe one day having a job that involves science?		
Science centre/Institution	More interested	The same	Less interested
Cambridge Science Centre	45.3%	45.3%	9.3%
Dundee Science Centre	39.3%	53.6%	7.1%
Glasgow Science Centre	46.2%	50.0%	3.8%
International Centre for Life	35.5%	58.2%	6.4%
National Space Centre	34.5%	54.5%	10.9%
Observatory Science Centre (Herstmonceux)	57.1%	42.9%	
Royal Observatory Greenwich	58.3%	37.1%	4.5%
Techniquest Glyndwr	25.0%	63.5%	11.5%
Thinktank: Birmingham Museums Trust	39.0%	57.8%	3.2%
W5	39.0%	52.0%	9.0%
Total	**41.7%**	**51.3%**	**7.0%**

There were no significant differences in the attitudes of the boys and the girls (Table 48).

Table 48. Students' aged 11-14 opinions about how the activities affected how they felt about studying science in the future by gender (n=1,197)

	How did this workshop make you feel about maybe one day having a job that involves science?		
Child - Gender	More interested	The same	Less interested
Female	41.40%	52.40%	6.20%
Male	42.00%	50.50%	7.50%
Total	**41.70%**	**51.30%**	**7.00%**

Comments on the workshops: learning and the curriculum

The open-ended questions allowed students to explain what they enjoyed and/or learned from in the workshops. A number of themes emerged from their comments:

1. How it made me feel

The workshop appeared to allow students to relate to the 'fun' of doing science but also to enjoy the hard work associated to it: 'it is a bit hard, but amazing'. In general, their positive responses matched the high survey responses. Typical comments included

- 'I enjoyed all the experiments. I liked the balloon, it was so funny! I liked the music it was so funny.'
- 'I really liked the robotic arm because it makes me think about how things have changed.'
- 'I will also remember the robotic arm because it was very cool! Also it made us think about how technology could work in space, hard but very useful.'
- '…created curiosity that I want to find out more.'
- 'Because it help us [to see] the beauty of space.'

A very small number of students reported that they were not impressed with the experience. Some negative comments alluded to the overall experience: 'It was pretty boring' while others mentioned their perception of science, for example, 'Science isn't my thing and I didn't enjoy this part'. A very small number of students indicated that the workshop was not tailored for their age: 'it was babyish and i just don't like space stuff'.

2. Increasing independence and feeling included

Some students valued being recognised as active participants during the activities (or their friends). A student from KS1 said that he liked it the most when 'the presenter [was] asking for volunteers'. In KS2 a student said they liked, 'when everyone has to experiment' and in KS3 a students liked 'when our friend dresses up as an astronaut'. Similarly, students also valued the space to take their own decisions such us choosing who to work with. Participation as a theme was also evident in relation to the interactivity and hands-on activities, for example:

- 'My favourite part was making rockets.'
- 'Because we didn't have fixed instructions with the circuits, you have to experiment.'
- 'Some were much more interactive and we didn't just sit at a desk.'
- 'It was fun to do with my friend from other forms.'
- 'We were able to join in, and work independently.'

3. Fostering scientific learning

When the students were asked what they had learned or would remember from the experience or whether this activity will help them in school science, responses frequently mentioned science learning. Within these responses a number of themes emerged. For example, motivation: 'created curiosity that I want to find out more', 'the teacher was fun and there were lots of gripping activities'. There were also a number of explicit references to curriculum topics:

- 'I learnt a bit about circuits'

- ‘Newton's Law’
- ‘Because it helped me understand more about gravity’
- ‘Different angles equal different results’ or ‘Using angles to measure the distance’
- ‘the chemical reactions that happened when checking if CO2 is around’

Other students identified more abstract aspects of learning, making broader connections within science to their own learning. For example,

- ‘I learned a lot more science vocabulary that I can now use in my explanations’.
- ‘because we are working on our skills’
- [the activities in the workshop will help in science] ‘Because it accesses lots of different areas in the brain in different ways’
- ‘Because they will help us to understand lots more about the unit (topic) space also we know lots more about physics, about forces and other things like that’

Very few students indicated that the workshop did very little for their learning, for example, ‘because I didn't learn much’.

4. Linking to school science

Most students from KS2 and KS3 thought that the workshop would help in their school They mentioned two reasons: a) the fact that they have learned ‘a lot’ or were ‘learning new things’, and, b) they related this experience to a topic in the curriculum:

- ‘Because when we learn this subject I will know things that others might not know’
- ‘Because when we do space, I will remember that when you're exposed to space's atmosphere, you will expand’
- ‘Because it will be easier to learn if I have some knowledge already’.

Students who considered the workshop unhelpful in terms of linking to school work indicated that space was a previous topic in the school (‘We don't learn very much about space in school because we learnt when we were younger.’), or the workshop was far from their school reality (‘The things we learned today is nothing about our science’, ‘we don’t do this sort of stuff at school’, ‘don't really do things like we do in school (which is a good thing!)’, and ‘School science is serious and vice versa’.

5. ‘we have more freedom and equipment than usual’

Most of the students acknowledged that the practicals carried out in the workshop were more interactive and less restrained than in the school. Students were able to use what one described as ‘Advanced Tech’:

- ‘It was more crazy and hands on (in a good way)’
- ‘More practical than writing and talking’
- ‘It is different because at school we mainly investigate more formal things’
- ‘there were lots of small things to do instead of one big experiment’
- ‘at school we usually don’t see robotics or relate the experiments with real life’
- ‘More Expensive Equipment’

Thus, the workshop experience seems to represent a different space for scientific learning, and in so doing allows students to see science in a new light. As one student reported, ‘we

actually got up and did something fun without a full lesson of learning what to do'. Nevertheless, a few students considered that the workshop was not much different from their experiences in school. 'Not really because we are usually left alone to explore' or 'They weren't that different'.

Comments on the workshops: developing further interest in science and science-related jobs

A key aim of Destination Space was to highlight employment opportunities for young people across the science and space sector. An open-ended question was posed to KS3 students regarding their choice about science related jobs in the future.

The qualitative analysis suggests that younger students tend to be more positive than older students about considering science in their future studies and jobs. Perhaps paradoxically, 2.2% of KS2 students are less interested in studying science in the future and 8.3% less interested in having a science related job whereas for KS3 students those percentages are 3.6% and 7%. The qualitative analysis may offer an explanation for this behaviour in that the workshops might have had more impact on younger students than older ones. In particular, KS2 students mentioned the hazards in space, 'The dangers of space', 'There's lots of hazards', or 'your bones get weaker in space'. Therefore, KS2 students might be encouraged to study science but discouraged to pursue specifically space related jobs.

Turning now to the KS3 students who reported that they were more interested in a science related job, many stated that the workshop was 'inspiring' and 'informative'. In terms of inspiring students, they said, for example,

- 'Because I would love to go to space like the astronauts in the video did and witness the Earth for myself'
- 'It's immersive and challenging'
- 'It has shown me different career paths within science, not just the ones everyone assumes'.
- 'I didn't realise how many different areas you can work in'

Other students placed the emphasis on their change in the perception of science, for example, 'Because some people think science is all writing and talking but more than half is practical' and doing so 'It has shown me different career paths within science, not just the ones everyone assumes'. While others appreciated the fun and engagement, for example the workshop: 'Created curiosity that I want to find out more' or 'It is a bit hard, but amazing'.

Comments on the workshops: improvements

The main recommendation given by students focused on timing: 'Maybe more time at each activity'. Students also wanted more experiments, in particular, in terms of electronics. Some other suggestions were made in consideration of the younger students, KS3 students said 'Let the kids help with the experiments' or 'You could get more kids to help with the rocket experiment'. Overall, participants in the workshop seemed to be very pleased and

willing to participate in more of these types of activities: ‘I think that it was a fun lesson and they should continue visiting other schools and teaching people about what they do’.

Findings from the Teacher Evaluation

Analysis of the teacher evaluation forms

A total of 573 teacher evaluation forms were collected by the 20 centres. Some centres collected a small number; others collected several dozen (Table 49).

Table 49: Teacher evaluation forms collected by each centre

Science Centre/Institution	number of teachers responding
Aberdeen Science Centre & Satrosphere	35
At-Bristol Science Centre	29
Cambridge Science Centre	37
Dundee Science Centre	29
Dynamic Earth	15
Eden Project	3
Eureka! The National Children's Museum	25
Glasgow Science Centre	21
International Centre for Life	26
Jodrell Bank Discovery Centre	16
National Museums Liverpool (World Museum)	53
National Space Centre	28
Observatory Science Centre (Herstmonceux)	32
Royal Observatory Greenwich	65
Science Museum, London	25
Techniquest Glyndwr	22
Techniquest, Cardiff	25
Thinktank: Birmingham Museums Trust	31
W5	31
Winchester Science Centre	25
Total	**573**

Teachers' ratings of the workshop/show

Teachers were generally very positive about the Destination Space activities. Thus, most of the teachers considered that the activity in which they took part was "very good" (80%) or "good" (18%) (Table 50).

Table 50: Teachers' ratings of the workshop/show (n=557)

How would you rate the following aspects of today's workshop/show?	Very good	Good	Average	Poor	Very Poor	Total
The knowledge of the staff running the workshop	508	58	5			571
Access to the science content	441	118	11			570
The equipment	432	125	12			569
The venue	422	119	15	1		557
Overall, how would you rate the workshop/show	457	105	8	1		571

The knowledge of the staff running the workshop

Teachers considered that the centre staff running the activity were knowledgeable: 89% considered that the knowledge of the staff was very good, 10% that it was good, and fewer

than 1% considered that it was average. Teachers valued the enthusiasm, the knowledge and the approachability of the staff. Typical comments included:

- 'We really liked the Tim Peake introduction on video. The staff who led the session were brilliant - they interacted well with the children and the children really responded to them.'
- 'The presenters made sure the class were engaged via their presentation style'.
- 'The presenter was very engaging, enthusiastic and knowledgeable. The activities were pitched well and engaged the class'.
- 'Fun and enthusiasm of staff; well organised for school lunchtimes.'

Table 51 shows the teachers' views by centre.

Table 51. Teachers' views of the centre staff knowledge by centre (n=571)

Science centre/Institution	The knowledge of the staff running the workshop			Total
	Very good	Good	Average	
Aberdeen Science Centre & Satrosphere	28	6	1	35
At-Bristol Science Centre	27	2		29
Cambridge Science Centre	34	3		37
Dundee Science Centre	28	1		29
Dynamic Earth	14	1		15
Eden Project	3			3
Eureka! The National Children's Museum	20	3	2	25
Glasgow Science Centre	16	5		21
International Centre for Life	21	5		26
Jodrell Bank Discovery Centre	16			16
National Museums Liverpool (World Museum)	50	3		53
National Space Centre	20	7		27
Observatory Science Centre (Herstmonceux)	28	4		32
Royal Observatory Greenwich	59	4	2	65
Science Museum, London	24	1		25
Techniquest Glyndwr	19	2		21
Techniquest, Cardiff	24	1		25
Thinktank: Birmingham Museums Trust	30	1		31
W5	28	3		31
Winchester Science Centre	19	6		25
Total	**508**	**58**	**5**	**571**

Access to the science content

Teachers considered that the access to the science content was very good (77%), 20% of teachers reported that it was 'good' and 2% rated it as 'average' (Table 52).

Table 52. Teachers' views of the accessibility of the science content by centre (n=570)

Science Centre/Institution	Access to the Science Content			Total
	Very good	Good	Average	
Aberdeen Science Centre & Satrosphere	23	11	1	35
At-Bristol Science Centre	23	6		29
Cambridge Science Centre	31	5	1	37
Dundee Science Centre	23	6		29
Dynamic Earth	12	3		15
Eden Project	3			3
Eureka! The National Children's Museum	17	6	2	25
Glasgow Science Centre	15	4	2	21
International Centre for Life	23	3		26
Jodrell Bank Discovery Centre	13	3		16
National Museums Liverpool (World Museum)	42	11		53
National Space Centre	17	10		27
Observatory Science Centre (Herstmonceux)	26	6		32
Royal Observatory Greenwich	52	10	3	65
Science Museum, London	18	6	1	25
Techniquest Glyndwr	18	3		21
Techniquest, Cardiff	21	4		25
Thinktank: Birmingham Museums Trust	25	6		31
W5	26	3	1	30
Winchester Science Centre	13	12		25
Total	**441**	**118**	**11**	**570**

Teachers considered that the activities were engaging and well-chosen for all children, with time to explore. Typical comments included:

- 'Pace, moved at an engaging rate. Activities were interesting, relevant and engaging'.
- 'The balance of listening and getting to take part on hands on experiments'.
- 'Engaging, letting children come to their own conclusions, lots of new facts, challenging'.
- 'Good presumed knowledge and relevant to year group. Exciting for children and kept their attention.'

Teachers also emphasised the interactivity of the activities and the opportunities that students have for participation during the whole session.

- 'Lots of participation at many points for all children'.
- 'participation from children. props to demonstrate scientific ideas in simple way'.
- 'Experiments were practical and showed strongly visible results that the pupils could understand.'
- 'Interesting and pitched at the right level. The children were the centre of the activities - helping out and doing experiments which kept them motivated. The reinforced links to Tim Peake and the ISS were particularly good as it is in the news'.

The equipment

In general, teachers declared that the equipment used in the activity was very good (76%) or good (22%), only 2% of them considered that the equipment was 'average' (Table 53).

Table 53. Teachers' views of the centre staff knowledge by centre (n=569)

Science Centre/Institution	The equipment			Total
	Very good	Good	Average	
Aberdeen Science Centre & Satrosphere	23	12		35
At-Bristol Science Centre	19	9	1	29
Cambridge Science Centre	30	7		37
Dundee Science Centre	19	9	1	29
Dynamic Earth	12	3		15
Eden Project	2	1		3
Eureka! The National Children's Museum	18	6	1	25
Glasgow Science Centre	14	5	1	20
International Centre for Life	23	3		26
Jodrell Bank Discovery Centre	14	2		16
National Museums Liverpool (World Museum)	46	7		53
National Space Centre	17	9	1	27
Observatory Science Centre (Herstmonceux)	23	9		32
Royal Observatory Greenwich	53	9	3	65
Science Museum, London	19	5	1	25
Techniquest Glyndwr	16	5		21
Techniquest, Cardiff	19	5		24
Thinktank: Birmingham Museums Trust	26	5		31
W5	24	5	2	31
Winchester Science Centre	15	9	1	25
Total	**432**	**125**	**12**	**569**

The venue

Overall, teachers found that the venue was very good (76%) or good (21%). Only 3% of teachers considered that the venue was 'average' (Table 54)

Table 54. Teachers' views of venue by centre (n=557)

Science Centre/Institution	The venue				Total
	Very good	Good	Average	Poor	
Aberdeen Science Centre & Satrosphere	24	9	2		35
At-Bristol Science Centre	20	8	1		29
Cambridge Science Centre	26	9	1	1	37
Dundee Science Centre	21	8			29
Dynamic Earth	12	2			14
Eden Project	2				2
Eureka! The National Children's Museum	16	7	2		25
Glasgow Science Centre	17	4			21
International Centre for Life	23	3			26
Jodrell Bank Discovery Centre	11	5			16
National Museums Liverpool (World Museum)	50	2	1		53
National Space Centre	18	9			27
Observatory Science Centre (Herstmonceux)	20	11	1		32
Royal Observatory Greenwich	55	9	1		65
Science Museum, London	20	4	1		25
Techniquest Glyndwr	16	3			19
Techniquest, Cardiff	9	6			15
Thinktank: Birmingham Museums Trust	27	4			31
W5	25	5	1		31
Winchester Science Centre	10	11	4		25
Total	**422**	**119**	**15**	**1**	**557**

Overall rating of the workshop/show?

Teachers were very pleased with the overall activities: 80% of teachers evaluated the activity as “very good”, 18% as “good”, and less than 2% evaluated the activity as “average” or “poor” (Table 55).

Table 55. Teachers’ overall rating of the activity by centre (n=571)

	Overall, how would you rate the workshop/show				
Science Centre/Institution	**Very good**	**Good**	**Average**	**Poor**	**Total**
Aberdeen Science Centre/Satrosphere	22	11	2		35
At-Bristol Science Centre	23	6			29
Cambridge Science Centre	30	6		1	37
Dundee Science Centre	25	3	1		29
Dynamic Earth	12	3			15
Eden Project	3				3
Eureka! The National Children's Museum	18	6	1		25
Glasgow Science Centre	15	5	1		21
International Centre for Life	23	3			26
Jodrell Bank Discovery Centre	15	1			16
National Museums Liverpool (World Museum)	47	6			53
National Space Centre	20	7			27
Observatory Science Centre (Herstmonceux)	25	7			32
Royal Observatory Greenwich	56	8	1		65
Science Museum, London	20	4	1		25
Techniquest Glyndwr	18	3			21
Techniquest, Cardiff	20	5			25
Thinktank: Birmingham Museums Trust	27	4			31
W5	23	7	1		31
Winchester Science Centre	15	10			25
Total	**457**	**105**	**8**	**1**	**571**

Teachers’ subsequent use of the ideas, experiments, films or online resources

Most of the teachers (84%) declared that they would use ideas, experiments, films or online resources in their classroom and 14% of teachers were unsure and 2% said that would not (Table 56). Typical comments included:

- ‘Website will come in very handy with planning ideas. Will attempt rocket taking off’.
- ‘will revisit with class and will put a link for parents to see too’.
- ‘We will have a go exploring the website to create our own investigations’.

Table 56. Teachers' likelihood of using any of the workshop ideas back in the classroom, by centre (n=517)

Science centre/Institution	Will you use any of the ideas, experiments, films or online resources from today back in your classroom?			Total
	Yes	Not Sure	No	
Aberdeen Science Centre & Satrosphere	27	4		31
At-Bristol Science Centre	29			29
Cambridge Science Centre	23	10		33
Dundee Science Centre	19	6		25
Dynamic Earth	12	2		14
Eden Project	3			3
Eureka! The National Children's Museum	19	6		25
Glasgow Science Centre	15	3	1	19
International Centre for Life	21	1		22
Jodrell Bank Discovery Centre	13	1		14
National Museums Liverpool (World Museum)	47	4	1	52
National Space Centre	22	3	1	26
Observatory Science Centre (Herstmonceux)	23	7	1	31
Royal Observatory Greenwich	45	11		56
Science Museum, London	22	1		23
Techniquest Glyndwr	14			14
Techniquest, Cardiff	18	3		21
Thinktank: Birmingham Museums Trust	22	2	4	28
W5	26	3		29
Winchester Science Centre	15	6	1	22
Total	**435**	**73**	**9**	**517**

Would teachers recommend this workshop to other teachers?

Overwhelmingly, teachers (97%) declared that they would recommend the workshop to other teachers (Table 57). 2% of teachers were unsure about recommending the workshop and less than 1% would not recommend it. Reasons given included:

- 'furthered knowledge/deepened interest in understanding of topic'.
- 'The language/oracy opportunities as well as, of course, the scientific opportunities are endless.'
- 'great value for money as part of our trip to the museum and it was perfect for any ability child'
- 'supports and enhances classroom teaching'.
- 'Because it was very interactive and hands-on. The loved the experience.'

The few teachers who would not recommend the workshop indicated that it was not part of the curriculum, or that the activity was too expensive (in time, money):

- 'it was great but doesn't cover the outcomes in our curriculum'
- 'It was a long way to travel for 90 minutes access to the centre'
- 'Space is not in the Y6 curriculum. However, in a Y5 class I would definitely use the resources'.

Table 57. The extent to which teachers would recommend the workshop to colleagues, by centre (n=535)

Science centre/Institution	Would you recommend this workshop to other teachers like yourself?			Total
	Yes	Not Sure	No	
Aberdeen Science Centre & Satrosphere	32			32
At-Bristol Science Centre	28			28
Cambridge Science Centre	34		2	36
Dundee Science Centre	25		1	26
Dynamic Earth	13	1		14
Eden Project	2			2
Eureka! The National Children's Museum	23	1	1	25
Glasgow Science Centre	20	1		21
International Centre for Life	21	1		22
Jodrell Bank Discovery Centre	14			14
National Museums Liverpool (World Museum)	53			53
National Space Centre	27			27
Observatory Science Centre (Herstmonceux)	31		1	32
Royal Observatory Greenwich	61	2		63
Science Museum, London	24	1		25
Techniquest Glyndwr	16			16
Techniquest, Cardiff	21			21
Thinktank: Birmingham Museums Trust	26			26
W5	28	1		29
Winchester Science Centre	20	3		23
Total	**519**	**11**	**5**	**535**

Teachers' views of the value of the workshop

Most of the teachers (87%) indicated that they felt that the workshop was good value for money. 11% were unsure and less than 2% felt that the workshop was not good value for money (Table 58).

Table 58. Teachers' views of the value of the workshop by centre (n=520)

Science centre/Institution	Do you feel that this workshop was good value for money?			Total
	Yes	Not Sure	No	
Aberdeen Science Centre & Satrosphere	28	3		31
At-Bristol Science Centre	26	2		28
Cambridge Science Centre	27	5	1	33
Dundee Science Centre	22	2	1	25
Dynamic Earth	10	1		11
Eden Project	3			3
Eureka! The National Children's Museum	18	6	1	25
Glasgow Science Centre	15	5		20
International Centre for Life	22			22
Jodrell Bank Discovery Centre	14			14
National Museums Liverpool (World Museum)	51	2		53
National Space Centre	22	4	1	27
Observatory Science Centre (Herstmonceux)	25	4	1	30
Royal Observatory Greenwich	52	8	1	61
Science Museum, London	21	2	1	24
Techniquest Glyndwr	13	3		16
Techniquest, Cardiff	17	3	1	21
Thinktank: Birmingham Museums Trust	25	2		27
W5	25	1	1	27
Winchester Science Centre	17	5		22
Total	**453**	**58**	**9**	**520**

Teachers' knowledge of the work of the UK Space Agency and European Space Agency

Just over half (53%) of the teachers reported that they knew about the work of the UK Space Agency or the European Space Agency before engaging with this programme (Table 59). Some of the sources for this knowledge were reported as being:

- 'Prior learning in class'
- Online research' 'media'
- 'because of the recent events with Tim Peake.'
- 'TV reports/newspaper articles'
- 'General interest - keep up to date with science and technology.'

Table 59. Teachers' knowledge of the work of the UK Space Agency and/or the European Space Agency by centre (n=557)

	Did you know about the work of the UK Space Agency or European Space Agency before engaging with this programme?		
Science centre/Institution	Yes	No	Total
Aberdeen Science Centre & Satrosphere	23	9	32
At-Bristol Science Centre	17	12	29
Cambridge Science Centre	14	20	34
Dundee Science Centre	15	9	24
Dynamic Earth	8	6	14
Eden Project	2		2
Eureka! The National Children's Museum	12	13	25
Glasgow Science Centre	8	12	20
International Centre for Life	9	14	23
Jodrell Bank Discovery Centre	5	9	14
National Museums Liverpool (World Museum)	28	25	53
National Space Centre	12	13	25
Observatory Science Centre (Herstmonceux)	18	14	32
Royal Observatory Greenwich	37	23	60
Science Museum, London	13	10	23
Techniquest Glyndwr	6	10	16
Techniquest, Cardiff	11	9	20
Thinktank: Birmingham Museums Trust	10	18	28
W5	19	9	28
Winchester Science Centre	11	11	22
Total	**278**	**246**	**524**

How did teachers hear about the workshop?

Teachers mostly heard about the workshop through the science centre/museum website and social media (Table 60).

Table 60. Teachers' sources of information about the workshop by centre (n=531)

How did you hear about the workshop?	Number of Teachers
Leaflet/email sent to your school	103
Personally contacted by someone from the Science Centre	50
Word-of-mouth recommendation from colleague	104
Science Centre/Museum website or social media	141
Through STEMNET or ESERO	4
Other social media or website (please specify below)	17
Other (please specify below)	64

6. Gender differences across the programme

While science education in schools is often seen as gendered, with boys preferring physics topics and girls preferring biological topics, there were very few differences between the responses to the activities.

In some cases there were small statistically significant gender differences although there educational significance was not so clear. In some cases the gender differences varied with the age of the students. For example, in terms of enjoyment, there was a difference for students aged 5-7 but it was not present in the two older age groups.

In terms of the question about whether students aged 5-7 were interested in space science related jobs, there were no gender differences for the negative responses, but there were gender differences for the positive and neutral answers.

The lack of significant gender differences is something that might usefully be explored in the future.

7. Impact on children from schools in disadvantaged areas

The Index of Multiple Deprivation (IMD), is the official measure of relative deprivation for small areas of the country. In England, the IMD ranks every small area from 1 (less deprived area) to 32,844 (more deprived). The relationship between the IMD and some of the key findings were explored.

1,671 schools participated in the programme. Of those, 1,551 schools could be linked to the IMD by their postcode. Information for 120 schools from Northern Ireland and a small number of overseas schools could not be obtained. Overall, the programme was attended by more children from schools from the fifth (lowest) quintile (23.1%) than the first quintile (17.6%).

No significant differences emerged across the data. That is, children from schools in the more deprived areas were just as positive as children from schools in the least deprived areas

Appendix 1. Survey Instruments

Show Questionnaire (Students age 5-7)

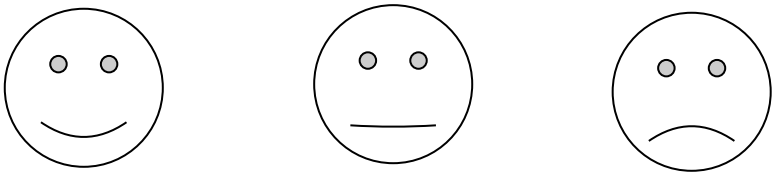
1. How old are you? Please circle.

5 6 7

2. Are you a boy or girl? Please circle.

Boy Girl

3. How did the show make you feel?

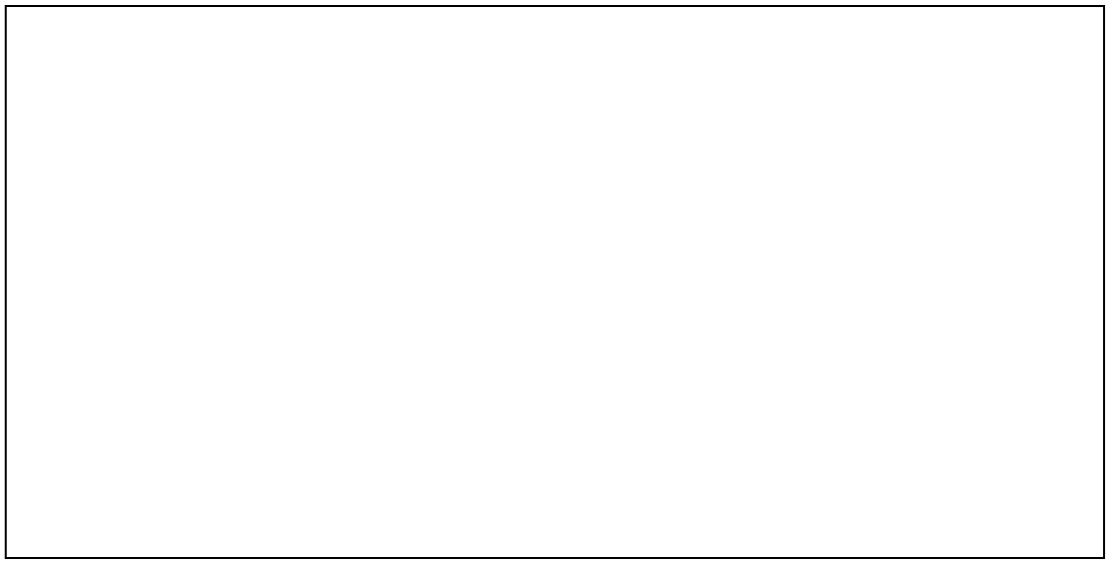


4. Do you think a job in space science would be interesting when you grow up?

Yes Not sure No

5. What did you like most about the show?

(Draw or write about your favourite part)



Workshop Questionnaire (Students age 7-11)

1. How old are you? Please circle.
7 8 9 10 11

2. Are you a boy or girl? Please circle.
Boy Girl

3. Did you enjoy the workshop? Please circle.

YES NOT SURE NO

4. What did you like most about the Workshop?

5. What did you learn from this workshop?

1.
2.

6. Will this workshop help you with some of your schoolwork? Please circle.

YES NOT SURE NO

7. How did this workshop (and today's activities) make you feel about studying science?

MORE INTERESTED THE SAME LESS INTERESTED

8. How did this workshop make you feel about maybe one day having a job in science?

MORE INTERESTED THE SAME LESS INTERESTED

Can you tell us why?

Workshop Questionnaire (Students age 11-14)

We would like to find out what you thought of today's Workshop.
Please complete this form and return it to a member of staff.
THANK YOU

---

1. How old are you? Please circle.
11 12 13 14 15

2. Are you male or female? Please circle.

Female Male

3. Did you enjoy the workshop? Please circle.

YES NOT SURE NO

4. What did you like most about the Workshop?

4. What were the two things (bits of knowledge, or experiences) that you think you'll most remember from this workshop?

1. 2.

5.

Would you recommend this Workshop to other people your age?
Please circle your answer.

Yes No Not sure

5b. Why?

6. Have you used this type of equipment before at your school?
Please circle one answer:

Yes, often **Yes, occasionally** **No, never**

7. In what ways, if any, is this workshop different from the science practicals you do in school?

8. How much do you think today's activities will help you with school science? Please circle.
A lot **Quite a lot** **A little** **Not at all**

8b. Please tell us why

9. How did the Destination Space workshop (and today's activities) make you feel about studying science in the future? (Please circle).

MORE INTERESTED **THE SAME** **LESS INTERESTED**

8. How did this workshop make you feel about maybe one day having a job that involves science?

MORE INTERESTED **THE SAME** **LESS INTERESTED**

Can you tell us Why?

11. Do you have any other comments or suggestions that you'd like to share with us?

What is the name of your school ……..
Many thanks.

Appendix 2. Evaluation Plan for 'Destination Space'

Schedule A:

This exciting project has national prominence, and completing the evaluation programme is fundamental to assessing its impact and success. The evaluation programme will also prove invaluable in helping partners to reflect on their experiences and, as a result, inform any future initiatives. For these reasons, undertaking the project evaluation forms **a key component of your contracted deliverables** for the 'Destination Space' Project. As you will recall, the need to support and conduct evaluation was specified in the invitation to participate and each organisation formally agreed to it in the bids they submitted.

The evaluation includes a series of standardised evaluation forms created by Professor Justin Dillon and his team at Bristol University, as well as short interviews. You will need to ensure these evaluation forms are completed by a minimum number of students, teachers, families and scientists taking part in your project activities (detailed in this document). You must also ensure you allocate appropriate time for participants to complete the forms, and indeed we ask that school activities especially, be designed in such a way to allow participants time and space to answers the questions thoughtfully.

As part of your agreement, a number of the responses from the paper evaluation forms should then be entered by volunteers or staff at your centre into an online survey instrument. Our recommendation is that you hire a temp, student or part-time staff member for 20 hours @£10 / hour to do this. We asked you to allocate £200 in your proposal for this purpose. Please do refer back to your original proposal and book the volunteers and staff as you need. Please note that whilst we will make this online submission as quick and easy as possible, where participants have written answers your staff will need to input these in full, without any abbreviations and with accurate English spellings. You are likely to need 3 days of a volunteer's time for this data input.

The standardised evaluation forms will be emailed to you in November 2015. In addition to collecting and submitting this information, we will be asking key members of your staff team to return questionnaires and potentially take part in interviews, to help us evaluate the programme.

Evaluation Commitments for each science centre

You will be provided with a suite of standard 'Destination Space' evaluations forms, each targeted at school groups of different ages, teachers or families. As a partner in the project you agree to ensure the distribution, completion and collection of the following numbers of evaluation forms, and to input these into the online spreadsheet for analysis centrally by academics:

1. Evaluation of 20 school classes age 5-14
   (20 x 30=600 children (However, whatever the class size the absolute minimum number of evaluation forms you must submit is for 500 children).
2. Evaluation of 25 teachers who have come with their class (not teaching assistants).
3. 30 families at the show (these will be by short 2-3 minute interview by your own staff)
4. 15 families at your special events
5. Input online.

Reporting Dates

The 20 centres will tell us about their activities, how many people they have delivered to and send evaluation to date into ASDC in:

1. February 2016 (including your launch events)

2. July 2016 (including Tim's return to earth)
3. January 2017 (including any events in advance you will run in the 2017 February half term)

Delivery of all events and final reports to ASDC by end of January 2017

Metrics to be collected as you go along, and delivered to ASDC

For Families and other groups

1. A summary of your activity – e.g., 20 minute family show, evening star party, space sleepover
2. Numbers of participants
3. Type of Participants (eg families, brownies)
4. % female (sample data or approximation can be used)
5. What you did – e.g.: show/ workshop/ meet expert
6. Content area covered & detail of event
7. Postcode of all schools
8. Your overall Press coverage
9. Your overall Social media coverage
10. Press-ready photos and web-ready summaries for ASDC to share online

For Schools

1. Date of visit
2. Age of Schoolchildren or Key stage (if applicable in your country)
3. Numbers of participants
4. % female (e.g., 50% for mixed schools, 100% girls or 100% boys)
5. What did you do? e.g.: schools workshop/the show/meet expert/space day
6. Content area covered & detail of event
7. Postcode of school and name of school
8. How many on pupil premium, if the teacher has given this information on their form

Press Coverage

9. Your Press coverage
10. Your Social media coverage
11. Press-ready photos and web-ready summaries for ASDC to share online

Schools workshops: 600 Evaluation forms

All centres need to submit 600 evaluation forms from 20 or more schools workshop (eg 20 school classes of 30 children). If for whatever reason it is less, you must fill in the details online from an absolute minimum of 500 children to ensure payment of your grant.

Each child must write their age, and the name of their school on their evaluation form, You are welcome to fill in the name of their school (and postcode ideally) when you print them.

Teachers' Evaluation Forms

Please give the **Teacher evaluation form** to as many teachers as possible (minimum 25). Remind students and teachers to fill in both sides of the page! And ensure they have sufficient time allocated to fill these forms in.

Teachers will be asked on their form to fill in:

- The School Name and Postcode (or address)
- Age / Year of pupils
- Number of pupils
- co-ed or all boys or all girls
- Type of school State/ private or public
- How many are on pupil Premium
- STAPLE THIS TO THE FRONT OF THE SCHOOL RESPONSES

Family Interviews

Each Centre will need to submit 30 evaluation forms showing the views of 30 families who have participated in the family show.

In addition, each Centre will need to submit 15 evaluation forms showing the views of 15 families who have participated in a special event. Forms are provided.

- These will be by a short interview of 3-5 minutes
- Each interview should be done by a member of centre staff as people leave the event or show
- You might choose to have several staff members or volunteers catching people at a couple of events so you can reach your target number of forms quickly
- Prompting is allowed to find out more information
- Everything they say should be recorded and then put into the online evaluation form, **without abbreviations.**
- For this project, 'Families' are defined as having at least one adult and one child (under 16). Any combination of adults (e.g. parents, grandparents or other adults) and any numbers of children are included in this definition.

To discuss any amendments to these commitments please contact ASDC on 0117 915 0184

	Instrument (method)	**Commitment by each centre**	**Evaluation on the day**
1	Evaluation Form for **School Student** Age 5-7 years (KS1)	200 forms* (approx 6-7 classes) online	Two-page evaluation form*, administered by science centre, completed by the student
2	Evaluation Form for **School Student** Age 7-11 years (KS2)	200 forms* (approx 6-7 classes) online	Two-page evaluation form*, administered by science centre completed by the student
3	Evaluation Form for	200 forms* (approx 6-7 classes) online	Two-page evaluation form*, administered by science

	School Student Age 11-14 years (KS3)		centre completed by the student
4a	**Teachers'** Evaluation Form For age 5-7 years (KS1)	Submit 25 Teacher evaluation forms from a range of schools	Two-page evaluation form*, administered by science centre
4b	**Teachers'** Evaluation Form For age 7-11 years (KS2)		Two-page evaluation form*, administered by science centre
4c	**Teachers'** Evaluation Form For age 11-14 years (KS3)		Two-page evaluation form*, administered by science centre
5	**Family Show** Evaluation form for a sample of families (3-5 minutes)	Submit online data from interviews with 30 families (who have seen the family show) (30 forms)*	One-page form. 3-5 minute Interview carried out by centre staff and recorded on form
6	**Family Special Event** Evaluation form for a sample of families (3-5 minutes)	Submit online data from short interviews with 10 families who have participated in a special event (10 forms)*	One-page form. 3-5 minute Interview carried out by centre staff and recorded on form
	Project metrics	Keep a record for your final reports - by science centre staff	For all your events and activities Include who, what, where, when and roughly how many came. Complete this as you go along, as you will never remember retrospectively. Centres find keeping a hard copy book with the Kit helps.

* Denotes the items where science centre assistants / volunteers will need to input the answers into the form provided